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THE EFFECT OF COMMUNITY AND INDIVIDUAL DIFFERENCES ON COLLEGE
STUDENTS' ATTITUDES AND BEHAVIORS TOWARDS TRANSGENDER
INDIVIDUALS

by

LAURA HACKIMER

A dissertation submitted to the Graduate Faculty in Educational Psychology in partial fulfillment
of the requirements for the degree of Doctor of Philosophy, The City University of New York

2016

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This manuscript has been read and accepted for the Graduate Faculty in Educational Psychology
to satisfy the dissertation requirement for the degree of Doctor of Philosophy.

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THE CITY UNIVERSITY OF NEW YORK

Abstract

THE EFFECT OF COMMUNITY AND INDIVIDUAL DIFFERENCES ON COLLEGE STUDENTS' ATTITUDES AND BEHAVIORS TOWARDS TRANSGENDER INDIVIDUALS

by

LAURA HACKIMER

Advisor: Yung-Chi Chen, Ph.D.

For transgender adolescents in an environment consisting largely of non-transgender (cisgender) individuals, whether adults and their peers in school are rejecting or accepting of their gender identity can have a large impact on their immediate and future outcomes. As college students will go on to form the social environment for the next generation of transgender adolescents, it is important to assess their beliefs and behaviors regarding this population. The present study sought to investigate the impact of individual (i.e., religiosity, political beliefs, experience with LGBT individuals, gender role beliefs) and community factors (i.e., high school region, community type, community education level, presence of gay-straight alliance in high school) on cisgender college students' attitudes and behaviors towards transgender individuals. Using a sample of 302 cisgender college students from across the United States, multiple and negative binomial regression models were used to analyze how individual and community factors are associated with attitudes and behaviors towards transgender individuals. Overall, different individual and community factors were found to be related to attitudes and behaviors. Gender role beliefs, political beliefs, experience with LGBT individuals, and attending a suburban high school predicted attitudes towards transgender individuals. Behaviors towards transgender people were associated with gender role beliefs, religiosity, attending a rural high school, attending a Southern high school, and not having a gay-straight alliance (GSA) in high school.

Attitudes were positively associated with behaviors towards transgender individuals. These findings and conclusions suggested areas for future research. Educational implications were addressed.

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Glossary of Terms

Binary Gender: traditional view of gender categorizing people only as “men” and “women”

Biphobia: fear, hatred, or intolerance of bisexual people or bisexuality

Bisexual: a person who is attracted to both people of their gender and people of the opposite gender in a binary gender view

Cisgender: a person whose gender identity matches their biological sex

Gay: a person who is primarily attracted to members of the same gender/sex

Gender Identity: a person’s sense of being a man, woman, both, or neither

Heteronormative: view of people as belonging to distinct, complementary genders with natural roles in life and heterosexuality as the norm sexual orientation

Heterosexism: assumption that every person is heterosexual or that heterosexuality is superior to homosexuality, which may lead to prejudice and/or discrimination

Heterosexual: a person who is primarily attracted to members of the opposite gender/sex in a binary gender view

Homophobia: fear, hatred, or intolerance of homosexual people or homosexuality

Homosexual: a person who is attracted primarily to members of the same gender/sex

Lesbian: a woman who is primarily attracted to women

Sexual Orientation: the type of attraction a person feels towards others

Transgender: a person whose gender identity does not match their biological sex

Transphobia: fear, hatred, or intolerance of transgender people or gender nonconformity

Chapter 1: Introduction

This chapter begins with a summary of ecological theory, which guides the current research, followed by an overview of the experiences of lesbian, gay, bisexual, and transgender (LGBT) adolescents in schools and the impact of those experiences on these students' academic and psychological outcomes. Then, a brief overview of the effect of others' attitudes on LGBT youth as well as the community and individual factors related to these attitudes is discussed. Finally, a study is proposed to investigate how community and individual factors influence cisgender (non-transgender) college students' attitudes and behaviors towards transgender individuals.

Ecological Framework

Urie Bronfenbrenner's (1994) ecological systems theory provides the framework for the current study. In this theory, an individual's environments are viewed as the contexts of their development. The theory names several different layers of a person's environment, moving from more individualized to more general. The first system is the microsystem, which includes face-to-face environments like the family, classroom, and peer group. In the microsystem, there is a bidirectional influence of the individual on each microsystem and of each microsystem on the individual. The next level is the mesosystem, which consists of the interactions between microsystems. Then comes the exosystem, which include atmospheres that indirectly affect the individual, their microsystems, and their mesosystem. Bronfenbrenner (1994) cites the neighborhood-community context as an exosystem that is particularly influential in the development of the individual. The macrosystem consists of the "overarching pattern of micro-, meso-, and exosystems characteristic of a given culture or subculture," including belief systems,

bodies of knowledge, customs, lifestyles, and opportunity structures inherent in the broader systems (Bronfenbrenner, 1994, p. 40). Please see Figure 1 for a diagram of this model.

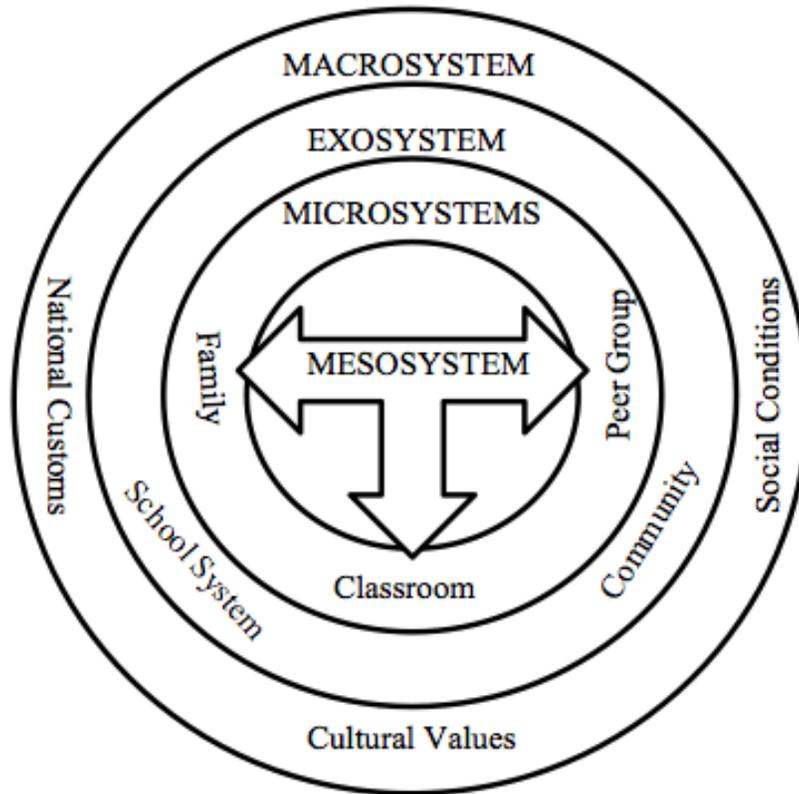


Figure 1. Bronfenbrenner's Ecological Framework.

Using this framework, the current study will examine the individual and various layers of contextual factors that influence an individual's attitudes and behaviors towards transgender individuals. For the purposes of this study, there are four identified individual factors (e.g., religiosity, political leaning, gender role beliefs, and experience with LGBT individuals) related to attitudes and behavior as well as four community factors (e.g., gay-straight alliances, region, community setting, and community education level). The designations of individual and community are given to easily distinguish two groups of independent variables for this study, but the classification of these variables according to Bronfenbrenner's (1994) model is more complex.

For the purpose of this study, individual factors that are bidirectionally influenced by the microsystem include a person's religiosity, political leaning, and gender role beliefs. An individual's personal experiences and prior contact with LGBT people is an individual factor that results from the interactions of microsystems like religious beliefs and peer group, which means it exists in the mesosystem. The presence of a gay-straight alliance (GSA) in one's high school, which is a community level factor, is also a part of the mesosystem. Finally, the remaining community factors (e.g., region of the country, type of community setting, and community education level) are part of the exosystem.

Experiences of LGBT Youth

There is consistent evidence that LGBT individuals are at greater risk for experiencing various types of psychological distress compared to their non-LGBT counterparts (e.g., Balsam, Rothblum, & Beauchaine, 2005; Rosario, Schrimshaw, Hunter, & Gwadz, 2002). For youth, in general, typical stressors during adolescence can include struggles with identity, self-esteem, teasing, bullying, independence, achievement and sexuality (Espelage, Aragon, Birkett, & Koenig, 2008; Lasser, Tharinger, & Cloth, 2006; Murdock & Bolch, 2005). Although LGBT adolescents face these issues, they may also be the targets of heterosexist and homophobic victimization by peers, parents, other adults and society in general (D'Augelli, 2002).

Middle and high school students who identify as LGBT (i.e., LGBT youth) experience injustices due to their sexual orientation or gender identity (e.g., Lasser et al., 2006; Meyer, 2003). Such experiences can negatively affect their well being (e.g., Heck, Flentje, & Cochran, 2011; Meyer, 2003). Studies indicate that LGBT youth are more likely to experience depression, have suicidal thoughts, feel socially isolated, use and abuse alcohol and other substances, and

avoid school compared to their non-LGBT peers (e.g., Espelage et al., 2008; Russell, Ryan, Toomey, Diaz, & Sanchez, 2011).

Research indicates that there is a pervasive pattern of victimization of LGBT students in American schools (Hansen, 2007; Murdock & Bolch, 2005; Russell et al., 2011). For example, a recent national survey conducted by the Gay, Lesbian and Straight Education Network (GLSEN) of nearly 8,000 middle and high school students found that 74% of LGBT students had experienced victimization in the past year (Kosciw, Greytak, Palmer, & Boesen, 2014).

The detrimental effects of school victimization on LGBT individuals are widespread and have been well documented (e.g., Toomey, Ryan, Diaz, Card & Russell, 2010). Specifically, youth who identify as lesbian, gay, or bisexual (LGB) report increased levels of depression, suicidal ideation, substance abuse, school avoidance as well as compromised academic achievement (e.g., lower grades, less postsecondary educational aspirations, higher dropout rates) and emotional health when compared with their non-LGB peers (e.g., D'Augelli, 2002; Darwich, Hymel, & Waterhouse et al., 2012). Similarly, transgender youth have been found to be at greater risk for depression, anxiety, self-harming behaviors, and sexual risk-taking behaviors than their non-transgender peers (Heck et al., 2011; McGuire, Anderson, Toomey, & Russell, 2010; Russell et al., 2011).

As the LGBT categorization embodies several different sexual orientations and gender identities, the experiences of victimization and distress of LGBT youth can vary according to their specific gender and sexual identities (Fassinger & Arseneau, 2007). Sexual orientation refers to whom a person is attracted to while gender identity refers to a person's sense of being a man, woman, both, or neither. Though sexual orientation and gender identity are separate and unrelated aspects of a person's identity, these aspects are sometimes incorrectly assumed to co-

occur in individuals with a non-majority identity (i.e. transgender individuals are incorrectly assumed to also be homosexual) (Greytak et al., 2009; McGuire et al., 2010).

It is also important to note that both heterosexual individuals and those within the LGBT community can exhibit negative attitudes towards LGBT individuals (Mulick & Wright, 2002; Weiss, 2003). Specifically, bisexual and transgender individuals have been marginalized and the target of bi- and transphobic and heterosexist attitudes by the gay and lesbian community (Mulick & Wright, 2002; Weiss, 2003).

The Impact of the Social Environment

For LGBT youth, the social environment can contain varying degrees of both homophobia and heterosexism. Homophobia refers to negative attitudes towards homosexuality, while heterosexism refers to an assumption that everybody is heterosexual or that heterosexuality is superior to homosexuality (Lasser et al., 2006). There is evidence that many of the negative mental health outcomes associated with LGBT youth are related to their experiences of school victimization and parental rejection, which may be the result of homophobia or heterosexism (e.g., Darwich et al., 2012; Toomey et al., 2010). However, support from parents, peers, and school personnel, along with an accepting school climate in general, can help offset the risks associated with at-school victimization of LGBT youth (e.g., Espelage et al., 2008). For example, parental support of LGBT youth has been shown to mediate the relationships between an adolescent's LGBT identity and their depressive symptoms, suicidal thoughts, and substance use (e.g., Espelage et al., 2008).

Munoz-Plaza, Quinn, and Rounds (2002) found that LGBT high school students perceive peers and non-family adults as instrumental tangible resources who provide emotional support. Student perceptions of greater adult support at school are directly and indirectly linked to lower

levels of substance use and school avoidance and are also associated with greater feelings of safety and academic success (e.g., Darwich et al., 2012). With regard to peer influence, D'Augelli (2002) found that LGBT students who had lost friends because of their LGBT status reported more mental health symptoms than LGBT individuals who were not rejected by their friends.

Students' perceptions of their school environment, including how supportive and positive they believe their schools are and their sense of belonging and connectedness in the schools, have been linked to students' academic achievement, social relationships and mental health (e.g., Birkett, Espelage & Koenig, 2009). The climate of the school itself can serve as a protective factor for LGBT students. LGBT students' perceptions of their school climate tend to be related to other factors, such as level of at-school victimization, their sense of belonging in the school community, and feeling that they are cared for and protected by the school personnel (e.g., Birkett et al., 2009; Murdock & Bolch, 2005). Among LGBT students, the lowest levels of substance use, school avoidance, depression, and suicidal ideation are reported when students feel they are in a positive school climate and when they are not experiencing homophobic victimization (e.g., Espelage et al., 2008). Gay-Straight Alliances (GSAs) are supportive clubs for LGBT students that have been linked to more positive climates and more beneficial outcomes for these youth and are often identified as an aspect of a positive school climate (e.g., Heck et al., 2011).

Factors Relating to Attitudes Towards LGBT Individuals

LGBT youth are a population in our schools who can experience psychological distress based on those around them. The experiences of LGBT youth in the schools, including those of victimization and support, are largely dictated by the opinions and actions of those around them.

It is therefore important to consider the relevant factors that influence non-LGBT individuals' attitudes towards LGBT people.

Research using primarily undergraduate, predominantly heterosexual student samples has linked several factors to attitudes towards lesbian, gay, bisexual, and transgender individuals. Many of these factors occur at the individual level and are related to the specific participants' experiences, beliefs, and practices. Specifically, participants' gender role beliefs, contact and experience with LGBT individuals, religiosity, and political leaning as well as the presence of a gay-straight alliance in their high school have all been linked to their attitudes towards lesbian, gay, bisexual, and transgender people (e.g., Brown & Henriquez, 2008). Generally, more traditional and conservative beliefs as well as less contact with LGBT individuals are related to less tolerant attitudes towards LGBT individuals.

Beyond individual factors, the community in which a school is situated influences the experiences of LGBT youth in the school, including levels of victimization and available support (e.g., Kosciw et al., 2014). Patterns of victimization and support, including the presence of gay-straight alliances in schools, for LGBT students have been found to vary similarly by region of the country (i.e. Northeast, West, Midwest, South) and type of community setting (i.e. rural, suburban, urban). Typically, suburban and urban as well as Northeastern and Western region schools have more supportive environments and less victimization reported by LGBT students than rural/small town and Midwestern and Southern region schools, respectively (e.g., Kosciw et al., 2014). There is also speculation that, beyond the community's influence on LGBT students' experiences, regional differences in acceptance and tolerance of LGBT individuals may be the result of community-level factors, including level of educational attainment and poverty (Kosciw, Greytak, & Diaz, 2009).

The Importance of Non-LGBT College Students' Attitudes

For an LGBT adolescent in an environment consisting largely of non-LGBT individuals, whether adults and their peers in their school are rejecting or accepting of their LGBT status can have a large impact on their immediate and future outcomes. The relative lack of control that LGBT youth have over their experiences as well as the power of other individuals in the environment to help or hurt this population demand further investigation into the attitudes that non-LGBT people hold towards LGBT individuals. Because the attitudes of all individuals in the school and community not only come from, but also create, the school and community climates for LGBT individuals, it is likely the attitudes of people whose sexual orientation or gender identity are in the majority (i.e., heterosexual, cisgender) which will go on to create an accepting or hostile climate for LGBT students.

Furthermore, because there are several identities covered under the LGBT umbrella with variations in victimization and subsequent effects amongst each LGBT identity (e.g., Russell et al., 2011), it is necessary to evaluate how attitudes vary towards specific sexual orientations (i.e., homosexual, bisexual) as well as gender identities (i.e., male, female, transgender). However, due to the relative lack of research on transgender people as well as the greater experience of unaccepting attitudes towards and harsh climates for transgender individuals compared to literature on lesbian, gay, and bisexual orientations, it is most important to focus on cisgender people's attitudes towards transgender individuals. The impact of these attitudes on behavior towards transgender individuals will be assessed to gain an understanding of how these attitudes lead to behaviors displayed towards this group of people.

Given the impact of communities on the in-school support for LGBT youth, including presence of GSAs, and on attitudes towards LGBT individuals, it makes sense to further examine

how predictors of LGBT attitudes differ amongst communities. As noted earlier, the experiences of LGBT individuals seem to be the best in areas that have the most tolerant, accepting attitudes towards LGBT people.

The attitudes of school and community members and the presence of a GSA in a high school seem to be interconnected. Worthen (2014) found evidence that the beneficial effects of a GSA in high school translate into positive attitudes towards LGBT individuals later on when students are in college. She demonstrated that the experiences and environment of non-LGBT adolescents in high school affect their attitudes towards LGBT individuals in young adulthood. Young adults will grow up to be influential members of their communities. Therefore, it is essential to investigate their attitudes towards LGBT individuals as these college students will go on to create the community and school environments for the next generation of LGBT youth.

Based on the above discussion, the current study seeks to answer the following research questions:

1. Are the individual factors identified in the literature (e.g., religiosity, gender role beliefs, political ideology, experience with LGBT individuals) related to cisgender college students' attitudes and behaviors towards transgender individuals?

2. Are the community factors identified in the literature (e.g., region, community type, education level, GSA) related to cisgender college students' attitudes and behaviors towards transgender individuals?

3. Do cisgender college students' attitudes towards transgender individuals predict their behavior towards transgender individuals?

4. Is the presence or absence of a GSA in one's high school related to cisgender college students' attitudes and behaviors towards transgender individuals?

5. Controlling for other individual and community factors, does the presence or absence of a GSA in one's high school contribute uniquely to cisgender college students' attitudes and behaviors towards transgender individuals?

6. Will having or lacking a GSA in high school impact cisgender college students' attitudes and behaviors towards transgender individuals differently in different locations (i.e. region of the United States, type of community setting)?

Chapter 2: Literature Review

This study seeks to examine the impact of community and individual differences on cisgender college students' attitudes and behaviors towards LGBT individuals. This chapter reviews the current literature related to the experiences of victimization and support for LGBT adolescents in American schools, the variables related to both experiences of victimization and outcomes for LGBT youth, and the factors that influence attitudes of non-LGBT individuals towards LGBT individuals. It contains 10 sections. The first section reviews the increased risk for psychological distress in LGBT adolescents compared to non-LGBT adolescents. Section two describes the differences in the experiences of victimization and outcomes amongst LGBT subgroups (i.e., lesbian, gay, bisexual, transgender). The third section illustrates how other individuals' (i.e., parents, peers, school personnel) attitudes as well as the aggregation of these attitudes in the form of the overall school climate contribute to the experiences and outcomes for LGBT youth. Section four discusses the link between the existence of supportive clubs for LGBT students called gay-straight alliances (GSAs) and positive school climates for LGBT youth.

Section five explains how attitudes of individuals in the school and the surrounding community create the school climate for LGBT youth. The sixth section examines numerous individual factors that relate to attitudes towards LGBT people. Section seven considers several aspects of one's community that influence one's attitudes towards LGBT individuals. The eighth section synthesizes the research in this chapter regarding the impact of other people's attitudes, as developed by their individual views and community location, on the experiences of LGBT youth to provide a rationale for the current study. The ninth and tenth sections consist of the research questions and hypotheses for the current study, respectively.

Risk of Psychological Distress for LGBT Adolescents

The primary tasks of adolescence include forming a coherent sense of identity, achieving independence from primary caregivers, and establishing effective social and working relationships with peers (Glover, Galliher, & Lamere, 2009; McAnarney, 1985; Radkowsky & Siegel, 1997). The most salient of these developmental tasks may be that of identity formation in several areas, including sexuality, occupation, morality, and gender identity (Erikson, 1950; Erikson, 1968; Glover et al., 2009; Marcia, 1966). Studies of adolescent identity development have shown that adolescents who experience greater distress about their identities are more likely to exhibit symptoms of psychological maladjustment, such as anxiety, depression, social withdrawal, and antisocial behavior (e.g., Berman, Weems, & Petkus, 2009; Hernandez, Montgomery, & Kurtines, 2006). LGBT adolescents not only confront the typical adolescent stressors of determining their identities, but can also face environmental stigmatization of the sexual and/or gender identities they commit to during this process (Frost & Bastone, 2007; Munoz-Plaza et al., 2002). This may help explain why LGBT individuals, compared to their non-LGBT peers, seem to be at greater risk for experiencing psychological distress during adolescence (e.g., Balsam et al., 2005; Espelage et al., 2008; Heck et al., 2011; Rosario et al., 2002; Russell et al., 2011).

Typical developmental stressors. For adolescents, in general, the period of adolescence is full of stressors. These typical developmental stressors include issues related to identity, self-esteem, teasing, bullying, independence, achievement and sexuality (Espelage et al., 2008; Lasser et al., 2006; Murdock & Bolch, 2005). Psychologist Erik Erikson (1950) recognized identity versus role confusion as the primary developmental crisis of adolescence in his landmark developmental theory. The development of a secure sense of identity along with a positive sense

of self and the ability to join another individual in an intimate relationship have been identified as the ultimate goals of adolescence (Espelage et al., 2008; McAnarney, 1985).

While it is common for young adolescents to be unsure of their life goals and identity, there is an increasing societal expectation as adolescents get older that it is necessary to choose a career and life focus (Erikson, 1950). A natural part of determining one's identity is the stage of moratorium, which is an exploration of possible identity options before committing to one (Marcia, 1966). While this is a necessary precursor to identity achievement, it can be very unsettling for an adolescent to be actively focused on his own uncertainty of where he is going in life, which may explain why adolescents in moratorium display the greatest amount of anxiety (Berman et al., 2009; Marcia, 1967).

High levels of distress regarding their identity have been associated with psychological distress in adolescents. Hernandez et al. (2006) investigated identity issues in high school students by asking the participants how upset, distressed or worried they had recently been over their long-term goals, career choice, friendships, sexual orientation and behavior, religion, values and beliefs, and group loyalties. They found that females students with high levels of distress related to their identity showed significantly more externalizing symptoms, specifically antisocial behavior and headstrong behavior, than female peers with less identity distress (Hernandez et al., 2006). Male students with high levels of identity issues showed significantly higher anxiety/depression, peer problems/social withdrawal, and hyperactivity scores than males with lower levels of identity issues (Hernandez et al., 2006).

Marcia's (1966) identity statuses utilize an individual's level of commitment and crisis/exploration in various areas of identity to place them into one of 4 different statuses (i.e., diffusion, foreclosure, moratorium, achievement). Individuals who have successfully explored

and committed to an identity are in a state of identity achievement, while those who have neither committed to an identity nor explored options are in a state of identity diffusion (Marcia, 1966).

Although identity status was related to students' psychological symptoms, Berman et al. (2009) found that level of identity distress better accounted for the variances in symptom score than did their identity status. Both identity distress and psychological symptoms were positively correlated with identity exploration and negatively correlated with identity commitment, indicating a greater level of distress and maladjustment when a commitment to one's identity has not been made (Berman et al., 2009).

More recently, Wiley and Berman (2013) investigated the relationships between identity development and identity distress with psychological adjustment in a clinical sample of adolescents. Symptoms of psychopathology were more strongly correlated with identity distress than normative identity development factors (i.e., identity exploration and identity commitment), though both were associated with psychological symptoms. Being committed to an identity was significantly negatively correlated with global psychological symptom severity, indicating that, even amongst a clinical sample, adolescents who have committed to an identity may experience fewer psychological problems (Wiley & Berman, 2013).

LGBT-specific stressors. Although LGBT youth often face the same tasks of identity development as their non-LGBT peers, they may also have to deal with particular difficulties related to discovering their sexual or gender identities in a heteronormative environment (Espelage et al., 2008; Munoz-Plaza et al., 2002). Heteronormativity refers to the belief that people fall into distinct and complementary genders with natural roles in life and asserts heterosexuality as the norm sexual orientation. Consequently, a heteronormative view aligns biological sex, sexuality, gender identity, and gender roles (Page & Peacock, 2013). A related

term, heterosexism, refers to an assumption that everybody is heterosexual or that heterosexuality is superior to homosexuality (Lasser et al., 2006).

Adolescents typically achieve the developmental tasks related to identity, autonomy, and relationships through social comparison and identification with the standards and norms of the main population (Glover et al., 2009). In a heteronormative or heterosexist environment, LGBT adolescents differ from the dominant culture and must diverge from the culture's assumed developmental path to form their identities, which necessitates unique reference points in identity formation and may lead to unique challenges for these youth (Glover et al., 2009). For example, an LGBT teenager may have to develop their identity alone without the support of their peers, family, and schools due to actual or perceived stigmatization of their sexual or gender identity (Radkowsky & Siegel, 1997).

Munoz-Plaza et al. (2002) conducted qualitative research to determine how the social support available to LGBT youth during their adolescent years influenced their identity formation. Participants described how their increasing awareness of their sexual identities in high school represented both an internal and external struggle for them. The LGBT young adults reported feeling an internal sense of alienation and confusion, as well as receiving overwhelmingly negative messages about homosexuality at home and at school. As such, one theme that arose from the sample's responses was the process of sexual identity formation occurring through various stages of denial and acceptance (Munoz-Plaza et al., 2002). In addition to feeling different and confused, participants reported fear of rejection and unfair treatment, driven by homophobic and heterosexist messages and observation of openly LGBT individuals in the school environment, related to the eventual disclosure of their sexual orientations (Munoz-Plaza et al., 2002).

Furthermore, participants in Munoz-Plaza et al.'s (2002) study described coming to terms with their bisexual or homosexual identity as a long, non-linear process that took significant reflection. The majority of participants reported cycling back and forth between feelings of denial, fear, alienation, confusion, and acceptance during their adolescence. In order to cope with the inner turmoil brought on by this process, many participants tried to deny or avoid their feelings as much as possible (Munoz-Plaza et al., 2002).

LGBT adolescents may conceal their LGBT status from others as a way of avoiding possible stigmatization in homophobic and/or heteronormative high school and home environments. Frost and Bastone (2007) examined LGB adolescents' concealment of sexual orientation and the relationship of that concealment to stigma related depression, victimization, and school absences. The more participants told others that they were LGB, the more likely they were to report depression in high school, but the amount of time an adolescent spent concealing their LGB status impacted their likelihood of depressive symptoms (Frost & Bastone, 2007). Specifically, LGB individuals were less depressed the earlier in life that they "came out" as LGB. They were more likely to experience depression the longer they waited to come out to others about their sexuality (Frost & Bastone, 2007).

Moreover, LGB-focused victimization was found to be associated with others' perceptions of an individual as being LGB rather than active disclosure of LGB status, with a higher likelihood of verbal and physical victimization for those adolescents whom others were more likely to perceive as being LGB (Frost & Bastone, 2007). With regard to school attendance, the more participants disclosed their LGB status, the more likely they were to miss school, which may be the result of increased rejection or avoidance from others (Frost & Bastone, 2007).

Victimization of LGBT youth. LGBT adolescents may also be the targets of heterosexual and homophobic victimization by peers, parents, other adults and society in general (D’Augelli, 2002). Homophobia is a term used to describe negative attitudes towards homosexuality (Lasser et al., 2006). In homophobic school environments, being gay is often equated with being “bad” or “wrong” (Munoz-Plaza et al., 2002). Additionally, many masculine norms, in particular, reflect homophobic beliefs and are associated with homophobic behavior among males (Poteat, O’Dwyer, & Mereish, 2012).

Homophobic victimization has been hypothesized to be used by adolescents as a means of expressing their prejudices or as a way to enforce gender normative behavior among their peers (Poteat et al., 2012). As such, the nature of victimization experienced by LGBT youth may be homophobic, heterosexual, or both. The heterosexual and homophobic victimization experienced by LGBT adolescents can be direct or indirect.

Direct victimization. Direct victimization can include verbal or physical bullying or harassment of students due to their sexual orientation or gender identity (Kosciw et al., 2014). Verbal harassment can include being called anti-LGBT names (e.g., “tranny,” “faggot”) and being verbally threatened (Kosciw et al., 2014). Physical bullying can include harassment, such as being shoved or pushed, and assault, such as being punched, kicked, or injured with a weapon (Kosciw et al., 2014).

Espelage et al. (2008) compared the direct victimization experiences of over 13,000 LGB and non-LGB high school students and found that while all high school students experienced similar levels of direct victimization in general, the LGB students reported significantly more homophobic verbal harassment. Similarly, Birkett et al. (2009) found that LGB and non-LGB 7th and 8th grade students reported similar levels of general bullying victimization (i.e., victimization

for any reason), such as how frequently they were picked on, made fun of, and hit and pushed by other students. However, significantly more homophobic teasing (i.e., victimization due to sexual orientation) was experienced by LGB students than their non-LGB peers (Birkett et al., 2009). Additionally, these studies found that students who were questioning their sexual orientation experienced significantly more direct victimization, both specifically motivated by homophobia and in general, than both the LGB and non-LGB students (Birkett et al., 2009; Espelage et al., 2008).

Moreover, transgender youth appear to experience greater levels of direct victimization when compared to their LGB peers. Greytak, Kosciw, and Diaz (2009) found in a national survey that transgender students reported greater levels of victimization based on gender, gender expression, and sexual orientation as well as based on race/ethnicity, disability, and religion, than their LGB counterparts.

The negative consequences resulting from the victimization of LGBT students' may actually be intensified because such victimization is often driven by biased or prejudiced motives (Russell et al., 2011). For instance, Swearer, Turner, Givens and Pollack (2008) found that boys who were bullied by being called "gay" reported greater experience of verbal and physical bullying, more negative perceptions of the school environment, and greater psychological distress when compared to boys who were bullied for other reasons, such as getting good grades, being a "wimp," and being different.

Similarly, Espelage et al. (2008) investigated LGB and heterosexual high school students' experiences related to homophobic teasing. They found that those who reported no teasing had the lowest health risks, but among those who did experience homophobic teasing, LGB youth

and those questioning their sexual orientation reported the highest levels of depression, suicidal feelings, and substance use (Espelage et al., 2008).

Birkett et al. (2009) also found that LGB middle school students reported levels of truancy, depression/suicidality, and alcohol/marijuana use comparable to their non-LGB peers when in schools with a positive climate and low levels of homophobic bullying. Level of homophobic teasing was found to moderate the relationship between LGB and questioning students' depression/suicidality feelings, alcohol/marijuana usage, and truancy, with higher levels of victimization leading to greater increases in depressive symptoms, substance use, and truant behavior compared to non-LGB peers who experienced the same level of homophobic victimization (Birkett et al., 2009).

Indirect victimization. In addition to direct victimization, LGBT students can also experience indirect victimization in their environment. Indirect victimization can include subtle, unintentional slights that make an individual feel different because he or she does not conform to heteronormative societal conventions (Little, 2001). For example, a peer or staff member may ask a student if she has a boyfriend, which demonstrates an assumption that she or most people are heterosexual, instead of using more inclusive, general terms, such as asking if the student is dating someone. Another example of indirect victimization is the widespread use of homophobic language as slang among peers. For example, adolescents stating “that’s so gay” to denote that something is uncool and using “fag” as a general insult. Homophobic language may not necessarily be used with intent to aggress a particular individual, but can still contribute to psychological distress and negative outcomes for LGBT students (e.g., Birkett et al., 2009; Kosciw & Diaz, 2006; Kosciw et al., 2014; Russell et al., 2011).

The Gay, Lesbian and Straight Educational Network's (GLSEN) 2005 survey investigated the frequency and effects of hearing anti-LGBT remarks used as everyday slang in school (Kosciw & Diaz, 2006). An overwhelming majority (89.2%) of the sample heard phrases like "that's so gay" and "you're so gay" used often or frequently at school (Kosciw & Diaz, 2006). Furthermore, 67.1% of the participants reported feeling bothered or distressed when hearing "gay" or "queer" used in derogatory ways, with 36.3% reporting feeling extremely bothered or distressed by this usage (Kosciw & Diaz, 2006).

Almost a decade later, GLSEN found that 74.1% of LGBT students in 2013 heard "gay" used in a negative way often or frequently at school (Kosciw et al., 2014). Although the frequency of homophobic slang seems to be decreasing, the distress it brought to students actually rose. Of the LGBT students surveyed, 90.8% reported that hearing "gay" used with a negative connotation caused them to feel bothered or distressed and 29.7% felt extremely bothered or distressed (Kosciw et al., 2014).

There may also be psychological distress brought on just by highlighting an LGBT student's sense of feeling different, even if it is unintentional. As previously discussed, Munoz-Plaza et al. (2002) found that LGBT adolescents felt both internal and external struggles as they discovered their sexual identities. The participants reported an internal sense of alienation and confusion as well as fear of rejection and unfair treatment from those around them, despite not being "out" as LGBT yet (Munoz-Plaza et al., 2002). Feelings of inner turmoil due to being different often leads young LGBT adolescents to deny their feelings and wait longer to disclose their LGBT identity to others (Frost & Bastone, 2007; Munoz-Plaza et al., 2002). However, Frost and Bastone (2007) suggested that the longer that LGBT adolescents wait to disclose their

LGBT identity to others, the more depression related to their sexual identity they tend to experience.

Pervasiveness of victimization. In American schools, the victimization of LGBT students by their peers is pervasive (Hansen, 2007; Murdock & Bolch, 2005; Russell et al., 2011). The Gay, Lesbian and Straight Educational Network (GLSEN) has conducted a national survey of LGBT students about their experiences in school every other year since 1999. The most recent GLSEN School Climate Survey found that approximately three-quarters of the 7,898 LGBT students surveyed had experienced victimization in the past year due to their LGBT status (Kosciw et al., 2014). Specifically, 74% of LGBT students experienced verbal harassment in the past year, about 33% reported physical harassment and 16.5% reported physical assault because of their sexual orientation. Similarly, 55.5% of LGBT students reported verbal harassment, almost 23% reported physical harassment, and 11.4% reported physical assault at school in the past year because of their gender expression. Furthermore, 87% of LGBT students surveyed had been deliberately excluded by their peers, 59% had experienced sexual harassment, 55% felt unsafe at school because of their sexual orientation, and 38% felt unsafe because of their gender expression (Kosciw et al., 2014).

LGBT students reported that their experiences of victimization and fear for their safety at school led them to avoid certain places and experiences. For example, more than a third of the students surveyed identified the school bathrooms, locker rooms, and physical education class as places that they avoided due to safety concerns related to their LGBT status (Kosciw et al., 2014). Additionally, 68% of LGBT students reported avoiding school dances or assemblies and 61% reported avoiding extracurricular activities due to feeling unsafe or uncomfortable. Finally, 30%

of LGBT students reported missing at least one entire day of school in the past month because they felt unsafe or uncomfortable, with 10.6% missing 4 or more days (Kosciw et al., 2014).

Effects of victimization for LGBT youth. The harmful effects of at-school victimization for LGBT individuals are widespread and have been well documented (e.g., Heck et al., 2011; Russell et al., 2011; Toomey et al., 2010). Victimization of LGBT adolescents has been linked to both immediate and long-term negative effects for these individuals (e.g., D'Augelli, 2002; Birkett et al., 2009; Espelage et al., 2008; Russell et al., 2011; Toomey et al., 2010).

D'Augelli (2002) researched the effect of sexual orientation on youth's mental health symptoms using the Brief Symptom Inventory, which measures symptoms during the past two weeks. Adolescents who experienced greater levels of victimization due to their sexual orientation over the course of their lifetime reported significantly more current mental health symptoms than adolescents who had experienced less victimization (D'Augelli, 2002). More recently, Birkett et al. (2009) found that students' experiences of sexual orientation-focused victimization were positively correlated to students' reports of depression/suicidality feelings, use of alcohol/marijuana, and truancy in the last 30 days.

Espelage et al. (2008) also identified a positive correlation between students' experience of homophobic victimization in the past 30 days and students' reported levels of depressive and suicidal feelings in the past 30 days, as well as their overall drug and alcohol use. Compared to non-LGBT peers, LGBT and questioning adolescents who experience higher levels of victimization have been shown to be at greater risk for sexual risk taking as well as suicide (Robinson & Espelage, 2013).

Mustanski and Liu (2013) found that, compared to cisgender LGB peers, transgender adolescents experienced significantly more victimization and were more likely to report feelings of hopelessness. Transgender youth were also more likely to report suicide attempts in the past year and in their lifetimes than their cisgender LGB peers (Mustanski & Liu, 2013).

Compared to LGBT peers who experienced low levels of victimization, LGBT adolescents who experienced high levels of victimization due to their gender expression in the past year were more than three times as likely to have missed school in the past month due to safety concerns (Kosciw et al., 2014). Academically, they also had lower GPAs and were twice as likely to report a lack of post-secondary pursuits than counterparts who experienced lower levels of victimization (Kosciw et al., 2014). In terms of mental health, these adolescents, compared to those who experienced less gender expression-based victimization, reported higher levels of depression and lower levels of self-esteem (Kosciw et al., 2014).

In addition to the effects on LGBT students' current mental health and functioning, anti-LGBT victimization can continue to negatively impact individuals' functioning beyond their adolescence (Russell et al., 2011; Toomey et al., 2010). Russell et al. (2011) investigated the association between LGBT individuals' experience of victimization during adolescence and their mental health and risk taking behaviors in young adulthood (between age 21 and 25). Young LGBT adults who reported high levels of victimization during adolescence were twice as likely to report experiencing clinical levels of depression, having had an STI diagnosis, and having been at risk for HIV, compared to their counterparts who had experienced low or moderate levels of victimization (Russell et al., 2011). Additionally, two-thirds of the participants who experienced high levels of victimization during adolescence reported ever attempting suicide,

compared with one-third of participants who experienced moderate levels of victimization and one quarter of those who experienced low levels (Russell et al., 2011).

Toomey et al. (2010) looked specifically at gender nonconforming behavior and found that LGBT-related victimization, not gender nonconformity, during adolescence accounted for long-term psychosocial adjustment difficulties, as measured by self-reported level of life satisfaction and depression, in young LGBT adults. Comparatively, other types of victimization (not LGBT-related) were not found to mediate the relationship between gender nonconforming behavior and life satisfaction or depressive symptoms (Toomey et al., 2010).

Perceived status and questioning students. In addition to effects of LGBT victimization on adolescents who self-identify as LGBT, there is also an impact on individuals who are questioning their sexual orientation or gender identity and on individuals who are perceived to be LGBT, whether or not they self-identify as such. Toomey et al. (2010) found that school victimization due to perceived or actual LGBT status during the adolescent years fully predicted young adults' psychosocial adjustment in terms of depression and life satisfaction. Russell et al. (2011) also found that victimization based on actual or perceived LGBT status in adolescence was strongly linked to mental health outcomes, like depression and suicidality, and sexual risk taking behavior in young adulthood. Taken together, these studies indicate that victimization based on perceived LGBT status can have lasting harmful effects on students, regardless of their actual sexual orientation or gender identity.

For students who are not sure of or still figuring out their sexual orientations or gender identities, the impact of victimization may be even greater. Espelage et al. (2008) found that high school students who were questioning their sexual orientation reported more homophobic teasing, greater drug use, and more suicidal/depressive feelings than both heterosexual and LGB

peers. Birkett et al. (2009) replicated this result with middle school students, finding that questioning students reported more homophobic teasing, more truancy, more depressive/suicidal symptoms, and more substance/alcohol use than heterosexual and LGB peers. In both of these studies, the students' level of LGB victimization moderated these negative outcomes, implying that questioning students may be at a greater risk for negative outcomes as a result of homophobic victimization (Birkett et al., 2009; Espelage, 2008).

It is, however, important to note that a contradictory result was reported in a more recent study conducted by Darwich et al. (2012). Darwich et al. (2012) found no significant difference in the experiences of questioning and straight students in terms of victimization and subsequent substance use and school avoidance, but found lesbian and gay students to be significantly higher on all measures.

Victimization within the LGBT community. While the majority of the literature focuses on victimization of LGBT youth that is homophobic and/or heterosexist in nature, it is important to recognize that both heterosexuals and those within the LGBT community can demonstrate negative attitudes towards and victimize LGBT individuals (Mulick & Wright, 2002; Weiss, 2003). Bisexual and transgender individuals have been marginalized and have also been the target of bi- and transphobic attitudes by the gay and lesbian community (Mulick & Wright, 2002; Weiss, 2003).

Mulick and Wright (2003) developed a biphobia scale and demonstrated that negative attitudes about bisexual individuals exist in both the heterosexual and homosexual communities. Weiss (2003) argues that biphobia and transphobia exist because they challenge the homosexual community's long fight to have same-sex desire be seen as a viable, non-stigmatized, healthy identity alternative to heterosexuality. She contends that bisexuality is sometimes seen as

denying one's true homosexual orientation by "passing" as straight and thus is a step backwards for this progress because it indicates that homosexuality is something to be avoided. Similarly, transgender identities can be seen as erasing one's true homosexual identity by, literally or figuratively, changing oneself into the opposite gender and thus "becoming" a heterosexual, which again implies that homosexuality is unacceptable (Weiss, 2003).

Though the effects of biphobic and transphobic victimization from the greater LGBT community on bisexual and transgender adolescents has not yet been specifically addressed, Mustanski, Garofalo, and Emerson (2010) investigated the possibility that bisexual and transgender youth would experience more negative mental health outcomes as a result of stigmatization from outside of as well as within the LGBT community. They found that neither bisexual nor transgender adolescents were significantly more likely than their homosexual peers to be suicidal or have mental disorder symptoms, including depression, anxiety, eating disorders, conduct disorder, and PTSD (Mustanski et al., 2010). In fact, they found that bisexual students were significantly less likely than their gay, lesbian, and transgender peers to meet the criteria for a mental disorder (Mustanski et al., 2010).

However, an analysis conducted by Saewyc et al. (2007) of survey data from nine studies found mixed results when comparing bisexual adolescents' incidences of depression and suicidality with that of gay and lesbians peers. In recognition of these results, the existence of bi- and transphobia in the homosexual community, and the fact that many different types of identities make up the LGBT community, it is important to examine the differences in the experiences of victimization and psychological distress amongst LGBT youth. The following discussion details some of these differences.

Differences in the Experiences Amongst LGBT Youth

Victimization based on sexual orientation. As the LGBT umbrella is comprised of several different types of identities, it is important to distinguish the impact of victimization amongst members of LGBT subgroups (Fassinger & Arseneau, 2007). Individuals often identify as LGBT because of their sexual orientation, gender identity, or both. When looking at sexual orientation, adolescents who identify as lesbian, gay or bisexual (LGB) report increased levels of mental health issues and risk taking behaviors as well as decreased levels of academic achievement and emotional health than their non-LGB peers (e.g., D'Augelli, 2002; Darwich et al., 2012; Heck et al., 2011). D'Augelli (2002) found that LGB adolescents reported significantly more suicidality and more symptoms of depression, anxiety, hostility, sensitivity to others' reactions, obsessive-compulsiveness, and alienation from others than a comparison group of non-LGB peers. The greater the experience of victimization by these youth, the greater their symptoms were generally reported to be (D'Augelli, 2002).

In a study of more than 19,000 Canadian adolescents, Darwich et al. (2012) reported that overall, LGB adolescents experienced significantly more victimization based on sexual orientation than their heterosexual peers. Amongst LGB and questioning youth, greater levels of sexual orientation-related victimization were generally correlated with greater reports of substance abuse and school avoidance (Darwich et al., 2012).

GLSEN's most recent national survey of nearly 8,000 LGBT adolescents investigated their academic achievement and aspirations in addition to their mental and emotional health (Kosciw et al., 2014). They found that LGBT students who experienced high levels of victimization based on their sexual orientation were more than three times as likely to have missed school in the past month, were twice as likely to report not having post-secondary educational aspirations, and had lower grade point averages than peers who experienced lower

levels of victimization. Students who experienced high levels of sexual orientation victimization also reported higher levels of depression and lower levels of self-esteem than their counterparts who had experienced less victimization (Kosciw et al., 2014).

Bisexual and LG youth. Though LGB youth share many experiences and outcomes, especially when compared to heterosexual peers, differences have been found when comparing the experiences of lesbian and gay (LG) students with bisexual individuals.

According to Darwich et al. (2012) and Mustanski et al. (2010), bisexual youth experience more victimization and engage in more maladaptive behaviors than their heterosexual peers, but seem to face less frequent victimization than their gay and lesbian counterparts. Darwich et al. (2012) found that gay and lesbian students reported significantly higher levels of at-school victimization, significantly lower levels of adult support, and significantly greater school avoidance and substance use than their bisexual peers. Bisexual youth have also been found to have a significantly lower occurrence of mental health disorder symptomology as well as lower lifetime suicide attempt prevalence, than their gay and lesbian peers (Mustanski et al., 2010).

These findings, however, should be interpreted carefully because the few studies that have compared bisexual youth with lesbian and gay peers have produced inconsistent outcomes (e.g., Murdock & Bolch, 2005; Mustanski et al., 2010; Saewyc et al., 2007). For example, Saewyc et al. (2007) analyzed survey data from nine studies on sexual minority youth and found mixed results when comparing bisexual youth's prevalence of depression and suicidality with that of gay and lesbian peers. Contrary to Darwich et al.'s (2012) findings regarding substance use, a meta-analysis conducted in 2008 indicated that bisexual youth were more likely to use substances than LG youth (Marshall et al., 2008).

Additionally, Russell, Seif, and Truong (2001) investigated youth with same sex, opposite sex, and bisexual romantic attractions and their academic outcomes, feelings of social belongingness, and relationships with family, peers, and teachers. Bisexual youth experienced more negative outcomes than straight youth, but they found that there were more significant differences in these outcomes between bisexual youth and heterosexual youth than there were between homosexual and heterosexual youth (Russell et al., 2001). Bisexual youth may be exposed to biphobic attitudes by those within the gay and lesbian community in addition to victimization from heterosexual individuals (Mulick & Wright, 2002; Weiss, 2003), which may increase the difficulty of assessing differences between bisexual and homosexual adolescents.

Victimization due to gender identity/nonconformity. In addition to victimization based on sexual orientation, many LGBT youth also face at-school victimization based on the way that they express their gender or their nonconformity to typical gender roles. Although this type of victimization is typically associated with the experiences of transgender students, cisgender LGB youth also experience victimization based on their gender expression or nonconformity (Kosciw et al., 2014). LGBT adolescents who are victimized based on their gender expression generally have similar experiences as those who experience victimization due to their sexual orientation. GLSEN found that LGBT adolescents who experienced high levels of victimization due to their gender expression were more than three times as likely to have missed school in the past month, had lower grade point averages (GPAs), and were twice as likely to report a lack of post-secondary pursuits when compared to LGBT peers who experienced low levels of victimization (Kosciw et al., 2014). These adolescents also reported higher levels of depression and lower levels of self-esteem than their peers who experienced less victimization based on gender expression (Kosciw et al., 2014).

Transgender youth. Youth may identify as LGBT because of their sexual orientation, their gender identity, or both. When compared to the experiences of non-LGBT adolescents, the experiences of LGB and transgender youth seem very similar, but there are also distinctions in the experiences of these two groups (e.g., Greytak et al., 2009; Heck et al., 2011; Kosciw, Greytak, Bartkiewicz, Boesen, & Palmer, 2012; Kosciw et al., 2014).

Some studies suggest that transgender youth experience more frequent harassment, face greater amounts of marginalization and isolation, are less likely to feel a sense of belongingness, and have less access to information about transgender issues or people in school than their LGB counterparts (e.g., Greytak et al., 2009; McGuire et al., 2010; Toomey et al., 2010). According to GLSEN's national survey, transgender students were more likely to report feeling unsafe at school than their cisgender LGB peers for multiple reasons, including sexual orientation and gender expression (Kosciw et al., 2014). Transgender students, as a group, also reported the most hostile school environments and negative school climates, while cisgender LGB students reported the least hostile school climates and students with other gender identities (e.g., genderqueer, genderfluid, agender) fell somewhere in the middle (Kosciw et al., 2014). Given this information and the consistency of these findings in past years, it is not surprising that transgender students reported lower feelings of school belongingness than their cisgender LGB counterparts in Greytak et al.'s (2009) in-depth analysis of transgender youth.

One reason that transgender youth may experience more hostile school environments is because many transgender youth report experiencing conflict and distress from victimization that is based both on gender presentation and assumed homosexuality (Greytak et al., 2009; McGuire et al., 2010). Focusing on the experiences of 295 transgender youth, Greytak et al. (2009) found that an overwhelming majority of transgender students experienced some victimization at school

due to both their gender expression and their (actual or perceived) sexual orientation. Specifically, 89% of transgender students had been verbally harassed due to their sexual orientation and 87% due to their gender identity or expression, while 55% and 53% had been physically harassed due to sexual orientation and gender identity, respectively (Greytak et al., 2009). These patterns of victimization continue to hold up today.

In GLSEN's most recent survey, transgender students were more likely to report feeling unsafe at school because of their gender expression than their cisgender LGB peers (75% of transgender students vs. 26% of female and 31% of male students). In addition, they were more likely to feel unsafe at school due to their sexual orientation and faced more sexual orientation victimization than cisgender LGB students (Kosciw et al., 2014). Transgender youth may be victimized by both heterosexual and homosexual peers, which may account for the greater experience of victimization of transgender students (Weiss, 2003).

In terms of mental health outcomes, transgender youth have been found to be at greater risk for depression and suicidality than their cisgender peers (e.g., Grossman & D'Augelli, 2007; McGuire et al., 2010; Mustanski & Liu, 2013; Russell et al., 2011). Grossman and D'Augelli (2007) found that 25% of 55 transgender participants had attempted suicide at least once and nearly three-quarters of those individuals reported their first or only suicide attempt was related to their transgender identity. These percentages were greater than a sample of LGB youth in a previous study by D'Augelli and colleagues who had attempted suicide and attributed that attempt to their sexual orientation (Grossman & D'Augelli, 2007).

Additionally, Mustanski and Liu (2013) found that significantly more transgender participants than cisgender LGB participants reported feelings of hopelessness and had attempted suicide both in the past year and in their lifetimes. Although not specifically investigated with

regard to the specific identities of the participants, there was a significant positive correlation between overall LGBT-motivated victimization and lifetime suicide attempt history, major depressive disorder symptoms, and overall level of hopelessness for the LGBT sample (Mustanski & Liu, 2013).

Transgender youth are more likely than non-transgender LGB youth to talk about LGBT matters in school, such as raising LGBT-related issues in class discussions and talking with school counseling staff about LGBT-related concerns, and are more likely to be “out” to school faculty (Greytak et al., 2009). Transgender adolescents may be more open in class and with school staff in part because there is value in connection to adults in school. In McGuire et al.’s (2010) study, transgender youth reported that principals, teachers, and nurses cared for and supported them and their specific needs as transgender individual by doing things like maintaining secrecy about their legal names and allowing them to use private bathrooms rather than locker rooms.

Gender differences. The experiences of victimization and effects on LGBT youth can also vary according to their specific gender and sexual identities. There is a theory that LGBT individuals may be stigmatized because they are perceived to violate traditional gender role prescriptions (Fassinger & Arseneau, 2007; Tebbe & Moradi, 2012). Traditional gender role stereotypes assign behavioral and social norms, such as what clothing should be worn, what hobbies are appropriate, and whom it is acceptable to date, to individuals according to their biological sex (i.e., males should be masculine and females should be feminine). Research in this area suggests that young people who don’t conform to societal gender role stereotypes are at risk for victimization during adolescence (Meyer, 2003; Rosario et al., 2002; Toomey et al., 2010).

In support of this theory, studies have found gay and bisexual males and transgender youth to report higher overall amounts of victimization than lesbian and bisexual females (e.g., D'Augelli, 2002; Kosciw et al., 2014; Russell et al., 2011; Toomey et al., 2010). As previously discussed, transgender students experience more frequent harassment and an overall more negative school climate than their cisgender LGB peers (e.g., Greytak et al., 2009; Kosciw et al., 2014). In terms of cisgender LGB adolescents, Russell et al. (2011) found that males had overall higher levels of depression and suicidality in young adulthood than females. However, further analysis revealed that the male participants' greater frequency of LGBT victimization in adolescence accounted for these differences in mental health in young adulthood (Russell et al., 2011).

Toomey et al. (2010) also found that males reported significantly more victimization during adolescence, which accounted for significant differences in psychosocial adjustment in young adulthood. A comparison of LGB youth found that only bisexual male adolescents had compromised academic achievement and that their school troubles were explained by the degree to which they felt disliked, that people are unfriendly, and that adults cared (Russell et al., 2001).

Additionally, though LGBT adolescents display similar levels of psychological maladjustment, the effects may be expressed differently based on gender. Contrary to other studies that investigated gender differences, D'Augelli (2002) found that female and male LGB youth reported similar overall levels of mental health symptomology, but that females reported significantly more symptoms of anxiety, obsessive-compulsivity, and somatization. Though there were no significant differences between males and females on depression or overall suicidality, females did have more frequent thoughts of suicide (D'Augelli, 2002).

Mustanski and Liu (2013) found that, behind transgender adolescents, females were most likely to have attempted suicide in the past year and in their lifetimes, while males were most likely to report feelings of hopelessness. Russell et al. (2011) found that female adolescents reported lower negative mental health symptoms and greater positive adjustment than their male peers. Female participants had less depression as young adults than males, but it is likely that the differences in adolescent LGBT victimization accounts for the difference in symptom manifestation later on (Russell et al., 2011). Female students also reported more school avoidance than male students (Darwich et al., 2012). Taken together, this evidence indicates that, while there is a wide range of effects of gender on outcomes for LGBT youth, gender does appear to play a role.

Influence of Others' Attitudes on LGBT Youth's Outcomes

Despite the differences between LGBT youth, there are adverse consequences of homophobic and heterosexist victimization for all students who identify as LGBT. There are certain protective factors that can help to offset the psychological risks associated with this victimization. For example, higher self-esteem, a higher sense of personal mastery, and a greater sense of social support were linked to more positive mental health outcomes in a sample of transgender youth (Grossman, D'Augelli, & Frank, 2011). Furthermore, LGBT youth's self-reported resilience strategies include finding safe places and people, finding strength in fighting against discrimination, believing that non-heterosexual orientations are natural, having positive personal conceptualizations of their LGBT identity, feeling accepted by others and themselves, taking care of themselves physically and emotionally, and rejecting LGBT stereotypes (Harper, Brodksy, & Bruce, 2012; Scourfield, Roen, & McDermott, 2008).

One of the factors that recurs in this research is the supportive influence of other people. Considering the large amount of at-school victimization experienced by LGBT youth and the negative consequences of that victimization, it is important to consider the influence that other people have on LGBT youth. In fact, studies have found that support from parents, peers, and school personnel, along with an accepting school climate in general, can help decrease the negative outcomes associated with at-school victimization of LGBT youth (e.g., Darwich et al., 2012; Espelage et al., 2008; Lasser et al., 2006; McGuire et al., 2010; Murdock & Bolch, 2005).

Parental attitudes. Though all youth tend to experience negative consequences when parents are unsupportive, evidence shows that LGBT students are particularly susceptible to these negative effects (e.g., D'Augelli, 2002; Espelage et al., 2008; Heck et al., 2011). D'Augelli found that better relationships with parents were associated with fewer mental health problems, as reported by LGB adolescents. More positive reactions to youth's sexual orientations by mothers and by fathers were related to more positive relationships with parents (D'Augelli, 2002). Greater symptoms were expressed by youth in a family where neither of their parents knew their sexual orientation than those in families where one parent or both parents knew (D'Augelli, 2002).

Though both parental knowledge and parental reactions were related to youth's symptom expression, parental reactions were more strongly associated with youth symptomology (D'Augelli, 2002). Perhaps unsurprisingly, LGB adolescents whose parents rejected them based on their sexual orientation showed significantly higher symptoms than youth with accepting parents. Additionally, the presence of even one rejecting parent in a family was linked with greater mental health symptoms. Based on these results, D'Augelli (2002) purported that

parental rejection or even the fear of parental rejection can create another form of victimization for LGB youth that will negatively impact their mental health outcomes.

Needham and Austin (2010) investigated the relationship between sexual orientation, parental support, and health outcomes during the transition from adolescence to young adulthood. Overall, LGB young adults, with the exception of bisexual young men, reported lower levels of parental support than their heterosexual, same gender peers. Compared to their heterosexual peers, bisexual young women were more likely to report high depressive symptoms and heavy drinking, and both lesbian and bisexual young women were more likely to report suicidal thoughts, marijuana use, and hard drug use (Needham & Austin, 2010). For young males, gay young men were more likely to report suicidal thoughts than their heterosexual and bisexual counterparts. Parental support partially mediated the relationships between sexual orientation and suicidal thoughts, hard drug use, and marijuana use amongst young women as well as the association between a gay identity and suicidal thoughts for young men (Needham & Austin, 2010). Furthermore, amount of perceived parental support fully mediated the relationship for young females between bisexual identity and elevated depressive symptoms (Needham & Austin, 2010).

Parental support of LGBT youth has been shown to mediate the relationships between LGBT identity and depression, suicidal thoughts, and substance use (e.g., Espelage et al., 2008; Heck et al., 2011). Specifically, Espelage et al. (2008) investigated the impact of parental communication and support on LGB and questioning adolescents' substance use, depressive symptoms, and suicidality. LGB adolescents who experienced moderate levels of victimization, but felt that their parents cared about them and that their parents were there when the youth needed them reported significantly lower alcohol and marijuana use as well as fewer feelings of

depression and suicide compared to LGB youth who experienced the same level of victimization but did not feel supported by their parents. Furthermore, LGB youth who reported low levels of perceived parental support and high levels of peer victimization also reported the highest levels of substance use and abuse (Espelage et al., 2008).

School-based adult attitudes. While parental support at home is linked to more positive outcomes for LGBT students, adult support at school is similarly protective. Munoz-Plaza et al. (2002) explored the support that LGBT youth had in the high school environment. They found that LGBT high school students identified non-family adults as providing more support than their family members. Specifically, they felt that both heterosexual and LGBT-identified non-family adults (e.g., school personnel) provided emotional support (i.e., caring, trust, listening) and instrumental support (i.e., money, time), but that LGBT-identified non-family adults also provided valuable informational (i.e., advice, suggestions) support and appraisal (i.e., positive feedback, affirmation) support (Munoz-Plaza et al., 2002).

McGuire et al. (2010) found that attachment to at least one teacher or other adult at school was valuable for transgender adolescents. Connection to school-based adults was measured in terms of how much the student felt the adult cared about them, listened to them, noticed when they weren't there, and ensured fair treatment and respect for all students. Connection to a teacher or other adult was related with feelings of safety and was an important factor for academic success for transgender youth. Specifically, transgender adolescents reported that these adults (namely principals, teachers, and nurses) provided support and demonstrated caring through secrecy about students' legal names, provision of safe spaces (e.g., use of private bathrooms), refuge from vulnerable spaces like locker rooms, and advisement regarding academic matters (McGuire et al., 2010).

Darwich et al. (2012) examined specifically the moderating impact of school-based adult support on the association between sexual orientation based victimization and school avoidance and substance use among LGB and questioning youth. Adult support was found to have a significant negative correlation with reports of sexual orientation victimization, school avoidance, and substance abuse for students of all sexualities and genders, but was stronger for LGB and questioning adolescents than their heterosexual peers. Results indicated that adult support both directly and indirectly contributed to lower school avoidance and substance use for all sexual orientation groups, except for bisexual females where the impact was only direct (Darwich et al., 2012). Additionally, support from adults was found to moderate the link between sexual orientation victimization and school avoidance for bisexual and questioning males and between victimization and substance use for bisexual males and straight and questioning youths (Darwich et al., 2012). Overall, supportive school-based adults were found to contribute to the reduction of school avoidance and substance use directly by helping students to cope with their feelings and experiences after victimization has occurred and indirectly by intervening to stop victimization from occurring in the first place.

Murdock and Bolch's (2005) study examined several variables inside and outside of the school as they relate to LGBT student outcomes, including their sense of belongingness in their school setting. Their findings support that having more support from teachers contributes to a sense of psychological belonging in the school. Among students who did not experience high levels of victimization, students who reported a homophobic school climate and support from teachers were just as likely to feel a positive sense of school belonging as students who did not have a homophobic school climate, but were also not supported by teachers. Murdock and Bolch

(2005) concluded that teachers play an important role in developing students' attitudes towards school.

Peer attitudes. The attitudes and reactions of peers are also important in outcomes for LGBT adolescents. D'Augelli (2002) found that LGB students who had lost friends because of their LGBT status reported more mental health symptoms than LGB individuals who were not rejected by their friends. Rejection by friends was also significantly related to suicide attempts as nearly half of LGB youth who had attempted suicide had lost friends, whereas only a third of those who had not attempted suicide had lost friends (D'Augelli, 2002). Additionally, telling straight friends about their sexual orientation was very or extremely troubling for 41% of the sample and was significantly related to higher scores in avoidance of particular places, distrust of others, sensitivity to others' reactions, hostility, alienation from others, and general severity of symptoms (D'Augelli, 2002). Furthermore, youth who feared losing friends reported significantly more mental health symptoms than those without this fear, and the potential to lose friends strongly influenced how open LGB youth were about their sexual orientation (D'Augelli, 2002).

Munoz-Plaza et al. (2002) found that LGBT students named close friends as their main source of emotional support and found them to be more supportive than their family members. However, the participants also cited limitations to the emotional support they felt they could receive from heterosexual peers, particularly regarding their LGBT identity. Moreover, LGBT students felt that LGBT-identified peers and adults were able to offer informational support, such as advice and suggestions, and appraisal support, such as positive feedback and affirmation, in addition to emotional support (Munoz-Plaza et al., 2002).

Positive school climate. The overall climate of the school can also serve as a protective factor for LGBT students. Szalacha (2003) defined school climate as “the quality of the internal environment of the school experienced by students regarding the level of safety, tolerance, and atmosphere of respect for sexual minority individuals” (p. 62). Aspects of LGBT students’ experiences in their schools, including their level of at-school victimization, their beliefs related to the quality of their education, their sense of belonging in the school community, and feeling that they are cared for and protected by the school personnel, are related to their perceptions of their school climate (Birkett et al., 2009; Espelage et al., 2008; Murdock & Bolch, 2005).

Students with a sense of belonging in their school feel that they are valued and respected members of the school community (Murdock & Bolch, 2005). As previously discussed, supportive school-based adults and peers can contribute to an LGBT student’s sense of belonging and positive view of school climate (Munoz-Plaza et al., 2002; Murdock & Bolch, 2005). Furthermore, school staff can help to promote a sense of belonging for LGBT students through intervention and prevention of anti-LGBT language and harassment, inclusion of LGBT topics in the curricula, and demonstration of support and sensitivity for LGBT staff and students (Munoz-Plaza et al., 2002).

Research has found that it is the interaction between negative school environments and lack of support, as well as the level of homophobic victimization, that lead to negative consequences for LGBT students (e.g., Birkett et al., 2009; Espelage et al., 2008; Murdock & Bolch, 2005). LGBT-identified youth who feel less excluded and more supported at school tend to have higher grades, a greater sense of school belonging, and exhibit less disruptive behavior than peers who feel more excluded and less supported (Murdock & Bolch, 2005). Furthermore, the lowest levels of substance use, school avoidance, depression, and suicidal ideation amongst

LGBT adolescents are reported when students feel they are in a positive school climate and when they are not experiencing homophobic victimization (Birkett et al., 2009; Espelage et al., 2008).

Linking GSAs and a Positive Climate

Research concerning school climates seems to indicate that, for LGBT youth, perceptions of positive school climates and a positive sense of school belonging are significantly linked to positive outcomes. Additionally, two (i.e., peers and school-based adults) of the three major social support groups identified in the literature for LGBT youth are present in the school itself.

Gay-straight alliances (GSAs) have been identified as one tool that can help to create positive school climates for LGBT youth through their effects on these variables. Specifically, GSAs are believed to create more positive school climates for LGBT students by reducing LGBT-focused victimization (GLSEN, 2007; Heck et al., 2011), increasing their sense of school belonging (GLSEN, 2007; Heck et al., 2011), and increasing access to and visibility of supportive peers and school-based adults (GLSEN, 2007; Munoz-Plaza et al., 2002).

Positive outcomes of GSAs. The presence of a GSA in the school is believed to be able to positively affect LGBT students' experiences and subsequent developmental outcomes in several ways. First, the presence of GSAs in schools can contribute to a safer atmosphere for LGBT students by sending a message that biased language and victimization will not be tolerated (GLSEN, 2007). Previous research has found that homophobic speech contributes to increased anxiety, depression, and substance use in LGBT students, and that homophobic teasing and bullying has a greater negative impact on LGBT youth than their heterosexual peers (e.g., D'Augelli, 2002; Espelage et al., 2008; Swearer et al., 2008). Studies have found that students who attend high schools that have a GSA are less likely to hear homophobic comments and slang at school than those who go to a school without a GSA (GLSEN, 2007; Szalacha, 2003).

Subsequently, it is believed that the reduction of homophobic speech in the school environment leads to more feelings of safety and decreased experiences of victimization for LGBT students (GLSEN, 2007; Kosciw, Greytak, Diaz, & Bartkiewicz, 2010; Walls, Kane, & Wisneski, 2010).

Szalacha's (2003) study suggested that GSAs may have more positive effects for males compared to females. Using a sample of 1,666 Massachusetts high school students, Szalacha (2003) found that there were significantly more positive differences in male students' perceptions of school climate for sexually diverse students than female students. It is likely that this differential outcome by gender is related to higher levels of victimization amongst LGBT males (D'Augelli, 2002; Russell et al., 2011; Szalacha, 2003).

Another perceived benefit of having GSAs in schools is that they can help LGBT students to view school as a place where they feel they belong and are supported (GLSEN, 2007; Heck et al., 2011). Students who attend a school with a GSA report feeling safer in school, being less likely to miss school due to safety concerns, feeling a greater sense of connectedness to their school community, and being more likely to hear teachers make positive comments about LGBT individuals (e.g., GLSEN, 2007; Kosciw et al., 2012; Kosciw et al., 2014; Walls et al., 2010).

For example, Kosciw et al. (2014) found that, compared to peers in schools without GSAs, LGBT students in schools with GSAs were less likely to feel unsafe because of their sexual orientation or gender expression and less likely to have missed school in the past month due to safety concerns. Furthermore, LGBT students in schools with GSAs were more likely to be able to identify at least one supportive adult in their school and more likely to identify 11 or more supportive adults in their school than those in schools without GSAs (Kosciw et al., 2014).

Having more support from teachers and being in a school that is less excluding of LGBT students can help facilitate a sense of psychological belonging in students. This sense of

belonging can provide better protection for LGBT students from negative academic and psychological outcomes, even in the face of at-school victimization, compared to peers who feel isolated (Espelage et al., 2008; Murdock & Bolch, 2005). A GSA may help create a school atmosphere wherein LGBT students feel as though they are connected and valued members.

Finally, GSAs can assist LGBT students in identifying school personnel who are supportive (GLSEN, 2007). Students who identify as LGBT and attend a school with a GSA describe having more supportive faculty and staff, are more likely to report intervention by school personnel who hear homophobic remarks, and achieve higher grades than their peers in schools without a GSA (GLSEN, 2007; Kosciw et al., 2010; Szalacha, 2003; Walls et al., 2010). The presence of supportive school personnel has been linked to decreased substance use and school avoidance as well as increased feelings of safety and academic success for LGBT students (Darwich et al., 2012; Espelage et al., 2008; McGuire et al., 2010; Murdock & Bolch, 2005). The increased perception and visibility of supportive faculty and staff members through a GSA can thus assist LGBT students to find allies in their school environment and decrease their psychological distress. Even amongst LGBT youth who receive emotional support and acceptance from their heterosexual peers and faculty, membership in a GSA can give them wider access to LGBT-identified students and adults, who can provide information and positive feedback on top of emotional support (Munoz-Plaza et al., 2002).

Students' participation in GSAs. It is important to note that many of the positive outcomes for LGBT youth related to schools with GSAs are not necessarily associated with students' participation in such clubs. While significant differences have been found between those who do and do not have a GSA in their school, the experiences and outcomes of LGBT

students who are and are not members of their schools' GSAs have not been found to differ significantly in most areas (Walls, Wisneski, & Kane, 2013; Walls et al., 2010).

Moreover, due to the unique experiences of transgender youth as compared to LGB youth, there is also speculation that transgender students may not benefit directly from interventions intended for LGB individuals, such as a gay-straight alliance (GSA) (Hansen, 2007; McGuire et al., 2010). There is also evidence that many transgender students do not participate in GSAs (McGuire et al., 2010). However, there is contrary evidence that transgender students not only participate in GSAs more, but may also receive greater benefit from these resources than their cisgender LGB peers (Greytak, Kosciw, & Boesen, 2013). Greytak et al. (2013) found that having a GSA in the school was related to lower levels of sexual orientation victimization, gender expression victimization, and absenteeism for all LGBT youth, but the effects for gender expression victimization and absenteeism were stronger for transgender youth than cisgender LGB youth.

Walls et al. (2010) investigated how membership in a GSA was related to positive outcomes for LGBT students by comparing students who were members of their school's GSA, students who were not members of their school's GSA, and students in schools that did not have GSAs. They found that membership in a GSA did have a positive effect on drop out rate, with members in a GSA having lower drop out rates than those who were not members of their school's GSA and those who were in a school without a GSA. However, no significant difference was found between members of the school's GSA and non-members of the school's GSA in their experiences of general victimization and of LGBT-based victimization. There was also no significant difference in students' feeling unsafe at school, ability to identify a safe adult to talk with, absences in the past 30 days, and carrying a weapon in the past 30 days. The only

significant difference in the current experiences of LGBT students based on GSA membership was in their GPAs, where nonmembers had lower averages than members (Walls et al., 2010).

Using a sample of LGBT adolescents between the ages of 13 and 22, Walls and colleagues continued this line of research related to psychological outcomes for LGBT youth in high schools and colleges that have GSAs based on their membership in the GSA (Walls et al., 2013). They found no significant difference between GSA members and nonmembers with regard to their reports of depressed mood, suicidal thoughts, or suicidal attempts. With regard to substance use, there were no significant differences in members' and nonmembers' alcohol usage, inhalant usage, and methamphetamine usage, but nonmembers did report significantly higher marijuana usage in the past 30 days and higher lifetime cocaine usage than GSA members. GSA nonmembers were also significantly more likely to wish they were more gender conforming than were GSA members.

Furthermore, the positive effects that research has found GSAs to have for LGBT students are correlated with the existence of the organization in the school rather than with students' active memberships in it (e.g., Goodenow, Szalacha, & Westheimer, 2006; GLSEN, 2007; Greytak et al., 2013; Heck et al., 2011; Walls et al., 2010). These findings have been used to suggest that the mere presence of a GSA in a school is related to a more positive overall school climate, which benefits all students regardless of specific involvement (e.g., Birkett et al., 2009; Espelage et al., 2008; GLSEN, 2007; Goodenow et al., 2006; Hansen, 2007; Murdock & Bolch, 2005).

How Attitudes Create Climate for LGBT Youth

Though this research tends to attribute the positive outcomes related to the existence of GSAs to their ability to change the school climate, it calls into question the causality of the

positive impact for LGBT students. The existence of a GSA may positively influence the school climate and thus benefit LGBT students who do not even participate in the club. However, it is also possible that the positive school climate is the result of already existing positive community or regional attitudes towards LGBT individuals, which would benefit all LGBT students regardless of their involvement with particular clubs and possibly also regardless of the existence of those clubs in the school. Additionally, in an environment that was already supportive of LGBT individuals, it could be easier and thus more likely for a GSA to be created. In this second scenario, the formation of the GSA and the advantages for all LGBT students could both be effects of the positive attitudes of the school and community, rather than the former being a cause of the latter.

The community as an alternative explanation. The benefits for LGBT students who have a GSA in their school have been explained in many ways. Beneficial outcomes may be due to the fact that many more students are aware of the existence of a GSA in their school compared to other methods to support LGBT students (e.g., the existence of school policies or staff training), making it easier for them to identify supportive school personnel (Hansen, 2007; Szalacha, 2003). The heightened visibility of GSAs is also thought to help to disrupt the heteronormative assumptions and challenge the concepts of traditional masculinity and femininity that persist in school climates (Hansen, 2007). This may help explain why schools with GSAs are more likely to integrate LGBT issues into their curricula (Hansen, 2007). What much of the research has failed to consider, however, is the relationship between the existence of GSAs in schools and the greater community where the schools are located.

Under the premise that school climates are influenced by and potentially reflective of the overall community's climate, attitudes, and beliefs, Kosciw et al. (2009) investigated

community-level factors, namely community-level educational attainment and poverty, as they related to the school climate for LGBT students. They found that youth from communities with a higher percentage of college graduates and with higher poverty levels were less likely to report hearing “gay” used in a negative way and less likely to hear homophobic epithets, like “dyke” or “faggot,” used in their schools. Additionally, the percentage of college-educated adults in the community was negatively related to the amount of victimization based on sexual orientation reported by students, but not to the amount of victimization based on gender expression. District-level poverty was positively related to the amount of sexual orientation and gender expression based victimization experienced by students.

Kosciw et al. (2009) explained these findings by positing that schools in poorer areas may not have the financial resources to provide supportive resources for LGBT students, such as training for school personnel to reduce victimization, but that the relationship between poverty and less homophobic language requires further investigation. Regarding the impact of community level educational attainment, they proposed that individuals who were college-educated may have decreased prejudicial attitudes due to greater exposure to LGBT individuals, greater development of cognitive reasoning and critical thinking, and greater exposure to new ideas that come from a college education (Kosciw et al., 2009). They concluded that the more tolerant and accepting attitudes of the college educated community may then be reflected in the climate of the community’s schools, which leads to less hostile school environments for LGBT youth.

Interestingly, Kosciw et al. (2009) also investigated regional differences in LGBT students’ experiences, but found that after accounting for these differences at the community-level, there were not significant regional differences related to sexual orientation based

victimization. They speculate that regional differences found with regard to tolerance and acceptance of LGBT individuals may actually be largely related to other community-level factors, such as educational level and income (Kosciw et al. 2009).

LGBT student experiences and school location. GLSEN has been conducting their national school climate survey every other year since the start of the millennium. In their 2003 survey, they first began to look at the differences in student experiences by location. They found that youth from large cities and suburbs of large cities reported lower frequencies of verbal harassment and that youth from small cities and towns and rural areas reported being the target of mean rumors or lies more often than youth from larger cities and their suburbs (Kosciw, 2004). When comparing students by region of the country, they found very few significant regional differences with regard to biased language, feelings of school safety and experiences of harassment and assault (Kosciw, 2004).

In subsequent years, patterns have begun to emerge in GLSEN's findings with respect to the surrounding community. LGBT individuals in schools located in small towns and rural areas consistently reported more victimization due to sexual orientation and gender expression than their peers in urban and suburban areas (Kosciw & Diaz, 2006; Kosciw, Diaz, & Greytak, 2008; Kosciw et al., 2012; Kosciw et al., 2010). When considering regional differences, students from the South and Midwest tended to experience more victimization due to sexual orientation and gender expression than their counterparts in the Northeast and West. LGBT students were also more likely to report having supportive staff, GSAs and other LGBT-related supports in schools located in the West and the Northeast and in urban and suburban settings. Additionally, LGBT students in high poverty level areas reported greater levels of victimization related to their sexual orientation and gender identity than those in low poverty level areas (Kosciw et al., 2008).

In the most recent GLSEN survey, these patterns continued to appear. Participants in the Northeast reported the lowest levels of verbal harassment, physical harassment, and physical assault based on both sexual orientation and gender expression, followed by those in the West, Midwest, and South (Kosciw et al., 2014). Compared to those in the Northeast, participants in the South experienced twice as much physical assault based on sexual orientation and based on gender expression. Based on sexual orientation, 57.3% of participants in the South experienced verbal harassment and 23.4% reported physical harassment, compared to 43.8% and 13.6% of those in the Northeast, respectively. Regarding gender expression, 40.7% of Southern participants reported related verbal harassment and 15.7% reported related physical harassment, compared to 34.8% and 10.5% of Northeastern participants, respectively (Kosciw et al., 2014).

Additionally, when looking at town settings, LGBT students in urban and suburban areas continued to fare better than their counterparts in rural/small town areas (Kosciw et al., 2014). Participants from rural/small town areas reported more harassment and assault based on gender expression and sexual orientation than those from urban and suburban areas. For example, 60.4% of rural/small town participants reported verbal harassment based on sexual orientation, compared to 46.5% of urban and 47.6% of suburban participants (Kosciw et al., 2014).

GSAs and school location. Homophobia research has found a number of social factors related to antigay attitudes, including gender, religiosity, race, age, education, political leanings, gender role beliefs, and experience with LGBT persons (e.g., Brown & Henriquez, 2008; Fetner & Kush, 2008; Herek, 2000). Fetner and Kush (2008) utilized this information about societal factors related to homophobic attitudes along with research about the growth of social movements and used it to study the emergence of GSAs in the United States. They determined the likelihood of a homophobic climate in the Northeastern, Western, Southern, and Midwestern

regions of the United States by looking at the political and cultural contexts of the regions. A statewide analysis was also done by looking at the effectiveness of external organizations to help support GSAs in the schools and the presence of antidiscrimination laws that protect LGBT individuals in the states located within each region. They also categorized schools according to their location within these regions and rural, small town, urban or suburban communities as well as the number of students enrolled, percentages of students who qualified for free or reduced lunch subsidies, and percentages of students who were White (Fetner and Kush, 2008).

Fetner and Kush (2008) found that students who lived in urban or suburban settings and in a region of the country with a more liberal political climate were more likely to start a GSA in their school than their those students in rural areas, small towns, or conservative regions. Regions that were traditionally more LGBT-friendly (West and Northeast) were more likely to have schools with GSAs, while those who were historically more hostile towards LGBT individuals (South and Midwest) did not have as many GSAs (Fetner & Kush, 2008). Those states where external LGBT organizations were successful in helping to create GSAs and where antidiscrimination laws existed had higher percentages of schools with GSAs (Fetner & Kush, 2008). Additionally, schools with more students and greater financial resources were more likely to have GSAs (Fetner & Kush, 2008).

Similarly, the data from GLSEN's (2014) most recent survey found numerous differences in LGBT students' experiences by region and town setting. The LGBT students who attended schools in the Northeast were the most likely while those in the South were least likely to have GSAs, LGBT-inclusive curricula, comprehensive harassment policies and supportive school personnel for LGBT students in their school (Kosciw et al., 2014). For example, 64% of Northeastern participants reported having a GSA (or similar club) in their school, compared to

61% of Western, 48% of Midwestern, and only 33% of Southern participants. Students in the Midwest were less likely to have GSAs, comprehensive harassment policies, LGBT-inclusive curricula, and supportive staff and administration than those in the West, but were more likely to have certain curricular resources, like LGBT website access, library resources, and LGBT-inclusive textbooks or assigned readings (Kosciw et al., 2014). Furthermore, participants from rural/small town areas were less likely to have access to GSAs and other LGBT supports in their schools than urban and suburban participants. Only 30.8% of rural/small town participants reported having a GSA (or similar organization) in their school versus 60.2% of urban and 57.9% of suburban participants.

Factors Related to Attitudes Toward LGBT Individuals

Research using largely undergraduate, predominantly heterosexual student samples has linked several factors to attitudes towards lesbian, gay, bisexual, and transgender individuals. Many of these factors occur at the individual level and are related to the specific participants' experiences, beliefs, and practices. Specifically, participants' gender role beliefs (e.g., Brown & Henriquez, 2008), contact and experience with LGBT individuals (e.g., Woodford, Silverschanz, Swank, Scherrer, & Raiz, 2012), religiosity (e.g., Hinrichs & Rosenberg, 2002), and political leaning (e.g., Norton & Herek, 2013) as well as the presence of a gay-straight alliance in their high school (Worthen, 2014) have all been linked to their attitudes towards lesbian, gay, bisexual, and transgender people.

Gender Role Beliefs. Studies using undergraduate student participants have demonstrated a relationship between a person's beliefs about gender role and that person's attitudes towards LGBT individuals (e.g., Brown & Henriquez, 2008; Hinrichs & Rosenberg, 2002; Nagoshi et al., 2008; Tebbe & Moradi, 2012). Traditional gender role stereotypes assign

behavioral and social norms, including whom it is acceptable to date, to individuals according to their biological sex. Individuals who have more traditional gender role beliefs (i.e., that men should be masculine and women should be feminine) tend to have more negative attitudes towards LGBT individuals (e.g., Brown & Henriquez, 2008; Hinrichs & Rosenberg, 2002; Tebbe & Moradi, 2012). These findings lend evidence to the theory that part of the reason LGBT individuals are stigmatized is because they are perceived to violate traditional gender role prescriptions (Fassinger & Arseneau, 2007; Tebbe & Moradi, 2012). In fact, gender role beliefs have been found to be one of the strongest independent predictors of anti-LGBT attitudes (Brown & Henriquez, 2008; Hinrichs & Rosenberg, 2002).

Brown and Henriquez (2008) investigated several socio-demographic predictors of attitudes towards lesbian and gay individuals, using a sample of 320 undergraduate students. They found that participants who reported more traditional gender role beliefs (assessed using the Gender Role Beliefs Scale) also reported more anti-gay attitudes. Females, in particular, reported significantly less traditional gender role beliefs, which was in turn correlated with more positive attitudes towards gay and lesbian individuals (Brown & Henriquez, 2008). Of the eight factors studied, which included political leaning, religiosity, and experience with gay people, gender role beliefs were found to be the strongest predictors of attitudes towards gays and lesbians (Brown & Henriquez, 2008).

Using heterosexual undergraduate participants, Hinrichs and Rosenberg (2002) also found a positive correlation between traditional gender role attitudes and negative attitudes towards lesbian, gay, and bisexual individuals. They assessed gender role attitudes by asking participants how strongly they agreed or disagreed with five statements about women's roles, including "the activities of married women are best confined to the home and family" (Hinrichs

& Rosenberg, 2002, p. 67). They determined that traditional gender role attitudes were more important than any other variable, including gender and religiosity, in determining participants' attitudes towards LGB individuals (Hinrichs & Rosenberg, 2002).

A study of attitudes towards transgender individuals in a largely heterosexual undergraduate sample found similar results (Tebbe & Moradi, 2012). Tebbe and Moradi (2012) found that traditional gender role attitudes were positively and uniquely related to anti-transgender prejudice. Of the four predictors studied, only anti-LGB attitudes were found to be a stronger predictor of anti-transgender attitudes than traditional gender role attitudes were.

Nagoshi et al. (2008) found that traditional gender role beliefs were correlated with both homophobia and transphobia in an undergraduate population. However, traditional gender role beliefs only predicted both homophobia and transphobia in males. Female participants' level of transphobia was predicted by their gender role beliefs, but their level of homophobia was not (Nagoshi et al., 2008).

Experience with LGBT Individuals. In undergraduate samples, another factor that has been shown to be a strong predictor of one's attitudes towards lesbian, gay, bisexual, and transgender individuals is the amount of experience one has interacting with LGBT individuals. Specifically, undergraduate students who have less experience and prior contact with LGBT individuals tend to have more anti-LGBT attitudes than those who are more familiar with LGBT individuals (e.g., Brown & Henriquez, 2008; Eliason, 1997; Hinrichs & Rosenberg, 2002; Woodford et al., 2012).

Hinrichs and Rosenberg (2002) utilized a sample of nearly 700 heterosexual university students to study their attitudes towards lesbian, gay and bisexual individuals. They found that, behind gender role attitudes, the next strongest predictor of positive LGB attitudes was positive

interactions with gay or lesbian individuals. The authors concede that this correlational evidence does not indicate whether attitudes change due to contact with gay and lesbian individuals or if those with more accepting attitudes are thus more likely to establish and accept contact with lesbian and gay persons, but argue that it is likely a reciprocal relationship, where each factor influences the other (Hinrichs & Rosenberg, 2002).

Using a national sample of more than 2,000 heterosexual adults, Norton and Herek (2013) found that prior contact with a gay or lesbian friend, relative, or close acquaintance was associated with participants' ratings of transgender people. Specifically, participants who had more prior contact with homosexual individuals expressed more positive attitudes about transgender individuals. The authors express that more contact with sexual minorities (i.e., homosexuals) may influence attitudes towards gender minorities (i.e., transgender individuals), in part because contact with homosexuals can expose heterosexual individuals to viewpoints that oppose traditional gender notions and may reflect or promote greater tolerance and understanding of differences (Norton & Herek, 2013).

In Brown and Henriquez's (2008) study, participants who reported having a gay friend or family member had less negative attitudes towards gays and lesbians than participants who did not. In addition to this direct effect on attitudes, participants who reported having a gay friend or family member reported being less religious, being more politically liberal, and having less traditional gender role beliefs, which were all related to more positive attitudes towards gay and lesbian individuals. Prior experience with a homosexual friend or family member was found to be a better predictor of attitudes than both political leaning and religiosity (Brown & Henriquez, 2008).

Eliason (1997) exclusively investigated biphobia in a heterosexual undergraduate sample. Because there seems to be a difference in the acceptability of bisexual men and bisexual women, with bisexual women being more accepted, she looked at these two groups separately. However, participants' lack of bisexual acquaintances predicted negative attitudes of both bisexual men and bisexual women (Eliason, 1997).

In Woodford et al.'s (2012) study, participants were asked to indicate whether they had LGB and transgender friends, acquaintances, immediate family, and extended family members. These relationships were then correlated with their attitudes towards LGBT individuals as a single group. There was a positive correlation between one's social relationships with LGBT individuals and their LGBT attitudes. Having LGB friends, LGB immediate family members, and transgender friends were each associated with more accepting attitudes towards LGBT people, while other relationships were found to have no significant effects. The authors contend that the lack of relationship between having transgender immediate family members and LGBT attitudes may have to do with the low number of participants with transgender immediate family members in the sample (Woodford et al., 2012).

Religiosity. How religious a person is, or their level of religiosity, has also been identified in the literature as a predictor of that person's attitudes towards LGBT individuals (Brown & Henriquez, 2008; Hinrichs & Rosenberg, 2002; Norton & Herek, 2013). Generally, the more religious a person reports being, the more negative their attitudes about LGBT individuals are (Brown & Henriquez, 2008; Hinrichs & Rosenberg, 2002; Norton & Herek, 2013).

Brown and Henriquez (2008) had participants self-report how religious they were on a Likert scale from *Not at All Religious* to *Very Religious* and measured their attitudes towards

gays and lesbians. Being more religious was related to higher levels of anti-gay attitudes (Brown & Henriquez, 2008). In addition to the direct effect of religiosity on attitudes, both female and Christian (as compared to non-Christian) participants reported being more religious, which was linked to more negative attitudes towards gay and lesbian individuals (Brown & Henriquez, 2008).

Hinrichs and Rosenberg (2002) assessed participants' religiosity using a fundamentalism coding index, self-reports of their frequency of religious service attendance, and a religiosity index where they rated agreement with 6 traditional religious beliefs. These three variables were found to have weak, but significant correlations with attitudes towards LGB individuals (Hinrichs & Rosenberg, 2002). Specifically, the higher a participant's level of religiosity, the more likely he was to hold negative attitudes about lesbians, gays, and bisexuals. When controlling for gender, agreement with traditional religious values correlated with attitudes more strongly for female participants than for males. Hinrichs and Rosenberg (2002) do note that they did not have a sample that tended to be high on any of the religiosity measures, which may have impacted results due to a lack of variability.

Norton and Herek (2013) looked at how participants' religiosity related to their attitudes towards transgender people. They assessed religiosity by having participants self-report how much guidance religion provided in their daily life. Attitudes towards transgender individuals were significantly lower for participants who self-reported higher levels of religiosity (Norton & Herek, 2013). Similar to previous studies (e.g., Brown & Henriquez, 2008; Hinrichs & Rosenberg, 2002), male and female participants differed significantly in their levels of religiosity, with females significantly more likely to report high levels of religiosity (Norton & Herek, 2013).

When separating the sample by gender, the correlation between religiosity and transphobic attitudes was significant only for women (Norton & Herek, 2013).

Political Ideology. Political ideology has also been related to attitudes towards LGBT persons in the literature. Political conservative ideologies are generally characterized by a resistance to change and avoidance of ambiguity and uncertainty (Norton & Herek, 2013). Thus, it makes sense that those individuals who are more politically conservative have been found to hold more anti-LGBT attitudes (Brown & Henriquez, 2008; Norton & Herek, 2013; Woodford et al., 2012).

Brown and Henriquez (2008) had participants identify their political ideology on a Likert scale from *Liberal* to *Conservative*, with *Moderate* in the middle. Political conservatism was associated with more negative attitudes towards gays and lesbians. Beyond the direct effect of political leaning on anti-gay attitudes, White (as compared to non-White) participants reported being more politically conservative, which was related to more negative attitudes about gay and lesbian individuals (Brown & Henriquez, 2008).

A study by Norton and Herek (2013) used a national sample of heterosexual adults to investigate the relationship between political leaning and attitudes towards transgender individuals. Participants self-reported their political ideology on a scale from *strongly liberal* to *strongly conservative*. Greater political conservatism was correlated with less favorable ratings of transgender persons. Participants who identified as liberals gave the most favorable ratings, while those who identified as moderates rated transgender people significantly less favorable than liberals and significantly more favorable than self-identified conservatives (Norton & Herek, 2013).

Woodford et al. (2012) examined the attitudes of heterosexual undergraduate and graduate students towards lesbian, gay, bisexual, and transgender individuals as one group, rather than as separate entities. One of the predictors investigated was political ideology, which participants self-reported on a seven-point Likert scale from *extremely conservative* to *extremely liberal*. Political ideology was found to have a significant independent association with attitudes towards LGBT individuals. Specifically, having a more liberal political ideology was related to having more affirming LGBT attitudes. Of the predictors studied, political ideology was found to have the strongest effect size (Woodford et al., 2012).

Gay-Straight Alliances. As previously discussed, there is a lot of research that links high school GSAs to benefits for LGBT students (e.g., Heck et al., 2011). Fewer studies, however, have focused on the impact that high school GSAs may have on non-LGBT youth. If GSAs are believed to improve the school climate and thus benefit LGBT students, as put forth in the literature (e.g., GLSEN, 2007), it is likely that they have an effect on non-LGBT students' attitudes and actions towards their LGBT peers.

Worthen (2014) investigated the impact that attending a high school with a GSA had on non-LGBT undergraduate students' attitudes towards LGBT individuals. Participants were only asked to indicate whether or not their high school had a GSA, not whether they were members of it, and these answers were correlated with their measured attitudes towards lesbians, gay men, bisexual men and women, and transgender individuals. The presence of a GSA in high school was found to be a robust predictor of undergraduate participants' LGBT attitudes, with students who had high school GSAs endorsing more supportive attitudes towards each LGBT group than those who did not have high school GSAs (Worthen, 2014). The author argues that these results indicate that the presence of GSAs in high school may have significant positive, potentially long-

term effects on college student attitudes towards LGBT individuals. Additionally, Worthen points to GSAs as an indicator of high school campus climate, which may translate to supportive LGBT attitudes during college through promotion of positive LGBT attitudes during high school.

How Community Climate Influences LGBT Attitudes

As discussed previously, the community in which a school is situated influences the experiences of LGBT youth in the school, including levels of victimization and available support (e.g., Kosciw et al., 2014). There is also speculation that, beyond the community's influence on LGBT students' experiences, regional differences in acceptance and tolerance of LGBT individuals may be the result of community-level factors (Kosciw et al., 2009). Given the impact of communities on the in-school support for LGBT youth, including presence of GSAs, and on attitudes towards LGBT individuals, it makes sense to further examine how predictors of LGBT attitudes differ amongst communities.

Community, GSAs, and other factors. There is a dearth of literature investigating the relationship between the identified individual factors and their existence at the community-level. One factor that has been investigated with regard to community differences is the presence of gay-straight alliances in the high school. The previously discussed literature regarding gay-straight alliances and community has found that GSAs are less likely to exist in small town/rural areas and in the Southern and Midwestern regions of the United States compared to suburban and urban areas and the Northeastern and Western U.S., respectively (e.g., Kosciw et al., 2014). Worthen (2014) demonstrated that the presence of high school GSAs predicted non-LGBT college students' attitudes towards LGBT individuals. Worthen (2014) further investigated how community factors, such as region of the country and town setting, affected the relationship between high school GSA and LGBT attitudes. While Worthen's work did not specifically

target other factors related to LGBT attitudes, such as religiosity and contact with LGBT individuals, she does utilize those factors in her explanation of findings.

With regard to region of the country, Worthen (2014) had participants self-report as to whether their high school was in “the South” United States (compared to all other regions aka “non-South”). There were significant interactions between GSA presence and the South, which were negatively related to attitudes towards lesbian, gay, and bisexual individuals, while there were no significant results for attitudes towards transgender people. These results suggest that having a gay-straight alliance in a Southern high school may actually have a negative effect on non-LGBT students’ attitudes towards LGB individuals (Worthen, 2014). Worthen explains that this negative impact may occur due to: less supportive attitudes about LGBT issues in the South, which does not allow GSAs to challenge these issues effectively; higher religiosity levels in the South; and a more politically conservative climate in the South due to conflation of religious and political beliefs.

With regard to town setting, Worthen (2014) found that the interaction effects between GSA presence and rural settings and between GSA presence and suburban settings were both negatively related to attitudes towards transgender individuals (results for LGB individuals were not significant). Thus, compared to GSAs in large cities, GSAs in rural/small town and suburban areas may have a negative impact on students’ attitudes towards transgender individuals. Worthen suggests that this may result from a greater likelihood of exposure to transgender individuals in a large city setting, as compared to in rural or suburban areas, as well as the possibility that GSAs in large-city areas may be more likely to include transgender-specific content than small town/rural and suburban GSAs.

Community and LGBT attitudes. While there is a lack of research that links predictors of LGBT attitudes to their communities, there is research that links attitudes towards LGBT individuals to communities. Herek (2000; 2002) has contributed studies that investigate the relationship between heterosexuals' attitudes towards LGB individuals and areas of the United States. Specifically, Herek examined the different regions of the U.S. and also compared rural, urban, and suburban settings. While this work focuses on communities and attitudes towards LGB individuals, Norton and Herek (2013) also found a link between individuals' attitudes towards LGB individuals and their attitudes towards transgender people.

Herek (2000) conducted a review of the existing literature on sexual prejudice, including an investigation of correlates of heterosexuals' attitudes towards gay and lesbian people. He found that higher levels of sexual prejudice against homosexual individuals were found among people who lived in the Southern and Midwestern regions of the United States (Herek, 2000). He also found that higher levels of homophobic sexual prejudice existed amongst rural residents (Herek, 2000).

Another study by Herek (2002) examined heterosexuals' attitudes towards bisexual men and women in the United States. Phone interviews were conducted with 666 adult participants about their attitudes towards various groups, including bisexual men and bisexual women. This study included five regions of the country, namely the Northeast, Pacific Coast, Mountains, Midwest, and South. A significant difference in attitudes towards both bisexual men and bisexual women was found between these regions, with the most negative attitudes expressed by those in the South and the most positive attitudes expressed by those in the Northeast. The Pacific Coast has the second most positive attitudes for bisexual men while those in the Mountains had the second most positive attitudes towards bisexual women and those in Midwest

had the second most negative attitudes for both bisexual men and women. Rural area and small town residents expressed significantly more negative attitudes than residents of large cities and suburban areas (Herek, 2002).

Though there is research concerning geographic region, community setting, and attitudes towards lesbian, gay, and bisexual individuals, the research on attitudes towards transgender individuals and community location is currently lacking. There is, however, evidence that a person's attitude towards transgender individuals is linked to that person's attitudes towards LGB individuals (Norton & Herek, 2013). A national sample of heterosexual participants' attitudes towards transgender individuals were found to have a high significant correlation to their attitudes towards lesbians, gay men, bisexual women, and bisexual men. Furthermore, expressed attitudes towards transgender individuals were significantly more negative than attitudes towards the other four groups (Norton & Herek, 2013). Since attitudes towards LGB persons and attitudes towards transgender individuals are strongly linked, it is likely that the differences in attitudes seen across regions and town settings towards LGB individuals would be consistent for transgender individuals.

Rationale for the Current Study

LGBT youth in the United States experience high levels of victimization in their school environments based on their LGBT status (e.g., Kosciw et al., 2014). The impact of this victimization on these adolescents can have harmful immediate and long-term effects for these students, including higher prevalence of depression (e.g., D'Augelli, 2002) and suicidality (Birkett et al., 2009), lower self-esteem (e.g., Kosciw et al., 2014), more alcohol and drug use (e.g., Birkett et al., 2009), more risky sexual behavior (e.g., Robinson & Espelage, 2013), and decreased academic performance and aspirations (e.g., Kosciw et al., 2014). Furthermore, the

differences between adolescents grouped under the LGBT umbrella translate into differences in the experiences of victimization and effects of victimization for each specific identity. For example, bisexual and transgender youth may experience victimization from heterosexual and homosexual peers alike (e.g., Mulick & Wright, 2002; Weiss, 2003). Gender differences have also been demonstrated amongst LGBT individuals, indicating that transgender, bisexual male, and gay male adolescents experience more victimization than and exhibit higher levels of depression and suicidality than lesbian and bisexual female youth (e.g., Russell et al., 2011; Toomey et al., 2010).

While it is necessary to recognize the issues and potential harm to LGBT adolescents in the schools, it is also important to consider the protective factors related to resilience in these youth. Resilience amongst LGBT adolescents has been linked to those youth with higher self-esteem, with a greater sense of social support, with a higher sense of personal mastery, who feel accepted by other and themselves, who find safe places and people, and who have positive personal conceptualizations of their LGBT identity (e.g., Grossman et al., 2011; Harper et al., 2012).

One of the most salient factors, it seems, in both the experiences of victimization and the resiliency of LGBT youth are the opinions and subsequent actions of other people in their environment. Some peers and adults in the school may, either willfully or unknowingly, victimize LGBT students based on their intolerance of or ignorance about LGBT people. On the other hand, some peers and adults can bolster resilience in LGBT youth through accepting attitudes and supportive actions. For an LGBT adolescent, whether their peers are rejecting or accepting in their school can have a large impact on their immediate and future outcomes.

The likelihood of a student's environment containing rejecting or accepting attitudes may be, in part, based on the larger community in which the school is set. Community-based differences in attitudes towards LGBT individuals have been shown to exist by Herek (2000; 2002) and colleagues (Norton & Herek, 2013). Similarly, the body of research from GLSEN (2006; 2008; 2010; 2012; 2014) and Fetner and Kush (2008) both indicate that the community in which a school is situated influences the experiences of LGBT youth in the school, including levels of victimization and availability of support. Both of these lines of work have found similarities in how location, including the region of the United States and the type of town setting, can impact the victimization experiences of and attitudes towards LGBT individuals. Overall, the experiences of LGBT individuals seem to be the best in areas that have the most tolerant, accepting attitudes towards LGBT people. Specifically, in the Northeastern and Western regions of the United States, compared to the Southern and Midwestern regions, and in urban and suburban town settings, compared to rural and small town settings, LGBT individuals report more positive experiences and non-LGBT individuals report more favorable attitudes towards LGBT individuals.

Since there are similarities in the areas where one is most likely to find supportive attitudes towards LGBT individuals and the areas where one is mostly likely to find supportive school climates, it seems logical to consider the relationship between these variables. Another important factor that follows this locational pattern is the existence of GSAs in the school, which have been linked to positive outcomes for LGBT students regardless of their membership in the club (e.g., Walls et al., 2010; Walls et al., 2013). It is possible that the more accepting attitudes of a particular community lead to more positive school climates for LGBT students, which include supportive clubs, like GSAs. In this case, a GSA would be an indicator of positive,

supportive community attitudes towards LGBT individuals. It is also possible that aspects of a positive school climate, such as a GSA, help to improve attitudes of individuals in a particular community. In this situation, a GSA would facilitate attitudinal changes, which would lead to an improvement in school climate and outcomes for LGBT students.

In either of these scenarios, the attitudes of the other individuals present in the school and in the community of LGBT students are critical to their experiences and, ultimately, their outcomes. The support of parents, peers, and school personnel has been demonstrated to positively impact the outcomes of LGBT youth (e.g., Darwich et al., 2012). Furthermore, the attitudes of all individuals in the school and community are not only products of, but also create, the climate in the school and community.

It is, therefore, important to assess the attitudes of all students, non-LGBT and LGBT alike, in the school environment. Peers are the main sources of emotional support for LGBT students (Munoz-Plaza et al., 2002), but are also the perpetrators of victimization against LGBT students. Thus, the attitudes towards LGBT individuals held by peers in a school environment, and their subsequent actions based on those attitudes, are critical to the experiences of LGBT students in that environment. However, most of the population in the nation and thus in schools do not identify as LGBT, meaning that the vast majority of individuals in a given school environment are non-LGBT. Therefore, it is largely the attitudes of individuals whose sexual orientation or gender identity are in the majority (i.e., heterosexual, cisgender) that that will go on to create an accepting or hostile climate for LGBT students.

Furthermore, because there are so many identities encompassed under the LGBT umbrella and the victimization and subsequent effects have been shown to vary amongst each LGBT identity (e.g., Russell et al., 2011; Toomey et al., 2010), it is important to evaluate how

attitudes vary towards each specific sexual orientation (i.e., homosexual, bisexual) as well as each gender identity (i.e., male, female, transgender). However, because research about transgender individuals, in particular, is more scarce and conflicting than literature about various sexual orientations, it is most beneficial to focus on non-transgender (cisgender) individuals' attitudes towards transgender people. Transgender individuals have been shown to perceive their school climates at the harshest and least welcoming (e.g., Greytak et al., 2009). Moreover, attitudes towards transgender individuals are not only highly correlated with, but also significantly more negative than, attitudes towards LGB individuals (Norton & Herek, 2013). Thus it is most important to focus on attitudes towards transgender individuals because doing so will give an indication of what affects attitudes towards the least accepted LGBT identity. The relationship between these attitudes and behavior towards transgender individuals will be assessed to gain an understanding of how negative and positive attitudes impact behavior towards this group of individuals.

The attitudes of school and community members and the presence of a GSA in a high school seem to be interconnected. Worthen's (2014) study examined the lasting effects of a high school GSA on non-LGBT college students' attitudes towards LGBT individuals. She found that overall, attending a high school with a GSA was a predictor of more positive attitudes towards LGBT individuals and presented this as an indication that GSAs promoted positive attitudes towards LGBT individuals. However, Worthen (2014) also found that the presence of GSAs in the Southern United States as well as in rural and suburban settings was negatively related to attitudes towards LGBT individuals, which she explained through community-specific differences in these areas (i.e., higher religiosity in the Southern United States, less interaction with transgender individuals in suburban and rural towns).

Using Worthen's (2014) study as a foundation, it makes sense to continue this line of research with the undergraduate population. Her findings indicate that the positive effects of a GSA in high school translate into positive attitudes later on when students are in college. She has demonstrated that the experiences and environment of non-LGBT adolescents in high school impact their attitudes into young adulthood. Using a sample of college participants is necessary to replicate these findings regarding the impact of experiences and environment during adolescence on attitudes in young adulthood. Investigating the impact of high school GSAs on college students' attitudes towards transgender individuals will further explore and provide evidence for the validity of Worthen's (2014) results. Furthermore, the simultaneous investigation of the impact of individual and community level factors on college students' attitudes will provide conclusive evidence as to the degree, if any, of influence that high school GSAs have on attitudes towards transgender individuals.

Moreover, as young adults will grow up to be influential members of their communities, including as parents and even as school personnel, it is important to investigate their attitudes towards transgender individuals. These college students will create the community and school environments for the next generation of LGBT youth. Communities with larger proportions of college graduates have been shown to have less hostile school climates for LGBT students (e.g., Kosciw et al., 2009). While there is speculation that this may be due to the experiences with diverse individuals, development of cognitive reasoning, and exposure to new ideas provided by a college education, the current study will provide information about the impact of previous experiences and the current environment on cisgender students' attitudes towards transgender individuals. This may further clarify the precise aspects of a college experience that lead to tolerant attitudes and subsequently tolerant communities as well as identify pre-college

experiences that influence tolerant attitudes. This information can then be generalized to create community-level interventions to help improve the climate for LGBT students in areas with less college-educated adults and more hostile school climates.

Given this body of literature and the understanding that the attitudes of others impact the experiences and outcomes of LGBT youth, the current study seeks to further investigate the relationship between individual factors and community factors with individuals' attitudes towards transgender individuals. Moreover, the current study seeks to understand how individual and community factors relate to one another as well as to the presence of GSAs in schools to see if and how each of these factors uniquely contribute to attitudes and behaviors towards transgender individuals.

Research Questions

The current study intends to answer the following questions:

Question 1. Are the individual factors identified in the literature (e.g., religiosity, gender role beliefs, political ideology, experience with LGBT individuals) related to cisgender college students' attitudes and behaviors towards transgender individuals?

Question 2. Are the community factors identified in the literature (e.g., region, community type, education level, GSA) related to cisgender college students' attitudes and behaviors towards transgender individuals?

Question 3. Do cisgender college students' attitudes towards transgender individuals predict their behavior towards transgender individuals?

Question 4. Is the presence or absence of a GSA in one's high school related to cisgender college students' attitudes and behaviors towards transgender individuals?

Question 5. Controlling for other individual and community factors, does the presence or absence of a GSA in one's high school contribute uniquely to cisgender college students' attitudes and behaviors towards transgender individuals?

Question 6. Will having or lacking a GSA in high school impact cisgender college students' attitudes and behaviors towards transgender individuals differently in different locations (i.e., region of the United States, type of community setting)?

Hypotheses

The overarching hypothesis of this study is that individual and community factors are related to one another and related to the presence of GSAs in high schools. Thus, the presence of a GSA is expected to be indicative of a positive community climate and predict positive attitudes and behaviors towards transgender individuals, but not contribute significantly and uniquely beyond the individual and community factors.

Hypothesis 1. The individual factors will be significant predictors of cisgender college students' attitudes and behaviors towards transgender individuals.

Hypothesis 2. The community factors will be significant predictors of cisgender college students' attitudes and behaviors towards transgender individuals.

Hypothesis 3. Cisgender college students' attitudes towards transgender individuals will predict their behaviors towards transgender individuals.

Hypothesis 4. The presence of a GSA in the high school will be related to more tolerant attitudes and behaviors towards transgender individuals.

Hypothesis 5. Overall, the presence of a GSA will not significantly contribute to participants' attitudes and behaviors towards transgender individuals when controlling for individual and community factors.

Hypothesis 6. The impact of having or lacking a GSA in high school on cisgender college students' attitudes and behaviors towards transgender individuals will differ between participants in different locations (i.e., region of the United States, type of community setting).

Chapter 3: Methods

This chapter describes the methodology of the current study, which examined the impact of community and individual differences on cisgender college students' attitudes and behaviors towards transgender individuals. This chapter includes a description of the participant sample, description of measures used, and procedures for conducting the study.

Participants

Undergraduate students who both grew up in and attended high school in the United States were recruited from universities and colleges across the nation via the Internet, according to the procedures approved by the City University of New York (CUNY) IRB (see page 82).

In order to determine statistical significance of the correlations between attitudes and behaviors towards transgender individuals and various individual and community variables studied, 107 participants were needed in order to detect a medium effect size at the $\alpha = .05$ level of significance. However, in order to compare the data using an analysis of variance (ANOVA) from the four regional groups (i.e., Northeast, West, South, Midwest) on attitudes and behaviors towards transgender individuals, at least 180 participants (i.e., 45 in each group) were needed to demonstrate a medium effect size at the $\alpha = .05$ level (Cohen, 1992).

A total of 348 cisgender undergraduate students who grew up in and attended high school in the United States participated in this study. Demographic characteristics of the participants are presented in Table 1.

The average age of the sample in this study was 21.47 ($SD = 3.26$), with a range from 18 to 38 years of age. Regarding the ethnic group distributions, 76.4% ($n = 266$) of the sample identified as White or European American, 9.2% ($n = 32$) as Hispanic or Latino/Latina, 5.7% ($n = 20$) as Asian or Pacific Islander, 4.3% ($n = 15$) as Mixed Race or Other, 3.7% ($n = 13$) as

Table 1
Demographic Characteristics of the Sample

Characteristic	n	%
Age		
18 – 22	264	75.7
23 – 27	63	18.1
28 – 32	17	4.9
33 – 38	3	0.9
No Response	1	0.3
Sexual Orientation		
Straight/heterosexual	203	58.3
Lesbian	13	3.7
Gay	59	17.0
Bisexual	46	13.2
Questioning	7	2.0
Queer	5	1.4
Asexual	6	1.7
Pansexual	4	1.1
Demisexual	2	0.6
No Response	3	0.9
Ethnicity/Race		
White or European American	266	76.4
Hispanic or Latino/Latina	32	9.2
Asian or Pacific Islander	20	5.7
African American or Black	13	3.7
Native American	1	0.3
Mixed Race	12	3.4
Other	3	0.9
No Response	1	0.3
Religion		
Christian	125	35.9
Non-Christian	29	8.3

Table 1 continued

Characteristic	n	%
No Religious Identity	192	55.2
No Response	2	0.6
Year in College		
Freshman (1 st year)	45	12.9
Sophomore (2 nd year)	68	19.5
Junior (3 rd year)	74	21.3
Senior (4 th year)	83	23.9
Fifth year or later	73	21.0
No Response	5	1.4
Type of College		
Public	233	67.0
Religious affiliated	48	13.8
Other private, non-public, or independent	66	19.0
No Response	1	0.3

African American or Black, 0.3% ($n = 1$) as Native American, and 0.3% ($n = 1$) who did not report their racial/ethnic identity. Due to the relatively low representation of racial and ethnic minorities in this sample, participants were divided into White and non-White groups during data analyses. While previous studies have shown mixed results regarding the relationship between race and attitudes towards LGBT individuals, those studies that found significant differences have found them between White and one or more non-White identities, rather than between non-White groups (e.g., Woodford et al., 2012). Thus, the grouping used in the current study is in line with previous research.

In terms of gender, 52.3% ($n = 182$) of the sample was male and 47.7% ($n = 166$) was female. Regarding participants' sexual orientations, 58.3% ($n = 203$) of the sample identified as

straight/heterosexual, 17% ($n = 59$) as gay, 13.2% ($n = 46$) as bisexual, 3.7% ($n = 13$) as lesbian, and 2% ($n = 7$) as questioning their sexual orientation. Refer to Table 1 for other sexual orientations represented. Due to the large number of sexual orientations present in the sample as well as the relatively low representation of each, participants were divided into heterosexual and non-heterosexual groups for data analyses.

Participants represented all years of college, with 23.9% ($n = 83$) in their 4th year, 21.3% ($n = 74$) in their 3rd year, 21% ($n = 73$) in their 5th year or later, 19.5% ($n = 68$) in their 2nd year, and 12.9% ($n = 45$) in their 1st year. Two participants did not provide information about their current year in college. The majority of the participants (67%, $n = 233$) were currently attending a public college or university while 13.8% ($n = 48$) attended a religious affiliated college or university, 19% ($n = 66$) attended another kind of private, non-public, or independent school, and 0.3% ($n = 1$) did not provide information about their college or university.

The participants grew up in 44 different states (see Table 2), with 20.7% ($n = 72$) in New York, 11.8% ($n = 41$) in California, 6.3% ($n = 22$) in New Jersey, 5.7% ($n = 20$) in Colorado, and 5.7% ($n = 20$) in Massachusetts. Overall, 38.5% ($n = 134$) of the participants grew up in the Northeast, 20.1% ($n = 70$) in the South, 17% ($n = 59$) in the Midwest, and 23.9% ($n = 83$) in the West. The participants attended high school in 45 states, with 19.5% ($n = 68$) in New York, 10.3% ($n = 36$) in California, 6.3% ($n = 22$) in Colorado, 6.3% ($n = 22$) in New Jersey, and 5.6% ($n = 19$) in Massachusetts. Please see Table 2 for the full list of states in which participants grew up and attended high school. Overall, 36.5% ($n = 127$) of the participants attended high school in the Northeast, 21.8% ($n = 76$) in the South, 17.5% ($n = 61$) in the Midwest, and 23.6% ($n = 82$) in the West.

More than half of the participants (58.9%, $n = 205$) attended high school in a suburban

Table 2

Locational Characteristics of the Sample

State	<u>Grew Up</u>		<u>High School</u>	
	n	%	n	%
Alabama	5	1.4	5	1.4
Alaska	2	0.6	3	0.9
Arizona	1	0.3	2	0.6
Arkansas	1	0.3	1	0.3
California	41	11.8	36	10.3
Colorado	20	5.7	22	6.3
Connecticut	8	2.3	6	1.7
Delaware	1	0.3	1	0.3
District of Columbia	0	0	1	0.3
Florida	10	2.9	10	2.9
Georgia	6	1.7	8	2.3
Illinois	16	4.6	16	4.6
Indiana	10	2.9	9	2.6
Iowa	1	0.3	1	0.3
Kansas	0	0	2	0.6
Kentucky	2	0.6	3	0.9
Louisiana	1	0.3	2	0.6
Maine	1	0.3	1	0.3
Maryland	6	1.7	5	1.4
Massachusetts	20	5.7	19	5.6
Michigan	9	2.6	9	2.6
Minnesota	2	0.6	2	0.6
Mississippi	1	0.3	1	0.3
Missouri	1	0.3	1	0.3
Nebraska	1	0.3	1	0.3
Nevada	1	0.3	1	0.3
New Hampshire	3	0.9	3	0.9

Table 2 continued

State	<u>Grew Up</u>		<u>High School</u>	
	n	%	n	%
New Jersey	22	6.3	22	6.3
New York	72	20.7	68	19.5
North Carolina	2	0.6	3	0.9
North Dakota	1	0.3	1	0.3
Ohio	12	3.4	12	3.4
Oklahoma	3	0.9	3	0.9
Oregon	5	1.4	6	1.7
Pennsylvania	5	1.4	5	1.4
Rhode Island	2	0.6	2	0.6
South Carolina	3	0.9	3	0.9
South Dakota	1	0.3	1	0.3
Tennessee	2	0.6	2	0.6
Texas	16	4.6	18	5.2
Utah	7	2.0	6	1.7
Vermont	1	0.3	1	0.3
Virginia	10	2.9	10	2.9
Washington	6	1.7	6	1.7
West Virginia	1	0.3	0	0
Wisconsin	5	1.4	6	1.7
No Response	2	0.6	2	0.6

area, 23.9% ($n = 83$) in an urban area, and 16.4% ($n = 57$) in a rural/small town area. Three participants (0.9%) did not provide information about the type of community their high schools were located in.

Measures

The 81-item research questionnaire of this study was comprised of eight measures, including 1) demographic survey, 2) high school information survey, 3) community information

survey, 4) current school information survey, 5) current beliefs and experiences survey, 6) Gender Role Beliefs Scale, 7) Transphobia Scale, and 8) modified Self-Report of Behavior Scale – Revised.

Demographic survey. A 4-item demographic survey was designed by the researcher. Participants were asked to report their ethnic/racial, gender, and sexual identities. These questions provided 3-5 identity options as well as an open response option. Participants were also asked their age, which was an open response format. See Appendix A for questions regarding demographic information.

High school survey. Participants were asked about their high schools using a short survey designed by the researcher (see Appendix B). Participants were asked the name, location, type (public, private, co-ed, etc.), state, and zip code of their high school. Participants who attended more than one high school were asked to answer using information for the high school that they attended for the greatest amount of time.

The state, community type, and ZIP code of participants' high schools were used to determine participants' region of the country, community type, and community education level, respectively, when conducting data analyses. Participants' high school ZIP codes were entered into the United States Census Bureau website, which provided information about the percentage of adults age 18-65 within that ZIP code who had graduated from a four year college or university (U.S. Census Bureau, 2013). The percentage of college-educated adults in that ZIP code was used as the measure of community level educational attainment, which has been linked to community climate for LGBT individuals in previous studies (Kosciw et al., 2009).

Participants were also asked about the year that they graduated from that school. Additionally, participants were asked if their school had a gay-straight alliance when they

attended, which was used to group participants during data analyses into those that had GSAs (GSA+), those who did not have a GSA (GSA-), and those who did not know if they had a GSA (Don't Know). Participants were also asked if they participated in the GSA, if there was one.

Community information survey. Participants' communities were assessed through two items (see Appendix C). They were asked to provide the ZIP code of the town that they grew up in as well as the state that they grew up in. Participants who lived in multiple towns and/or multiple states will be asked to answer using information for the town and/or state that they spent the majority of their youth or time living.

Current school information survey. Participants provided their current year in school, current major of study (or planned major of study), university's ZIP code, and characteristics of their university (e.g., public or private, co-ed or single-sex school). Participants were also asked if their current university had a gay-straight alliance. See Appendix D for questions regarding current school information.

Current beliefs and experiences survey. This survey consisted of eight questions (see Appendix E) used to identify the current beliefs and experiences of the participants, including political ideology, religious beliefs, and experiences with LGBT individuals.

As utilized in previous studies (e.g., Brown & Henriquez, 2008), one item assessed the participants' self-reported political ideology, on a Likert scale, where 1 represented "Liberal," 4 represented "Moderate," and 7 represented "Conservative." This self-reported score was used as the measure of political leaning during data analyses.

Participants were asked their religion, with a drop down of 14 choices and a write-in option. These responses were later used to divide participants into three religious categories (Christian, non-Christian, and No Religious Identity) due to the wide range of responses given.

These three groups were determined because Christian, as compared to non-Christian, individuals have been shown to report being more religious, which indirectly impacts attitudes towards LGBT individuals (e.g., Brown & Henriquez, 2008). Participants were also asked to identify how religious they are on a scale of one to seven, where 1 represented “Not at All Religious” and 7 represented “Very Religious,” as employed by Brown & Henriquez (2008). Participants’ responses on this seven-point scale were used as a self-report measure of religiosity.

Finally, participants were asked to respond Yes or No to five items regarding if they have any friends or family members who are each of the following: lesbian, gay men, bisexual women, bisexual men, and transgender. Participants’ responses were coded as 1 for Yes and 0 for No and compiled into an experience with LGBT individuals score, which ranged from 0 to 5. A score of 0 indicated that the participant had no friends or family members who were LGBT while a score of 5 indicated that the participant had at least one lesbian friend or family member, one gay friend or family member, two bisexual friends or family members (one male and one female), and one transgender friend or family member. Additionally, participants were asked to identify the closeness of their closest relationship with these individuals on a scale from 1 (not close at all) to 7 (very close).

Gender Role Beliefs Scale. Participants’ gender role beliefs were assessed using the Gender Role Beliefs Scale (GRBS; Kerr & Holden, 1996). The 20-item GRBS (see Appendix F) measures gender role ideology, which are prescriptive beliefs about appropriate behavior for men and women. A sample item is “Women with children should not work outside the home if they don’t have to financially.” Scale items were answered on a seven-point scale, where 1 represented “strongly agree,” 4 represented “undecided,” and 7 represented “strongly disagree.”

Total scores on the GRBS range from 20 to 140, with higher scores indicating less traditional gender role beliefs.

The internal consistency reliability of the 20-item GRBS was investigated by Kerr and Holden (1996) using data from an undergraduate sample of 101 women and 16 men as well as a sample of 48 women and nine men. Coefficient alpha for the GRBS ranged from .83 to .89, indicating good reliability. Similarly strong internal consistency reliability has been shown in a sample with more male participants (Tebbe & Moradi, 2012). Using an undergraduate student sample of 105 men and 145 women, Tebbe and Moradi (2012) reported a Cronbach's alpha of .87 for the GRBS items. In the present study, the alpha coefficient for the 20-item GRBS was .90.

Evidence of the validity of the GRBS has also been reported. The GRBS has been shown to differentiate between groups based on variations in traditionalism and based on gender (Kerr & Holden, 1996). It has also shown strong correlations with a criterion measure designed by the researchers to demonstrate the participants' preference towards a woman depicted as a feminist or a woman depicted as having a traditional gender role (Kerr & Holden, 1996).

Transphobia Scale. Participants' attitudes towards transgender individuals were measured using Nagoshi et al.'s (2008) Transphobia Scale. This nine item scale (see Appendix G) measured prejudice towards transgender individuals. A sample item is "I believe that a person can never change their gender." Scale items were rated on a seven-point Likert-type scale, ranging from 1 (completely disagree) to 7 (completely agree). Scores on the Transphobia Scale range from 9 to 63, with higher scores indicating more negative attitudes towards transgender individuals. During data analysis, participants' average scores on the Transphobia

Scale, which ranged from 1 to 7 and represented their average response to each item, were used to create the regression model for predicting attitudes towards transgender individuals.

The internal consistency reliability was investigated by Nagoshi et al. (2008) using a sample of 157 male and 153 female undergraduate students. Cronbach's alpha for the nine-item Transphobia Scale was reported as .82, indicating good internal consistency. In Tebbe and Moradi's (2012) study using a sample of 105 male and 145 female undergraduates, the Transphobia Scale's Cronbach's alpha was reported to be .84. In the present study, Cronbach's alpha for the nine-item Transphobia Scale was .91.

Validity evidence for the use of the Transphobia Scale has been reported. According to Nagoshi et al. (2008), construct evidence for the validity of the Transphobia Scale was provided by correlating the scale with predictors of intolerant LGBT attitudes, such as religious fundamentalism and testing to ensure the scale did not correlate with irrelevant constructs. The Transphobia Scale was also found to have discriminant validity relative to measures of homophobia (Nagoshi et al., 2008).

Self-Report of Behavior Scale - Revised. Participants' behaviors towards transgender and ambiguously gendered individuals were measured using a modified version of the Self-Report of Behavior Scale (SBS-R; Roderick, McCammon, Long, & Wuensch, 1998). The SBS-R was designed to measure self-report of past negative behavior toward homosexual men and women in a variety of situations. The measure was adapted and modified for the purposes of this study to focus on behavior toward transgender or gender ambiguous individuals. This modified 20-item scale (see Appendix H) was used to measure participants' self-reported behavior during past encounters with individuals they thought to be transgender or whose gender they were not sure of. A sample item is "I have changed my normal behavior in a restroom because a person I

believed to be transgender or whose gender was unclear to me was in there at the same time." Scale items are rated on a five-point Likert-type scale where 1 represented "never," 3 represented "occasionally," and 5 represented "always." Scores on the modified SBS-R range from 20 to 100, with higher scores indicating more negative behaviors towards transgender individuals.

The original Self-Report of Behavior Scale (SBS; Patel, Long, McCammon, & Wuensch, 1995) was compared with responses on a measure of attitudes towards homosexuals to provide face validity evidence for the use of the SBS. Scores on the attitudes scale and SBS were significantly correlated, indicating that the participants' self-reports of negative attitudes and negative behaviors towards homosexuals were consistent across the two measures.

The internal consistency of the revised scale was investigated by Roderick et al. (1998) using a sample of 182 female and 84 male undergraduate students. Cronbach's alpha for the 20-item SBS-R was reported as ranging from .85 to .92, indicating good to excellent internal consistency. In the present study, the internal consistency coefficient of the modified SBS-R was .93.

Validity evidence for the use of the SBS-R has been reported. Construct evidence for the validity of the SBS-R was provided by a factor analysis conducted by Roderick et al. (1998), yielding two separate factors, namely "passive avoidance" behavior and "active aggressive" behavior towards homosexual people. Additionally, the SBS-R was found to significantly correlate with the theoretically related construct of attitudes towards homosexuals.

Procedures

All participant recruitment followed the procedures that had been approved by the CUNY IRB prior to the start of the study. Participants were recruited via the Internet to gather participants from across the nation. Specifically, participants were recruited via postings on

social media websites, including Facebook and Reddit. Dozens of posts were made to specific university and regional pages and groups as a way to target college students from a variety of areas. Posts on Reddit included posts to specific college pages, specific geographical area pages, a page called samplesize, in which users volunteer to take survey. While demographics of those who frequent specific pages vary, the average Reddit user in May of 2013 was estimated to be between 18 and 29 years old, male (59% of users), and in the United States (68% of users) (“Reddit,” n.d.). On Facebook, posts were made to specific college groups and were also posted to the researcher’s personal page. Among American Internet-using adults, 77% of females, 66% of males, 82% of adults aged 18 to 29 years old, and 79% of adults aged 30 to 49 use Facebook (Duggan, 2015). The postings offered potential participants the opportunity to win one of five \$50 Visa gift cards by participating in the study. See Appendix I for a copy of the recruitment post. The postings also directed participants to the questionnaire website, where they had to read and agree to the informed consent (Appendix J) before continuing on to the survey.

After clicking that they agreed to the informed consent, participants began the questionnaire. The questionnaire was comprised of the 1) participant demographic survey (Appendix A), 2) high school information survey (Appendix B), 3) community information survey (Appendix C), 4) current school information survey (Appendix D), 5) current beliefs and experiences survey (Appendix E), 6) Gender Role Beliefs Scale (Appendix F), 7) Transphobia Scale (Appendix G), and 8) Self-Report of Behavior Scale (Appendix H).

The research questionnaire took approximately 10-15 minutes to complete. At the end of the questionnaire, participants were directed to a separate survey where they could enter their email information for a chance to win a \$50 gift card. See Appendix K for the end of questionnaire statement. As part of the gift card survey, participants were also able to check a

box to indicate that they wanted to receive an emailed copy of the results of this study at its completion.

In total, 506 participants agreed to the informed consent and began the survey. Of those 506 potential participants, 17 (3.4%) were excluded because they did not attend high school in and/or did not grow up in the United States, 98 (19.4%) were excluded because they exited the questionnaire before it was complete, 4 (0.8%) were excluded because they indicated that they were graduate students, and 1 (0.2%) was excluded because the participant indicated they were under age 18 and therefore could not consent to participation. For the purposes of this study, 38 (7.5%) participants who indicated that they were transgender ($n = 10$), genderqueer ($n = 5$), agender ($n = 3$), genderfluid ($n = 2$), otherwise non-binary ($n = 5$), or did not identify their gender ($n = 13$) were excluded from data analyses, resulting in a total of 348 participants. This sample of 348 participants was used to conduct all descriptive statistical analyses.

Only 302 of the 348 participants completed the fifteen measures necessary to analyze the most complex regression model used to answer this study's research questions. To allow for comparisons between models, only those 302 participants are utilized in analyses conducted to answer this study's main research questions and test main research hypotheses. Listwise deletion was used to exclude the 46 participants (13%) who did not complete all fifteen variables of interest necessary for analysis. Descriptive statistics about these 46 participants are provided in Appendix L.

Chapter 4: Results

This chapter describes the statistical results obtained. Descriptive statistics, analyses of variance, multivariate analyses of variance, multiple regressions, and negative binomial regressions were calculated to answer the research questions and test the hypotheses being posed by this study. An alpha level of .05 was used for all statistical tests.

This chapter begins with the results of a preliminary analysis that examined the relationships between demographic factors (i.e., age, gender, sexual orientation, religion, and college type) and the main variables of this study (i.e., religiosity, political ideology, experience with LGBT individuals, gender role beliefs, region, community type, community education level, presence of a GSA in high school, and attitudes towards transgender people). The measure of behaviors towards transgender individuals is not included in these preliminary analyses because, unlike the other variables in this study, it was highly skewed and violated the assumption of normality in the statistical tests utilized. It is followed by models for predicting attitudes and behaviors towards transgender individuals and the results of those models that relate to the research questions and hypotheses.

Table 3 presents descriptive information about the scores obtained on the continuous main variables used in this study. Higher scores on the religiosity measure indicated being more religious and higher scores on the political leaning measure indicated being more politically conservative. Higher scores on the experience with LGBT measure indicated having more friends and family members who each identified as lesbian, gay, bisexual, and/or transgender. Higher scores on the Gender Role Beliefs Scale indicated less traditional gender role beliefs. Higher percentages on the community educational level measure indicated a higher percentage of college graduates in the ZIP code where the participant attended high school. Higher scores on

the Transphobia Scale and modified Self-Report of Behavior Scale-Revised indicated more negative attitudes and more negative behaviors towards transgender individuals, respectively.

Table 3

Descriptive Statistics for Continuous Main Variables of Study

Variable	Minimum	Maximum	Mean	SD
Religiosity	1	7	2.40	1.73
Political Leaning	1	7	2.91	1.55
Experience with LGBT	0	5	2.54	1.49
Gender Role Beliefs	55	140	111.51	18.92
Community Education Level (%)	5.1	86.4	37.77	17.61
Transphobia Scale	9	63	24.62	13.39
Self-Report of Behavior Scale-Revised	20	61	22.43	6.22

Note. Maximum possible ranges of scores - Religiosity: 1 to 7; Political Leaning: 1 to 7; Experience with LGBT: 0 to 5; Gender Role Beliefs: 20 to 140; Community Education Level: 0% to 100%; Transphobia Scale: 9 to 63; Self-Report of Behavior Scale – Revised: 20 to 100

Table 4 presents Pearson’s correlations between all of the major continuous variables in the study (i.e., religiosity, political leaning, experience with LGBT individuals, gender role beliefs, and attitudes towards transgender people). The modified Self-Report of Behavior Scale – Revised (SBS-R) was not included in the correlation because it was not normally distributed, which violates the assumption of the Pearson’s correlation test.

Transphobia Scale scores were positively associated with religiosity ($r = .230, p < .001$) and political leaning ($r = .565, p < .001$) and negatively associated with experience with LGBT individuals ($r = -.431, p < .001$) and gender role beliefs ($r = -.740, p < .001$). Participants who were less religious, were less politically conservative, had more LGBT friends and family members, and had less traditional gender role beliefs seemed to report more positive attitudes towards transgender individuals.

Gender role beliefs were positively correlated with experience with LGBT individuals ($r = .384, p < .001$) and negatively correlated with religiosity ($r = -.375, p < .001$) and political

leaning ($r = -.638, p < .001$). Participants who were less religious, were less politically conservative, and had more LGBT friends and family members reported less traditional gender role beliefs.

Political leaning was positively correlated with religiosity ($r = .418, p < .001$) and negatively correlated with experience with LGBT individuals ($r = -.324, p < .001$). Generally, more politically conservative participants tended to be more religious and have fewer LGBT friends and family members.

Community education level did not significantly correlate with any of the other variables (i.e., religiosity, political leaning, experience with LGBT individuals, gender role beliefs, and Transphobia Scale scores). Experience with LGBT individuals and religiosity were not significantly correlated.

Table 4
Correlations between Continuous Variables

Variable	1	2	3	4	5	6
1. Religiosity	–					
2. Political Leaning	.418***	–				
3. Experience LGBT	-.071	-.324***	–			
4. Gender Role Beliefs	-.375***	-.638***	.384***	–		
5. Community Ed. Level	-.061	-.049	.021	.015	–	
6. Transphobia Scale	.230***	.565***	-.431***	-.740***	.039	–

* $p < .05$; ** $p < .01$; *** $p < .001$

Preliminary Analyses

Dependent variables. Before conducting any analyses, both dependent variables (i.e., Transphobia Scale and modified SBS-R) were examined for the skewness and normality of their distributions. While the distribution of the Transphobia Scale scores was found to be near normal, the Self-Report of Behavior Scale – Revised (SBS-R) scores were found to have a non

normal distribution. The scores on the SBS-R were almost all on the lower end of the possible range, with a mean of 22.43 and a range of 20 to 61, when the possible scores range from 20 to 100.

Relationship between demographic factors and main variables of this study.

Pearson's correlations, multiple multinomial logistic regressions, multivariate analysis of variance (MANOVA) tests, multiple one-way analysis of variance (ANOVA) tests, and multiple chi-square tests of independence were used to examine the relationships between the sample's demographic characteristics and the main variables of this study (i.e., religiosity, political leaning, experience with LGBT individuals, gender role beliefs, community education level, and attitudes towards transgender people). The SBS-R scores were not included in the Pearson's correlation, MANOVA, and ANOVA tests because the non-normal distribution of these scores violates the assumption of normality necessary for these analyses. An alpha level of .05 was used for all statistical tests.

Age. To examine the relationships between age and the variables of religiosity, political ideology, experience with LGBT individuals, gender role beliefs, community education level, and attitudes towards transgender people, Pearson's correlations were calculated (Table 5).

Table 5
Correlations between Age and Main Variables of Study

	Religiosity	Political Leaning	Experience with LGBT	Gender Role Beliefs	Community Ed. Level	Transphobia Scale
Age	-.051	-.041	.152**	.061	-.120*	-.126*

* $p < .05$; ** $p < .01$

Note. Community Ed. Level = Community Education Level

Participant's age was positively correlated with experience with LGBT individuals ($r = .152, p = .005$) and negatively correlated with community education level ($r = -.120, p < .031$)

and attitudes towards transgender individuals ($r = -.126, p = .019$). Older participants appeared to have more LGBT friends and family members, attend high school in communities with lower percentages of college graduates, and hold more negative attitudes towards transgender individuals. Correlations between age and religiosity ($r = -.051, p = .344$), political leaning ($r = -.041, p = .450$), and gender role beliefs ($r = .061, p = .257$) were not significant.

Multiple multinomial logistic regression analyses (Table 6) were conducted to examine the relationship between age and the variables of high school region, community type, and presence of a GSA. A significant relationship was found between age and community type, $\chi^2(3, N = 345) = 9.02, p = .011$. Specifically, as age of participants increased, participants were more likely to have attended high school in a rural/small town community ($B = .133, p = .010$) compared to an urban community. A significant relationship was also found between age and the GSA variable, $\chi^2(2, N = 347) = 13.92, p = .001$. As age of participants increased, participants were less likely to have attended a high school with a GSA ($B = -.132, p = .010$)

Table 6

Multinomial Logistic Regressions Between Age and High School Region, Community Type, and Gay-Straight Alliance

Community Variable	<i>B</i>	SE <i>B</i>	Exp (<i>B</i>)	χ^2	<i>df</i>	<i>p</i>
High School Region				6.75	3	.080
Northeast	-.066	.044	0.936			.138
South	-.077	.052	0.926			.140
Midwest	.032	.046	1.033			.487
West	0 ^a					
Community Type				9.02	2	.011*
Rural/Small Town	.133	.051	1.142			.010*
Suburban	.019	.045	1.019			.670
Urban	0 ^a					
Gay-Straight Alliance (GSA)				13.92	2	.001**
Yes	-.132	.052	0.876			.010*
No	.005	.045	1.005			.907
Don't Know	0 ^a					

* $p < .05$; ** $p < .01$; *** $p < .001$

Note. All statistics are given for age as a predictor; ^areference category (parameters are set to 0)

compared to not knowing if their high school had a GSA. The relationship between age and high school region was not significant, $\chi^2(3, N = 345) = 6.75, p = .080$.

Race/ethnicity. As a precaution against potential false positives from multiple one-way ANOVAs, a MANOVA test (Table 7) was first calculated to examine the relationships between race and the variables of religiosity, political ideology, experience with LGBT individuals, gender role beliefs, community education level, and attitudes towards transgender people. For the purposes of these analyses, participants were divided by their racial identity into white and non-white groups. The results indicated no significant relationships between race/ethnicity and scores of these variables.

Table 7

MANOVA Table of Relationship between Demographic Variables and Main Variables of the Study

Demographic Variables	Main Variable	Type III Sum Of Squares	Df	Mean Square	F	Sig.
Race/Ethnicity						
	Religiosity	6.32	1	6.32	2.071	.151
	Political Leaning	1.90	1	1.90	0.789	.375
	Experience LGBT	0.04	1	0.04	0.017	.896
	Gender Role Beliefs	185.50	1	185.50	0.528	.468
	Comm. Ed. Level	204.91	1	204.91	0.664	.416
	Transphobia Scale	0.64	1	0.64	0.004	.951
Gender						
	Religiosity	7.06	1	7.06	2.319	.129
	Political Leaning	14.29	1	14.29	6.053	.014*
	Experience LGBT	7.40	1	7.40	3.369	.067
	Gender Role Beliefs	4902.67	1	4902.67	14.26	.000***
	Comm. Ed. Level	1221.97	1	1221.97	4.004	.046*
	Transphobia Scale	5928.46	1	5928.46	38.821	.000***
Sexual Orientation						
	Religiosity	32.03	1	32.03	11.259	.001**
	Political Leaning	42.34	1	42.34	18.597	.000***
	Experience LGBT	28.38	1	28.38	13.291	.000***
	Gender Role Beliefs	12632.93	1	12632.93	40.378	.000***
	Comm. Ed. Level	0.85	1	0.85	0.003	.958
	Transphobia Scale	6209.97	1	6209.97	40.645	.000***

Table 7 Continued

Demographic Variables	Main Variable	Type III Sum Of Squares	Df	Mean Square	F	Sig.
Religion						
	Religiosity	483.47	2	241.73	164.901	.000***
	Political Leaning	133.99	2	66.99	33.749	.000***
	Experience LGBT	17.09	2	8.54	3.930	.021*
	Gender Role Beliefs	17371.60	2	8685.80	29.151	.000***
	Comm. Ed. Level	3734.94	2	1867.47	6.270	.002**
	Transphobia Scale	3671.65	2	1835.83	11.401	.000***
Year in College						
	Religiosity	17.5	4	4.38	1.445	.219
	Political Leaning	8.87	4	2.22	0.920	.452
	Experience LGBT	34.68	4	8.67	4.100	.003**
	Gender Role Beliefs	1356.78	4	339.19	0.957	.431
	Comm. Ed. Level	2179.12	4	544.78	1.801	.129
	Transphobia Scale	1007.02	4	251.76	1.468	.212
College Type						
	Religiosity	36.68	2	18.34	6.200	.002**
	Political Leaning	27.52	2	13.76	5.916	.003**
	Experience LGBT	7.50	2	3.75	1.701	.184
	Gender Role Beliefs	3108.10	2	1554.05	4.512	.012*
	Comm. Ed. Level	3222.99	2	1611.50	5.378	.005**
	Transphobia Scale	1406.36	2	703.18	4.187	.016*

* $p < .05$; ** $p < .01$; *** $p < .001$

Note. Comm. Ed. Level = Community Education Level

Multiple chi-square tests of independence were performed to examine the relations between race and high school region, community type, and GSA presence.

The chi-square results (Table 8) indicated that there was a significant relationship between race and community type, $\chi^2(2, N = 344) = 11.63, p = .003$. Non-White participants were less likely to have attended high school in a rural/small town area and more likely to have attended high school in an urban community than were White participants. The relationship between race and high school region was not significant, $\chi^2(3, N = 345) = 6.18, p = .103$. The relationship between race and the GSA variable was also not found to be significant, $\chi^2(2, N = 347) = 0.84, p = .657$.

Table 8
Crosstabulations Between Race and High School Region, Community Type, and Gay-Straight Alliance

Community Variable	Race		χ^2	df	p
	White	Non-White			
High School Region			6.18	3	.103
Northeast	96 (36.2%)	30 (37.5%)			
South	55 (20.8%)	21 (26.3%)			
Midwest	54 (20.4%)	7 (8.8%)			
West	60 (22.6%)	22 (27.5%)			
Community Type			11.63	2	.003**
Rural/Small Town	53 (20.1%)	4 (5%)			
Suburban	154 (58.3%)	50 (62.5%)			
Urban	57 (21.6%)	26 (32.5%)			
Gay-Straight Alliance (GSA)			0.84	2	.657
Yes	118 (44.4%)	37 (45.7%)			
No	111 (41.7%)	30 (37%)			
Don't Know	37 (13.9%)	14 (17.3%)			

Note. Column percentages are in parenthesis

* $p < .05$; ** $p < .01$; *** $p < .001$

Gender. To examine the relationships between gender and the variables of religiosity, political ideology, experience with LGBT individuals, gender role beliefs, community education level, and attitudes towards transgender people, a MANOVA test was first conducted to protect against potential false positives from multiple one-way ANOVA tests.

The MANOVA results (Table 7) indicated that the scores of political ideology ($p = .014$), gender role beliefs ($p < .001$), community education level ($p = .046$), and attitudes towards transgender people ($p < .001$) varied between male and female participants.

One-way ANOVA tests (Table 9) were conducted to further examine the effects of gender on political ideology, gender role beliefs, community education level, attitudes towards transgender individuals, and behaviors towards transgender individuals. Consistent with the MANOVA results, gender difference was found on the measure of political ideology, $F(1, 344)$

= 7.384, $p = .007$. In this sample, female participants ($M = 2.67$, $SD = 1.45$) reported being less politically conservative than male participants ($M = 3.12$, $SD = 1.60$).

Gender differences were also found on the measure of gender role beliefs, $F(1, 346) = 19.691$, $p < .001$. In this sample, female participants ($M = 116.10$, $SD = 18.55$) appeared to have less tradition gender role beliefs than male participants ($M = 107.32$, $SD = 18.33$). On the measure of community education level, gender differences were found, $F(1, 323) = 4.404$, $p = .037$. Male participants ($M = 39.73$, $SD = 17.81$) in this sample went to high school in areas with higher percentages of college graduates than female participants ($M = 35.64$, $SD = 17.19$).

Gender differences were also found for scores on the Transphobia Scale, which measured attitudes towards transgender people, $F(1, 345) = 42.605$, $p < .001$. In this sample, female participants ($M = 19.96$, $SD = 11.68$) reported more positive attitudes towards transgender individuals than male participants ($M = 28.84$, $SD = 13.47$).

Table 9

One-Way ANOVA Table of Significant Effects of Gender on Main Variables

Main Variable		Sum Of Squares	Df	Mean Square	F	Sig.
Political Leaning	Between	17.30	1	17.30	7.384	.007**
	Within	805.75	344	2.342		
	Total	823.04	345			
Gender Role Beliefs	Between	6690.49	1	6690.49	19.691	.000***
	Within	117564.25	346	2.177		
	Total	124254.75	347			
Community Ed. Level	Between	1351.13	1	1351.13	4.404	.037*
	Within	99100.65	323	306.81		
	Total	100451.78	324			
Transphobia Scale	Between	6818.25	1	6818.25	42.605	.000***
	Within	55212.19	345	160.04		
	Total	62030.44	346			

* $p < .05$; ** $p < .01$; *** $p < .001$

Note. Community Ed. Level = Community Education Level

Multiple chi-square tests of independence were performed (Table 10) to examine the relation between participants' genders and region of their high school, community type, and whether their high school had a GSA.

The chi-square results indicated that there was a significant relationship between gender and high school region, $\chi^2(3, N = 346) = 10.56, p = .014$. In this sample, female participants were more likely to attend high school in the Northeast and less likely to attend high school in the South than were male participants. The relationship between gender and community was not significant, $\chi^2(2, N = 345) = 2.38, p = .305$. The relationship between gender and the GSA variable was also not significant, $\chi^2(2, N = 348) = 1.53, p = .466$.

Table 10

Crosstabulations Between Gender and High School Region, Community Type, and Gay-Straight Alliance

Community Variable	Gender		χ^2	df	p
	Male	Female			
High School Region			10.56	3	.014*
Northeast	53 (29.3%)	74 (44.%)			
South	48 (26.5%)	28 (17.0%)			
Midwest	32 (17.7%)	29 (17.6%)			
West	48 (26.5%)	34 (20.6%)			
Community Type			2.38	2	.305
Rural/Small Town	25 (13.9%)	32 (19.4%)			
Suburban	113 (62.8%)	92 (55.8%)			
Urban	42 (23.3%)	41 (24.8%)			
Gay-Straight Alliance (GSA)			1.53	2	.466
Yes	87 (47.8%)	69 (41.6%)			
No	71 (39.0%)	70 (42.2%)			
Don't Know	24 (13.2%)	27 (16.3%)			

Note. Column percentages are in parenthesis

* $p < .05$; ** $p < .01$; *** $p < .001$

Sexual orientation. As a precaution against possible false positives from multiple one-way ANOVAs, a MANOVA test was first calculated to examine the relationships between sexual orientation and the variables of religiosity, political ideology, experience with LGBT individuals, gender role beliefs, community education level, and attitudes towards transgender people. For the purposes of these analyses, participants were divided by sexual orientation identities into heterosexual and non-heterosexual groups.

The MANOVA results (Table 7) indicated that the scores of religiosity ($p = .001$), political ideology ($p < .001$), experience with LGBT individuals ($p < .001$), gender role beliefs ($p < .001$), and attitudes towards transgender people ($p < .001$) varied between heterosexual and non-heterosexual participants.

One-way ANOVA tests (Table 11) were then conducted to further examine the effects of sexual orientation on religiosity, political ideology, experience with LGBT individuals, gender role beliefs, and attitudes towards transgender individuals. Consistent with the MANOVA results, differences between heterosexual and non-heterosexual participants were found on the measure of religiosity, $F(1, 343) = 14.618, p < .001$. Heterosexual participants ($M = 2.66, SD = 1.77$) reported being more religious than non-heterosexual participants ($M = 1.96, SD = 1.52$).

Differences based on sexual orientation were also found for political ideology, $F(1, 341) = 24.425, p < .001$. Heterosexual participants ($M = 3.23, SD = 1.55$) reported being more politically conservative than non-heterosexual participants ($M = 2.42, SD = 1.43$).

Differences between heterosexual and non-heterosexual participants were also found on the measure of experience with LGBT individuals, $F(1, 331) = 16.180, p < .001$. Non-heterosexual participants ($M = 2.93, SD = 1.44$) reported having more LGBT friends and family members than heterosexual participants ($M = 2.27, SD = 1.47$).

Table 11
One-Way ANOVA Table of Significant Effects of Sexual Orientation on Main Variables

Main Variable		Sum Of Squares	<i>Df</i>	Mean Square	<i>F</i>	<i>Sig.</i>
Religiosity	Between	40.64	1	40.61	14.618	.000***
	Within	953.61	343	2.78		
	Total	994.25	344			
Political Leaning	Between	54.77	1	54.77	24.425	.000***
	Within	764.66	341	2.242		
	Total	819.43	342			
Experience LGBT	Between	34.24	1	34.24	16.180	.000***
	Within	700.46	331	314.80		
	Total	734.703		332		
Gender Role Beliefs	Between	15666.55	1	15666.55	49.766	.000***
	Within	107977.920	343	314.804		
	Total	123644.47	344			
Transphobia Scale	Between	7763.72	1	7763.72	48.955	.000***
	Within	54236.93	342	158.59		
	Total	62000.65	343			

* $p < .05$; ** $p < .01$; *** $p < .001$

Sexual orientation-based differences were also found on the measure of gender role beliefs, $F(1, 343) = 49.766, p < .001$. In this sample, non-heterosexual participants ($M = 119.62, SD = 14.89$) appeared to have less tradition gender role beliefs than heterosexual participants ($M = 105.93, SD = 19.49$).

On the Transphobia Scale, which measured attitudes towards transgender individuals, sexual orientation-based differences were found, $F(1, 342) = 48.955, p < .001$. In this sample, non-heterosexual participants ($M = 18.91, SD = 10.54$) reported more positive attitudes towards transgender individuals than heterosexual participants ($M = 28.56, SD = 13.84$).

Multiple chi-square tests of independence (Table 12) were performed to examine the relationships between participants' sexual orientation and high school region, community type, and whether their high school had a GSA.

The chi-square results indicated that there was a significant relationships between sexual orientation and high school region, $\chi^2(3, N = 343) = 14.35, p = .002$. In this sample, heterosexual participants were more likely to have attended high school in the Northeast than were non-heterosexual participants.

A significant relationship was also found between sexual orientation and community type, $\chi^2(2, N = 342) = 17.36, p < .001$. In this study, heterosexual participants were less likely to have attended high school in suburban areas and more likely to have attended high school in urban areas than were non-heterosexual participants.

Table 12

Crosstabulations Between Sexual Orientation and High School Region, Community Type, and Gay-Straight Alliance

Community Variable	Sexual Orientation		χ^2	df	p
	Non-Straight	Straight			
High School Region			14.35	3	.002**
Northeast	36 (25.4%)	90 (44.8%)			
South	38 (26.8%)	38 (18.9%)			
Midwest	31 (21.8%)	28 (13.9%)			
West	37 (26.1%)	45 (22.4%)			
Community Type			17.36	2	.000***
Rural/Small Town	20 (14.2%)	37 (18.4%)			
Suburban	101 (71.6%)	101 (50.2%)			
Urban	20 (14.2%)	63 (31.3%)			
Gay-Straight Alliance (GSA)			10.55	2	.005**
Yes	75 (52.8%)	80 (39.4%)			
No	56 (39.4%)	85 (41.9%)			
Don't Know	11 (7.7%)	38 (18.7%)			

Note. Column percentages are in parenthesis

* $p < .05$; ** $p < .01$; *** $p < .001$

The relationship between sexual orientation and the GSA variable was also significant, $\chi^2(2, N = 345) = 10.55, p = .005$. In this study's sample, heterosexual participants were less likely to report attending high schools with GSAs and more likely to not know if their high school had a GSA than were non-heterosexual participants.

Religion. To examine the relationships between religion and the variables of religiosity, political ideology, experience with LGBT individuals, gender role beliefs, community education level, and attitudes towards transgender people, a MANOVA test was first conducted to protect against prospective false positives from multiple one-way ANOVA tests. For the purposes of this study, participants' religions were categorized as Christian, Non-Christian, and No Religious Identity.

The MANOVA results (Table 7) indicated that the scores of religiosity ($p < .001$), political ideology ($p < .001$), experience with LGBT individuals ($p = .018$), gender role beliefs ($p < .001$), community education level ($p = .002$), and attitudes towards transgender people ($p < .001$) varied between Christian, non-Christian, and non-religious participants.

To further assess the effects of religion on religiosity, political ideology, experience with LGBT individuals, gender role beliefs, and attitudes towards transgender individuals, one-way ANOVAs (Table 13) were conducted. Differences based on religion were found on the measure of religiosity, $F(2, 343) = 190.468, p < .001$. Christian participants ($M = 3.90, SD = 1.56$) reported being the most religious, followed by non-Christian participants ($M = 3.21, SD = 1.80$), and then non-religious participants ($M = 1.28, SD = 0.70$).

Differences based on religion were also found for political ideology, $F(2, 341) = 38.621, p < .001$. Christian participants ($M = 3.79, SD = 1.52$) reported being the most politically

conservative, followed by non-Christian participants ($M = 2.66$, $SD = 1.34$), and then non-religious participants ($M = 2.38$, $SD = 1.33$).

On the measure of experiences with LGBT individuals, differences based on religion were found, $F(2, 330) = 3.160$, $p = .044$. Non-religious participants ($M = 2.70$, $SD = 1.51$) reported having the most LGBT friends and family members, followed by non-Christian participants ($M = 2.58$, $SD = 1.68$), and Christian participants ($M = 2.27$, $SD = 1.38$).

Religious-based differences were also found on the measure of participants' gender role beliefs, $F(2, 343) = 32.447$, $p < .001$. Non-religious participants ($M = 117.84$, $SD = 17.01$) reported the least traditional gender role beliefs, followed by non-Christian participants ($M = 111.77$, $SD = 19.66$), and Christian participants ($M = 101.72$, $SD = 17.48$) who reported the most traditional gender role beliefs.

Table 13
One-Way ANOVA Table of Significant Effects of Religion on Main Variables

Main Variable		Sum Of Squares	Df	Mean Square	F	Sig.
Religiosity	Between	538.89	2	269.44	190.468	.000***
	Within	485.22	343	1.415		
	Total	1024.104	345			
Political Leaning	Between	151.78	2	75.89	38.621	.000***
	Within	670.06	341	1.97		
	Total	821.83	343			
Experience LGBT	Between	13.81	2	6.91	3.160	.044*
	Within	721.04	330	2.19		
	Total	734.85	332			
Gender Role Beliefs	Between	19663.26	2	9831.63	32.447	.000***
	Within	103931.69	343	303.01		
	Total	123594.95	345			
Community Ed. Level	Between	2810.85	2	1405.43	4.636	.010*
	Within	97303.79	321	303.13		
	Total	100114.64	323			
Transphobia Scale	Between	4421.95	2	2210.97	13.186	.000***
	Within	57345.02	342	167.68		
	Total	61766.96	344			

Note. Community Ed. Level = Community Education Level

* $p < .05$; ** $p < .01$; *** $p < .001$

There were religious-based differences found on the measure of community education level, $F(2, 321) = 4.636, p = .010$. Non-Christian participants ($M = 43.98, SD = 17.35$) attended high school in communities with the highest percentages of college graduates, followed by non-religious participants ($M = 39.18, SD = 18.46$), and Christian participants ($M = 34.25, SD = 15.75$).

Differences based on religion were also found on the Transphobia Scale, $F(2, 342) = 13.186, p < .001$. Non-religious participants ($M = 21.80, SD = 12.76$) reported the most positive attitudes towards transgender individuals, followed by non-Christian participants ($M = 23.03, SD = 10.93$), and Christian participants ($M = 29.38, SD = 13.64$) who reported the most negative attitudes towards transgender people.

A chi-square test of independence and multiple Fisher's exact tests were performed to examine the relationships between participants' religion and their high school's region, community type, and GSA presence. Fisher's exact tests were conducted due to expected cell values lower than five in the community type and GSA variable crosstabulations, which can lead to poor approximations when using chi-square (Agresti, 2001).

The chi-square results (Table 14) indicated that there was a significant relationship between religion and HS region, $\chi^2(6, N = 344) = 44.17, p < .001$. In this sample, Christian participants were more likely to attend high school in the Northeast and less likely to attend high school in the West than were non-religious and non-Christian participants. Christian participants were also less likely to attend high school in the South than were non-religious participants.

The Fisher's exact test results indicated that there was a significant relationship between religion and community type ($p = .001$). Non-Christian participants were less likely to attend high school in a rural area than were non-religious and Christian participants. Christian

participants were less likely to attend high school in a suburban area and more likely to attend high school in an urban area than were non-religious and non-Christian participants.

Fisher's exact test results also indicated a significant relationship between religion and the GSA variable ($p = .001$). Compared to non-religious participants, Christian participants were less likely to report attending a high school with a GSA and non-Christian participants were more likely to report attending a high school with a GSA. Christian participants in this sample were also more likely to report attending a high school without a GSA than were non-religious and non-Christian participants.

Table 14

Crosstabulations Between Religion and High School Region, Community Type, and Gay-Straight Alliance

Community Variable	Religion			χ^2	df	p
	No Religious Identity	Christian	Non-Christian			
High School Region				44.17	6	.000***
Northeast	46 (24.1%)	71 (57.3%)	8 (27.6%)			
South	50 (26.2%)	20 (16.1%)	6 (20.7%)			
Midwest	36 (18.8%)	21 (16.9%)	4 (13.8%)			
West	59 (30.9%)	12 (9.7%)	11 (13.6%)			
Community Type						.001**
Rural	36 (18.8%)	21 (17.1%)	0 (0.0%)			
Suburban	120 (62.5%)	62 (50.4%)	22 (78.6%)			
Urban	36 (18.8%)	40 (32.5%)	6 (21.4%)			
Gay-Straight Alliance (GSA)						.001**
Yes	94 (49%)	40 (32%)	21 (72.4%)			
No	72 (37.5%)	63 (50.4%)	6 (20.7%)			
Don't Know	26 (13.5%)	22 (17.6%)	2 (6.9%)			

* $p < .05$; ** $p < .01$; *** $p < .001$

Note. Column percentages are in parenthesis

Year in college. To protect against the possibility of false positives from multiple one-way ANOVAs, a MANOVA test was first calculated to examine the relationships between year

in college and the variables of religiosity, political ideology, experience with LGBT individuals, gender role beliefs, community education level, and attitudes towards transgender people.

The MANOVA results (Table 7) indicated that participants' scores on the measure of experience with LGBT individuals ($p = .003$) varied among participants based on their year in college.

A one-way ANOVA was conducted to further assess the effect of year in college on experience with LGBT individuals. Consistent with the MANOVA results, differences between participants were found on the measure of experience with LGBT individuals, $F(4, 325) = 3.960, p = .004$. Participants generally reported more LGBT friends and family members the longer they had been in college. Specifically, participants in their 5th year (or higher) ($M = 2.88, SD = 1.42$) and 4th year ($M = 2.88, SD = 1.45$) reported having the most LGBT friends and family members, followed by those in their 3rd year ($M = 2.36, SD = 1.35$), 2nd year ($M = 2.23, SD = 1.53$), and those in their 1st year ($M = 2.10, SD = 1.59$), who reported having the least LGBT friends and family members.

Multiple chi-square tests of independence were performed to examine the relationships between participants' religion and their high school's region, community type, and GSA presence.

The chi-square results indicated that there was no significant relationship between year in college and high school region, $\chi^2(12, N = 341) = 19.95, p = .068$. The relationship between year in college and community type was not significant, $\chi^2(8, N = 340) = 12.80, p = .119$. The relationship between year in college and the GSA variable was not found to be significant, $\chi^2(8, N = 343) = 8.58, p = .379$.

College type. To examine the relationships between college type and the variables of religiosity, political ideology, experience with LGBT individuals, gender role beliefs, community education level, and attitudes towards transgender people, a MANOVA test was first conducted as a precaution against potential false positives from multiple one-way ANOVA tests.

The MANOVA results (Table 7) indicated that the scores of religiosity ($p = .002$), political ideology ($p = .003$), gender role beliefs ($p = .012$), community education level ($p = .006$), and attitudes towards transgender people ($p = .013$) varied among participants attending public, religious-affiliated, and other non-public, private, or independent colleges.

One-way ANOVAs (Table 15) were conducted to further assess the effects of college type on religiosity, political ideology, gender role beliefs, community education level, and attitudes towards transgender individuals. Consistent with the MANOVA results, differences based on college type were found on the measure of religiosity, $F(2, 344) = 8.904, p < .001$. Participants attending religious-affiliated schools ($M = 3.27, SD = 1.85$) reported being the most religious, followed by participants attending other types of private, non-public, or independent colleges ($M = 2.58, SD = 1.79$), and participants attending public colleges ($M = 2.17, SD = 1.63$).

Differences based on college type were also found for political ideology, $F(2, 342) = 7.154, p = .001$. Participants attending religious-affiliated schools ($M = 3.67, SD = 1.68$) reported being the most politically conservative, followed by participants attending public colleges ($M = 2.81, SD = 1.49$), and participants attending other types of private, non-public, or independent colleges ($M = 2.68, SD = 1.51$).

On the measure of gender role beliefs, differences based on college type were found, $F(2, 344) = 4.908, p = .008$. Participants attending other types of private, non-public, or

Table 15
One-Way ANOVA Table of Significant Effects of College Type on Main Variables

Main Variable		Sum Of Squares	<i>Df</i>	Mean Square	<i>F</i>	<i>Sig.</i>
Religiosity	Between	51.05	2	25.52	8.904	.000***
	Within	986.07	344	2.87		
	Total	1037.12		346		
Political Leaning	Between	33.05	2	16.53	7.154	.001**
	Within	789.98	342	2.31		
	Total	823.03	344			
Gender Role Beliefs	Between	3446.99	2	1723.50	4.908	.008**
	Within	120801.44	344	351.17		
	Total	124248.44	346			
Community Ed. Level	Between	3116.56	2	1558.28	5.155	.006**
	Within	97335.22	322	302.28		
	Total	100451.78	324			
Transphobia Scale	Between	1691.79	2	845.90	4.823	.009**
	Within	60152.68	343	38.50		
	Total	61844.47	345			

* $p < .05$; ** $p < .01$; *** $p < .001$

independent colleges ($M = 113.92$, $SD = 17.61$) reported the least tradition gender role beliefs, followed by participants attending public colleges ($M = 112.43$, $SD = 18.73$), and then participants attending religious-affiliated schools ($M = 103.78$, $SD = 20.24$), who reported the most traditional gender role beliefs.

Differences between participants' college type were found for community education level, $F(2, 322) = 5.155$, $p = .006$. Participants attending other types of private, non-public, or independent colleges ($M = 43.52$, $SD = 20.74$) attended high schools in areas with the highest percentages of college graduates, followed by participants attending public colleges ($M = 37.01$, $SD = 16.82$), and participants attending religious-affiliated schools ($M = 33.18$, $SD = 14.64$).

There were differences on participants' Transphobia Scale scores based on college type, $F(2, 343) = 4.823$, $p = .009$. Participants attending other types of private, non-public, or

independent colleges ($M = 22.95$, $SD = 12.29$) reported the most positive attitudes towards transgender individuals, followed by participants attending public colleges ($M = 24.02$, $SD = 13.02$). Participants attending religious-affiliated schools ($M = 30.07$, $SD = 15.42$) reported the most negative attitudes towards transgender individuals.

Multiple chi-square tests of independence were performed to examine the relationships between participants' college type and their high school region, community type, and GSA presence.

The chi-square results (Table 16) indicated that there was a significant relationship between college type and high school region, $\chi^2(6, N = 345) = 26.09$, $p < .001$. In this sample, participants attending public college were less likely to have attended high school in the

Table 16
Crosstabulations Between College Type and High School Region, Community Type, and Gay-Straight Alliance

Community Variable	College Type			χ^2	<i>df</i>	<i>p</i>
	Public	Religious	Other Non-Public			
High School Region				26.09	6	.000***
Northeast	65 (28.1%)	24 (50%)	38 (57.6%)			
South	60 (26%)	6 (12.5%)	10 (15.2%)			
Midwest	42 (18.2%)	10 (20.8%)	9 (13.6%)			
West	64 (27.7%)	8 (16.7%)	9 (13.6%)			
Community Type				2.89	4	.577
Rural	42 (18.3%)	5 (10.4%)	10 (15.2%)			
Suburban	137 (59.6%)	31 (64.6%)	37 (56.1%)			
Urban	51 (22.2%)	12 (25%)	19 (28.8%)			
Gay-Straight Alliance (GSA)				5.64	4	.228
Yes	98 (42.1%)	19 (39.6%)	38 (57.6%)			
No	99 (42.5%)	21 (43.8%)	21 (31.8%)			
Don't Know	36 (15.5%)	8 (16.7%)	7 (10.6%)			

Note. Column percentages are in parenthesis

* $p < .05$; ** $p < .01$; *** $p < .001$

Northeast than were participants attending religious-affiliated or other non-public colleges.

Compared to participants attending public colleges, participants who attended religious-affiliated colleges were less likely to have attended high school in the South and participants who attended other non-public colleges were less likely to have attended high school in the West.

The relationship between college type and community type was not significant, $\chi^2(4, N = 344) = 2.89, p = .577$. The relationship between college type and the GSA variable was also not found to be significant, $\chi^2(4, N = 347) = 5.64, p = .228$.

Models for Predicting Attitudes and Behaviors

Multiple regressions and negative binomial regressions were calculated to answer the research questions being posed by this study. Based on the preliminary analyses, the demographic variables of age, gender, sexual orientation, religion, and college type were included as controls when conducting analyses. Results from the control and full regression models for predicting attitudes towards transgender individuals are presented first, followed by results for the regression models for predicting behaviors towards transgender individuals.

Several steps were taken to make results easier to interpret in a meaningful way. First, the continuous predictor variables (religiosity, political leaning, experience with LGBT, GRBS score, and community education level) were centered using their mean. Second, the Transphobia Scale scores were divided by nine (the number of questions on the survey) to give each participant's average item score. This average Transphobia Scale item score was used as the dependent variable for models predicting attitudes towards transgender individuals. Transphobia Scale scores were converted into standardized z-scores and then included as the attitudes variable when predicting behaviors towards transgender people. Finally, 20 was subtracted from each SBS-R score, which changed the range of scores from 20 to 61 with a mean of 22.43 to a range

of 0 to 41 with a mean of 2.43. This transformation allowed for data analysis of the SBS-R scores to be done using a negative binomial regression, which accounted for the non normal distribution of the scores using quasi-likelihood (Coxe, West, & Aiken, 2009).

Though this sample has 348 participants, only 302 completed all parts of the survey necessary for the most complex regression model used in the following analyses. In order to be able to compare results between models, listwise deletion was used to include only those 302 participants in each of the following analyses.

Predicting attitudes towards transgender individuals. A multiple regression analysis was conducted to evaluate how well the control variables predicted attitudes towards transgender people as measured by the Transphobia Scale. Results of the multiple regression analysis using the control variables are presented in Table 17. The results of the regression indicated that the control variables accounted for 33.8% of the variance ($R^2 = .338$) in Transphobia Scale scores, $F(7, 294) = 21.491, p < .001$.

Age ($B = -.050, p = .018$), gender ($B = -1.177, p < .001$), sexual orientation ($B = .945, p < .001$), having a Christian religion ($B = .593, p < .001$) and attending a religious-affiliated

Table 17

Multiple Regression for Predicting Transphobia Scale Scores Using Demographic Controls

Variable	<i>B</i>	SE <i>B</i>	β	<i>t</i>	Sig.
(Constant)	2.236	.187		11.94	.000
Age	-.050	.021	-.114	-2.38	.018*
Gender	-1.177	.140	-.406	-8.43	.000***
Sexual Orientation	.945	.145	.323	6.50	.000***
Christian	.593	.156	.198	3.80	.000***
Non-Christian	.351	.283	.060	1.24	.215
Public College	.227	.179	.074	1.27	.205
Religious College	.789	.244	.189	3.24	.001**

* $p < .05$; ** $p < .01$; *** $p < .001$

college ($B = .789, p = .001$) were significant predictors of attitudes towards transgender individuals. Participants who were older and female were predicted to have more positive attitudes towards transgender people while participants who were heterosexual, Christian, and attending a religious affiliated college were expected to hold more negative attitudes towards transgender individuals. Having a non-Christian religion ($B = .351, p = .215$) and attending a public college ($B = .227, p = .205$) were not significant predictors of attitudes.

Predicting attitudes using individual and community factors. A multiple regression analysis was conducted to evaluate how well the individual and community factors predicted attitudes towards transgender people as measured by the Transphobia Scale. Results of the multiple regression analysis using the individual and community factors are presented in Table 18. The results of the regression indicated that the control variables accounted for 65.3% of the variance ($R^2 = .653$) in Transphobia Scale scores, $F(19, 282) = 27.957, p < .001$.

Of the control variables, gender ($B = -.559, p < .001$) and sexual orientation ($B = .332, p = .005$) were significant predictors of attitudes towards transgender people. Participants who were female and non-heterosexual were predicted to have more positive attitudes towards transgender individuals. The other control variables, namely age, being Christian, being non-Christian, attending a public college, and attending a religious-affiliated college, were not significant predictors of attitudes towards transgender individuals.

Of the individual factors, political leaning ($B = .110, p = .019$), experience with LGBT people ($B = -.123, p = .002$), and gender role beliefs ($B = -.042, p < .001$) were significant predictors of attitudes towards transgender individuals. Participants who reported being more politically liberal, having more LGBT friends and family members, and having less traditional gender role beliefs were predicted to have lower scores on the Transphobia Scale, indicating

more positive attitudes towards transgender individuals. Religiosity was not found to be a significant predictor of attitudes towards transgender individuals ($B = -.020, p = .671$).

Of the community factors, only attending a suburban high school ($B = -.385, p = .005$) was a significant predictor of attitudes towards transgender people. Participants who reported attending high school in a suburban community were expected to have lower scores on the Transphobia Scale, indicating more positive attitudes towards transgender individuals.

Attending high school in a rural community ($B = -.158, p = .352$) was not a significant

Table 18

Multiple Regression for Predicting Transphobia Scale Scores Using Individual and Community Factors

Variable	<i>B</i>	SE <i>B</i>	β	<i>t</i>	Sig.
(Constant)	3.071	.255		12.03	.000
Age	-.030	.017	-.068	-1.77	.079
Gender	-.559	.114	-.193	-4.91	.000***
Sexual Orientation	.332	.118	.113	2.80	.005**
Christian	-.075	.173	-.025	-0.43	.665
Non-Christian	-.104	.236	-.018	-0.44	.662
Public College	.051	.138	.017	0.37	.712
Religious College	.337	.188	.081	1.79	.074
Religiosity	-.020	.047	-.023	-0.43	.671
Political Leaning	.110	.046	.118	2.37	.019*
Experience LGBT	-.123	-.039	-.127	-3.16	.002**
Gender Roles Beliefs	-.042	.004	-.543	-10.52	.000***
Community Ed. Level	.005	.003	.060	1.54	.125
HS in Northeast	-.125	.147	-.042	-0.85	.396
HS in South	-.065	.160	-.018	-0.40	.688
HS in Midwest	-.099	.164	-.026	-0.60	.548
Rural HS	-.158	.170	-.042	-0.93	.352
Suburban HS	-.385	.135	-.131	-2.84	.005**
Gay Straight Alliance	.095	.169	.033	0.57	.573
No Gay Straight Alliance	-.036	.167	-.012	-0.21	.831

Note. Community Ed. Level = Community Education Level

* $p < .05$; ** $p < .01$; *** $p < .001$

predictor of attitudes. The region of the country where participants attended high school did not significantly predict attitudes, as Northeastern ($B = -.125, p = .396$), Southern ($B = -.065, p = .688$), and Midwestern ($B = -.099, p = .548$) high school attendance were all nonsignificant predictors. Community education level ($B = .005, p = .125$) and presence ($B = .095, p = .573$) or absence ($B = -.036, p = .831$) of a gay-straight alliance in high school were also not significant predictors of attitudes towards transgender individuals.

Predicting behaviors towards transgender individuals. A negative binomial regression analysis was conducted to evaluate how well the control variables predicted behavior towards transgender people as measured by the modified Self-Report of Behavior Scale – Revised (SBS-R). Results of the negative binomial regression analysis using the control variables are presented in Table 19. The results of the regression indicated a significant relationship between the control variables and SBS-R scores, $\chi^2(7, N = 302) = 98.36, p < .001$.

Age ($B = -.071, p = .035$), gender ($B = -1.231, p < .001$), having a Christian religion ($B = .681, p < .001$), having a non-Christian religion ($B = 1.145, p < .001$), and attending a religious-affiliated college ($B = .820, p = .001$) were significant predictors of behaviors towards

Table 19

Negative Binomial Regression for Predicting SBS-R Scores Using Demographic Controls

Variable	<i>B</i>	SE <i>B</i>	Wald χ^2	Sig.
(Intercept)	.440	.209	4.43	.035
Age	-.071	.024	8.95	.003**
Gender	-1.231	.163	56.79	.000***
Sexual Orientation	.228	.157	2.12	.146
Christian	.681	.178	14.64	.000***
Non-Christian	1.145	.283	16.41	.000***
Public College	.242	.196	1.52	.217
Religious College	.820	.253	10.47	.001**

* $p < .05$; ** $p < .01$; *** $p < .001$

transgender individuals. Participants who were older and female were predicted to report more positive behaviors towards transgender people while participants practicing Christian religions, practicing non-Christian religions, and attending a religious affiliated college were expected to report more negative behaviors towards transgender individuals. Sexual orientation ($B = .228, p = .146$) and attending a public college ($B = .242, p = .217$) were not significant predictors of behaviors.

Predicting behaviors using individual and community factors. A negative binomial regression analysis was conducted to evaluate how well the individual and community factors predicted behaviors towards transgender people as measured by the adapted SBS-R. Results of the multiple regression analysis using the individual and community factors are presented in Table 20. The results of the regression indicated a significant relationship between the control variables and SBS-R scores, $\chi^2(19, N = 302) = 274.30, p < .001$.

Of the control variables, gender ($B = -.802, p < .001$) and practicing a non-Christian religion ($B = .855, p = .013$) were significant predictors of attitudes towards transgender people. Participants who were male and practiced a non-Christian religion were predicted to report more negative behaviors towards transgender individuals. The other control variables (e.g., age, sexual orientation, being Christian, attending a public college, and attending a religious-affiliated college) were not significant predictors of behaviors towards transgender individuals.

Of the individual factors, religiosity ($B = -.194, p = .011$) and gender role beliefs ($B = -.049, p < .001$) were significant predictors of reported behavior towards transgender individuals. Participants who reported being more religious and those who reported having less tradition gender role beliefs were predicted to have lower scores on the modified SBS-R, indicating more positive behaviors towards transgender individuals. Political beliefs ($B = .052, p = .475$) and

experience with LGBT individuals ($B = -.006, p = .929$) were not significant predictors of behaviors towards transgender individuals.

Of the community factors, attending a high school in the Southern United States ($B = -.743, p = .008$) and attending a high school that did not have a GSA ($B = .573, p = .031$) were significant predictors of reported behaviors towards transgender people. Participants who reported attending high school in the South were expected to have lower scores on the SBS-R, indicating more positive behaviors towards transgender individuals. Participants who reported

Table 20

Negative Binomial Regression Predicting SBS-R Scores Using Individual and Community Factors

Variable	<i>B</i>	SE <i>B</i>	Wald χ^2	Sig.
(Intercept)	.413	.423	.95	.329
Age	-.045	.029	2.30	.129
Gender	-.802	.185	18.78	.000***
Sexual Orientation	.097	.191	.26	.610
Christian	.456	.296	2.37	.124
Non-Christian	.855	.345	6.16	.013*
Public College	.090	.230	.15	.696
Religious College	-.104	.301	.12	.729
Religiosity	-.194	.076	6.52	.011*
Political Leaning	.052	.073	.51	.475
Experience LGBT	-.006	.065	.01	.929
Gender Roles Beliefs	-.049	.006	66.98	.000***
Community Ed. Level	.002	.005	.166	.684
HS in Northeast	-.070	.251	.08	.781
HS in South	-.743	.280	7.02	.008**
HS in Midwest	-.159	.268	.35	.554
Rural HS	-.517	.282	3.36	.067
Suburban HS	-.263	.208	1.60	.206
Gay Straight Alliance	-.074	.278	.07	.790
No Gay Straight Alliance	.573	.266	4.66	.031*

Note. Community Ed. Level = Community Education Level

* $p < .05$; ** $p < .01$; *** $p < .001$

attending a high school without a GSA were predicted to have higher scores on the SBS-R, indicating more negative behaviors towards transgender people. Attending high school in the Northeast ($B = -.070, p = .781$) and Midwest ($B = -.159, p = .554$) did not significantly predict behaviors towards transgender people. Rural ($B = -.517, p = .067$) and suburban ($B = -.263, p = .206$) high school attendance were not significant predictors of behaviors. Community education level ($B = .002, p = .684$) and presence of a gay-straight alliance ($B = -.074, p = .790$) in high school were also not significant predictors of behaviors towards transgender individuals.

Predicting behaviors using attitudes and individual and community factors. A negative binomial regression analysis was conducted to evaluate how well attitudes towards transgender people as well as individual and community factors predicted behaviors towards transgender people as measured by the modified SBS-R. Results of the multiple regression analysis using the individual and community factors are presented in Table 21. The results of the regression indicated a significant relationship between the control variables and SBS-R scores, $\chi^2(20, N = 302) = 321.12, p < .001$.

Attitudes towards transgender individuals, as measured by the Transphobia Scale, significantly predicted ($B = .921, p < .001$) behaviors towards transgender individuals, as measured by the SBS-R. Participants who reported more negative attitudes towards transgender people were predicted to report more negative behaviors towards transgender people.

When accounting for attitudes towards transgender individuals, gender ($B = -.418, p = .034$) and practicing a non-Christian religion ($B = .868, p = .015$) remained significant predictors of behaviors towards transgender people. Participants who were male and practiced a non-Christian religion were predicted to report more negative behaviors towards transgender individuals. The other control variables (e.g., age, sexual orientation, being Christian, attending

Table 21

Negative Binomial Regression for Predicting SBS-R Scores Using Individual Factors, Community Factors, and Transphobia Scale Scores

Variable	<i>B</i>	SE <i>B</i>	Wald χ^2	Sig.
(Intercept)	.028	.429	0.00	.948
Age	-.030	.031	0.95	.329
Gender	-.418	.197	4.50	.034*
Sexual Orientation	-.189	.202	0.88	.348
Christian	.433	.299	2.11	.147
Non-Christian	.868	.357	5.92	.015*
Public College	.073	.237	0.10	.759
Religious College	-.614	.325	3.57	.059
Religiosity	-.163	.078	4.34	.037*
Political Leaning	-.036	.077	0.22	.643
Experience LGBT	.061	.069	0.80	.372
Gender Roles Beliefs	-.026	.007	13.63	.000***
Community Ed. Level	-.004	.006	0.63	.429
HS in Northeast	.102	.258	0.16	.692
HS in South	-.562	.288	3.82	.051
HS in Midwest	-.083	.282	0.09	.768
Rural HS	-.578	.290	3.97	.046*
Suburban HS	-.060	.215	0.08	.779
Gay Straight Alliance	.005	.287	0.00	.985
No Gay Straight Alliance	.691	.275	6.32	.012*
Transphobia Scale Score	.921	.140	43.36	.000***

Note. Community Ed. Level = Community Education Level

* $p < .05$; ** $p < .01$; *** $p < .001$

a public college, and attending a religious-affiliated college) were not significant predictors of behaviors towards transgender individuals.

When including attitudes towards transgender individuals as a predictor, religiosity ($B = -.163, p = .037$) and gender role beliefs ($B = -.026, p < .001$) remained significant predictors of reported behavior towards transgender individuals. Participants who were more religious and those who had less tradition gender role beliefs were predicted to report more positive behaviors towards transgender individuals. Political beliefs ($B = -.036, p = .643$) and experience with

LGBT individuals ($B = .061, p = .372$) were not found to be significant predictors of behaviors towards transgender individuals.

When taking attitudes towards transgender people into account, there was a shift in significant community variable predictors. Attending a high school that did not have a GSA remained a significant predictor ($B = .691, p = .012$) of behaviors. Additionally, attending a rural high school ($B = -.578, p = .046$) was found to significantly predict reported behaviors towards transgender people. Participants who attended rural high schools were expected to report more positive behaviors towards transgender individuals while participants who reported attending a high school without a GSA were predicted to report more negative behaviors towards transgender people. Attending a high school in the Southern United States ($B = -.562, p = .051$) was no longer significant after accounting for attitudes, but was still very close to being significant at the $p = .05$ level. Attending high school in the Northeast ($B = .102, p = .692$) and Midwest ($B = -.083, p = .768$) were also not significant predictors of behaviors towards transgender individuals. Suburban ($B = -.060, p = .779$), community education level ($B = -.004, p = .429$), and presence of a gay-straight alliance ($B = .005, p = .985$) in high school did not significantly predict reported behaviors towards transgender individuals.

Research Questions and Hypotheses

Relations between individual factors and attitudes and behaviors. The first research question addressed in this study asks if individual factors (e.g., religiosity, gender role beliefs, political ideology, experience with LGBT individuals) identified in the literature are related to cisgender college students' attitudes and behaviors towards transgender individuals. It was hypothesized that the individual factors would be significant predictors of cisgender college students' attitudes and behaviors towards transgender individuals (Hypothesis 1).

A multiple regression was conducted (Table 18) to test the individual and community factors' prediction of attitudes towards transgender individuals. Among the four individual factors, the measures of political leaning ($B = .110, p = .019$), experience with LGBT individuals ($B = -.123, p = .002$), and gender role beliefs ($B = -.042, p < .001$) were significant predictors of attitudes towards transgender individuals. The measure of religiosity was not found to be a significant predictor of attitudes towards transgender individuals ($B = -.020, p = .671$).

Two negative binomial regressions were conducted to test the individual and community factors' prediction of behaviors towards transgender individuals: one that included attitudes as a predictor (Table 21) and one that did not (Table 20). The measures of religiosity ($B = -.194, p = .011$) and gender role beliefs ($B = -.049, p < .001$) were significant predictors of behaviors towards transgender people and remained significant predictors (religiosity ($B = -.163, p = .037$); gender role beliefs ($B = -.026, p < .001$) when accounting for participants' attitudes towards transgender people. Political beliefs ($B = .052, p = .475$) and experience with LGBT individuals ($B = -.006, p = .929$) were not significant predictors of behaviors towards transgender individuals in either the non-attitudes or attitudes model (political beliefs ($B = -.036, p = .643$); experience with LGBT individuals ($B = .061, p = .372$)).

Overall, results from the regressions mostly supported Hypothesis 1. Gender roles beliefs significantly predicted both attitudes and behaviors towards transgender individuals. Political beliefs and experience with LGBT individuals were significant predictors of attitudes and religiosity was a significant predictor of behaviors towards transgender people. See Table 22 for a side-by-side comparison of all five regression models.

Table 22
Comparison Table for Regression Models

Predictor	Attitudes		Behaviors		
	<i>Model 1</i>	<i>Model 2</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Age	-.050*	-.030	-.071**	-.045	-.030
Gender	-1.177***	-.559***	-1.231***	-.802***	-.418*
Sexual Orientation	.945***	.332**	.228	.097	-.189
Christian	.593***	-.075	.681***	.456	.433
Non-Christian	.351	-.104	1.145***	.855*	.868*
Public College	.227	.051	.242	.090	.073
Religious College	.789**	.337	.820**	-.104	-.614
Religiosity	–	-.020	–	-.194*	-.163*
Political Leaning	–	.110*	–	.052	-.036
Experience LGBT	–	-.123**	–	-.006	.061
Gender Roles Beliefs	–	-.042***	–	-.049***	-.026***
Community Ed. Level	–	.005	–	.002	-.004
HS in Northeast	–	-.125	–	-.070	.102
HS in South	–	-.065	–	-.743**	-.562
HS in Midwest	–	-.099	–	-.159	-.083
Rural HS	–	-.158	–	-.517	-.578*
Suburban HS	–	-.385**	–	-.263	-.060
GSA	–	.095	–	-.074	.005
No GSA	–	-.036	–	.573*	.691*
Transphobia Scale	–	–	–	–	.921***

Note. *B* is given for each predictor. Community Ed. Level = Community Education Level. Model 1 = control variables only, Model 2 = all individual and community factors, and Model 3 includes Attitudes as a predictor.

* $p < .05$; ** $p < .01$; *** $p < .001$;

Relations between community factors and attitudes and behaviors. The second research question addressed in this study asks if community factors (e.g., region, community type, community education level, GSA) are related to cisgender college students' attitudes and behaviors towards transgender individuals. It was hypothesized that the community factors would be significant predictors of cisgender college students' attitudes and behaviors towards transgender individuals (Hypothesis 2).

A multiple regression was conducted (Table 18) to test the individual and community factors' prediction of attitudes towards transgender individuals. Attending high school in a suburban community ($B = -.385, p = .005$) was a significant predictor of attitudes towards transgender individuals. The other community variables (region, community type, community education level, and high school GSA) were not significant predictors of attitudes towards transgender individuals (see Table 22).

A negative binomial regression was conducted to test the individual and community factors' prediction of behaviors towards transgender individuals (Table 20). Attending a high school in the Southern United States ($B = -.743, p = .008$) and attending a high school that did not have a GSA ($B = .573, p = .031$) were significant predictors of behaviors towards transgender people.

Another negative binomial regression was conducted to test how individual factors, community factors, and attitudes predicted behaviors towards transgender individuals (Table 21). When taking attitudes towards transgender people into account, attending a high school that did not have a GSA ($B = .691, p = .012$) and attending a rural high school ($B = -.578, p = .046$) were found to significantly predict reported behaviors towards transgender people. Attending a high school in the Southern United States ($B = -.562, p = .051$) was marginally significant after accounting for attitudes, but could not be conclusively determined to significantly predict behaviors towards transgender individuals. The remaining community variables (Northeastern high school, Midwestern high school, suburban high school, community education level, and having a gay-straight alliance in high school) were not significant predictors in either model (see Table 21).

Overall, Hypothesis 2 was partially supported. Results from the regressions indicated that suburban community type significantly predicted attitudes while rural community type, Southern region, and a lack of a GSA in high school were significantly related to behaviors.

Attitudes as a predictor of behaviors. The third research question addressed in this study asks if cisgender college students' attitudes towards transgender individuals would predict their behavior towards transgender individuals. It was hypothesized that cisgender college students' attitudes towards transgender individuals would predict their behaviors towards transgender individuals (Hypothesis 3).

A negative binomial regression was conducted to test how individual factors, community factors, and attitudes predicted behaviors towards transgender individuals (Table 21). The results from this negative binomial regression supported Hypothesis 3. Transphobia Scale scores, which represented attitudes towards transgender individuals, significantly predicted ($B = .921, p < .001$) SBS-R scores, which represented behaviors towards transgender individuals. Participants who held more negative views towards transgender people were expected to report more negative behaviors towards transgender people.

Using GSA presence to predict attitudes and behaviors. The fourth research question addressed in this study asks if the presence or absence of a gay-straight alliance (GSA) in one's high school is related to cisgender college students' attitudes and behaviors towards transgender individuals. It was hypothesized that the presence of a GSA in one's high school would be related to more tolerant attitudes and behaviors towards transgender people (Hypothesis 4).

Estimated marginal means (see Table 23) were used to investigate Hypothesis 4. When keeping the other predictors constant, the differences between participants' average Transphobia Scale scores were not significant based on having a gay-straight alliance in their high school,

Wald χ^2 (2, $N = 302$) = 1.24, $p = .538$. However, the differences between participants' SBS-R scores were significantly different based on the presence or absence of a GSA in their high school, Wald χ^2 (2, $N = 302$) = 9.52, $p = .009$. Those differences remained significant when including attitudes as a predictor variable, Wald χ^2 (2, $N = 302$) = 10.66, $p = .005$.

Thus, Hypothesis 4 was partially supported. The results of the estimated marginal means comparison indicate that the GSA variable was related to cisgender college students' behaviors – but not necessarily their attitudes – towards transgender people.

Table 23

Estimated Marginal Means of Gay-Straight Alliance Variable for Attitudes and Behaviors towards Transgender Individuals

Dependent Variable	Mean	SE	Wald 95% Confidence Interval		Wald χ^2	p
			Lower	Upper		
Transphobia Scale					1.24	.538
GSA	2.80	.078	2.64	2.95		
No GSA	2.66	.082	2.51	2.83		
Don't Know	2.70	.139	2.43	2.97		
Overall	2.72	.057	2.61	2.83		
Self-Report of Behavior Scale – Revised (without attitudes as a predictor)					9.52	.009**
GSA	0.81	.126	0.59	1.10		
No GSA	1.54	.222	1.16	2.04		
Don't Know	0.87	.215	0.54	1.41		
Overall	1.03	.123	0.81	1.30		
(with attitudes as a predictor)					10.66	.005**
GSA	0.64	.108	0.63	1.04		
No GSA	1.28	.189	0.46	0.90		
Don't Know	0.64	.167	0.96	1.71		
Overall	0.81	.105	0.39	1.07		

Note. GSA = Gay-Straight Alliance

* $p < .05$; ** $p < .01$; *** $p < .001$

Using GSA presence, individual and community factors to predict attitudes and behaviors. The fifth research question addressed in this study asks if the presence or absence of

a GSA in one's high school contributes uniquely to cisgender college students' attitudes and behaviors towards transgender individuals, when controlling for individual and community factors. It was hypothesized that the presence of a GSA would not significantly contribute to participants' attitudes and behaviors towards cisgender college students' attitudes and behaviors when controlling for individual and community factors (Hypothesis 5).

A multiple regression was conducted (Table 18) to test the individual and community factors' prediction of attitudes towards transgender individuals. Two negative binomial regressions were conducted to test the individual and community factors' prediction of behaviors towards transgender individuals: one of which included attitudes as a predictor (Table 21) and one of which did not (Table 20). The GSA variable was included as a community factor for each of these regressions.

Overall, Hypothesis 5 was partially supported by the results of these regressions. When accounting for demographic variables, individual factors, and other community factors, the presence ($B = .095, p = .573$) or absence ($B = -.036, p = .831$) of a GSA in one's high school did not significantly predict attitudes towards transgender individuals. However, the absence of a GSA in one's high school was a significant predictor ($B = .573, p = .031$) of behaviors towards transgender individuals when accounting for demographic, individual factors, and community factors. Furthermore, lack of a GSA in high school remained a significant predictor ($B = .691, p = .012$) when additionally accounting for attitudes towards transgender individuals.

Impact of GSAs on attitudes and behaviors based on locational differences. The sixth research question addressed in this study asks if the impact of the GSA variable differs based on locational variables (i.e., region of the United States, type of community setting). It

was hypothesized that the GSA variable would impact cisgender college students' attitudes and behaviors towards transgender individuals differently in different locations (Hypothesis 6).

To analyze how community and region combined with GSA to impact attitudes and behaviors towards transgender individuals, additional regression models with interaction variables were examined. See Appendix M for full regression results of these additional models. The estimated marginal means for interaction variables were used to determine if GSA impact on attitudes and behaviors towards transgender individuals differed based on location.

When keeping the other predictors constant, participants' average Transphobia Scale scores were not significantly different based on the interaction between community type and the GSA variable, Wald χ^2 (8, $N = 302$) = 14.07, $p = .080$. The interactions between high school region and GSA presence (Wald χ^2 (11, $N = 302$) = 9.14, $p = .609$) did not significantly impact estimated marginal means on the Transphobia Scale between groups.

Table 24

Significance of Estimated Marginal Mean Differences of Transphobia Scale and SBS-R Scores based on Gay-Straight Alliance Variable, Region, and Community Type

Dependent Variable	df	Wald χ^2	p
Transphobia Scale			
High School Region * GSA	11	9.14	.609
Community Type * GSA	8	14.07	.080
Self-Report of Behavior Scale – Revised (without attitudes as a predictor)			
High School Region * GSA	11	25.98	.007**
Community Type * GSA	8	12.18	.143
(with attitudes as a predictor)			
High School Region * GSA	11	26.04	.006**
Community Type * GSA	8	16.08	.041*

Note. GSA = Gay-Straight Alliance

* $p < .05$; ** $p < .01$; *** $p < .001$

The differences between participants' SBS-R scores were significant based on the interaction between the GSA variable and high school region, Wald $\chi^2(11, N = 302) = 25.98, p = .007$. See Figure 2 for a visual representation of the estimated marginal means for these groups. Differences between participants' behavior towards transgender people were not significant based on the interaction between GSA and community type, Wald $\chi^2(8, N = 302) = 12.18, p = .143$. When keeping other variables constant, participants who attended a high school with a GSA in the South had the lowest SBS-R scores, indicating the most positive behaviors towards transgender individuals, while participants who attended high schools without a GSA in the West reported the highest SBS-R scores.

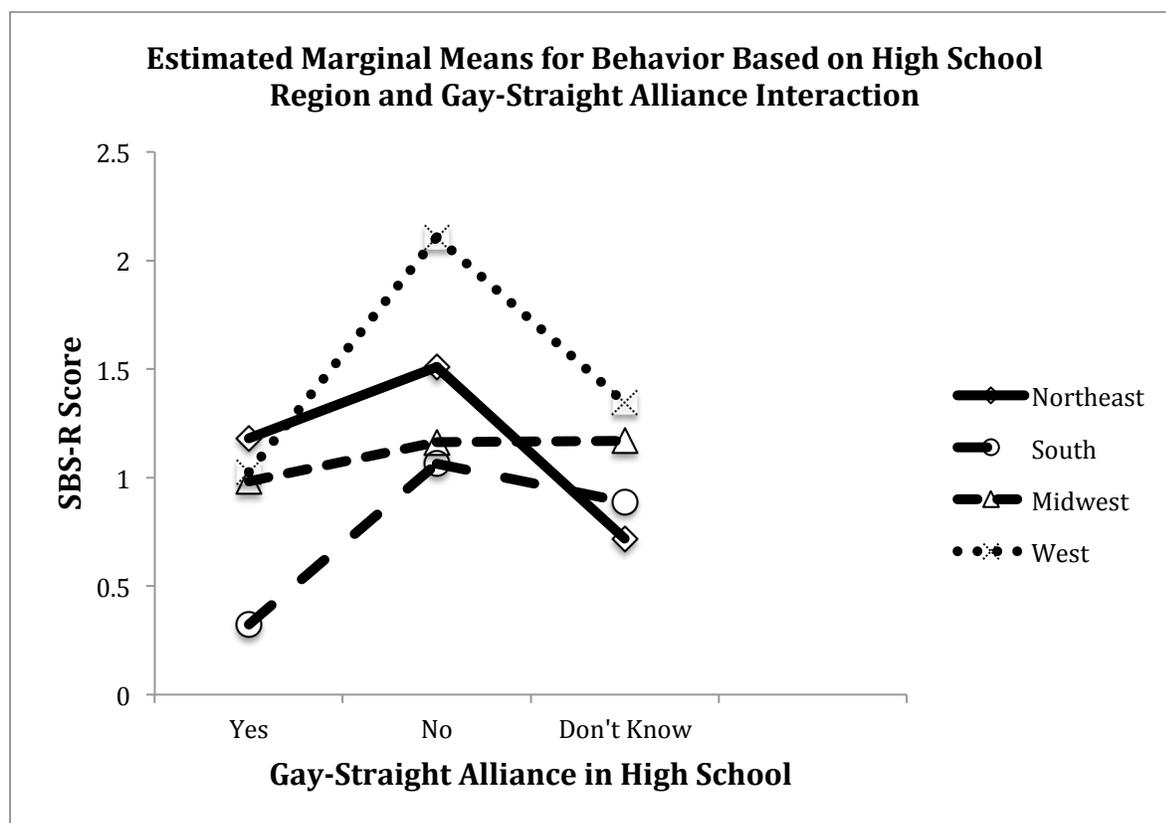


Figure 2. Estimated marginal means for behavior based on high school region and gay-straight alliance interaction. This figure illustrates the effect of the interaction between high school region and presence of a gay-straight alliance in high school on estimated marginal means of Self-Report of Behavior Scale – Revised (SBS-R) scores.

When accounting for the participants' attitudes towards transgender people, the differences between mean SBS-R scores based on the interactions between the GSA variable and high school region, Wald $\chi^2(11, N = 302) = 26.04, p = .006$, and between GSA and community type, Wald $\chi^2(8, N = 302) = 16.08, p = .041$, were both significant. See Figures 3 and 4 respectively for an illustration of the estimated marginal means for these groups.

When accounting for attitudes, participants who attended a high school with a GSA in the South reported the lowest SBS-R scores while participants who attended a high school without a GSA in the Midwest reported the highest SBS-R scores.

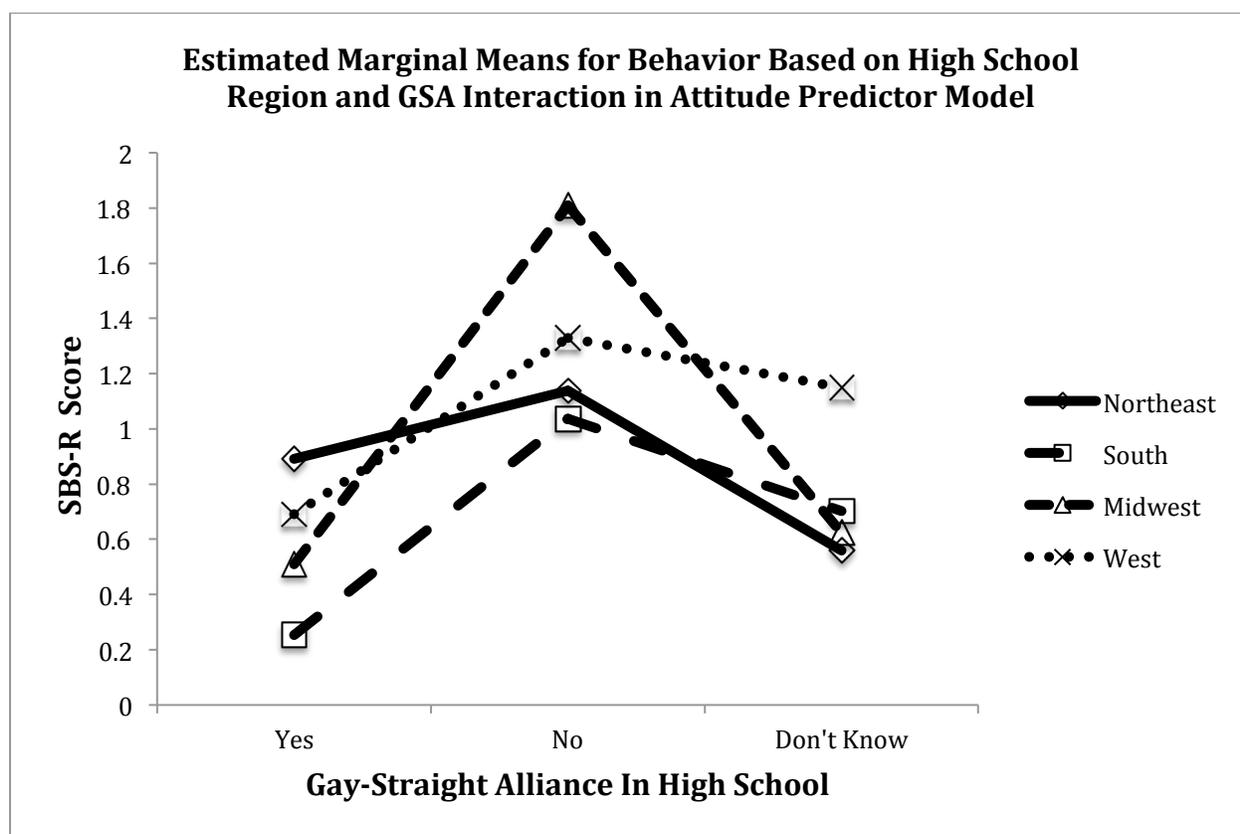


Figure 3. Estimated marginal means for behavior based on high school region and gay-straight alliance interaction in attitude predictor model. This figure illustrates the effect of the interaction between high school region and presence of a gay-straight alliance in high school on estimated marginal means of Self-Report of Behavior Scale – Revised (SBS-R) scores when the model used Transphobia Scale scores as a predictor.

When accounting for attitudes, participants who attended a high school without a GSA in the West reported the highest SBS-R scores, indicating the most negative behaviors towards transgender individuals. Participants who attended a high school with a GSA in a rural area reported the lowest SBS-R scores.

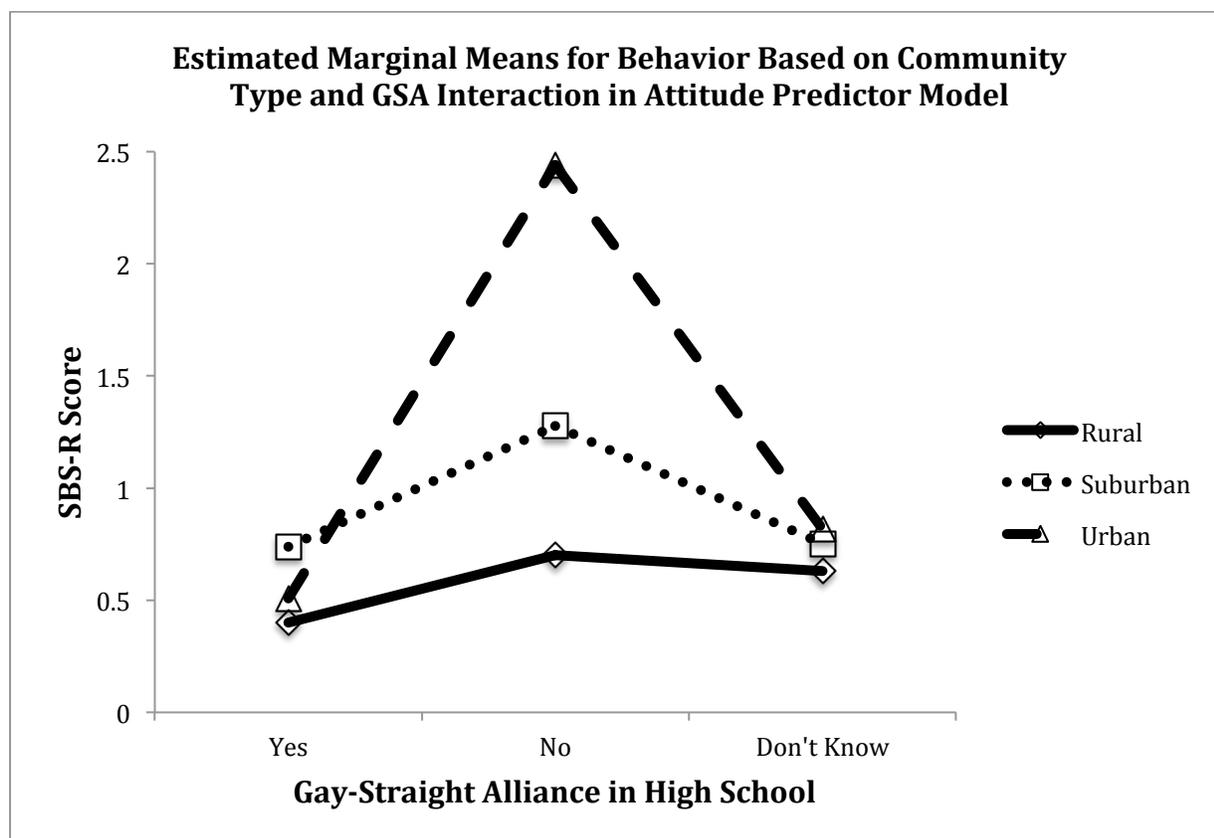


Figure 4. Estimated marginal means for behavior based on community type and gay-straight alliance interaction in attitude predictor model. This figure illustrates the effect of the interaction between community type and presence of a gay-straight alliance in high school on estimated marginal means of Self-Report of Behavior Scale – Revised (SBS-R) scores when the model used Transphobia Scale scores as a predictor.

Overall, Hypothesis 6 was partially supported. Significant differences were found between groups' estimated marginal means of the behavior variable based on the interaction of high school region with presence of GSA, both with and without including attitudes as a

predictor variable. Differences between groups' estimated marginal means of the behavior variable were also found for the interaction between community type and the GSA variable when accounting for attitudes. However, differences between mean attitude scores were not significant based on the interaction between high school region and GSA or community type and GSA.

Chapter 5: Discussion

This chapter begins with a summary of findings obtained from the statistical analyses in the present study. It is followed by the educational implications of the findings, limitations of the current study, and directions for future research.

Summary of Findings

The present study investigated the role of individual and community factors in predicting cisgender college students' attitudes and reported behaviors towards transgender individuals. Overall, the study revealed a complex portrait of how the factors studied influenced the attitudes and behaviors towards transgender people reported by the participants.

The results suggest that individual and community factors studied are associated with cisgender college students' attitudes and reported behaviors towards transgender individuals in different ways. When considering the ecological framework that guided this study, the factors in the micro-, meso-, and exosystems related to attitudes and reported behaviors differently. In the microsystem, political beliefs and gender role beliefs were significantly related to attitudes towards transgender people while religiosity and gender role beliefs were significantly related to reported behaviors towards transgender people. In the mesosystem, experience with LGBT individuals was associated with attitudes towards transgender people while the GSA variable was associated with reported behaviors towards transgender people. Finally, in the exosystem, only suburban community type was related to attitudes towards transgender individuals while rural community type and Southern region were associated with reported behaviors towards transgender individuals. Community education level, part of the exosystem, was not significantly related to either attitudes or behaviors towards transgender individuals.

Ecological theory was used as a framework for the current study to examine the layers of factors that influence an individual's attitudes and behaviors towards transgender individuals, but, for ease of discussion and interpretation throughout the rest of this section, the factors studied are grouped into individual and community categories to easily distinguish between the results of the independent variables used in this study. In the present study, more liberal political beliefs, more LGBT friends and family members, and less traditional gender role beliefs were all significant predictors of more positive attitudes towards transgender people, which is consistent with previous research on these individual factors (e.g., Brown & Henriquez, 2008; Norton & Herek, 2013). Of the community factors, only attending a suburban high school was found to be a significant predictor of more positive attitudes towards transgender individuals, which is in line with the findings of Worthen (2014). While there is generally a lack of previous research investigating the influence of community factors on attitudes towards transgender individuals, Worthen did study the influence of region, community type, and GSA presence on attitudes towards transgender individuals. Her finding that presence of a GSA in high school was related to more positive attitudes towards transgender individuals was not supported in this study. Less traditional gender role beliefs and higher levels of religiosity were the individual factors that significantly predicted more positive behaviors towards transgender individuals. With regard to community factors, attending a high school in the South and in a rural area were significant predictors of more positive reported behaviors while attending a high school that did not have a GSA was a significant predictors of more negative behaviors towards transgender individuals. Finally, attitudes were a significant predictor of reported behaviors as participants who expressed more negative attitudes were predicted to report more negative behaviors towards transgender individuals.

Overall, all of the hypotheses of this study were partially or mostly supported by the results of this study. See Appendix N for the summary of the main research hypotheses and findings of this study. The discussion of the results is organized into three parts. The first part describes the individual factors of religiosity, political beliefs, experience with LGBT individuals, and gender role beliefs as predictors of attitudes and reported behaviors towards transgender people. The second part describes the community factors of community education level, high school region, community type, and presence of a GSA in high school as predictors of attitudes and behaviors towards transgender individuals. The last part discusses attitudes as a predictor of behaviors and, more generally, the differences between predictors of attitudes and predictors of behaviors found in this study.

Individual factors. The individual factors hypothesized to predict cisgender participants' attitudes and reported behaviors towards transgender individuals in this study included gender role beliefs, political leaning, religiosity, and experience with LGBT individuals.

Consistent with previous studies that had found gender role beliefs (e.g., Nagoshi et al., 2008; Tebbe & Moradi, 2012) to predict attitudes towards transgender individuals, the present study found participants with less traditional gender role beliefs to predict more positive attitudes and reported behaviors towards transgender people. The literature theorizes that part of the reason LGBT individuals are stigmatized in our society is due to their perceived violation of traditional gender role prescriptions, in which behavioral and social norms are assigned to individuals according to their biological sex (Fassinger & Arseneau, 2007; Tebbe & Moradi, 2012). Given that transgender individuals tend to violate traditional gender role stereotypes just by nature of their identities, it is unsurprising that gender role beliefs predicted both attitudes and behaviors towards transgender individuals.

As in previous studies (e.g., Norton & Heck, 2013), political liberalism and more LGBT friends and family members of participants in this study were found to predict more positive attitudes towards transgender individuals. However, these variables did not significantly predict reported behaviors towards transgender people. These results seem to suggest that while a person's political beliefs and experience with LGBT individuals informs their attitudes toward transgender people, these factors do not strongly influence reported behavior towards transgender people.

The current study found political ideology to be related to attitudes towards transgender individuals, specifically with more politically conservative ideologies associated with more negative attitudes. These results support the findings of Norton and Herek (2013) as well as their supposition that this relationship occurs because politically conservative ideologies are generally characterized by a resistance to change and avoidance of ambiguity and uncertainty. However, this effect was not found to extend to reported behaviors towards transgender individuals.

This difference may be explained because attitudes reflect an ideology towards a group of people. McCann's (2014) review of 14 studies relating individuals' levels of conservatism to the Big Five personality traits found that lower openness to experience and higher conscientiousness were both associated with higher levels of political conservatism. Low levels of openness to experiences are generally characterized by decreased tolerance for diversity while high levels of conscientiousness is related to a strong proclivity for order (Costa & McCrae, 1995). Thus, a politically conservative ideology may appeal to a person because he is generally resistant to change and ambiguity, which would be similarly reflected in his ideology towards nontraditional gender identities.

In contrast, a person's general resistance to change may not govern his or her actions and treatment of people on an individual basis. Carney, Jost, Gosling, and Potter (2008) used political ideology and the Big Five personality traits to investigate and compare the interpersonal interaction styles of participants in the context of a one-on-one conversation with a study confederate. They found that conservative participants' interpersonal behavior did not generally reflect greater conscientiousness and, while conservatives did behave in ways that reflected less openness to experience than liberals, the difference was small (Carney et al., 2008).

The finding of this study that cisgender participants' experience with LGBT individuals predicted more positive attitudes towards transgender people is in line with the findings of Norton and Herek (2013), who found that heterosexual participants with more prior contact with homosexual individuals expressed more positive attitudes about transgender individuals. Norton and Herek theorized that more contact with sexual minorities (i.e. homosexuals) affected attitudes towards gender minorities (i.e. transgender individuals) in part because contact with homosexuals could expose heterosexual individuals to viewpoints that opposed traditional gender notions and reflected or promoted greater tolerance and understanding of differences.

While the results of the current study support the notion that contact with LGBT individuals promotes more tolerant attitudes towards transgender individuals, this effect did not seem to extend to more tolerant reported behaviors. This difference may be due to the relative lack of encounters with transgender individuals in everyday life. It may also have occurred because behaviors occur on an individual basis and interpersonal interactions may not be influenced by personal relationships and experiences in the same way as general attitudes seem to be.

While this notion hasn't been investigated specifically regarding transgender individuals, research has found that adolescents' social reasoning regarding sexual orientation-related prejudice is multifaceted. Specifically, adolescents differentiate between their personal beliefs about homosexuality and the rights of others to be safe in school (e.g. Horn, 2007; Horn & Szalacha, 2009). For example, Horn (2007) found that adolescents can simultaneously hold the belief that it is wrong to be gay and acknowledge that teasing and exclusion based on sexual orientation is wrong because it is hurtful and unfair. If participants in the current study had similarly multifaceted reasoning, they likely differentiated between their personal beliefs about gender nonconformity and their ideas of how others should be treated. Thus, personal relationships and experiences might not have been related to reported behaviors towards transgender individuals because participants' ideas of how others should be treated were not dependent on having LGBT friends and family members.

Though higher reported religiosity had been found in previous studies to indicate more negative attitudes towards LGBT individuals (e.g. Brown & Henriquez, 2008; Norton & Herek, 2013), religiosity was not a significant predictor of attitudes towards transgender individuals in the current study. However, the present study did find that religiosity significantly predicted reported behaviors towards transgender people. Contrary to findings about attitudes, wherein more religious individuals tend to express more negative attitudes towards LGBT people (e.g. Brown & Henriquez, 2008), higher levels of religiosity were related to more positive reported behaviors towards transgender individuals in the current study.

The results of the current study suggest that while religiosity was not significantly related to attitudes, it had a positive effect on reported behaviors towards transgender people. This may result from more religious people generally holding themselves to a high standard of moral

behavior towards others, as found in their religious code. This finding might also be because highly religious people spend their time doing activities and in places where transgender people might be less likely to be and thus, there is less opportunity for highly religious individuals to interact with transgender people, which would lead to lower SBS-R scores. Many religions preach against transgender and other LGBT identities, which Oswald (2001) found to lead LGBT individuals to distance themselves from religion in order to resolve internal conflicts related to their LGBT identity. Consequently, the majority of LGBT participants reported feeling like outsiders when attending religious events (Oswald, 2001). While this is not direct evidence that transgender individuals socialize in different circles than highly religious individuals, it does suggest that transgender individuals might be less inclined to engage in religious events or with very religious people.

Overall, these findings suggest, as hypothesized, that the individual factors studied do influence both attitudes and reported behaviors towards transgender individuals. However, the factors that specifically influenced attitudes were different from those that influenced behaviors with the exception of gender role beliefs, which predicted both.

Community factors. The community factors hypothesized to predict cisgender college students' attitudes and reported behaviors towards transgender individuals in this study were high school community type, high school region, community education level, and presence of a GSA in one's high school. Prior to this study, there has been very little research conducted on the link between community and attitudes towards transgender individuals. However, some available studies found that rural residents and Southern and Midwestern residents tended to have the most negative attitudes towards LGB people (e.g., Herek, 2002).

In the present study, high school location was found to predict attitudes towards transgender individuals. Previous research on attitudes towards LGB individuals found that rural residents held more negative attitudes when compared to urban and suburban residents (e.g., Herek, 2002). Contrary to previous research, participants in the current study who attended high school in suburban areas appeared to have more positive attitudes towards transgender individuals, compared to individuals who attended high school in urban areas. Rural high school attendance was not found to differ significantly from urban high school attendance in terms of attitudes towards transgender individuals. However, it is important to note that the current study investigated the type of community in which participants went to high school and not necessarily the community type in which they grew up, which may account for some of the differences seen.

With regard to reported behaviors, attending high school in the Southern region of the United States was associated with more positive behaviors towards transgender people, as compared to attending high school in the Western United States. When participants' attitudes towards transgender people were taken into account, attending high school in a rural area was a significant predictor of more positive behaviors, compared to attending high school in an urban area.

These findings are contrary to what would be expected given evidence that attitudes towards LGB individuals are more negative in the Southern United States and in rural communities (e.g., Herek, 2002; Worthen, 2014). Additionally, Worthen (2014) had found that GSAs in high school were predictive of more positive attitudes towards LGB people, but GSAs in Southern, rural, and suburban high schools led to more negative attitudes. The interactions between GSA and high school region and community type in this study contradicted Worthen's findings. Specifically, the interactions between region and the GSA variable found in this study

indicated that, when holding other variables constant, participants from Southern high schools had the lowest estimated SBS-R scores for both having and lacking a GSA. Similarly, community type and GSA interactions indicated that participants from rural high schools had the lowest estimated SBS-R scores across all levels of the GSA variable, when holding other factors constant.

It is possible that these locations were associated with less negative reported behaviors because the likelihood of exposure to openly transgender individuals in the Southern United States or in a rural/small town community is less than in the Western United States and urban settings, respectively. Transgender population estimates based on community setting have not been specifically investigated in the literature. However, Horvath, Iantaffi, Swinburne-Romine, and Bockting (2014) found that that transgender individuals residing in rural areas face greater barriers to transgender health care than transgender residents of urban areas, as most transgender health care centers are based in urban areas. Additionally, Oswald and Culton (2003) interviewed 527 LGBT people living in rural areas and found that 49% reported that the LGBT community in their area was too small or too hidden to provide social or support opportunities. Based on the relative lack of transgender-specific care and decreased LGBT community in rural areas compared to more urban areas, it seems plausible that transgender individuals might be less likely to reside in rural areas.

There are data to support the notion that there are less transgender individuals in the Southern United States. While exact data on openly transgender individuals cannot be found, the National Transgender Discrimination Survey (Grant et al., 2011) found that the South had the lowest percentage of transgender respondents who reported that they expressed their transgender identity and gender non-conformity at school. Additionally, Harris (2015) estimated the

percentages of transgender individuals in each state based on United States Census name-change records, with Southern states predicted to have the lowest population percentage of transgender individuals.

Kosciw et al. (2009) found that community education level was related to level of LGBT victimization, with students attending school in communities with higher percentages of college educated adults experiencing less LGBT-related victimization. They suggested that this impact occurred because college-educated individuals might have less prejudicial attitudes due to aspects of a college education, including increased exposure to LGBT individuals, increased development of cognitive reasoning and critical thinking, and increased exposure to new ideas (Kosciw et al., 2009). However, community education level was not found to be significantly related to attitudes or behaviors towards transgender individuals in the present study. Since all of the participants were currently enrolled in college, it is possible that this discrepancy occurred because participants' own experiences with college had superseded the influence of community education level on that attitudes and behaviors by this point in their lives.

Gay-straight alliances. While there is a lot of research that links high school GSAs to benefits for LGBT students (e.g., Heck et al., 2011), few studies have focused on the effect that high school GSAs might have on non-LGBT youth. Worthen (2014) researched the impact that attending a high school with a GSA had on non-LGBT undergraduate students' attitudes towards LGBT individuals and found that GSA presence in high school was a robust predictor of more positive attitudes towards all LGBT groups.

Interestingly, GSA presence or absence was not found to be a significant predictor of attitudes in the current study. Contradicting the findings of Worthen (2014), whether participants' high schools had a GSA, did not have a GSA, or they did not know if their high

school had a GSA was not significantly related to their attitudes towards transgender people. Compared to participants who had a GSA in high school and those who did not know if they had a GSA in high school, those who did not have a GSA in high school were predicted to report significantly more negative behaviors towards transgender individuals in the current study. This finding supports previous research relating levels of LGBT victimization in schools to the existence of a GSA in the school (e.g. Heck et al., 2011).

This result also seems to align with Worthen's (2014) findings that participants without a GSA in their high school were predicted to demonstrate less supportive attitudes towards transgender individuals than those who had a GSA. However, Worthen's study compared only those who had a GSA to those who did not have a GSA whereas the current study compared those who did not have a GSA, those who did have a GSA, and those who did not know if they had a GSA in their high school.

The findings of the current study suggest that having a GSA and not knowing if there was a GSA in high school are not significantly different in their ability to predict reported behaviors towards transgender individuals. It is only not having a GSA that leads to a more significant prediction of reported behaviors towards transgender individuals. Given these results, it seems probable that not having a GSA is more indicative of negative behaviors towards transgender individuals than having a GSA is indicative of positive behaviors. Thus, Worthen's results may actually demonstrate that negative attitudes are related to not having a GSA in high school, but she interpreted it as demonstrating the positive impact that GSAs had on attitudes because she only compared groups with and without a GSA.

Therefore, the idea that having a GSA creates a positive effect on the social climate of a school and reduces victimization through a message that such behavior will not be tolerated (e.g.,

GLSEN, 2007; Walls et al., 2010) is not conclusively supported. If GSA presence in a school diminished victimization by changing school climate towards LGBT individuals, then one would expect that having a GSA in high school would have predicted significantly more positive attitudes and behaviors towards transgender individuals than not knowing if there was a GSA in high school, which was not the case.

The fact that not having a GSA was related to more negative reported behaviors towards transgender people compared to not knowing if there was a GSA may indicate that individuals who were more likely to behave negatively towards transgender individuals were also more likely to be aware of the existence of such an organization in their schools. Participants who did not act very negatively towards transgender people may not have paid attention to whether they had a GSA in high school because it was not a topic of concern to them.

Predictors of attitudes and behaviors. The present study hypothesized that attitudes towards transgender individuals would be associated with reported behaviors towards transgender individuals. Specifically, negative attitudes towards transgender people would manifest as negative behaviors towards transgender people. This premise was supported by the results of this study, as attitudes towards transgender individuals, as measured by Transphobia Scale scores, were significantly related to behaviors towards transgender individuals, as measured by scores on the modified Self-Report of Behavior Scale – Revised. Participants who expressed more negative attitudes towards transgender individuals were predicted to report more negative behaviors towards transgender individuals.

While attitudes did predict behaviors, it is interesting that the same individual and community factors did not influence attitudes and behaviors similarly in this study. Based on the results of this study, it seems that individual and community factors may be associated with

behaviors in ways that contradict what would be expected based on the research regarding LGBT attitudes. While Herek (2000; 2002) found more negative attitudes towards LGB individuals in the South and in rural and suburban communities, the present study found that participants who attended high schools in rural communities and in the Southern United States were predicted to have the most positive behaviors towards transgender individuals compared to participants from other community types and regions. Additionally, Norton and Herek (2013) had linked higher levels of religiosity to more negative attitudes towards transgender people, but in the current study higher levels of religiosity predicted more positive behaviors towards transgender people.

In this study, attitudes and behaviors may be influenced in different ways by the same factors because they constitute different approaches to looking at a group of people.

Participants' attitudes towards transgender people might reflect their overall views towards the entire transgender population whereas their reported behaviors towards transgender people reflect their behavior towards specific transgender individuals that they have encountered in real life. Horn and Szalacha (2009) found that, regardless of personal beliefs about the acceptability of homosexuality, adolescents evaluated teasing homosexual peers as wrong due to concerns for human equality and fairness. Thus, it is possible that the factors investigated in this study may govern participants' general beliefs towards this population and their behavior towards individuals in differing ways.

Consequently, the same values and beliefs that might make a person likely to hold a negative attitude towards transgender people as a group may lead that same person to act positively toward a transgender person they encounter in the world. For example, while some highly religious people may find transgender individuals to violate their religious beliefs and thus have negative attitudes towards them, many religions emphasize tolerance and respect of

others as part of their moral code. Thus, a highly religious person may hold negative views of transgender people, but will treat any person they come across with respect as per their religious code.

In support of this theory, Horn, Szalacha, and Drill (2008) found that among adolescents, conventional religious beliefs regarding the acceptability of homosexuality (e.g., homosexuality is against God's law) were associated with judging homophobic teasing as wrong. Interestingly, Horn et al. also found that adolescents who used religious human equality beliefs (e.g., God teaches you should treat others as you wish to be treated) to explain their views on homosexuality had more accepting views of homophobic teasing. Perhaps, more conventional religious beliefs indicate a higher level of religiosity than religious human equality beliefs, which would further explain Horn et al.'s findings in the context of the current study's results.

It is also possible that individuals who are more likely to hold negative views towards transgender people are less likely to come into contact with transgender individuals and thus less likely to have the opportunity to act negatively towards them. This may occur either through intentional avoidance or simply by spending time with like-minded people in places that lack more diverse patrons. Horn and Szalacha (2009) found that adolescents viewed exclusion of homosexual peers as more acceptable than homophobic teasing because they saw exclusion as a matter of personal choice in deciding whom to hang out with. This justification may extend to the participants of this study regarding their interactions with transgender individuals.

Educational Implications

While the results of the current study in some ways contradict what would be expected given the existing literature, this study also investigated several areas that have not been addressed comprehensively or at all in the existing literature. Specifically, this study addressed

both attitudes and behaviors towards transgender individuals, while most previous research focused exclusively on attitudes. This study also specifically addressed attitudes and behaviors towards transgender individuals, while a large majority of the literature base focuses on homosexual and LGB individuals or only includes transgender individuals under the LGBT umbrella.

Information about the differences between attitudes and behaviors towards transgender individuals can help inform interventions designed to improve school climates for transgender students, who have been found to perceive their school climates as the harshest and least welcoming among LGBT students (e.g., Greytak et al., 2009). Perception of a positive school climate and reduced victimization are related to increased academic achievement (e.g., Kosciw et al., 2014), increased likelihood of postsecondary educational pursuits (e.g., Kosciw et al., 2014), decreased mental health distress and disorder (e.g., McGuire et al., 2011), and decreased engagement in risky behaviors (e.g., Espelage et al., 2008).

Since different individual and community factors influence attitudes and behaviors towards transgender individuals in different ways, interventions designed to improve the atmosphere in a school for transgender students should take different approaches to improve attitudes and behaviors. Based on the results of the current study, it seems that attitudes are reflective of the entire transgender population while behaviors occur on an individual-by-individual basis.

Therefore, attitudes might be best targeted in a way that makes the transgender population seem more relatable and specific as individuals. This study found that experience with LGBT individuals was a significant predictor of attitudes towards transgender individuals. Participants who had a more diverse array of LGBT friends and family members were predicted

to have more positive attitudes towards transgender individuals. Interventions that target attitudes may want to use discussions and examples of specific transgender individuals as part of lessons on diversity and adversity. Having students learn the stories of particular transgender people can help give individual faces to what would otherwise be an anonymous mass of people to whom the students may not relate. Making those stories familiar and personal may help students to feel like they know the person and generalize more positive attitudes towards transgender people as a group.

With regard to reported behaviors, it seems that the results of this study indicated that improving behaviors towards transgender individuals is best done on an individual basis through tolerance. The key to this type of intervention would be to get students to see every person they encounter as a unique being that deserves respect. Participants in the current study who were highly religious tended to report more tolerant behaviors towards transgender individuals. Most religions share a common emphasis on kindness and respect and include moral guidelines, which are meant to guide behavior towards all people, regardless of personal beliefs. It is possible that these ingrained practices of tolerance led highly religious individuals to practice more positive behaviors towards transgender people. Thus, the best way to improve behaviors towards transgender students might be teaching students the value of kindness and respect for others despite differences and enforcing practices of tolerance within the school environment.

Finally, less traditional gender role beliefs were found to be associated with both attitudes and reported behaviors towards transgender individuals across all models used in this study. Improving the school climate for transgender students specifically could be done by targeting the messages about gender roles that are sent within the school environment. Encouraging less traditional gender roles or at least tolerance of non-traditional gender roles through discussion,

modeling, and even self-reflection can help to improve attitudes and behaviors towards transgender students. This could be done in classrooms through discussions of historically important women and men who did not meet the gender expectations of their time, as well as through explorations of how notions of masculinity and femininity have changed over time and differ among cultures. Letting students see that there is not one “correct” way of conceptualizing gender roles may open the door to a better understanding and acceptance of those who do not fit perfectly into prescribed gender roles, including transgender students.

Limitations

While the findings of the current study provide an important addition to the literature by focusing on transgender individuals and studying both attitudes and behaviors, there are a few limitations to this study that are important to consider for future research. First, while this study provided a comprehensive examination of many variables related to attitudes and behaviors towards transgender individuals, many of these variables were measured using only one item on the 81-item research questionnaire. While these one-item measures kept the questionnaire to a manageable length, it also meant that any participant who skipped a question intentionally or accidentally could not be used in the statistical analyses done to answer the research questions. This led to the listwise deletion of 46 participants out of the 348 participants who met the criteria for inclusion in this study. While the characteristics of the 46 participants were analyzed in Appendix L and do not appear to indicate any clear pattern of participants who were not used, the exclusion of 13.2% of participants may have affected the significance of results due to the decreased sample size.

Another limitation of this study was the behavior measure used. The SBS-R was modified by the researcher from a measure of behaviors towards homosexual men and women to

reflect behaviors towards transgender and ambiguously gendered individuals. The behavior measure depended on participants' reports of their behaviors in the past towards individuals who were or whom they assumed to be transgender, which is similar to how the original SBS-R depended on respondents reporting experiences with individuals who were or whom they assumed to be homosexual. However, given the oft-cited statistics regarding LGBT identities, approximately 3.5% of the United States population identify as LGB, while only 0.3% identify as transgender (Gates, 2011). Therefore, it may be less likely that participants in this study had encountered transgender individuals and could report having behaved in certain ways, which may explain why the majority of participants had very low scores on the SBS-R. When there is a lack of opportunity to behave, it is difficult for participants to accurately report their behaviors.

This study was also limited by the self-report nature of the measures. For both attitudes and behaviors towards transgender individuals, participants may not have answered honestly or accurately. Even though the survey was anonymous, participants may have answered questions in a way that made them seem more tolerant than they might actually be, especially since this study was conducted in the summer of 2015, when transgender rights and transgender public figures dominated American media. Additionally, the negatively worded items on the SBS-R, in particular, may have deterred participants from indicating negative behaviors. Some of the items, such as "I have participated in damaging someone's property because the person was transgender or because their gender was unclear to me," indicated harsh behaviors that participants might have been unlikely to do or confirm doing. Since there was no measure in place to check for the social desirability of participants' response patterns, it is very possible that participants with more negative attitudes and behaviors underreported their true responses.

An additional limitation of the current study is that the participants who wanted to and ultimately did partake in the study may have already been biased towards more favorable views and behaviors towards transgender individuals. The recruitment postings indicated that the current study was regarding attitudes and behaviors towards transgender individuals. It seems probable that the participants who were interested in completing the questionnaire were people who were biased favorably towards transgender individuals, while those individuals who held less favorable views towards transgender individuals may not have wanted to participate in the study at all. Thus, the mere participation of a person in this study may be an indication that they care enough about transgender individuals to want to further the study of attitudes and behaviors towards this population of people. Consequently, the sample of this study may not be an accurate depiction of the larger population of cisgender college students in the United States and results of this study may not generalize to the population.

In fact, the method of sampling used may have led to a biased sample that may have influenced the results seen. Specifically, the sample of the current study differed from the available information about the American college student population in a number of ways. The current sample was 76.4% White, 52.3% male, and 58.3% heterosexual, which may result from the demographics of the social media sites that participants were recruited from. Sixty-seven percent of the current sample were also attending public colleges. The National Center for Education Statistics (U.S. Department of Education Institute of Education Sciences, n.d.) estimated the college student population in 2015 to be 56% female and that 65% would be attending public colleges while data from 2013 indicates that the college population was 56.8% White. While estimates of American college students' sexual orientation are not available, Gates (2011) estimates the entire adult population of the United States to be 3.5% homosexual. Thus,

the results of the current sample are likely over representing the attitudes and reported behaviors of White, male, and homosexual college students. It is likely that the make-up of the sample led to more tolerant attitudes and reported behaviors than would be seen if the greater population was more accurately represented in the sample.

Future Research

Since few investigations exist in the literature about attitudes and behaviors towards transgender individuals, the present study serves as a starting point for a burgeoning field of study. The findings and the limitations of the current study leave a number of possible directions for future research.

There is a dearth of literature studying behaviors towards transgender and other LGBT individuals. This study attempted to investigate behaviors using a self-report measure. Improvement to the method of measuring behaviors could yield more information about the factors that influence these behaviors. Observations of behavior towards transgender people in everyday life or experimentally designed scenarios would be the most accurate measure of behavior, but may prove difficult to enact in practice. However, improvements could be made to the self-report measure to make it less dependent on recalling previous encounters with transgender individuals, change the negative, sometimes harsh wording of items, and improve accuracy of results. For example, more accurate results might be obtained by utilizing a measure in which participants are given vignettes of scenarios involving transgender individuals and are asked to explain what they would do in the given situation and their reasoning for taking that course of action.

Another means of improving the accuracy and generalizability of results would be to account for the potential social desirability bias inherent in responses to self-report measures

from a self-selecting sample. Future research could include a measure of social desirability in the research questionnaire. This measure could be used to indicate the level of social desirability bias in the responses overall as well as flag participants with high scores on the social desirability scale to analyze and account for their influence on the overall results.

Replicating this study with a larger, more diverse sample could add important information about the relationship between individual and community factors and their impact on attitudes and behaviors towards transgender people. The current study only focused on cisgender college students and, as college education has been linked to more tolerant attitudes towards LGBT individuals (Kosciw et al., 2009), it is possible that different results would be found with young cisgender adults who were not college students. Including noncollege students in the sample would also allow for comparison between young adults in college and those not in college to see if and how their attitudes and behaviors differ. It could also provide more information about if aspects of the college experience lead to more tolerant attitudes and if so, which aspects contribute most. Additionally, a larger, more diverse sample that accurately represented the population could be used to investigate numerous facets of participants' identities with regard to their attitudes and behaviors. For example, more accurate proportions of racial and ethnic groups could be used to investigate the relationship between intersectionality and attitudes and reported behaviors or to compare differences in attitudes and reported behaviors between racial groups more thoroughly. A larger sample size might also allow for more complex investigations into the association between locations and attitudes and reported behaviors, such as individuals in rural areas versus urban areas in the Southern United States.

Future research should also further investigate the relationship between attitudes and behaviors towards transgender individuals. This study's results indicate that attitudes and

behaviors are influenced by different individual and community factors. More research needs to be conducted to determine how these factors affect attitudes and behaviors differently and how they factor into the relationship between attitudes and behaviors.

The relationship between attitudes and behaviors towards other LGBT identities should also be further researched. While there is a great deal of research regarding attitudes towards LGB individuals, there is a lack of research investigating behaviors towards LGB people. As LGB individuals, in particular, are generally more visible and accepted than transgender individuals in the current social climate of the United States, there may be differences in the factors that influence behaviors towards LGB individuals and those that influence behaviors towards transgender individuals. Additionally, these results might provide greater insight into avenues to explore in creating more tolerant environments for all LGBT people.

Conclusion

The purpose of this study was to investigate the relationship between individual and community factors and cisgender college students' attitudes and behaviors towards transgender individuals. Transgender students are at risk of decreased academic achievement and aspirations as well as increased mental health issues and risk-taking behaviors, due to perceptions of harsh school climates and experiences of victimization. This study was the first to comprehensively examine the many individual and community-level factors that are associated with both attitudes and behaviors towards transgender individuals. The results of this study provided new insight into the influence of these factors on attitudes and behaviors, specifically with regard to which factors most greatly affect attitudes and which affect behaviors. Overall, it seemed that attitudes towards transgender individuals were more influenced by factors that affect a person's view towards the transgender population as a whole. In contrast, behaviors seemed to be affected

most by factors that governed a person's guidelines for interactions with specific individuals. It is suggested that interventions to improve the school climate for transgender individuals focus their efforts to improve attitudes through making the transgender population more specific and familiar while interventions to improve behaviors be done by emphasizing tolerance and respect for all people.

Appendix A

Demographic Information

1. How old are you?
2. Below is a list of terms that people often use to describe their race or ethnicity. Please choose the term that best describes you.
 - White or European American
 - African American or Black
 - Hispanic or Latino/Latina
 - Asian or Pacific Islander
 - Native American
 - Other (please specify)
3. Below is a list of terms that people often use to describe their gender. Please choose the term that best describes you.
 - Male
 - Female
 - Transgender
 - Other (please specify)
4. Below is a list of terms that people often use to describe their sexual orientation. Please choose the term that best describes you.
 - Gay
 - Lesbian
 - Bisexual
 - Straight/Heterosexual
 - Questioning
 - Other (please specify)

Appendix B

High School Survey

1. What state did you attend high school in? *If you went to multiple high schools, please choose the state of the high school that you attended for the greatest amount of time.*
2. What year did you graduate from high school?
3. What was the name of the school district where you attended high school? *If you attended more than one high school, please use the school district of the high school that you attended for the greatest amount of time.*

Choose the best answer. If you attended more than one high school, please use the high school that you attended for the greatest amount of time.

4. Where was your high school located?
 - an urban area
 - a suburban area
 - a rural/small town area

Choose the best answer. If you attended more than one high school, please use the high school that you attended for the greatest amount of time.

5. Was your high school...
 - a public school
 - a religious-affiliated school
 - another kind of non-public, private, or independent school
6. Was your high school...
 - co-ed (both male and female students)
 - single-sex, female students only
 - single-sex, male students only
7. Please enter the 5-digit ZIP code of the high school you attended. *If you attended more than one high school, please provide the ZIP code of the high school that you attended for the greatest amount of time.*
8. Did your high school have a gay-straight alliance (or another type of club that addressed LGBT student issues) when you attended?
 - Yes
 - No
 - Don't know

9. Did you participate in your high school's gay-straight alliance (or similar club)?

Yes

No

School did not have one

Appendix C

Community Information Survey

1. What state did you grow up in? *If you lived in multiple states, please choose the state where you lived for the majority of your youth/time.*
2. Please enter the 5-digit ZIP code of the town you grew up in. *If you lived in multiple towns, please provide the ZIP code of the town where you lived for the majority of your youth/time.*

Appendix D

Current School Information Survey

1. What is your current year in school?
2. What is your major (or what you're considering for your major if you have not declared yet)?
3. Does your current college or university have a gay-straight alliance (or similar club)?
 - Yes
 - No
 - Don't know
4. Please enter the 5-digit ZIP code of the college/university you currently attend.
5. Is your current college or university...
 - a public school
 - a religious-affiliated school
 - another kind of non-public, private, or independent school
6. Is your current college or university...
 - co-ed (both male and female students attend)
 - single-sex, female students only
 - single-sex, male students only

Appendix E

Current Beliefs and Experiences Survey

1. Please indicate your political beliefs. (Pick one number that best represents your political ideology.)

1 2 3 4 5 6 7

(Liberal)

(Moderate)

(Conservative)

2. What is your religion?

Protestantism

Catholicism

Mormonism

Southern Baptist

Methodist

Other Christian

Judaism

Islam

Jainism

Sikhism

Taoism

Other non-Christian

No religious identity

Other (please specify)

3. Please indicate how religious you are on the following scale. (Pick one number that best represents how religious you are.)

1 2 3 4 5 6 7

(Not at All
Religious)

(Very Religious)

4. Do you have any friends or family members who are lesbian? YES NO

If yes, please rate your closest relationship with a lesbian woman.

1 2 3 4 5 6 7

(Not at All
Close)

(Very Close)

Appendix F

Gender Role Beliefs Scale (GRBS)

On a scale of 1 (strongly agree) to 4 (undecided) to 7 (strongly disagree), please indicate the degree to which you agree with the following statements.

1. It is disrespectful for a man to swear in the presence of a lady.
2. Women should not expect men to offer them seats on buses.
3. Homosexual relationships should be as socially acceptable as heterosexual relationships.
4. The initiative in courtship should usually come from the man.
5. It bothers me more to see a woman who is pushy than a man who is pushy.
6. When sitting down at the table, proper respect demands that the gentleman holds the lady's chair.
7. Women should have as much sexual freedom as men.
8. Women should appreciate the protection and support that men have traditionally given them.
9. Women with children should not work outside the home if they don't have to financially.
10. I see nothing wrong with a woman who doesn't like to wear skirts or dresses.
11. The husband should be regarded as the legal representative of the family group in all matters of law.
12. I like women who are outspoken.
13. Except perhaps in very special circumstances, a gentleman should never allow a lady to pay the taxi, buy the tickets, or pay the check.
14. Some equality in marriage is good, but by and large the husband ought to have the man say-so in family matters.
15. Men should continue to show courtesies to women such as holding open the door or helping them on with their coats.
16. It is ridiculous for a woman to run a locomotive and for a man to darn socks.

17. A woman should be as free as a man to propose marriage.
18. Women should be concerned with their duties of childrearing and housetending, rather than with desires for professional and business careers.
19. Swearing and obscenity is more repulsive in the speech of a woman than a man.
20. There are some professions and types of businesses that are more suitable for men than women.

Appendix G

The Transphobia Scale

On a scale of 1 (completely disagree) to 7 (completely agree), please indicate the degree to which you agree with the following statements.

1. I don't like it when someone is flirting with me, and I can't tell if they are a man or a woman.
2. I think there is something wrong with a person who says that they are neither a man nor a woman.
3. I would be upset, if someone I'd known a long time revealed to me that they used to be another gender.
4. I avoid people on the street whose gender is unclear to me.
5. When I meet someone, it is important for me to be able to identify them as a man or a woman.
6. I believe that the male/female dichotomy is natural.
7. I am uncomfortable around people who don't conform to traditional gender roles, e.g., aggressive women or emotional men.
8. I believe that a person can never change their gender.
9. A person's genitalia define what gender they are, e.g. a penis defines a person as being a man, a vagina defines a person as being a woman.

Appendix H

Modified Self-Report of Behavior Scale - Revised

This questionnaire is designed to examine which of the following statements most closely describes your behavior during past encounters with people you thought were transgender or whose gender was unclear to you. Rate each of the following self-statements as honestly as possible using the following scale:

Never = 1; Rarely = 2; Occasionally = 3; Frequently = 4; Always = 5

1. I have spread negative talk about someone because I suspected that the person was transgender or because their gender was unclear to me.
2. I have participated in playing jokes on someone because I suspected that the person was transgender or because their gender was unclear to me.
3. I have changed roommates and/or rooms because I suspected my roommate was transgender or because their gender was unclear to me.
4. I have warned people who I thought were transgender or whose gender was unclear to me and were a little too friendly with me to keep away from me.
5. I have attended antitransgender protests.
6. I have been rude to someone because their gender was unclear to me or because I thought that the person was transgender.
7. I have changed seat locations because I suspected the person sitting next to me was transgender or because their gender was unclear to me.
8. I have had to force myself to keep from hitting someone because the person was transgender or their gender was unclear to me and they were very near me.
9. When someone I thought to be transgender or whose gender was unclear to me has walked toward me as if to start a conversation, I have deliberately changed directions and walked away to avoid the person.
10. I have stared at a person who was transgender or whose gender was unclear to me in such a manner as to convey my disapproval of the person being too close to me.
11. I have been with a group in which one (or more) person(s) yelled insulting comments to a person or group of people whose gender was unclear or were transgender.
12. I have changed my normal behavior in a restroom because a person I believed to be transgender or whose gender was unclear to me was in there at the same time.

13. When a transgender person or someone whose gender was unclear to me has checked me out, I have verbally threatened the person.
14. I have participated in damaging someone's property because the person was transgender or because their gender was unclear to me.
15. I have physically hit or pushed someone I thought was transgender or whose gender was unclear to me because the person brushed against me when passing by.
16. Within the past few months, I have told a joke that made fun of transgender people.
17. I have gotten into a physical fight with a transgender person or person whose gender was unclear to me because I thought the person had been making moves on me.
18. I have refused to work on school and/or work projects with a partner I thought was transgender or whose gender was unclear to me.
19. I have written graffiti about transgender people.
20. When a transgender person or someone whose gender was unclear to me has been near me, I have moved away to put more distance between us.

Appendix I

Recruitment Post

If you are a current college student who grew up in the United States, you are invited to participate in a research study for a chance to win one of five \$50 gift cards. This study is being conducted under the direction of Laura Hackimer, a Ph.D. candidate in the Educational Psychology Program at the Graduate Center of the City University of New York (CUNY). This research is on college students' attitudes and behaviors towards transgender individuals and will help contribute to what is known about the influence of locational and individual differences on young American adults' attitudes and behaviors towards transgender people.

I am looking for current college students who grew up in the United States to complete a survey about their beliefs, experiences, and attitudes. The survey should take no more than 10-15 minutes. Participation in the survey is entirely voluntary, meaning that you can stop taking the survey at any time, and entirely anonymous, meaning that no identifying information will be kept or linked to responses.

Your contribution is needed and valuable! To participate in this study, please follow the link below, or visit: <http://www.zipsurvey.com/LaunchSurvey.aspx?suid=76857&key=FC6E7752>. After you complete the survey, you will be directed to a second survey where you can enter your email address to win the \$50 gift card. You must be 18 years or older to take the survey. Thank you in advance for your participation!

Appendix J

Informed Consent (Page 1 of Internet Survey)

My name is Laura Hackimer and I am a doctoral student in the Educational Psychology Ph.D. Program at The Graduate Center of the City University of New York (CUNY), and Primary Researcher of this project, entitled "The Effect of Community and Individual Differences on College Students' Attitudes and Behaviors towards Transgender Individuals." The purpose of this study is to evaluate the differences in American college students' attitudes and behaviors towards transgender individuals. I would like you to fill out the Internet survey, which is about your beliefs (e.g., religious, political), experiences (e.g., in high school, in your home town), and your attitudes and behaviors (e.g., related to transgender individuals). Additionally, I will ask for some demographic information about yourself (e.g., age, gender, sexual orientation) and the college or university that you currently attend (e.g., its location, your year, your major). In order to participate in this survey, you must be 18 years of age or older.

This survey should take approximately 10-15 minutes. At the end of the survey, you will be directed to a different survey where you can enter your email address into the raffle for a chance to win one of five \$50 gift cards. The two surveys are completely separate, your answers will be stored separately, and there will be no way for your answers in one to be linked to the other. I will not ask for any identifying information and will have no way to connect your answers to your personal information. Your responses will be kept completely confidential. I will NOT know your IP address when you respond to the Internet survey and your responses will be labeled only with a number. Only I, and my advisor, will see your individual survey responses. All information gathered will be stored in a password-protected file and any physical copies will be stored in a locked file cabinet. Only I, and my advisor, will have access to both digital and physical data. At any time during the survey, you can refuse to answer any questions or end the survey. If you do not click on the "submit" button at the end of the survey, your answers and participation will not be recorded.

The risks from participating in this study are no more than encountered in everyday life. If you feel uncomfortable with a question, you can skip that question or withdraw from the study altogether. If you decide to quit at any time before you have finished the questionnaire, your answers will NOT be recorded.

The benefit of your participation is that your answers will be contributing to knowledge about young American adults' attitudes and behaviors towards transgender individuals and the influence locational and individual differences have on these attitudes.

I may publish results of the study, but names of people, or any identifying characteristics, will not be used in any of the publications. If you would like a copy of the study, please check the "Yes" box on the Participant Raffle survey and I will send you a copy of the results when the study has concluded.

If you have any questions about this research, you can contact me at (516) 581-5778 or LHackimer@gradcenter.cuny.edu, or my advisor, Yung-Chi Chen, Ph.D., at

ychen8@gc.cuny.edu or (212) 817-8288. If you have questions about your rights as a participant in this study, you can contact Kay Powell, Human Research Protections Program Coordinator, City University of New York Graduate Center, (212) 817-7525, kpowell@gc.cuny.edu.

By clicking "I agree" and beginning the survey, you acknowledge that you are at least 18 years of age, have read this information and agree to participate in this research, with the knowledge that you are free to withdraw your participation at any time, without penalty.

Appendix K

End of Survey Statement

Thank you for completing the Attitudes and Behaviors survey! To enter for a chance to win one of five \$50 gift cards, please open <https://www.surveymonkey.com/r/H6L3S67> in a new window and enter your verification code and email address. Your verification code is: [928359]

Appendix L

Tables for Listwise Deleted Participants

Table L1

Missing Data from Main Variables of the 46 Listwise Deleted Participants

Variable	Missing n	%
Age	1	2.2
Gender	0	0.0
Sexual Orientation	3	6.5
Religion	2	4.3
Type of College	1	2.2
Religiosity	0	0.0
Political Leaning	2	4.3
Experience with LGBT	13	28.3
Gender Role Beliefs	0	0.0
Community Education Level	23*	50.0
High School Region	2	4.3
Community Type	3	6.5
Gay-Straight Alliance	0	0.0
Transphobia Scale	1	2.2
Self-Report of Behavior Scale – Revised	2	4.3

Note. Some participants were missing information on more than one variable.

* 19 participants did not report ZIP codes, thus community education level could not be determined. Four participants reported ZIP codes for which the U.S. Census Bureau (2013) did not have information, thus community education level could not be determined.

Table L2

Demographic Characteristics of the 46 Listwise Deleted Participants

Characteristic	n	%
Age		
18 – 22	37	80.4
23 – 27	6	13.0
28 – 32	2	4.3
33 – 38	0	0.0
No Response	1	2.2
Gender		
Male	22	47.8
Female	24	52.2
Sexual Orientation		
Straight/heterosexual	28	60.9
Lesbian	1	2.2
Gay	4	8.7
Bisexual	6	13.0
Questioning	1	2.2
Queer	0	0.0
Asexual	2	4.3
Pansexual	0	0.0
Demisexual	1	2.2
No Response	3	6.5
Ethnicity/Race		
White or European American	30	65.2
Hispanic or Latino/Latina	6	13.0
Asian or Pacific Islander	5	10.9
African American or Black	1	2.2
Native American	0	0.0
Mixed Race	3	6.5
Other	1	2.2

Table L2 Continued

Characteristic	n	%
Religion		
Christian	13	28.3
Non-Christian	9	19.6
No Religious Identity	22	47.8
No Response	2	4.3
Year in College		
Freshman (1 st year)	5	10.9
Sophomore (2 nd year)	11	23.9
Junior (3 rd year)	13	28.3
Senior (4 th year)	8	17.4
Fifth year or later	8	17.4
No Response	1	2.2
Type of College		
Public	33	71.7
Religious affiliated	6	13.0
Other private, non-public, or independent	6	13.0
No Response	1	2.2

Table L3

Descriptive Statistics for Continuous Main Variables of Study for Listwise Deleted Participants

Variable (N)	Minimum	Maximum	Mean	SD
Religiosity (46)	1	7	2.67	1.86
Political Leaning (44)	1	7	3.11	1.48
Experience with LGBT (33)	0	5	2.33	1.45
Gender Role Beliefs (46)	63	140	111.11	20.35
Community Education Level (23)	7.6	72.8	37.81	20.41
Transphobia Scale (45)	9	63	24.99	15.74
Self-Report of Behavior Scale-Revised (44)	20	61	23.27	7.65

Note. Maximum possible ranges of scores - Religiosity: 1 to 7; Political Leaning: 1 to 7; Experience with LGBT: 0 to 5; Gender Role Beliefs: 20 to 140; Community Education Level: 0% to 100%; Transphobia Scale: 9 to 63; Self-Report of Behavior Scale – Revised: 20 to 100

Table L4

Community Characteristics of the 46 Listwise Deleted Participants

Variable	n	%
High School Region		
Northeast	16	34.8
South	11	23.9
Midwest	6	13.0
West	11	23.9
No Response	2	4.3
Community Type		
Rural/Small Town	4	8.7
Suburban	24	52.2
Urban	15	32.6
No Response	3	6.5
Gay-Straight Alliance in High School		
Yes	19	41.3
No	18	39.1
Don't Know	9	19.6
No Response	3	6.5

Appendix M

Tables for Regression Models with Community Factor Interactions

Table M1

Multiple Regression for Predicting Transphobia Scale Scores Using Individual Factors, Community Factors, and Interactions Between Community Variables

Variable	<i>B</i>	SE <i>B</i>	Wald χ^2	Sig.
(Intercept)	3.286	.394	69.48	.000
<i>Demographic Controls</i>				
Age	-.030	.017	3.18	.074
Gender	-.560	.111	25.74	.000***
Sexual Orientation	.358	.114	9.87	.002**
Christian	-.075	.167	0.20	.652
Non-Christian	-.180	.229	0.61	.433
Public College	.066	.133	0.24	.623
Religious College	.324	.183	3.14	.076
<i>Individual Factors</i>				
Religiosity	-.013	.045	0.09	.765
Political Leaning	.109	.045	5.76	.016*
Experience LGBT	-.123	.038	10.49	.001**
Gender Roles Beliefs	-.042	.004	118.58	.000***
<i>Community Factors</i>				
Community Education Level	.006	.003	3.81	.051
HS in Northeast	-.294	.394	69.48	.420
HS in South	.070	.434	0.03	.871
HS in Midwest	.056	.426	0.02	.896
Rural HS	-.480	.528	0.83	.363
Suburban HS	-.691	.313	4.89	.027*
Gay Straight Alliance	-.177	.417	0.18	.672
No Gay Straight Alliance	-.157	.456	0.12	.730
<i>Community Factor Interactions</i>				
HS in Northeast*GSA	.314	.400	0.61	.434
HS in Northeast*No GSA	-.068	.436	0.02	.876
HS in South*GSA	-.043	.497	0.01	.932
HS in South*No GSA	-.414	.493	0.70	.401
HS in Midwest*GSA	.139	.481	0.08	.773
HS in Midwest*No GSA	-.603	.501	1.45	.229
Rural HS*GSA	.327	.583	0.32	.575
Rural HS*No GSA	.440	.586	0.56	.453
Suburban HS*GSA	.190	.366	0.27	.604
Suburban HS*No GSA	.529	.376	1.98	.160

Note. GSA = Gay-Straight Alliance; HS = High School

* $p < .05$; ** $p < .01$; *** $p < .001$

Table M2

Negative Binomial Regression for Predicting Transphobia Scale Scores Using Individual Factors, Community Factors, and Interactions Between Community Variables

Variable	<i>B</i>	SE <i>B</i>	Wald χ^2	Sig.
(Intercept)	.400	.732	0.30	.585
<i>Demographic Controls</i>				
Age	-.057	.031	3.30	.069
Gender	-.801	.194	17.11	.000***
Sexual Orientation	.112	.196	0.33	.567
Christian	.507	.311	2.66	.103
Non-Christian	.915	.356	6.61	.010*
Public College	.100	.235	0.18	.671
Religious College	.011	.314	0.001	.971
<i>Individual Factors</i>				
Religiosity	-.204	.079	6.61	.010*
Political Leaning	.081	.077	1.12	.290
Experience LGBT	.015	.067	0.05	.824
Gender Roles Beliefs	-.048	.006	60.59	.000***
<i>Community Factors</i>				
Community Education Level	.003	.006	0.28	.599
HS in Northeast	-.626	.675	0.85	.354
HS in South	-.415	.758	0.30	.584
HS in Midwest	-.138	.736	0.03	.851
Rural HS	-.191	.894	0.05	.831
Suburban HS	-.133	.528	0.06	.801
Gay Straight Alliance	-.248	.744	0.11	.739
No Gay Straight Alliance	.835	.804	1.08	.299
<i>Community Factor Interactions</i>				
HS in Northeast*GSA	.767	.722	1.13	.288
HS in Northeast*No GSA	.291	.776	0.14	.707
HS in South*GSA	-.740	.888	0.69	.405
HS in South*No GSA	-.268	.878	0.09	.760
HS in Midwest*GSA	.095	.826	0.01	.908
HS in Midwest*No GSA	-.117	.884	0.02	.895
Rural HS*GSA	.070	.988	0.01	.944
Rural HS*No GSA	-.810	.997	0.66	.417
Suburban HS*GSA	.139	.623	0.05	.824
Suburban HS*No GSA	-.344	.637	0.29	.590

Note. GSA = Gay-Straight Alliance; HS = High School

* $p < .05$; ** $p < .01$; *** $p < .001$

Table M3

Negative Binomial Regression for Predicting Transphobia Scale Scores Using Attitudes, Individual Factors, Community Factors, and Interactions Between Community Variables

Variable	<i>B</i>	SE <i>B</i>	Wald χ^2	Sig.
(Intercept)	.320	.749	0.18	.669
<i>Demographic Controls</i>				
Age	-.036	.033	1.20	.273
Gender	-.342	.208	2.69	.101
Sexual Orientation	-.237	.211	1.26	.262
Christian	.540	.318	2.88	.090
Non-Christian	.930	.367	6.43	.011*
Public College	.100	.235	0.18	.671
Religious College	.011	.314	0.001	.971
<i>Individual Factors</i>				
Religiosity	-.173	.082	4.49	.034*
Political Leaning	-.034	.082	0.18	.673
Experience LGBT	.096	.070	1.86	.173
Gender Roles Beliefs	-.025	.007	12.72	.000***
<i>Community Factors</i>				
Community Education Level	-.007	.006	1.26	.262
HS in Northeast	-.722	.749	0.18	.669
HS in South	-.494	.685	1.11	.292
HS in Midwest	-.611	.775	0.62	.431
Rural HS	-.262	.984	0.07	.790
Suburban HS	-.086	.550	0.02	.876
Gay Straight Alliance	-.671	.763	0.77	.379
No Gay Straight Alliance	.660	.815	0.66	.418
<i>Attitudes</i>				
Transphobia Scale	1.019	.150	46.32	.000***
<i>Community Factor Interactions</i>				
HS in Northeast*GSA	.976	.736	1.76	.185
HS in Northeast*No GSA	.566	.789	0.52	.473
HS in South*GSA	-.510	.898	0.32	.570
HS in South*No GSA	.246	.893	0.08	.783
HS in Midwest*GSA	.305	.868	0.12	.724
HS in Midwest*No GSA	.919	.935	0.97	.326
Rural HS*GSA	.024	1.08	0.00	.982
Rural HS*No GSA	-.984	1.08	0.83	.362
Suburban HS*GSA	.461	.650	0.50	.478
Suburban HS*No GSA	-.562	.660	0.77	.394

Note. GSA = Gay-Straight Alliance; HS = High School

* $p < .05$; ** $p < .01$; *** $p < .001$

Appendix N

Summary of Main Research Hypotheses and Findings of the Current Study

Hypothesis	Findings
<p>Hypothesis 1. The individual factors will be significant predictors of cisgender college students' attitudes and behaviors towards transgender individuals.</p>	<p>Hypothesis 1 was mostly supported. Regression results indicated that gender role beliefs, political beliefs, and experience with LGBT individuals significantly predicted attitudes while gender role beliefs and religiosity significantly predicted behaviors towards transgender individuals.</p>
<p>Hypothesis 2. The community factors will be significant predictors of cisgender college students' attitudes and behaviors towards transgender individuals.</p>	<p>Hypothesis 2 was partially supported. Regression results indicated that suburban community type significantly predicted attitudes while rural community type, Southern region, and a lack of a GSA in high school were significantly related to behaviors.</p>
<p>Hypothesis 3. Cisgender college students' attitudes towards transgender individuals will predict their behaviors towards transgender individuals.</p>	<p>Hypothesis 3 was supported.</p>
<p>Hypothesis 4. The presence of a GSA in the high school will be related to more tolerant attitudes and behaviors towards transgender individuals.</p>	<p>Hypothesis 4 was partially supported. Results of estimated marginal means comparison indicated that the GSA variable was related to cisgender college students' behaviors, but not their attitudes towards transgender individuals.</p>
<p>Hypothesis 5. Overall, the presence of a GSA will not significantly contribute to participants' attitudes and behaviors towards transgender individuals when controlling for individual and community factors.</p>	<p>Hypothesis 5 was partially supported. Regression results indicated that when accounting for individual and community factors, the GSA variable did not predict attitudes, but did significantly predict behaviors towards transgender individuals.</p>
<p>Hypothesis 6. The impact of having or lacking a GSA in high school on cisgender college students' attitudes and behaviors towards transgender individuals will differ between participants in different locations (i.e., region of the United States, type of community setting).</p>	<p>Hypothesis 6 was partially supported. Estimated marginal means indicated significant differences based on the interactions between region and community type with GSA presence for behaviors, but not for attitudes towards transgender individuals.</p>

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