FACTOR STRUCTURE AND VALIDITY OF THE LESBIAN, GAY, AND BISEXUAL KNOWLEDGE AND ATTITUDE SCALE FOR HETEROSEXUALS (LGB-KASH)

A Dissertation Presented to the
Faculty of the College of Education
University of Houston

In Partial Fulfillment
of the Requirements for the Degree

Doctor of Philosophy

by

Bryce B. Summers

August, 2010

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Abstract

Heterosexual attitudes toward Lesbian, Gay, and Bisexual (LGB) individuals have become the focus of recent research as sexual minorities and allies have advocated for LGB human rights issues and have subsequently captured the attention of the media (Rimmerman, 2001, 2008; Rimmerman, Wald, & Wilcox, 2000). Multiple influences shape heterosexual attitudes including gender socialization, individual sexual identity exploration, religious beliefs, and systemic prejudicial attitudes (Altemeyer & Hunsberger, 2005; Kilanski, 2003; Worthington, Savoy, Dillon, & Vernaglia, 2002; Worthington, Becker-Schutte, & Dillon, 2005).

Worthington, Dillon, and Becker-Schutte (2005) and colleagues proposed that heterosexual attitudes toward sexual minorities are one aspect of the individual's sexual identity that is comprised of several dimensions. Worthington et al. developed an instrument titled the Lesbian, Gay, Bisexual Knowledge and Attitude Scale for Heterosexuals (LGB-KASH) to assess the proposed dimensions of heterosexual attitudes toward LGB individuals. Results of confirmatory factor analyses with primarily white college students and adults in the Midwest identified five factors that were consistent with the proposed dimensions. These factors were labeled: hate (violent homonegativity; avoidance of LGB people); LGB knowledge; attitudes toward LGB civil right issues; religious conflict (ambivalent and negative attitudes caused by religious beliefs); and internalized affirmativeness (degree of comfort of having friends who are identified as LGB; feeling comfortable of having feelings of attraction towards the same-sex). The

LGB-KASH's five dimensions correlated in the expected direction with scales assessing traditional homonegativity and religiosity. No other study was located that examined the factor structure and the validity of the LGB-KASH subscales.

The purposes of the proposed study was to examine (a) the factor structure of the LGB-KASH with an ethnically diverse college sample, and (b) the relation of the LGB-KASH dimensions to scales assessing modern-homonegativity and religious fundamentalism. It was hypothesized that the LGB-KASH five-factor structure would be confirmed with ethnically diverse college students. It was expected that modern-homonegativity would correlate positively with the hate and religious conflict subscales, and correlate negatively with the LGB knowledge, LGB civil right and internalized affirmativeness subscales. It was expected that religious fundamentalism would correlate positively with the hate and religious conflict subscales, and correlate negatively with LGB knowledge, LGB civil right and internalized affirmativeness subscales. Spirituality experiences of participants were also assessed expecting to find that experiences of spirituality would be unrelated to LGB-KASH subscales.

This study surveyed 701 heterosexual identified volunteer participants. Participants represented several major ethnic groups including African-Americans, Latino/a, Asian-Americans, and European Whites. The instruments that were used in the study include: a demographic questionnaire, the LGB-KASH, the Modern Homonegativity Scale (MHS; Morrison & Morrison, 2002), the Religious Fundamentalism Scale (RFS; Altemeyer & Hunsberger, 1992), and FACIT-Spirituality Scale (Peterman, Fitchett, Brady, Hernandez, & Cella, 2002).

A confirmatory factor analysis was conducted with an oblique rotation using AMOS 17.0 to examine the factor structure of the LGB-KASH. Several indexes of fit were computed to assess how well the model fit the data including the chi-square, goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), comparative-fit index (CFI), root-mean-square residual (RMR), incremental fit index (IFI), parsimony comparative fit index (PCFI), and root-mean-square error of approximation (RMSEA). The CFA results indicated that the five factor-oblique model had a mediocre fit, and a comparable fit to the results found by Worthington and colleagues. Seven items with poor fit were identified and deleted from the scale in order to re-specify the five factor model. A CFA was conducted on the revised 21-item scale and results indicated that the model had a good fit. Convergent validity was evidenced as the LGB-KASH subscales scores were correlated in the expected direction to the measures of modern-homonegativity and religious fundamentalism; additionally, LGB-KASH subscales religious conflict and internalized affirmativeness were related to the construct of spiritual well-being. Limitations and implications for future research are discussed.

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CHAPTER I: INTRODUCTION

Lesbian, gay, and bisexual (LGB) issues have been increasingly politicized in the United States with regards to same-sex marriage and adoption rights, health benefits for partners, discrimination rights within one's employment, and anti-violence laws (Rimmerman, 2001, 2008; Rimmerman, Wald, & Wilcox, 2000). For instance, during the 2004 presidential election, the issue of same-sex marriage deluged the media, subsequently leading to a congressional hearing to reexamine the Defense of Marriage Act and to consider a constitutional amendment banning same-sex marriage (National Conference of State Legislatures, 2004). Media coverage of LGB issues, such as the heated and politicized same-sex marriage debate, presents an opportunity for heterosexuals to consider their beliefs and attitudes towards LGB civil rights issues and homosexual lifestyles (Worthington, Savoy, Dillon, & Vernaglia, 2002; Worthington, Dillon, & Becker-Schutte, 2005).

Over the last three decades there has been an increasingly positive trend in attitude and acceptance towards LGB people (Herek, 2000; Sherrill & Yang, 2000; Wilcox & Wolpert, 2000; Yang, 2000). At the same time research findings indicate that there has been an increase in reported violent offenses against LGB individuals (Lacayo, 1998; Skolnik et al., 2008) who are likely to be exposed to harassment, violence, or discrimination in high schools (D'Augelli, Pilkington, & Hershberger, 2002; Kosciw, Diaz, & Greytak, 2007; Herek, 2009; Human Rights Watch, 2001), university campuses (Cotton-Huston & Waite, 2000; D'Augelli, 1992; Herek, 1993, 2002; Hinrichs & Rosenberg, 2002; Rankin, 2003; Rhoades, 1994; Schwartz & Lindley, 2005; Sullivan, 1998; Waldo, 1998), and employment settings (Herek, 2009; Waldo, 1999). Researchers contend that these contradictory findings are indicative of modern-day ambivalent

heterosexual attitudes towards homosexuality (Morrison & Bearden, 2007; Morrison & Morrison, 2002; Morrison, Morrison, & Franklin, 2009; Worthington et al., 2002, 2005). That is, in the past, homosexuality was clearly not accepted because of traditional homonegativity characterized by moral objections (e.g., the belief that homosexuality is a sin). Even though in current times some heterosexuals still openly reject homosexuality based on moral reasons, others are ambivalent about their beliefs, feelings, and acceptance towards homosexuals' lifestyles and civil rights (Morrison & Bearden, 2007; Morrison & Morrison, 2002; Morrison et al., 2009; Worthington et al., 2002, 2005).

A diverse range of life experiences and contextual factors contribute to the development of rejecting and ambivalent attitudes towards LGB individuals, including religious beliefs (Altemeyer & Hunsberger, 2005; Monson & Oliphant, 2007; Worthington et al., 2005), political conservatism (Herek, 2002; Hunsberger, 1996; Laythe, Finkel, & Kirkpatrick, 2001; Olson, Cadge, & Harrison, 2006; Rowatt, LaBouff, Johnson, Froese, & Tsang, 2009), extent of sexual identity exploration (Eliason, 1995; Worthington et al., 2002; Worthington, Savoy, Navarro, & Hampton, 2008), gender socialization (Kilanski, 2003; Kimmel, 1994; Kite & Wiley, 1996; Worthington et al., 2002), and prevalence of homonegativity within one's immediate environment (Bieschke, Perez, & Debord, 2007; Herek, 1995, 2000; Worthington et al., 2002). Attitudes that vary from prejudicial to LGB-affirmative are expected to develop as a result of these influences. Historically, however, research has not considered heterosexuals' positive attitudes towards LGB individuals, but has emphasized homonegative attitudes (Herek, 2000, 2004; Morrison & Bearden, 2007; Parrott, Adams, & Zeichner, 2002; Schwanberg, 1993).

The literature examining attitudes towards LGB individuals has focused on the uni-dimensional constructs of homonegativity and homophobia, which have relatively synonymous meanings that describe negative feelings and attitudes towards LGB individuals (Herek, 2000, 2004; O'Donohue & Casselles, 1993; Rothblum & Bond, 1996; Weinberg, 1972). However, recent research has suggested that heterosexual attitudes towards LGB individuals are multi-dimensional (Worthington et al., 2002; 2005). Worthington et al. (2005) developed the Lesbian, Gay, Bisexual Knowledge and Attitude Scale for Heterosexuals (LGB-KASH), which is comprised of multiple factors. These factors are represented by items that reflect both negative and positive attitudes towards LGB individuals. Worthington and colleagues concluded from confirmatory factor analysis with college students and university staff that their scale consisted of five factors including (a) avoidance, feelings of discomfort, and violence towards LGB people; (b) knowledge of LGB history and symbols; (c) attitudes toward LGB civil rights; (d) conflicted attitudes caused by religious beliefs; and (e) extent of feeling comfortable with attraction to a same-sex individual, having friends who identify as LGB, and willingness to participate in LGB social activism. The authors also assessed the validity of the instrument by examining the relationship of the LGB-KASH subscales scores to several constructs, two of which will be examined in this study: religiosity and traditional homonegativity.

The purposes of this study were to examine the construct validity of the LGB-KASH with a diverse college student population. First, confirmatory factor analysis was conducted to attempt to replicate the factor structure of the instrument found by Worthington and colleagues. Second, the concurrent validity of the instrument was examined by assessing the relationship of students' scores on the LGB-KASH subscales

to their scores on scales assessing modern-homonegativity and religious fundamentalism. These two constructs are expected to be related to several scales of the LGB-KASH because they capture factors that are hypothesized to influence heterosexual attitudes toward LGB populations and issues. Limited research has been conducted with the construct of spiritual well-being and attitudes towards homosexuality. Therefore, this construct was included in the study to explore whether it differed from religious fundamentalism.

Although this study focuses on the assessment of heterosexual attitudes towards LGB individuals, it is first necessary to consider the development of heterosexual attitudes. Therefore, the next chapter, which includes the literature review, provides a description of Worthington and colleagues' model of sexual identity that captures the factors that influence heterosexual attitudes. Understanding the sexual identity model will help in understanding how Worthington and colleagues developed items reflecting heterosexual attitudes and knowledge that comprised the five factors of the LGB-KASH. Subsequently, the description of the LGB-KASH scale will follow, including definitions of the various dimensions and results of factor analysis of scores in the LGB-KASH. Next, two of the constructs that Worthington and colleagues used to validate the scale (traditional-homonegativity and religiosity) and the constructs used in the present study (modern-homonegativity and religious fundamentalism) are presented.

CHAPTER II: LITERATURE REVIEW

This chapter describes constructs that have historically been used to refer to attitudes towards homosexuality. Subsequently, a description of the Worthington et al. (2002, 2005) sexual identity model provides an explanation of individual sexual identity dimensions and social sexual identity dimensions. The sexual identity model provides a framework that helps to explain how Worthington and colleagues conceptualize the development of heterosexual attitudes towards LGB individuals, which is described next. After the discussion of the development of heterosexual attitudes, a description of Worthington and colleagues scale development of the LGB-KASH is provided that includes a description of confirmatory analysis results. Additionally, a discussion of validity findings with the LGB-KASH is provided that includes correlations with homonegative scales and religiosity scales. Finally, the constructs of traditional homonegativity and religiosity used in Worthington and colleagues' study are compared to the constructs of modern homonegativity and religious fundamentalism used in this study.

Historically, constructs that have been used to describe heterosexual attitudes toward LGB populations and issues have included heterosexism, homophobia, and homonegativity. Heterosexism refers to a societal ideology that rests on the belief that heterosexuality is the norm and that privileges or opportunities associated with this lifestyle are entitlements (Herek, 1995, 2000; Worthington, et al., 2002, 2005). Weinberg (1972) coined the term *homophobia* referring to the intense irrational fear and intolerance of being around a gay or lesbian person. Empirical research indicates that heterosexuals' prejudices towards LGB people are not characterized as a phobia in the clinical sense (O'Donohue & Caselles, 1993; Shields & Harriman, 1984). That is, heterosexual

negative attitudes towards sexual minorities are not manifested through physiological reactions such as with other phobias (e.g., claustrophobia, arachnophobia). Instead, homonegativity has been conceptualized as prejudicial attitudes toward and devaluation of homosexuals (Hudson & Ricketts, 1980; Morrison & Morrison, 2002). Worthington et al. (2005) have proposed that heterosexual attitudes toward sexual minorities reflect other dimensions besides sexual prejudices and intolerance. Furthermore, they contend that heterosexual attitudes are one aspect of the person's overall sexual identity.

Sexual Identity and Socialization

In the past, most models of sexual identity development focused on sexual minorities (Cass, 1979; Fassinger & Miller, 1996; Hoffman, 2004; McCarn & Fassinger, 1996; Worthington et al., 2002). Worthington et al. (2002) proposed a model to describe the processes of sexual identity development among heterosexual individuals that could be expanded to include the sexual identity development of LGB individuals. Worthington and colleagues conceptualized sexual identity in terms of two reciprocal components: an individual and a social sexual identity.

The individual aspect of sexual identity includes six dimensions (see Figure 1, Appendix A): (a) sexual needs (desire, impulses), (b) sexual values (judgments, acceptance), (c) preferences for sexual activities (kissing, sexual intercourse), (d) partner characteristics (physical and emotional attributes), (e) sexual orientation identity (personal definition such as heterosexual or lesbian), and (f) modes of sexual preferences (verbal or nonverbal, indirect or direct). The social component of sexual identity is comprised of two dimensions: (a) social membership identity (e.g., recognizing oneself as a member of a heterosexual group) and (b) attitudes towards LGB individuals. Attitudes towards LGB individuals, one of the two dimensions of the social component of sexual

identity, was the focus of this study. People's progression through the individual and social identity processes is believed to be influenced by six biopsychosocial factors: (a) biology (biological predispositions); (b) microsocial context (influence of family, peers, etc.); (c) gender socialization (fitting into expected gender roles); (d) culture (specific to time and place); (e) religious orientation (role of religion); and (f) systemic homonegativity, prejudice, and heterosexual privilege (see Figure 2, Appendix A).

Basing their model on Marcia's (1987) ego identity statuses, Worthington et al. (2002) identified five statuses of individual sexual identity that reflect the extent of a person's exploration and commitment related to the six dimensions of one's individual components of sexual identity (i.e., sexual needs, sexual values, preferences for sexual activities, partner characteristics, sexual orientation identity, and modes of sexual preferences). Three of these statuses—unexplored commitment, active exploration, and diffusion—are equivalent to Marcia's *foreclosure*, *moratorium,* and *diffusion* statuses, respectively.

Worthington and colleagues identified two additional individual statuses named *deepening commitment* and *synthesis*. Deepening commitment, which resembles Marcia's (1987) achieved identity status, is characterized by movement towards commitment to one's identified sexual needs and values, preferences for sexual activities, partner characteristics, and modes of sexual expression, following exploration. However, Worthington and colleagues noted that heterosexuals may transition from unexplored commitment to deepening commitment to heterosexuality without engaging in active exploration. That is, the authors hypothesized that a heterocentrist environment by default fosters the crystallization of a sexual identity that conforms to the dominant-heterosexual culture. Individuals can move from deepening commitment toward three alternative

trajectories: active exploration, diffusion, or synthesis. Achievement of the synthesis status involves integration of the individual and social sexual identity dimensions into one's sense of self. Because the individual and social components of sexual identity are reciprocal, levels of exploration and commitment are expected to influence the dimensions of both components including attitudes toward LGB individuals, which is one of the two dimensions of the social component of sexual identity.

Heterosexual Attitudes Towards LGB Individuals

Worthington et al. (2002, 2005) have identified several contextual factors, such as gender socialization, systemic homonegativity, and religious doctrine that are believed to influence heterosexuals' attitudes towards LGB individuals. A central assumption of the heterosexual identity model is that the dominant discourse defines heterosexual gender role behaviors as normative and homosexual behaviors as deviant. Consequently, messages from the media, family, and community typically portray homosexual lifestyles and behaviors negatively, and individuals who express gender role behaviors that are inconsistent with gender norms often experience discrimination. In other words, the process of traditional gender socialization fosters homonegative attitudes, which serve to preserve the privileged status of heterosexuality.

In a heterocentrist context, self-definition as a heterosexual is primarily based on the rejection of what one is not—a homosexual—rather than in the affirmation of what one is (Worthington et al., 2002, 2005). In order to develop an affirming stance towards LGB individuals, heterosexuals need to explore their own sexuality to form a secure and positive heterosexual identity. Additionally, positive attitudes towards LGB individuals are formed to the extent heterosexuals become knowledgeable about LGB issues and aware of both the prevalence of homonegative messages and the denial of civil rights to

LGB individuals (e.g., history, LGB community). Finally, religious teachings that condemn homosexuality may engender ambivalent attitudes among individuals who recognize the prevalence of homonegativity in the community, but who experience conflict between their acceptance of homosexuals and their adherence to religious beliefs.

According to Worthington et al.'s (2002) model, sexual identity exploration that is outside one's expected norms also influences a heterosexual person's attitudes towards homosexuality partly by helping the person develop comfort in dealing with same-sex attraction feelings, interest and motivation to participate in LGB social activism, and openness to having friends identified as LGB. In the process of sexual identity development, active exploration involves evaluation and experimentation at a cognitive or behavioral level that is related to the dimensions of individual sexual identity (perceived sexual needs, sexual activities, characteristics of partners, sexual values, sexual orientation identity, and preferred modes of sexual expression). In order for sexual active exploration to influence positive attitudes toward homosexuality, the sexual exploration must be meaningful and beyond what is expected within the person's social context such as (a) experimenting with persons outside of one's sexual identity, racial, and socioeconomic group or (b) exploring with different types of sexual activities (Worthington et al., 2002, 2005). Therefore, sexual exploration that exclusively conforms to the norms of one's culture is unlikely to generate positive attitudes towards homosexual identified people or lifestyles. Compared to those who have not engaged in active sexual exploration, heterosexuals who have engaged in cognitive and behavioral sexual exploration beyond expected norms will likely have a stronger sense of self-awareness and security regarding their own sexual identities and a greater understanding of diversity of sexual expression among others (Worthington et al., 2005). Therefore, it is

expected that increased active exploration of the individual's sexual identity will be associated with heterosexuals' attitudes of acceptance of LGB persons and issues.

In sum, Worthington et al. (2002, 2005) proposed that heterosexual attitudes towards LGB individuals encompass the following dimensions: (a) systemic homonegativity; (b) conflicted attitudes towards LGB individuals due to religious beliefs and values; (c) knowledge of LGB history, symbols, and community; (d) attitudes toward LGB civil rights issues; and (e) sexual self-awareness and affirming attitudes of being associated with an LGB individual. They developed a scale, titled the Lesbian, Gay, Bisexual Knowledge and Attitude Scale for Heterosexuals (LGB-KASH), to assess heterosexuals' knowledge of and attitudes toward gay, lesbian, and bisexual individuals and issues in terms of these five dimensions. The next section provides a brief overview of the development of the LGB-KASH.

LGB-KASH

The LGB-KASH is a multi-factorial scale that assesses knowledge and attitudes toward LGB individuals in domains that have not been captured in previous measures, including religious conflicted attitudes, knowledge of LGB symbols and history, sense of comfort with one's sexuality, willingness to participate in LGB social activism, and violent homonegativity. Typically, scales have assessed heterosexual attitudes toward sexual minorities uni-dimensionally, ranging from condemnation to tolerance of LGB individuals (Herek, 1994; Worthington et al., 2002). In several studies, Worthington and colleagues examined the factor structure (via exploratory and confirmatory factor analysis) and validity of the LGB-KASH with primarily White college students from several Midwestern universities. Their analysis indicated that the scale is comprised of five factors that are consistent with their theoretical model.

Presently, the only published research examining the LGB-KASH's factor structure and validity are the studies Worthington et al. (2005) conducted as part of the scale's development. Exploratory factor analysis of the LGB-KASH yielded five factors that reflect to an extent components of Worthington and colleagues sexual identity development model. These five factors were labeled Hate, LGB Knowledge, LGB Civil Rights, Religious Conflict, and Internalized Affirmativeness (see Figure 3, Appendix A). Hate refers to attitudes about avoidance, self-consciousness, hatred, and violence toward LGB individuals shaped by systemic homonegative experiences. LGB knowledge reflects an individual's knowledge base regarding the history, symbols, and organizations related to the LGB community. LGB civil rights capture beliefs about the rights of LGB individuals with respect to issues such as same-sex marriage, child rearing, health care, and insurance benefits. Religious conflict refers to conflicted beliefs and ambivalent attitudes towards LGB individuals due to religious beliefs. Internalized affirmativeness captures self-awareness, comfort with having an LGB friend or feeling attracted to someone of the same sex, and a willingness to engage in LGB proactive social activism.

Results of a confirmatory factor analysis with the LGB-KASH in a subsequent study indicated that the five-factor oblique model and the second-order model evidenced a mediocre fit with the data. The second-order model, however, did not improve the fit over the five-factor oblique model. Worthington and colleagues (2005) examined the factor structure and validity of the LGB-KASH, which included primarily (85%) European White college students and adults recruited through the web. A unique aspect of the present study is that an ethnically diverse group of college students were sampled to examine factor structure and validity of the LGB-KASH, replicating Worthington et al.'s findings. Therefore, in this study, a confirmatory factor analysis was conducted to

examine whether the factor structure of the LGB-KASH would replicate with an ethnically diverse group of college students.

Validity of the LGB-KASH

To assess the convergent and concurrent validity of the scale, Worthington et al. (2005) examined the relationship of the LGB-KASH subscales to several, two of which will be examined in this study: religiosity and traditional-homonegativity. These two constructs both have limitations that provide a rationale for using new constructs in this study's validity assessment of the LGB-KASH scale. Even though findings provided evidence for the validity of the LGB-KASH subscales, there are some limitations with the measurement of traditional homonegativity and religiosity used by Worthington et al. that will be discussed in the following subsection. In addition, an overview of the corresponding constructs of modern-homonegativity and religious fundamentalism will be discussed as appropriate variables to assess the validity of the LGB-KASH subscales.

Traditional homonegativity. Worthington et al. (2005) examined the relation of the LGB-KASH subscales to a measure that assessed attitudes towards LGB individuals called the Attitudes Towards Lesbians and Gays (ATLG; Herek, 1984). They found that the ATLG was moderately associated with the LGB-KASH subscales. However, the ATLG assesses traditional homonegative attitudes that may have changed over the last couple of decades in the United States because of the politicalization of homosexuality (Tucker & Potocky-Tripodi, 2006; Herek, 1994; Morrison & Bearden, 2007; Morrison & Morrison, 2002; Morrison et al., 2009). The construct of traditional homonegativity is constrained because it characterizes attitudes and feelings that are founded primarily on biblically-based moral objections and stereotypes of homosexual people and their lifestyles (Herek, 1984; 1994, 2000; Morrison & Morrison, 2002; Morrison et al., in

press; Morrison, Parriag, & Morrison, 1999; Worthington et al., 2005). Although traditional homonegativity demonstrates moderate association with factors of the LGB-KASH, its' definition does not capture the increasingly prevalent modern day heterosexual attitudes towards LGB individuals (Tucker & Potocky-Tripodi, 2006; Herek, 1994; Morrison & Bearden, 2007; Morrison & Morrison, 2002; Morrison et al., 2009; Worthington et al., 2005).

Current-day homonegativity is characterized by people believing LGB individuals are inappropriately asking for benefits and rights (Herek, 1994; Morrison & Morrison, 2002; Morrison, Morrison, & Franklin, in press). Additionally, modern-day prejudices are comprised of ambivalent attitudes, rather than strict biblically-based moral objections about homosexual people and lifestyles (Morrison & Morrison, 2002; Morrison et al., 2009; Raja & Stokes, 1998). Herek (1984) has noted that because the ATLG was validated in 1984, it requires either modification or replacement by a more modern instrument that reflects the complexity of current heterosexual attitudes. Over the last couple of decades the ATLG has been widely used, with results indicating that college students have increasingly responded with higher tolerance, which could reflect an increased acceptance of LGB individuals (Altemeyer, 2001; Mohipp & Morry, 2004; Schellenberg, Hirt, & Sears, 1999; Simoni, 1996; Waldo & Kemp, 1997). Scholars contend that individuals may respond with lower levels of homonegativity on the ATLG measure because they are responding to items that reflect outdated prejudices against homosexuality (Herek, 1994; Morrison & Morrison, 2002; Worthington et al., 2005). Items on the ATLG reflect an old-fashioned prejudice against gay men and lesbians based on traditional religious moral beliefs and misconceptions about homosexuality (e.g., "Male homosexuality is a perversion," "The growing number of lesbians indicates a

decline in American morals"). Furthermore, research suggests that college students in universities located in major metropolitan cities may be less likely to hold traditional homonegative attitudes (Herek & Glunt, 1993; Oswald & Culton, 2003). Because the present study sampled college students from a college campus located in a major metropolitan area, a scale that captures modern-day attitudes towards LGB individuals is better suited for this study.

Modern homonegativity. Morrison and Morrison (2002) indicate that modern homonegative attitudes do not focus exclusively on moral objections (e.g., the belief that gays and lesbians are immoral) such as those measured by the ATLG. Rather, they argued, present-day prejudices against sexual minorities are captured in the beliefs that LGB individuals make unreasonable demands for civil rights, that discrimination against LGB individuals is a practice of the past, and that LGB people cause their marginalization by exaggerating their sexual orientation (Morrison & Morrison, 2002; Morrison et al., 2009). To assess these prejudices, Morrison and colleagues developed the Modern Homonegativity Scale. Worthington and colleagues found that endorsement of traditional-homonegativity, as previously noted, was related to the LGB-KASH subscales in the expected direction (e.g., higher traditional-homonegativity positively correlated with the Hate LGB-KASH subscale). Therefore, individuals who endorse modern homonegativity are expected to score high on the LGB-KASH subscales that assess avoidance of LGB individuals, negative attitudes towards LGB human rights issues, and ambivalent attitudes caused from religious conflicted beliefs. Additionally, individuals endorsing higher levels of modern homonegativity are expected to endorse lower levels of LGB-affirmative attitudes, which include (a) knowledge of LGB symbols and history,

(b) attitudes toward LGB civil rights issues, and (c) feeling comfortable with same-sex attraction and exploring sexuality with same-sex people.

Religiosity. Religiosity is another construct that has been used to assess the validity of the LGB-KASH. Present research has focused on the construct of religiosity that typically comprises religious affiliation, commitment to religious faith, religious attendance, and religious fundamentalism (Altemeyer & Hunsberger, 1992; Finlay & Walther, 2003; Olson et al., 2006; Rowatt et al., 2009; Schulte & Battle, 2004). Worthington et al. (2005) assessed religiosity with three items: religious affiliation, frequency of religious attendance, influence of religious values in one's life, and the importance of religion/spirituality. Two studies by Worthington and colleagues that examined the relation of religiosity to the LGB-KASH scales yielded inconsistent findings. In one study higher levels of religiosity were related to most of the LGB-KASH subscales in the expected direction, while on the other study higher levels of religiosity were related to only one LGB-KASH subscale. To explain the discrepancy, the authors suggested that the measure of religiosity used in their studies may have been problematic because items combined the constructs of religion and spirituality, which have distinct meanings (Hall, Tisdale, & Brokaw, 1994; Hill & Hood, 1999; Hill et al., 2000; Worthington et al., 2005). Worthington et al. (2005) study conceptualized religiosity in terms of three items (computed as one score) including influence of religious values, frequency of religious (church) attendance, and importance of religion/spirituality.

Hill et al. (2000) indicated that religion refers to the traditions or practices of an institution (organized churches) whereas spirituality is defined as a personal transcendence or spiritual meaningfulness (personal experience). They suggested that it is possible for a person to be spiritual without attending an organized church. In fact,

researchers described spiritual well-being as a sense of meaning in life, harmony, peacefulness, and sense of drawing strength from one's faith (Canada, Murphy, Fitchell, Peterman, & Schover, 2008; Hill et al., 2000; Peterman, Fitchett, Brady, Hernandez, & Cella, 2002). Presently, researchers interested in understanding heterosexual attitudes towards LGB individuals have focused on religiosity because it is believed that religious socialization processes influence attitudes towards LGB individuals (Altemeyer & Hunsberger, 1996; Worthington et al., 2002). However, Worthington and colleagues' measure of religiosity did not clearly capture individuals' religious socialization experiences.

Religious fundamentalism. Worthington et al. (2005) note that many organized religions socialize their members to believe that homosexuality is morally wrong. Therefore, it is possible that adherence to an organized religion will be more strongly related to heterosexuals' attitudes toward LGB populations than spirituality. A widely used religiosity construct examined in the context of heterosexual attitudes toward LGB individuals has been religious fundamentalism (Hinrichs & Rosenberg, 2002; Hunsberger, 1996; Laythe et al., 2001; Schwartz & Lindley, 2005; Wilson & Huff, 2001). Religious fundamentalism (RF), which refers to the belief that there is one set of religious teachings that contain the inherent truth about humanity and God (Altemeyer & Hunsberger, 2005), has been found to be a major predictor of homonegativity and negative attitudes towards LGB civil rights issues (Altemeyer & Hunsberger, 2005; Hinrichs & Rosenberg, 2002; Hunsberger, 1996; Johnson, Brems, & Alford-Keating, 1997; Schwartz & Lindley, 2005). Religious fundamentalism does not refer to any one religion, but is applicable to all religions (Altemeyer & Hunsberger, 2005; Hunsberger, 1996). Indeed, the term fundamentalism does not refer to a particular set of doctrines, but

refers to attitudes about particular beliefs that may be represented as tenets of Christianity, Islam, Judaism, or Hinduism (Altemeyer & Hunsberger, 2005). Because the official teachings of most religions reject homosexuality, it is reasonable to expect that increased religious fundamentalism related to any religion will be positively related to scores on the LGB-KASH Hate and Religious Conflict subscales and will be negatively related to scores on the LGB Civil Rights and Internalized Affirmativeness subscales.

Summary

Heterosexual attitudes towards LGB individuals are one dimension of Worthington and colleagues' sexual identity model. Worthington et al. (2002) described a sexual identity model comprised of two reciprocal processes, individual and social sexual identity. An individual's sexual identity is comprised of six dimensions (perceived sexual needs, preferences for sexual activities, preferred characteristics of partner, sexual values, recognition and identification of sexual orientation identity, and modes of sexual preferences), that interact with the two social identity dimensions (group membership identity, heterosexual attitudes toward homosexuality). At the same time, biopsychosocial factors (systemic homonegativity, sexual identity exploration, gender socialization, religious orientation) influence the sexual identity processes at the individual and social levels. This study focused on the social identity dimension of heterosexual attitudes towards LGB individuals.

Worthington and colleagues utilized the constructs of traditional-homonegativity and religiosity to examine the validity of the LGB-KASH. These two constructs have a couple of limitations. First, traditional-homonegativity refers to people's attitudes that are primarily based on moral objections and stereotypes of homosexuality that do not characterize modern-day prejudices towards LGB individuals (Morrison & Morrison,

2002; Morrison et al., in press). In this study, the construct of modern-homonegativity will be used to assess the validity of the LGB-KASH subscales. Modern homonegativity refers to ambivalent attitudes heterosexual people have towards both LGB civil rights issues (e.g., believing gay and lesbians are asking for rights they already have) and homosexual people and lifestyles (Morrison & Morrison, 2002; Morrison et al., in press). In this study, the uni-dimensional construct of religious fundamentalism (degree of adherence to the belief that there is one inherent truth and one God) was used to assess the validity of the LGB-KASH subscales. Several studies have examined the relationship between religious fundamentalism to homonegativity (Altemeyer & Hunsberger, 1992, 2005; Duck & Hunsberger, 1999; Hunsberg, 1996; Laythe et al., 2001; McFarland, 1989; Schwartz & Lindley, 2005).

Worthington and colleagues assessed religiosity with three items that combined questions about religiosity and spirituality. In two studies they found inconsistent results regarding the relation of religiosity in the LGB-KASH subscales. They concluded that their measure of religiosity that combined spirituality and religion may explain their inconsistent findings. Hill et al. (2000) indicated that religion characterizes traditions while spirituality characterizes personal experiences. Thus, because religiosity was represented by these two constructs, participants responded unreliably. The construct of spiritual well-being, or extent a person experiences peace and meaning of life (Peterman et al., 2002), was included in this study to examine differences between constructs of religion and spirituality.

The purpose of this study was to examine the construct validity of the LGB-KASH with a diverse group of college students. Next, the specific research questions and hypotheses examined in the study are described.

Research Questions and Hypotheses

Research question 1: What is the stability of the five-factor structure of the LGB-KASH with a racially diverse college sample?

- *1*: Confirmatory factor analysis will confirm that an oblique five-factor structure provides a good fit for the LGB-KASH item scores, and findings will be comparable to results reported by Worthington and colleagues.

Research question 2. What is the relationship between modern-homonegativity (MH) and the LGB-KASH subscales?

- *2a*: Higher levels of MH will be related to a higher Hate subscale score.
- *2b*: Higher levels of MH will be related to a higher Religious Conflict subscale score.
- *2c:* Higher levels of MH will be related to a lower LGB Knowledge subscale score.
- *2d*: Higher levels of MH will be related to a lower LGB Civil Rights subscale score.
- 2d: Higher levels of MH will be related to a lower Internalized Affirmativeness subscale score.

Research question 3. What is the relationship between Religious Fundamentalism (RF) and the LGB-KASH subscales?

- *3a*: Higher levels of RF will be related to a higher Hate subscale score.
- *3b*: Higher levels of RF will be related to a higher Religious Conflict subscale score.
- *3c*: Higher levels of RF will be related to a lower LGB Knowledge subscale score.

- *3d*: Higher levels of RF will be related to a lower LGB Civil Right subscale score.
- *3e*: Higher levels of RF will be related to a lower Internalized Affirmativeness subscale score.

CHAPTER III: METHOD

Participants

Tabachnick and Fidell (2007) indicate that confirmatory factor analysis techniques require a large sample size, suggesting the best practice is to use a 15:1 (participant to variable) ratio. Because the LGB-KASH consists of 28 items, the goal for the current study was to survey over 450 undergraduate students. Only participants who identified as heterosexual were included in the data analysis, given that the LGB-KASH was developed and validated on heterosexual participants. The author, however, collected data from participants of all sexual orientations.

This study sampled a total of 764 undergraduate participants from the University of Houston. Forty-nine cases were deleted because of missing data, including sexual orientation. Fourteen cases were not included in the analyses because participants identified sexual orientation as bisexual, gay, lesbian, or other. After screening the data, there were a total of 701 heterosexual identified participants, including 567 women (80.9%) and 134 men (19.1%). Ages ranged from 18 years to 59 years (M = 22.55, Mdn = 21, SD = 4.92). Demographic variable information is presented in Table 1. The major American racial groups were well represented in the sample, which included roughly equivalent percentages of Blacks Non-Hispanic, Latino/a, Asian / Pacific Islander, and European White students. The majority of the students were sophomores, juniors and seniors. The largest percentage of students categorized their major area of study as Liberal Arts (51.9%). Additionally, participants in this sample generally identified as being “In a committed relationship” (43.2%) or “Single” (34.7%). Participants represented all three political orientation types with Moderate (43.1%) comprising the majority. The majority of the sample identified their religious faith as Christian (n = 516,

73.6%) while the remaining religious faiths were matched more closely to one another. Participants in this sample were well distributed across the frequency of church attendance groups that ranged from never attending to attending once a week or more. Finally, most of the participants who reported Christianity as their faith identified themselves as Non-Denominational Christian (22.4%), Baptist (19.2%), or Catholic (40.1%).

Table 1

Frequencies of Demographic Variables Categorized by Number of Males, Females, and Total Percent for Variable

Demographic Variable	Male (*n* = 134)	Female (*n* = 567)	Total in %
Race			
Blacks Non-Hispanic	28	121	21.4%
Asian/ Pacific Islander	39	91	18.7%
Latino/a	18	156	25.0%
European Whites	35	148	26.3%
Middle Eastern	5	21	3.7%
American Indian	2	4	0.9%
Biracial	6	15	3.0%
Educational Level			
Freshmen	16	44	9.0%
Sophomore	33	127	22.9%
Junior	51	223	39.3%
Senior	33	162	27.9%
Area of Study			
Liberal Arts/ Humanities	53	311	53.3%
Education	11	101	16.4%
Sciences	48	101	21.8%
Performing Arts	2	8	1.5%
Business Economics	13	10	3.3%
Undeclared	4	20	3.5%

(table continues)

Relationship Status			
Partnership/ Married	9	50	8.5%
Single	56	187	35.0%
In a committed relationship	50	253	43.7%
Never been married/ Dating	17	59	11.0%
Separated/ Divorced	1	11	1.7%
Political Orientation			
Conservative	32	129	31.7%
Moderate	55	247	44.1%
Liberal	43	179	23.5%
Frequency of Church Attendance			
Never Attended	22	78	14.3%
1 to 3 times per year	30	138	24.0%
1 to 3 times per months	16	68	12.0%
Once a month	12	34	6.6%
1 to 3 times per month	16	102	16.9%
Once a week or greater	38	145	26.2%
Religious Affiliation			
Christianity	89	427	74.6%
Islam	6	29	5.1%
Judaism	1	9	1.4%
Hinduism	4	7	1.6%
Atheist	7	13	2.9%
Agnostic	10	25	5.1%
Spiritual but no religious beliefs	9	30	5.6%
Buddhism	8	17	3.6%
Christian Faith Type			
Non-denomination Christian	22	90	22.4%
Baptist	20	76	19.2%
Catholic	32	169	40.1%
Methodist	3	25	5.6%
Other*	7	57	12.8%

Note. *Christian Faith Type "Other" = Protestant, Episcopalian / Anglican, Pentecostal, Seventh-Day Adventist, Evangelican, Lutheran, Jehovah's Witness, Presbyterian, Greek Orthodox/ Orthodox, Assembly of God, Mormon/ Latter-Day Saint, Church of Christ, Nazarene

Instruments

The Lesbian, Gay, Bisexual Knowledge and Attitude Scale for Heterosexuals (LGB-KASH; Worthington et al., 2005; see Appendix A) used in this study assessed heterosexual attitudes towards LGB individuals. The scale consists of 28 items, each rated on a 6-point Likert rating scale (1 = *very uncharacteristic of my views* to 6 = *very characteristic of my views*). The scale is comprised of five factors including hate, LGB knowledge, LGB civil rights attitudes, religious conflict, and LGB affirmative attitudes. Hate represents violent homonegativity and homophobic intolerance (e.g., "It is important for me to avoid LGB individuals," "LGB people deserve the hatred they receive"). LGB knowledge reflects the extent of basic knowledge a person has about the history, symbols, and organizations related to the LGB community (e.g., "I am knowledgeable about the history and mission of the PFLAG organization," "I could educate others about the history and symbolism behind the pink triangle"). LGB civil rights reflects attitudes and beliefs about the civil rights of LGB individuals with respect to marriage, child rearing, health care, and insurance benefits (e.g., "Health benefits should be available equally to same-sex partners as to any other couple," "I think marriage should be legal for same-sex couples"). Religious conflict refers to individuals' conflicted attitudes and ambivalent homonegativity towards LGB individuals caused by religious beliefs ("I conceal my negative views toward LGB people when I am with someone who doesn't share my views," "I keep my religious views to myself in order to accept LGB people"). Internalized affirmativeness refers to the degree of comfort of having sexual feelings towards a same-sex individual, a willingness to engage in proactive social activism, and comfortableness of having a friend who identifies as LGB (e.g., "I have had sexual fantasies about members of my same sex," "I would display a

symbol of gay pride pink triangle, rainbow, etc. to show my support of the LGB community," "I have close friends who are LGB"). Scores on the LGB-KASH subscales have evidenced high internal consistency (Cronbach's alpha estimates ranging from .73 to .88), and a 2-week test-retest reliability (ranging from .76 to .90).

Several validity analyses were conducted with the LGB-KASH (Worthington et al., 2005). Convergent validity analyses indicate that participants' who (a) hold scores that reflect high levels of tolerance towards bisexuality, and who also (b) indicate that bisexuality is a stable sexual identity that had lower hate and religious conflict subscale scores. Additionally, participants' scores indicating higher tolerance and that bisexuality is a stable identity were related to higher LGB knowledge, LGB civil rights, and internalized affirmativeness subscale scores. Construct validity analyses indicated that compared to heterosexual identified participants, LGB individuals were more likely to have lower scores in the hate and religious conflict subscales, and higher scores in the LGB knowledge, LGB civil right, and internalized affirmativeness subscales. Worthington et al. (2005) also used social dominant orientation scale (SDO) to assess the LGB-KASH's construct validity. Social dominant orientation refers to the extent to which people hold rigid attitudes towards laws and support the dominance of subordinate groups by superior groups. Findings indicated that SDO was related to the LGB-KASH subscales in the expected direction. That is, higher scores on the SDO were related to higher hate and religious conflict subscale scores and lower LGB knowledge, LGB civil rights, and internalized affirmation subscale scores. Finally, Worthington et al. (2005) found that sexual identity exploration was related to increase internalized affirmativeness, LGB knowledge, and LGB civil rights attitude subscale scores.

Modern Homonegativity Scale (MHS; Morrison & Morrison, 2002; see Appendix B). Items in this instrument describe ambivalent beliefs and attitudes toward LGB civil rights and willingness to advocate for LGB causes as well as avoidance and dislike of LGB individuals. The MHS is a 12-item scale that exists in two parallel forms, one measuring modern prejudicial attitudes toward gay men (MHS – G; Attitudes Towards Gay men form), and the other focusing on modern prejudicial attitudes toward lesbian women (MHS – L; Attitudes Towards Lesbians form). Two parallel forms have been developed for gender because research suggests men hold more negative attitudes towards gay men than lesbians, while women hold more negative attitudes towards lesbians than gay men (Cuenot & Fugita, 1982; Herek, 1988; Louderback & Whitley, 1992; Whitley, 1988).

Thus, both forms have identical written language for each item except one form asks participants to rate attitudes towards "Lesbians" (MHS – L) and the other form asks participants to rate attitudes towards "Gay men" (MHS – G), otherwise, the language for items on each form has not been modified. Items are rated on a five-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*), with total scores ranging from 12 to 60. Greater scores refer to higher levels of homonegativity. Morrison et al. (2009) conducted a confirmatory factor analysis of the scale scores and concluded that the MHS is a uni-factorial scale. Examples of items include "Many lesbians / gay men use their sexual orientation so that they can obtain special privileges," "The notion of universities providing students with undergraduate degrees in Gay and Lesbian Studies is ridiculous," and "If lesbians / gay men want to be treated like everyone else, then they need to stop making such a fuss about their sexuality/culture."

Morrison and Morrison (2002) reported high internal consistency for the scales' scores with college students; alpha coefficients for male and females were .91 and .92, respectively. Construct validity analysis have indicated the MHS is correlated in the expected direction with political conservatism, attitudes toward LGB civil rights, and religious attendance. A factor analysis conducted on the MHS and ATLG indicated that items on the MHS loaded as one distinct factor reflecting modern homonegativity, and items on the ATLG loaded as one factor reflecting traditional homonegativity. In an experimental study, Morrison and Morrison (2002) found that participants who had higher MHS scores were less likely to sit beside an overtly identified gay confederate. Finally, this scale does not evidence social desirability responding.

Religious Fundamentalism Scale. (RFS; Altemeyer & Hunsberger, 1992, see Appendix C). The RFS is a uni-dimensional scale that assesses the extent of adherence to a strict religious doctrine regarding the existence of only one inherent truth and one God. The RFS is a 20-item scale with items rated on a nine-point Likert scale (– 4 = *very strongly disagree* to + 4 = *very strongly agree*). Higher scores on the RFS indicate higher levels of fundamentalism. Example of items include "There is a religion on this earth that teaches, without error, God's truth," "To lead the best, most meaningful life, one must belong to the one, true religion," "Different religious and philosophies have different versions of the truth, and may be equally right in their own way [reversed scored]." Hunsberger (1996) reported high internal coefficients across samples of four religious groups of adults, Hindu (α = .91), Muslim (α = .94), Judaism (α = .85), and Christian (α = .92).

Altemeyer and Hunsberger (1992) found that among college students, higher scores on the RFS were positively correlated with frequency of church attendance, *r* =

.65, and with frequency of reported scripture reading outside of church, $r = .51$. Furthermore, they found participants who had no religious affiliations had lower RFS scores compared to other religious groups, and Baptists and Mennonites scored the highest. Scores on the RFS have been positively correlated with attitudes that reflect authoritarian conservative beliefs such as that one should obey authority, uphold traditional ways, and silence troublemakers when it is necessary (Altemeyer & Hunsberger, 1992). Higher scores on the RFS have also been found to be positively related to homophobia (Hunsberger, 1996; Laythe et al., 2001; Schwartz & Lindley, 2005).

Functional Assessment of Chronic Illness Therapy-Spirituality Scale. (FACIT-Sp; Peterman et al., 2002; see Appendix D). This 11-item scale measures spiritual components of quality of life. Items reflect a sense of meaning of life, harmony, peacefulness, and sense of drawing strength and comfort from one's faith. This scale was originally validated with chronically ill patients (Peterman et al., 2002). Furthermore, the spirituality scale has been validated with an ethnically diverse population (Lewis, 2008). Although this scale has been used widely with individuals who are physically ill, items reflect spiritual well-being that are applicable to college students. Additionally, authors suggest that the FACIT-Sp is a good choice to assess spirituality across a range of religious traditions and for individuals who identify as spiritual but not religious. One item was deleted for the purpose of this study because it was not deemed relevant to a general population of college students ("I know that whatever happens with my illness, things will be okay"). The original factor analyses of the scale support two correlated factors: Meaning/Peace and Faith. Examples of items for the Meaning/Peace subscale include "I have reason for living," "My life has been productive," "I feel peaceful," and

"I feel a sense of harmony in myself." Items for the Faith subscale include "I find comfort in my faith" and "I find strength in my faith." This instrument can be scored in terms of the two subscales or a total score. In this study a total score was computed that characterized a person's level of spiritual well-being.

Procedure

Participants were recruited through the University of Houston SONA system. The SONA system is a web-based system that allows undergraduate students to volunteer for studies that are offered within the university system. Students signed up via SONA and received credit in their relevant courses for research participation. A brief explanation of this study was provided, and students were asked for their informed consent. Next, they were asked to complete a demographic questionnaire and four scales including the LGB-KASH, MHS, RFS, and SWBS. Male and female participants completed both forms of the MHS, which asked participants to rate attitudes towards gay men and lesbians separately. Thus, men and women answered the same items for the MHS. A limitation of Internet-based data collection is the possibility that participants can submit completed surveys more than once, and that Internet-based data collection is susceptible to malicious or random responding. The SONA system, however, allows students to complete the surveys for this particular study only one time, which eliminates the risk of multiple responses.

CHAPTER IV: RESULTS

Descriptive Statistics

In order to compare the general level of responses in this study to those given by Worthington and colleagues the LGB-KASH items were analyzed to find their means and standard deviations. Table 2 includes the means and standard deviations for the LGB-KASH items found in this study and in the Worthington et al. study (2005). Of note, means and standard deviations originate from Worthington and colleagues' first study of five total studies which consisted of an exploratory factor analysis. They conducted a confirmatory factor analysis in their second study with a separate sample, but did not report the scale items' means and standard deviations. Next a confirmatory factor analysis was conducted on the present data to examine the factor structure of the LGB-KASH with a diverse group of college students.

Table 2

LGB-KASH Item Means and Standard Deviations for Present Study and Worthington et al. Study

		Present Study Findings $N = 701$		Worthington et al. Findings $N = 598$	
		M	*SD*	*M*	*SD*
1.	I feel qualified to educate others about how to be affirmative regarding LGB issues.	2.37	1.16	3.09	1.81
2.	I have conflicting attitudes or beliefs about LGB people.	2.55	1.31	3.25	2.05
3.	I can accept LGB people even though I condemn their behavior.	3.21	1.50	3.54	2.29
4.	It is important to me to avoid LGB individuals.	1.55	.93	1.82	1.37
5.	I could educate others about the history and symbolism behind the "pink triangle."	1.67	1.07	1.86	1.48
6.	I have close friends who are LGB.	3.27	1.51	3.76	2.42
7.	I have difficulty reconciling my religious views with my interest in being accepting of LGB people.	2.23	1.28	2.28	1.83
8.	I would be unsure what to do or say if I met someone who is openly lesbian, gay or bisexual.	1.63	1.01	2.12	1.57
9.	Hearing about a hate crime against a LGB person would not bother me.	1.65	1.11	1.89	1.53

(table continues)

10. I am knowledgeable about the significance of the Stonewall Riot to the Gay Liberation Movement.	1.81	1.14	1.97	1.67
11. I think marriage should be legal for same sex couples.	3.21	1.64	4.37	2.41
12. I keep my religious views to myself in order to accept LGB people.	2.65	1.33	2.77	1.97
13. I conceal my negative views toward LGB people when I am with someone who doesn't share my views.	2.36	1.28	2.71	1.96
14. I sometimes think about being violent toward LGB people.	1.22	.67	1.32	1.02
15. Feeling attracted to another person of the same sex would not make me uncomfortable.	2.53	1.51	3.27	2.22
16. I am familiar with the work of the National Gay and Lesbian Task Force.	1.76	1.09	2.12	1.70
17. I would display a symbol of gay pride (pink triangle, rainbow, etc.) to show my support of the LBG community.	2.02	1.29	2.33	1.92
18. I would feel self-conscious greeting a known LGB person in a public place.	1.73	1.09	2.27	1.74
19. I have had sexual fantasies about members of my same sex.	1.88	1.31	2.44	2.07
20. I am knowledgeable about the history and mission of the PFLAG organization.	1.51	.92	1.70	1.46
21. I would attend a demonstration to promote LGB civil rights.	2.40	1.42	3.74	2.23
22. I try not to let my negative beliefs about LGB people harm my relationships with lesbian, gay, or bisexual individuals.	3.20	1.55	3.74	2.23
23. Hospitals should acknowledge same sex partners equally to any other next of kin.	4.01	1.34	5.38	1.98
24. LGB people deserve the hatred they receive.	1.33	.86	1.47	1.19
25. It is important to teach children positive attitudes toward LGB people.	3.73	1.36	4.90	2.11
26. I conceal my positive attitudes toward LGB people when I am with someone who is homophobic.	2.16	1.20	2.52	1.74
27. Health benefits should be available equally to same sex partners as to any other couple.	4.06	1.35	5.36	2.10
28. It is wrong for courts to make child custody decisions based on a parent's sexual orientation.	3.83	1.43	4.79	2.27

Confirmatory Factor Analysis

Confirmatory factor analysis was used to determine if a five-factor oblique factor structure provides a good fit for the LGB-KASH and to examine to what extent the indexes of fit are similar to those reported by Worthington and colleagues. This section considers the three types of models fitted in the present study that parallel the models fit by Worthington and colleagues, including the five-factor oblique model, the second-order five-factor model, and the independence model. The five-factor oblique model allows the LGB-KASH subscales are allowed to correlate with each other. The second-order model

is one in which one or more latent variables have indicators which are also latent variables. The independence model, or null model, assumes zero population covariances among the latent variables. In this study the five-factor oblique model that was fit consisted of the five correlated latent variables (Hate, LGB Knowledge, LGB Civil Rights, Religious Conflict, Internalized Affirmativeness). The second order model that was fitted in the present study consisted of one latent variable (heterosexual attitudes) that had five indicator latent variables (Hate, LGB Knowledge, LGB Civil Rights, Religious Conflict, Internalized Affirmativeness). The independence model consisted of the latent variable (Heterosexual Attitudes) with 28 indicator variables (i.e., LGB-KASH items).

Thus, a confirmatory factor analysis was conducted on the 28 items of the LGB-KASH with the AMOS 17.0 computer program. Comparisons were made between the five-factor oblique model, a second-order model, and an independence model to ascertain the best possible fit for the data. Identifying the best model is achieved by examining several indexes that assess the degree to which the model fits the data. The chi-square is a commonly provided index of fit and it is preferred that this statistic not be significant. Improvement in fit is measured by a reduction in chi square making the chi-square fit index less likely to be significant. Finding significance equates to rejecting the model as one model is not fitting the data. The modification index reflects the predicted decrease in chi-square if a parameter is removed from the model. Literature, however, indicates this statistic is sensitive to large sample sizes and therefore the chi-square will tend to be significant even though in cases where the model fits the data reasonably well (Byrne, 2001). Bryant and Yarnold (1995) noted that the chi-square is sensitive to models with numerous variables and high degrees of freedom resulting in a significant finding as well.

Several alternative indexes of fit have been suggested as adjuncts to the chi-square statistic, including the χ^2/df ratio (values < 3 recommended for good model fit; Schumacker & Lomax, 2004), goodness-of-fit index (GFI; values > .90 indicate a good model fit; Kline, 2005), comparative fit index (CFI; values ≥ .93 indicate a well-fitting model; Byrne, 1994), adjusted goodness-of-fit index (AGFI; values > .80 indicates good model fit; Schumacker & Lomax, 2004), root-mean-square residual (RMR; values closer to 0 or < .05 indicate good model fit; Kline, 2005), incremental fit index (IFI; values > .90 indicates good model fit; Hu & Bentler, 1999), parsimony comparative fit index (PCFI; values > .80 accompanied by goodness-of-fit indexes above .90, Byrne, 1994), and root-mean-square error of approximation (RMSEA) for which values are categorized as follows: ≤ .06 indicate close fit / good fit, .06 – .08 indicate fair fit, .08 – .10 indicate mediocre fit, and > .10 indicate poor fit (Byrne, 2001; Hu & Bentler, 1999).

Goodness-of-fit indicators for the competing hypothetical models for the 28-item LGB-KASH are shown in Table 3. Table 3 also presents Worthington and colleagues published indexes of fit for their five-factor oblique model. As expected, the chi-square statistics for all three competing models were significant. Alternative fit indexes indicated there was a mediocre degree of fit for the five-factor oblique model and the second-order model. However, the second-order model did provide an improvement over the first-order five-factor oblique model. Of note, the five-factor oblique model in this study fit the data comparably to Worthington and colleagues' model fit. In fact, three indices of fit, GFI, AGFI, and RMR were indicative of a better fit for this study's five-factor model than Worthington and colleagues' model. The results for the five-factor model indicated that the IFI and CFI did not reach recommended values, but the PCFI, AGFI, RMR, and RMSEA indicated reasonable fit. The GFI did not reach the

recommended value but was the highest value among indices for the five-factor oblique model. Additionally, the RMSEA was below .08 which represents reasonable errors of approximation in the population. Finally, maximum likelihood estimates for indicator variables for the five-factor model and second-order model are presented in Appendix F Tables 1 and 2, respectively (see Appendix F).

Table 3

Goodness-of-Fit Indicators for the Competing Hypothetical Models and Worthington et al.'s Model for the 28-Item LGB-KASH

Model	χ^2	*df*	*p*	$\chi 2/df$	GFI	AGFI	RMR	IFI	CFI	PCFI	RMSEA
Independence	6764.61	378	.00	17.90	.40	.35	.37	.00	.00	.00	.16
Second order	1613.02	345	.00	4.68	.84	.81	.14	.80	.80	.73	.07
Five-factor oblique	1374.99	340	.00	4.04	.87	.84	.13	.84	.84	.75	.07
Worthington et al.'s five-factor oblique	1325.52	340	ns	3.90	.84	.81	.21	.85	Not reported	.76	.07

Note. N = 701; LGB-KASH = Lesbian, Gay, Bisexual Knowledge and Attitude Scale for Heterosexuals; GFI = goodness-of-fit index; AGFI = adjusted-goodness-of-fit index; RMR = root-mean-square residual; IFI = incremental fit index; CFI = comparative fit index; PCFI = parsimony comparative fit index; RMSEA = root-mean-square error of approximation.

Although the five-factor measurement model fit the data better than the second-order model, and demonstrated model fit that was comparable to Worthington and colleagues' model fit, the model overall had mediocre measurement fit. The next step to take when a model does not have good model fit is to consider conducting a post hoc re-specification of the model, which consists of revising the model (Byrne, 2001). Re-specification of a model requires the researcher to determine which items on the scale are best suited for deletion by using a variety of methods that would help improve model fit. Several methods are available to researchers to help identify items that could be deleted

in order to improve fit of the model; these include examining modification indices, standardized residuals, exploratory factor analysis results, reliability scale analysis, examining item content difficulty, as well as others.

Worthington and colleagues examined modification indices and standardized residuals because they considered identifying items for deletion which would allow them to re-specify their model. Researchers examine modification indices to determine whether items are loading onto constructs that they were not intended to load onto. Thus, MI can help inform the researcher when to freely estimate the parameter to achieve a better model fit. AMOS output provides a MI for each parameter, or coefficient, and measures the predicted decrease in chi-square if this parameter was respecified its path and then reestimating the model. An expected parameter change (EPC) value is provided in conjunction with the MI as it reflects the actual estimate of how much the coefficient would change (Bryne, 2001). Another method used is examining the standard residuals, which are computed by dividing the fitted residuals by their estimated standard errors and represent a standard score in the sampling distribution. They represent the variance that is not explained by the model and are comparable to z scores with values greater than 2.58 considered to be statistically significant (Byrne, 2001). Large positive standardized residuals may indicate additional parameters may be needed in the model to account for the covariance between indicators. A negative standardized residual suggest the models' parameters may overestimate the relationship between the two indicators (Brown, 2006). Worthington and colleagues concluded there were not any meaningful patterns of modification indices or residual covariances in their model that might result in increased fit, and they therefore did not attempt a post hoc re-specification. They suggested, however, that future researchers may improve fit produced via model re-specification,

which was pursued in this study. Standardized residuals were examined, but there were no meaningful patterns among the 55 standardized residual covariances that fell outside the expected range of the 378 covariances in the output (representing approximately 15% of the residuals). In comparison, Worthington and colleagues reported 20% of their residuals fell outside the expected range, and also found no meaningful patterns among the standardized residuals that would help them identify items for deletion.

Post Hoc Re-Specification of Five-Factor Oblique Model

A post hoc re-specification of the five-factor oblique model was conducted by examining several methods to help determine a model that would provide better fit than the originally tested five-factor oblique model. Models can be revised by deleting items, adding correlations between items, or moving items from one latent construct to another. The latter two options were not considered because the goal was to create subscales with a simple structure. Thus, modification was limited to deletion of items. The methods used to identify items for deletion included examining the following: items with high modification indices, exploratory factor analysis results, reliability scale analysis results, item difficulty, and a theoretical rationale. One item from each subscale was eliminated, except for Religious Conflict which had three items eliminated. The following seven items were identified for deletion: 1, 6, 11, 12, 14, 22, and 26.

Candidates for deletion in this study were first identified through examination of the MIs. In this study, there were several items that produced a substantial number of parameters that produced large MIs and EPCs. Six of the identified items had large modification indices, while item 12 had moderate MIs, which all ranged from 4 to 61 and were considered for deletion in concurrence with subsequent evidence (i.e., exploratory factor analysis; reliability scale analysis, item difficulty). Generally, a good fitting model

should produce modification indices (MI) that are small in magnitude, and because the MI is comparable to the χ^2, the value should not exceed 3.84 (i.e., critical value χ^2 at $p < .05$, $df = 1$ is 3.84). However, in this study several parameters yielded MI that exceeded 3.84, and research indicates that MIs are sensitive to large sample sizes (Byrne, 2000). Thus, EFA, reliability analysis, and item difficulty were used to identify problematic items while good statistical items were ones that loaded onto their construct and were correlated to their subscale. An exploratory factor analysis using maximum-likelihood extraction method and direct oblimin rotation was conducted on the LGB-KASH items in order to examine whether the items loaded onto their constructs. Items with low factor loadings onto their latent constructs are considered as candidates for deletion because they are not measuring what they purport to measure.

A Hate subscale item, 14, ("I sometimes think about being violent toward LGB people") was identified for deletion because of large MIs and strong language. Modification Indices indicated paths be specified to LGB Knowledge, Religious Conflict, and Internalized Affirmativeness. The item is phrased in strong language that may be too severe for university students to endorse. In fact, the response patterns for the sample were disproportionately low. Approximately 88% of participants answered "1" on the 6 point-Likert scale ("Very Uncharacteristic of Me or My Views") indicating that most individuals in this sample do not hold violent attitudes toward LGB individuals, or their responses were impacted by social desirability. University students who do hold homonegative attitudes tend to express it in the form of harassment which can be expressed via derogatory comments, name calling, stereotyping, actual or threatened unwanted disclosure of sexuality, excluding same-sex partners from social events or intrusive questioning about a person's domestic circumstances (D'Augelli et al., 2002;

Herek, 1993, 1995; Hinrichs & Rosenberg, 2002). Most research documenting violent behaviors committed towards LGB individuals has focused on people in the general population (Berill, 1992; Comstock, 1991; D'Augelli, 1992; Franklin, 2000) which may have included university students. Undoubtedly, violent incidents towards LGB individuals occur on college campuses; however, these incidents are more isolated.

A LGB Knowledge subscale item, 1, ("I feel qualified to educate others about how to be affirmative regarding LGB issues") was marked for deletion because of problems found by EFA, Reliability Scale Analysis, large MIs, and it was likely "double-barreled". This item cross-loaded comparably onto two factors: LGB Knowledge (.294) and Internalized Affirmativeness (.255). Furthermore, reliability scale analysis results indicated that the alpha score increased when the item was deleted. Items with low item-total correlations were candidates for deletion because this indicates that these items were not internally consistent with other items measuring a certain latent construct. Modification indices for this item ranged from 6 to 58 and indicated paths be specified to Hate, LGB Civil Rights, Religious Conflict, and Internalized Affirmativeness. Finally, the content of the item may have been confusing because it is "double-barreled." The item consists of the phrase "I feel qualified to educate others," which relates directly to one's ability to teach another about LGB issues which requires familiarity of LGB facts (LGB Knowledge factor construct). However, the item also included the phrase, "...how to be affirmative regarding LGB issues" asking about one's capacity to demonstrate for Gay rights, which reflects the construct of Internalized Affirmativeness (i.e., willingness to promote LGB social activism).

A LGB Civil Rights subscale item, 11, ("I think marriage should be legal for same-sex couples.") was eliminated based on EFA and language content. The item cross-

loaded moderately onto two factors: Religious Conflict (.346) and LGB Civil Rights (.461). The language content of this item, especially the two key phrases "marriage" and "same-sex couples", may trigger negative emotions for participants who have strong conservative religious beliefs. Individuals with conservative religious experiences and affiliations have been sensitized to identify same-sex marriage as a religious issue, which, therefore, evokes a moral-based response (Barclay & Fisher, 2003; Olson et al., 2006; Pearl & Galupo, 2007; Wald, Button, & Rienzo, 1996). In contrast, participants who do not conceptualize same-sex marriage as a religious or moral issues or may perceive this item as reflecting a civil rights issues for LGB individuals.

Three Religious Conflict subscale items were identified for elimination and each item had large MIs. Item 26, ("I conceal my positive attitudes toward LGB people when I am with someone who is homophobic.") had a low factor loading onto the Religious Conflict factor (.078), for which it is hypothesized as an indicator. Instead, this item loaded moderately onto the Hate factor (.396). This item may be assessing an individual's inner conflict they are experiencing when they are in the presence of someone LGB, or it may assess an individual's level of assertiveness. The item, however, does not appear to be assessing the religious conflict construct. Item 12, ("I keep my religious views to myself in order to accept LGB people.") improved the reliability of the subscale when removed producing an increase in the alpha score from .60 to .66. Finally, Item 22, ("I try not to let my negative beliefs about LGB people harm my relationships with lesbian, gay, or bisexual individuals."), had large modification indices indicating paths be specified to Hate, LGB Civil Rights and Internalized Affirmativeness subscales. The language content of this item does not specifically refer to one's conflicted religious attitudes, and it too may not clearly assess the religious conflict construct.

An Internalized Affirmativeness subscale item, 6, ("I have close friends who are LGB.") cross-loaded with low factor loadings onto three factors including Internalized Affirmativeness (.215), Hate (.261), and LGB Civil Rights (.249). Additionally, MIs were indicative that paths be specified to Hate, LGB Civil Rights and Internalized Affirmativeness subscales. This item may have more than one meaning as participants may respond to this item by reflecting on the extent one avoids LGB people (Hate) or degree of personal comfort in knowing an LGB individual (Internalized Affirmativeness), or by knowing a LGB individual means this person believes in same-sex rights (LGB Civil Rights).

Confirmatory factor analysis with revised model. Ultimately, by examining items that had large modification indices, and considering results of EFA, reliability scale analysis, and item difficulty—the following items were deleted: 1, 6, 11, 12, 14, 22, and 26. Subsequent to deletion of items, there were five items that loaded onto the LGB-KASH Hate factor and four items that loaded onto each of the remaining four factors. A confirmatory factor analysis was conducted with the revised 21-item five-factor oblique model and with a revised 21-item second order model. The revised five-factor oblique factor model fit the data well and had better fit than the revised second order model. First, the ratio of the chi-square to the degrees of freedom was less than 3. The GFI, IFI, and CFI indices were all above .90. The AGFI value was above .90, and the PCFI was approximately .80. The RMR was low at .08, and research indicates that values .08 or lower for the RMR are acceptable (Hu & Bentler, 1999). Lastly, the RMSEA was below .06, which is indicative of a good fit (Byrne, 2001; Hu & Bentler, 1999). The revised five factor oblique model is presented in Table 4. Finally, the maximum likelihood estimates

for indicator variables for the revised five-factor oblique model and revised-second order model are presented in Appendix G Table 1 and Table 2, respectively (see Appendix G).

LGB-KASH Subscales Internal Consistency and Intercorrelations

Subscale intercorrelations of the LGB-KASH were calculated and are also reported in Table 6. All of the intercorrelations were significant, in the expected direction, and ranged from .09 to .49 (absolute values). The strongest intercorrelations were with Internalized Affirmativeness and LGB Civil Rights (r = .47), Hate and LGB Civil Rights (r = -.47), LGB Knowledge and Internalized Affirmativeness (r = .46), and Hate and Internalized Affirmativeness (-.40). Means and standard deviations of the LGB-KASH were also calculated and are presented in Table 5. The means for the LGB-KASH indicate that participants reported more positive than negative views about LGB civil rights, moderate levels of basic religious conflict and internalized affirmativeness. Means for items also indicated participants were not likely to respond with attitudes that reflected hate or avoidance of LGB individuals or much knowledge of LGB history and symbols. The internal consistency estimates for this sample were moderate for the Hate (.79), Knowledge (.78), Civil Rights (.82), Internalized Affirmativeness (.74), and lower for the Religious Conflict (.66) subscale scores. Internal consistency estimates are comparable to Worthington and colleagues except for Religious Conflict which was a .73 in their study.

Table 4

Goodness-of-Fit Indicators for the Revised 21-Item LGB-KASH and Worthington et al Model

Model	χ^2	*df*	*p*	$\chi 2/df$	GFI	AGFI	RMR	IFI	CFI	PCFI	RMSEA
Revised second-order	714.19	184	.00	3.88	.91	.89	.11	.89	.89	.78	.06
Revised five-factor oblique	494.26	179	.00	2.76	.94	.92	.08	.93	.93	.79	.05
Five-factor oblique	1374.99	340	.00	4.04	.87	.84	.13	.84	.84	.75	.07
Worthington et al.'s five-factor oblique	1325.52	340	ns	3.90	.84	.81	.21	.85	Not report-ed	.76	.07

Note. N = 701; LGB-KASH = Lesbian, Gay, Bisexual Knowledge and Attitude Scale for Heterosexuals; GFI = goodness-of-fit index; AGFI = adjusted-goodness-of-fit index; RMR = root-mean-square residual; IFI = incremental fit index; CFI = comparative fit index; PCFI = parsimony comparative fit index; RMSEA = root-mean-square error of approximation.

Table 5

Means, Standard Deviations, and Internal Consistency Estimates for LGB-KASH Subscale Scores

	Means	Standard Deviations	Reliability	Sample Size
Hate	1.58	.72	.76	701
LGB Knowledge	1.69	.83	.79	701
LGB Civil Rights	3.91	1.08	.80	701
Religious Conflict	2.59	.93	.66	701
Internalized Affirmativeness	2.21	1.03	.73	701

Convergent Validity

In order to examine the validity of the LGB-KASH bivariate correlations were conducted with a scale assessing modern homonegativity and with another scales assessing religious fundamentalism. Bivarate correlations were conducted with scale versions of the Modern Homonegativity Scale (MHS, Morrison & Morrison, 2002) and the LGB-KASH subscales to examine the extent the total score on the MHS correlated with subscale scores on the LGB-KASH.

- *Hypothesis 2a*: It is hypothesized that higher levels of MH will be related to a higher Hate subscale score.
- *Hypothesis 2b*: It is hypothesized that higher levels of MH will be related to a lower LGB Civil Rights subscale score.
- *Hypothesis 2c*: It is hypothesized that higher levels of MH will be related to a lower Internalized Affirmative subscale score.
- *Hypothesis 2d*: It is hypothesized that higher levels MH will be related to a higher Religious Conflict subscale score.

Bivariate correlations were conducted with the Religious Fundamentalism Scale (RFS, Altemeyer & Hunsberger, 1992) and the LGB-KASH subscale scores to examine the extent the RFS total score correlated with subscale scores on the LGB-KASH.

- *Hypothesis 3a*. It is hypothesized that higher levels of RF will be related to a higher score on the Hate subscale.
- *Hypothesis 3b*: It is hypothesized that higher levels of RF will be related to a higher score on the Religious Conflict subscale.
- *Hypothesis 3c*: It is hypothesized that higher levels of RF will be related to a lower score on the LGB Civil Rights subscale.
- *Hypothesis 3d*: It is hypothesized that higher levels of RF will be related to a lower score on the Internalized Affirmative subscale.

Finally, bivariate correlations analysis was conducted between the Spiritual Well Being Scale (FACIT-Sp; Peterman et al., 2002) and the LGB-KASH to examine extent of correlations between the SWBS total score and LGB-KASH subscale scores. No hypotheses were posited for the relationship between the SWBS and LGB-KASH subscale scores.

Correlation coefficients indicate significant correlations among the LGB-KASH subscales, MHS, and RFS that were moderate to high and in the expected direction (see Table 6). The patterns of correlations between LGB-KASH subscales and both MHS forms were similar. Higher levels of homonegativity on the MHS were significantly related to higher levels of attitudes of hate and religious conflict and to lower levels of LGB knowledge, LGB civil rights issues, and internalized affirmativeness. Likewise, religious fundamentalism attitudes (i.e., belief there is one true religion and one true God) were related to the LGB-KASH subscales in the expected directions. Finally, higher levels of spiritual well-being had significant low correlations with lower scores on the Internalized Affirmativeness subscale, and higher scores on the Religious Conflict subscale.

Table 6

Correlations Among LGB-KASH Subscales and Selected Predictor Variables

	Hate	LGB Knowledge	LGB Civil Rights	Religious Conflict	Internalized Affirmativeness	Age	Freq. of Church Attd.	MHS-G	MHS-L	RFS
Knowledge	.09*									
Civil Rights	-.49**	.10*								
Religious Conflict	.31**	-.12**	-.34**							
Internalized Affirmativeness	-.23**	.40**	.47**	-.40**						
Age	-.14**	.06	.03	-.04	.01					
MH – G	.43**	-.20**	-.59**	.52**	-.54**	-.04	.35**			
MH – L	.42**	-.21**	-.59**	.54**	-.55**	-.07	.35**	.93**		
RFS	.32**	-.13**	-.47**	.50**	-.44**	-.10**	.55**	.53**	.54**	
FACIT-Sp	-.04	-.04	-.03	.14**	-.20**	.08*	.33**	.17**	.16**	.37**

Note. $N = 701$, MHS-G = Modern Homonegative Scale – Towards Gay Men ; MHS-L = Modern Homonegative Scale – Towards Lesbians; RFS = Religious Fundamentalism Scale; FACIT-Sp = Spirituality Well-Being Scale

* $p < .05$, ** $p < .01$

Additional Analyses: Statistical Differences Among Demographic Groups

Several demographic groups were represented in this sample that included gender, ethnicity, Christian faith type, and political orientation type. Examining differences for the gender, political orientation group type, and Christian faith group type provides further validity of the scale. Additionally, in the sample of this study racial groups were evenly distributed which allowed for the exploration of racial group differences on the LGB-KASH subscale scores and the MHS and RFS scores.

Gender group differences. Gender group differences were examined regarding mean scores for the LGB-KASH subscales, Modern Homonegative Scale (MHS), Religious Fundamentalism Scale (RFS), and Spiritual Well-Being Scale (SWBS). A one-way Multivariate Analysis of Variance (MANOVA) was conducted to determine significant differences between gender on the LGB-KASH and other related scales (MHS, RFS, SWBS). Significant differences were found (Wilks' $\lambda = .897$, $F[9, 691] = 8.82$, $p < .001$, $\eta^2 = .068$). Analysis of variance (ANOVA) was conducted as a follow-up to the MANOVA on each dependent variable to identify differences in the individual scales. Table 7 presents ANOVA results, means, standard deviations, and eta squared for gender groups. ANOVA results found significant results for the following LGB-KASH subscales: Hate, $F(1, 699) = 18.99$, $p < .001$, LGB Civil Rights, $F(1, 699) = 14.76$, $p < .001$, and Internalized Affirmativeness, $F(1, 699) = 19.72$, $p < .001$. Additionally, ANOVA results found significant differences for Modern Homonegative Scale (MHS-G; Attitudes Towards Gay Men), $F(1, 699) = 23.97$, $p < .001$, and Modern Homonegative Scale (MHS-L; Attitudes Towards Lesbians), $F(1, 699) = 13.59$, $p < .001$. Women held more positive attitudes compared to men, evidenced by women scoring lower on the Hate subscale and MHS (both forms). Additionally, women held more positive attitudes than

men regarding LGB civil right issues. Women were also more likely to report that they participated in prosocial LGB activist events or felt comfortable with feelings of same-sex attraction.

Table 7

Follow-up ANOVAs to One-Way MANOVA for Gender on Predictor Variables and Means (Standard Deviations)

Predictor Variable	*F* ratio	Eta Squared	Mean Scores (*SD*) Male (*n* = 134)	Female (*n* = 567)
Hate	18.99**	.026	9.08 (3.87)	7.60 (3.45)
LGB Knowledge	.82	.001	6.99 (3.23)	6.70 (3.34)
LGB Civil Rights	14.76**	.021	14.35 (4.57)	15.94 (4.22)
Religious Conflict	1.98	.003	10.76 (3.56)	10.25 (3.76)
Internalized Affirmativeness	19.72**	.027	7.43 (3.34)	9.17 (4.23)
MHS – G	23.97**	.033	35.61 (9.36)	30.99 (9.94)
MHS - L	13.59**	.019	35.75 (9.19)	32.08 (10.62)
RFS	1.09	.002	90.28 (34.81)	93.78 (35.01)
FACIT-Sp	2.66	.004	43.94 (7.57)	45.11 (7.44)

Note. *N* = 701, Note: MHS-G = Modern Homonegative Scale – Towards Gay Men ; MHS-L = Modern Homonegative Scale – Towards Lesbians; RFS = Religious Fundamentalism Scale; FACIT-Sp = Spirituality Well-Being Scale
** $p < .001$

Racial group differences. Ethnic group differences among European Whites, Blacks, Latino/as, and Asians, were examined regarding mean scores in attitudes towards LGB individuals and examined for differences in attitudes of religious fundamentalism and experience spirituality. The remaining ethnic groups (e.g., American Indian, Biracial) had too few participants to be included in the analysis. A one-way MANOVA was conducted to determine significant differences between ethnic groups on the LGB-KASH and other related scales (MHS, RFS, SWBS). Significant differences were found (Wilks' λ = .810, $F[18, 1823] = 5.05$, $p < .001$, $\eta^2 = .068$). Analysis of variance (ANOVA) was

conducted as a follow-up to the MANOVA on each dependent variable to identify differences in the individual scales. Table 8 presents ANOVA results and eta squared for ethnic groups. ANOVA results found significant results for the LGB-KASH subscales Hate, $F(3, 632) = 87.85$, $p < .001$, Religious Conflict, $F(3, 632) = 171.98$, $p < .001$, and Internalized Affirmativeness $F(3, 632) = 7.00$, $p < .001$.

Tukey post-hoc analysis was conducted on ethnic groups to determine significant statistical mean differences between groups on the LGB-KASH subscales. Table 9 presents means and standard deviations for ethnic groups. Results indicated that Asian-Americans had significantly higher scores than students from the other three major ethnic groups on the Hate subscale, indicating that they were more likely to endorse attitudes of hate and avoidance towards LGB individuals. Mean differences on the Religious Conflict subscale indicated Black participants tended to have higher levels of conflicting attitudes of a religious nature towards LGB people compared to European Whites, Latino/a, and Asian-Americans. Lastly, analysis found that Internalized Affirmativeness mean scores for European Whites were significantly higher than for Blacks and Asian-Americans, indicating that European Whites in this sample were more likely to report that they engage in pro-LGB social activism and have more comfort with same-sex attraction.

ANOVA results found significant results for the MHS-G (Attitudes Towards Gay Men), $F(3, 632) = 6.94$, $p < .001$, MHS-L (Attitudes Towards Lesbians), $F(3, 632) = 5.51$, $p < .001$, RFS, $F(3, 632) = 14.38$, $p < .001$, and SWBS, $F(3, 632) = 10.07$, $p < .001$. Tukey post-hoc analysis was also conducted with ethnic groups with MHS (G/L), RFS, and SWBS to determine which group means were statistically different from each other. Results revealed that mean scores on the MHS-G (Attitudes Towards Gay men) for Asian-Americans were indicative of higher levels of homonegative attitudes towards Gay

men compared to Blacks and Latino/as. Similarly, for the MHS-L (Attitudes Towards Lesbians), results indicated that Asian-Americans held higher levels of modern negative attitudes towards Lesbians compared to Blacks and Latino/as. Mean score differences on the RFS indicated that Black participants were more likely to hold higher levels of religious fundamentalist attitudes compared to European Whites, Latino/as, and Asian-Americans. Blacks mean scores on the SWBS were indicative that this ethnic group also experienced higher levels of spirituality compared to European Whites and Asian-Americans. Similarly, Latino/as' mean scores indicated this ethnic group experienced higher levels of spirituality compared to European Whites.

Table 8

Follow-up ANOVAs to One-Way MANOVA for Race on Predictor Variables

Predictor Variable	*F* ratio	Eta Squared
Hate	6.94**	.032
LGB Knowledge	1.51	.007
LGB Civil Rights	2.32	.011
Religious Conflict	13.44**	.060
Internalized Affirmativeness	7.00**	.032
MHS – G	6.94**	.032
MHS – L	5.51*	.025
RFS	14.38**	.064
FACIT-Sp	10.07**	.046

Note. $N = 636$, Race = Blacks Non-Hispanic, Latino/a, Asian/Pacific Islander, European White; MHS-G = Modern Homonegative Scale – Towards Gay Men ; MHS-L = Modern Homonegative Scale – Towards Lesbians; RFS = Religious Fundamentalism Scale; FACIT-Sp = Spirituality Well-Being Scale
* $p < .01$, ** $p < .001$

Table 9

Means (Standard Deviations) for Race on Predictor Variables

Predictor Variables	Blacks Non-Hispanic (n = 149)	European Whites (n = 183)	Latino/a (n = 174)	Asians/ Pacific Islanders (n = 130)
Hate	7.77 (3.43)	7.43 (3.48)	7.67 (3.22)	9.18 (4.18)
LGB Knowledge	6.23 (2.88)	6.85 (3.36)	6.90 (3.35)	6.85 (3.21)
LGB Civil Rights	15.20 (4.13)	15.77 (4.70)	16.18 (4.28)	15.03 (3.99)
Religious Conflict	11.88 (3.34)	9.80 (3.89)	9.57 (3.59)	10.14 (3.36)
Internalized Affirmativeness	7.84 (3.41)	9.54 (4.46)	9.34 (4.26)	8.17 (3.68)
MHS – G	34.24 (9.83)	31.77 (11.06)	29.36 (8.68)	32.76 (9.79)
MHS – L	34.98 (9.96)	32.14 (11.67)	30.72 (9.49)	34.13 (9.94)
RFS	108.68 (27.76)	86.81 (38.56)	87.26 (33.23)	92.70 (33.82)
FACIT-Sp	46.95 (7.12)	43.86 (7.56)	46.06 (6.36)	42.84 (8.23)

Note. N = 636, MHS-G = Modern Homonegative Scale – Towards Gay Men; MHS-L = Modern Homonegative Scale – Towards Lesbians; RFS = Religious Fundamentalism Scale; FACIT-Sp = Spirituality Well-Being Scale

Christian faith group differences. Examination of mean differences on the LGB-KASH subscales and total scores for the MHS, RFS, and SWBS was conducted for the three Christian group types (Christian Non-Denominational, Catholic, & Baptist), the majority of participants in this study. Thus, this author did not examine mean differences across religious types (e.g., Islam, Jewish, etc.) because of too few participants per group. A one-way MANOVA was conducted to determine significant differences between Christian faith groups on the LGB-KASH and other related scales (MHS, RFS, SWBS). Significant differences were found (Wilks' $\lambda = .870$, $F[18, 796] = 3.19$, $p < .001$, $\eta^2 = .067$). Analysis of variance (ANOVA) was conducted as a follow-up to the MANOVA on each dependent variable to identify differences in the individual scales. Table 10 presents ANOVA results, means, standard deviation and eta squared for

Christian faith groups. ANOVA results found significant results for the LGB-KASH subscales LGB Civil Rights, $F(2, 406) = 6.80$, $p = .001$, Religious Conflict, $F(2, 406) = 4.81$, $p < .01$, and Internalized Affirmativeness $F(2, 406) = 3.59$, $p < .05$.

Tukey post-hoc analysis was conducted on ethnic groups to determine significant statistical mean differences between groups on the LGB-KASH subscales. Table 10 presents ANOVA results, means, standard deviations, and eta squared for Christian faith groups. Results indicated that Catholics held higher levels of positive attitudes towards civil rights issues for LGB individuals compared to Baptists. Furthermore, compared to Baptists, Catholics' had fewer conflicting attitudes of a religious nature towards LGB people. Finally, Catholic participants indicated they were more likely to participate in social activism related to LGB issues, as compared to Baptists.

ANOVA results found significant results for the MHS – G, $F(2, 406) = 11.66$, $p < .001$, MHS – L, $F(2, 406) = 8.60$, $p < .001$, and RFS $F(2, 406) = 17.67$, $p < .001$. Tukey post-hoc analysis was conducted with Christian groups to determine significant statistical mean differences between groups on the MHS and RFS scales. Results indicated overall that Catholics held less homonegative attitudes towards lesbians and gay men compared to both Baptists and Non-Denominational Christians. Additionally, Catholics had significantly lower RFS scores compared to both Baptists and Non-Denominational Christians.

Table 10

Follow-up ANOVAs to One-Way MANOVA for Christian Group Type on Predictor Variables and Means (Standard Deviations)

Predictor Variable	F ratio	Eta Squared	Mean Scores (*SD*)		
			Christian[1] (*n* = 112)	Baptist (*n* = 96)	Catholic (*n* = 201)
Hate	.45	.002	7.83 (3.39)	8.22 (3.90)	7.84 (3.24)
LGB Knowledge	.37	.002	6.30 (2.93)	6.60 (3.00)	6.57 (3.06)
LGB Civil Rights	6.80**	.032	14.33 (4.31)	14.93 (4.16)	16.09 (4.24)
Religious Conflict	4.81**	.023	10.80 (3.60)	11.61 (3.16)	10.26 (3.61)
Internalized Affirmativeness	3.59*	.017	8.04 (3.61)	7.68 (3.22)	8.86 (4.21)
MHS – G	11.66***	.054	34.64 (9.75)	33.80 (9.50)	29.71 (9.55)
MHS - L	8.60***	.041	35.10 (10.20)	34.99 (9.58)	30.95 (10.08)
RFS	17.67***	.080	105.74 (31.71)	108.99 (28.71)	90.47 (27.09)
FACIT-Sp	1.46	.007	45.78 (7.57)	46.91 (7.19)	45.45 (6.46)

Note. $N = 409$, Christian Groups = Baptist, [1]Christian Non-Denominational, Catholic; MHS-G = Modern Homonegative Scale – Towards Gay Men; MHS-L = Modern Homonegative Scale – Towards Lesbians; RFS = Religious Fundamentalism Scale; FACIT-Sp = Spirituality Well-Being Scale; ** $p < .001$

Political orientation group differences. Statistical mean differences were examined for political orientation groups (liberal, moderate, conservative) on the LGB-KASH subscale scores and MHS, RFS, SWBS scale scores. A one-way MANOVA was conducted to determine significant differences between political groups on the LGB-KASH and other related scales (MHS, RFS, SWBS). Significant differences were found (Wilks' $\lambda = .915$, $F[18, 1348] = 3.41$, $p < .001$, $\eta^2 = .044$). Analysis of variance (ANOVA) was conducted as a follow-up to the MANOVA on each dependent variable to identify differences in the individual scales. Table 11 presents ANOVA results, means, standard deviations, and eta squared for political orientation groups. ANOVA results found significant results for the LGB-KASH subscales LGB Civil Rights, $F(2, 682) =$

8.64, $p < .001$, Religious Conflict, $F(2, 682) = 17.87$, $p < .001$, and Internalized Affirmativenes, $F(2, 682) = 10.45$, $p < .001$. Tukey-post analysis results were indicative that participants who identified as liberal held more positive attitudes towards LGB civil rights and LGB social activism, lower levels of conflicted attitudes of a religious nature. Additionally, ANOVA results found a significance for the MHS – G, $F(2, 682) = 18.22$, $p < .001$, MHS – L, $F(2, 682) = 17.32$, $p < .001$, RFS, $F(2, 682) = 12.81$, $p < .001$, and SWBS, $F(2, 682) = 5.19$, $p < .01$. Tukey-post analysis results indicated the participants who identified as Liberal held markedly lower levels of both religious rigid attitudes and modern homonegativity, and experienced less spiritual well-being compared to conservatives and moderates.

Table 11

Follow-up ANOVAs to One-Way MANOVA for Political Orientation Type on Predictor Variables and Means (Standard Deviations)

Predictor Variable	Eta Squared	Mean Scores (*SD*)		
		Liberal ($n = 222$)	Moderate ($n = 302$)	Conservative ($n = 161$)
Hate	.006	7.51 (3.51)	8.01 (3.61)	8.17 (3.62)
LGB Knowledge	.004	7.11 (3.34)	6.67 (3.18)	6.60 (3.63)
LGB Civil Rights	.025	16.61 (3.89)	15.17 (4.09)	15.13 (5.12)
Religious Conflict	.050	9.13 (3.74)	10.76 (3.61)	11.10 (3.47)
Internalized Affirmativeness	.030	9.90 (3.98)	8.44 (3.82)	8.28 (4.65)
MHS – G	.051	28.79 (9.56)	32.68 (9.08)	34.51 (10.96)
MHS - L	.048	29.58 (10.41)	33.54 (9.38)	35.42 (11.14)
RFS	.036	84.70 (35.99)	94.58 (32.32)	102.33 (35.24)
SWBS	.015	44.07 (8.26)	44.50 (7.32)	46.42 (6.22)

Note. N = 684, MHS-G = Modern Homonegative Scale – Towards Gay Men; MHS-L = Modern Homonegative Scale – Towards Lesbians; RFS = Religious Fundamentalism Scale; FACIT-Sp = Spirituality Well-Being Scale; ** $p < .001$

CHAPTER V: DISCUSSION

Factor Structure of the LGB-KASH

The purpose of this investigation was to examine the validity of the LGB-KASH by (a) examining the factor structure of the instrument via confirmatory factor analysis with an ethnically diverse sample and (b) examining the convergent validity of the subscales' scores. The most noteworthy finding of this study was confirming the first hypothesis, which proposed that the LGB-KASH item scores with an ethnically diverse college student sample would evidence a five factor structure. Thus, this study's results support Worthington and colleagues' model that indicates that heterosexuals' knowledge regarding LGB issues and attitudes towards LGB individuals are multidimensional. However, results provided only partial support for the hypothesis that the data would fit a five factor structure comparable to the one reported by Worthington and colleagues. In order to obtain a good fit, the LGB-KASH scale was revised using statistical and theoretical methods to identify problematic items. Once the model was re-specified, a good model fit emerged.

The second hypothesis was confirmed by finding that the LGB-KASH subscales were related in the expected directions to the constructs of modern homonegativity and religious fundamentalism. Finally, differences were found within the groups of race, Christian faith group type, political orientation type, and gender regarding attitudes towards homosexuality and religious fundamentalism attitudes (e.g., women tend to hold less homonegative attitudes compared to men).

Even though the primary goal of this study was accomplished by yielding a comparable model fit to Worthington and colleagues, the model fit was only mediocre, requiring further examination of the model. This study re-examined the factor structure of

the LGB-KASH using the rationale posited by Worthington and colleagues. They concluded that their modification indices and standardized residual findings suggested that potential improvements in fit were possible, and additional research was necessary to further examine the reliability of the factor structure of the scale. Therefore, in this study a post hoc respecification was conducted by examining modification indices in conjunction with analyzing results of exploratory factor analysis, reliability scale analysis, and considering item content difficulty. This process of identifying problematic items based on statistical and theoretical reasons led to the identification of seven items that were deleted from the LGB-KASH.

The revised five-factor model resulted in a 21-item scale with four items loading onto four scales and five items loading onto one scale. Results of this study identified a revised scale that demonstrated good model fit and demonstrated improvements in relation to both the initial five-factor oblique model identified in this study and Worthington and colleagues' five-factor oblique model. Subscales were all significantly related to one another in the expected direction. LGB Knowledge was only weakly related to Hate, LGB Civil Rights, and Religious Conflict, which was not unexpected. Namely, LGB Knowledge is representative of knowledge of facts and symbols that characterize LGB lifestyle and history, while the subscales of Hate, LGB Civil Rights, and Religious Conflict all reflect attitudes that may be independent of knowledge of LGB related issues. Internal consistency was moderate across four subscales and was low-moderate for the Religious Conflict subscale. The Religious Conflict subscale may need to be revised to more clearly reflect religious-oriented attitudes of participants. These changes may improve the internal consistency of the items on the Religious Conflict subscale.

Construct Validity of the LGB-KASH

The second purpose of this study was accomplished as convergent validity was evidenced by finding low to moderate relationships in the expected directions between the LGB-KASH subscales and the construct of modern homonegativity. Modern-day homonegative prejudicial attitudes are characterized by negative beliefs that (a) gay men and lesbians are making unnecessary demands for changes in legal rights issues, (b) discrimination of gays and lesbians is a thing of the past, and (c) gay and lesbians exaggerate their self importance, causing their own problems (Morrison & Morrison, 2002; Morrison et al., 1999; Morrison et al., 2009; Raja & Stokes, 1998; Worthington et al., 2002).

Convergent validity was also evidenced between religious fundamentalism and the LGB-KASH subscales. Religious fundamentalism, or the extent an individual endorses rigid beliefs that there is only one true religion and one true God, was moderately associated in the expected direction with all the LGB-KASH subscales. The only exception was a low relationship with LGB Knowledge. The low relationship with LGB Knowledge suggests that the construct of religious fundamentalism relates more to homonegative attitudes than to one's familiarity with LGB facts. This finding may be explained by the fact that religious fundamentalism is highly related to rigid attitudes that endorse conformity to authority, traditional religious practices, and following group norms, which in turn is related to prejudicial attitudes towards groups perceived as not fitting expected norms (Altemeyer & Hunsberger, 2005; Sidanius & Pratto, 1999). The construct of religious fundamentalism, therefore, is characterized by attitudes related to the primary premises of the constructs of Hate and LGB Civil Rights (i.e., describe

attitudes). LGB Knowledge, however, is characterized by familiarity with LGB historical facts and symbols and does not relate highly to constructs characterized by rigid attitudes.

Religious and political affiliation. Overall in this study, participants identifying as Catholics, compared to Baptist and Christian Non-Denominational, and Liberals, compared to Conservatives and Moderates, tended to have more positive attitudes towards LGB individuals and held less rigid religious attitudes. Findings suggest that Catholics and liberals have less religious rigidity which likely results in lower levels of homonegative attitudes. Research indicates that individuals identifying as liberal endorse lower levels of homonegativity compared to moderates and conservatives (Herek, 2002; Olson et al., 2006; Rowatt et al., 2009). Studies examining conservativeness level of religious affiliations have found that Conservative Protestants had the highest level of homonegative attitudes compared to Moderate Protestants and Catholics while Jews, liberal Protestants, and unaffiliated religious had lower levels of homonegative attitudes (Cochran & Beeghley, 1991; Cotten-Huston & Waite, 2000; Finlay & Walther, 2003; Fisher, Derison, Polley, Cadman, & Johnston, 1994; Herek & Glunt, 1993; Olson et al., 2006). These results seem to suggest that individuals affiliated to different religious denominations and political orientation vary in their level of religious fundamentalism, which in turn seems to predict homogenative attitude – future research using a mediation model could test this hypothesis.

Race. A unique aspect of this study was the difference found across the well-represented racial groups including Blacks Non-Hispanic, Latino/a, European Whites, and Asians. Most of the existing research on heterosexual attitudes towards LGB individuals has examined racial differences between European Whites and Blacks (Hudson & Ricketts, 1980; Herek & Capitanio, 1995; Lewis, 2003; Marsiglio, 1993;

Schneider & Lewis, 1984; Waldner, Sikka, & Baig, 1999). Lottes and Kuriloff (1992) found no significant racial differences in attitudes towards LGB individuals among Asians, Blacks Non-Hispanic, and European Whites. The findings for the present study, however, suggest that European White and Latino/a college students endorse more accepting attitudes toward LGB people and issues than their Blacks and Asian/Pacific Islander peers. Lastly, findings indicate that Black students may hold homonegative attitudes caused by religious conflict, and concurrently hold positive attitudes towards LGB civil right issues.

Researchers have argued that race in itself does not explain homonegative attitudes (Lewis, 2003; Schulte & Battle, 2004). Instead, the variable religiosity (i.e., attend church, religious fundamentalism) may explain observed differences in attitudes toward LGB issues among students of different ethnic/racial groups. For example, in the current study, compared to participants from the other racial groups, Black participants reported higher levels of both religious fundamentalism and conflicted attitudes towards LGB individuals. This finding may mean that religious beliefs in the Black community may be more predictive of homonegative attitudes. Indeed, the variable, religiosity, may explain the inconsistent findings in research that has examined attitudes towards LGB individuals among European Whites and Blacks, but researchers of these studies did not always identify participants' religious beliefs/affiliations. As mentioned earlier, some studies have found no significant differences (Herek & Capitanio, 1995; Jenkins, Lambert, & Baker, 2007; Marsiglio, 1993), while many studies have found significant differences between participants from both racial groups (Hudson & Ricketts, 1980; Lewis, 2003; Peterson, 1992; Schneider & Lewis, 1984; Stokes & Peterson,1998; Thomas, Gilliam, & Iwrey, 1989; Waldner, Sikka, & Baig, 1999).

Research focusing on ethnicity, especially on African-American culture, suggests that religion has historical roots in the African-American community. Religion has played a major role in advancing the civil liberties of African-Americans and providing them with social and economic stability, which has ultimately unified the community as a whole (Jacobson, Heaton, & Dennis, 1990; Lincoln & Maymiya, 1990; Nelsen, Yokley, & Nelsen, 1971; Taylor & Chatters, 1991; Schulte & Battle, 2004). Compared to Caucasians, African-Americans are more likely to (a) hold higher levels of religiosity (Taylor, Thornton, & Chatters, 1987; Taylor, Mattis, & Chatters, 1999); (b) have greater involvement in the church and feel religion has greater involvement in daily life (Jacobson et al., 1990; Taylor et al., 1999); and (c) hold conservative religious beliefs (Taylor & Chatters, 1996). These findings suggest that Blacks are more likely to condemn homosexuality based on religious beliefs (Herek & Capitanio, 1995; Lewis, 2003; Schulte & Battle, 2004).

Race, therefore, in itself is not a cause for homonegative attitudes reported in the African-American culture. Rather, religion plays a central role that impacts one's beliefs, philosophies, and views toward homosexuality (Herek & Capitanio, 1995; Jenkins et al., 2007; Lewis, 2003; Schulte & Battle, 2004). Negy and Eisenman (2005) found that gender and frequency of church attendance predicted homonegativity for Caucasians and African-Americans, and they also suggested that the more African-Americans were immersed and socialized in their African-American community, the more likely they were to express homonegativity and homophobia. Finally, Herek and Capitanio (1995) findings suggested that among African-Americans, negative attitudes toward homosexuals were related to religious attendance and being married, while positive

attitudes were associated with liberal political orientation, greater contact with LGB people, and higher education achieved attainment.

Gender differences. Women held more positive attitudes towards LGB individuals and were less likely to have religious conflicted attitudes compared to males. Women's tendency to hold more positive attitudes towards LGB individuals compared to men has been widely supported in the literature (Hinrichs & Ronsenberg, 2002; Kite, 1994; Schwartz & Lindley, 2005; Waldo, 1998), including being more likely to endorse LGB prosocial events such as same-sex marriage (Pearl & Galupo, 2007; Waldo, 1998).

Religiosity and spirituality. The Religious Fundamentalism Scale was chosen to represent religiosity, and to assess convergent validity with the subscales of the LGB-KASH. A question arose, after reviewing Worthington's and colleagues' discussion, of how to best characterize religiosity because of the purported distinction between religion and spirituality. Worthington and colleagues (2005) assessed religiosity using items that reflect religion and spirituality but found inconsistencies across their studies in the association between religiosity and subscales of the LGB-KASH. They suggested this discrepancy occurred because their construct of religiosity consisted of religion (defined as a set of doctrines that need to be followed), and spirituality (one's personal experience). In order to account for this problem, religious fundamentalism was chosen to represent religiosity as it reflects the extent an individual rigidly believes certain scriptures are the truth, and this construct has been found to be related to homonegativity (Altemeyer & Hunsberger, 1992, 2005). Spirituality was not necessarily expected to be related to the LGB-KASH subscales even though it may be related to religious fundamentalism attitudes. That is, the concept of religion and spirituality are not

independent of one another, but individuals who have the presence of one will likely have the presence of the other (Hill et al., 2000).

Religious fundamentalist attitudes and spiritual well-being differed in their relationship to the LGB-KASH. Spiritual well-being was unrelated to several of the LGB-KASH subscales. Not surprisingly, however, spirituality did have a relationship to religious fundamentalism which likely accounted for its positive relationship with the LGB-KASH Religious Conflict subscale. Presence of religious fundamentalist attitudes was overall related to less positive attitudes towards LGB individuals. Religious fundamentalism appears to be a construct that better captures religious attitudes that are related to homonegativitity, whereas spirituality weakly reflect attitudes related to homonegativity.

Limitations

The present study had limitations including (a) participants' voluntarily self selected into this study by reading the title of the survey, "Heterosexual attitudes towards LGB individuals," and then selected to answer surveys; (b) participants' lack of diversity regarding faith and experiences related to LGB issues; (c) the term, "LGB", groups all sex minorities into one category.

It is possible that participants who self select into the study knowing that they will be asked questions about their attitudes towards LGB individuals and may be more aware of their internal attitudes compared to participants who completely avoid answering such surveys. On the other hand, participants may have volunteered to participate in study because they had certain biases toward LGB individuals, and they wanted to express their opinion.

Participants' faith was also a potential bias making the sample for this study more homogeneous. This study was comprised of mostly Christian-identified individuals, and most of these identified as Baptist, Christian Non-Denominational, and Catholic. Future research is needed that examines the validity of this scale with individuals from diverse religious affiliations such as Judaism, Islam, Atheism, and specific denominations of Christianity. The extent of rigid religious belief systems tends to influence attitudes toward LGB individuals (Altemeyer & Hunsberger, 1996, 2005; Duck & Hunsberger, 1999) and therefore, requires researchers to control for this variable when investigating heterosexual attitudes.

Items on the LGB-KASH collapsed lesbian, gay, and bisexual identified persons into one category: LGB. Thus, participants were asked to rate their attitudes towards a collective group of identified sexual minorities. Collapsing sexual minorities into one category may be problematic as previous research has shown that there are gender differences in heterosexual identified individuals' attitudes towards lesbians, gay men, and bisexuals (Cuenot & Fugita, 1982; Eliason, 1997; Herek, 1988; Louderback & Whitley, 1992; Ochs, 1996). For example, studies indicate that heterosexual males express more negative attitudes toward gay men than lesbians, while heterosexual females express more negative attitudes toward lesbians than gay men (Cuenot & Fugita, 1982; Herek, 1988; Kaiser Family Foundation, 2001; Louderback & Whitley, 1992; Spalding & Peplau, 1997).

Another limitation of this study was that because of time constraints participants were not asked about previous experiences regarding exposure to LGB people and events. Research provides evidence that pre-college contact with LGB individuals improves attitudes toward LGB relationships and enhances the level of interaction with

LGB individuals (Finlay & Walther, 2003; Herek, 1988; Hinrichs & Rosenberg, 2002; Liang & Alimo, 2005; Parents, Family, & Friends of Lesbians and Gays, PFLAG, 2010; Tucker & Potocky-Tripodi, 2006). Potentially, many individuals in this study may have had pre-college experiences with LGB related events or people given that Houston has a large LGB community.

Implications and Future Research

Validating the LGB-KASH with multiple racial groups provides further evidence that heterosexual attitudes are multidimensional. Future research should examine multi-level analysis with multiple racial groups. That is, confirmatory factor analysis can be completed with several racial groups to see how well the factor structure holds for one particular racial group.

Certain subscales, namely Religious Conflict and Hate, raised the question of whether items for each subscale adequately characterized constructs. The Religious Conflict subscale had low internal consistency, and it would be helpful for researchers to examine what items clearly and accurately reflect conflicted attitudes of a religious nature towards LGB individuals. Furthermore, the LGB-KASH subscale Hate should be examined closely to consider how this construct is presently defined. Presently, Hate reflects violent attitudes and attitudes of avoidance and discomfort. It may be suitable to modify this concept to represent two constructs, with one construct that describes violent attitudes towards LGB individuals and a second construct that describes attitudes of avoidance and discomfort.

Research can consider how the frequency of contact with LGB individuals affects hate, attitudes towards LGB civil rights, and internalized affirmative attitudes. Additionally, researchers ought to consider the quality of relationships with LGB

individuals, as research indicates that heterosexuals who have gay, lesbian, or bisexual friends are more likely to express accepting attitudes than heterosexuals who report having had only limited exposure to LGB related events or people (Herek, 1988).

Finally, one notable aspect of this study is the relationship of race, gender, religiosity, and conservativeness on attitudes towards LGB individuals. Potentially, conservatism may act as a mediator / moderator between religious fundamentalism and attitudes towards LGB civil right issues, religious conflict, hateful / avoidant attitudes, internalized affirmativeness attitudes, and knowledge of LGB history and symbols. VandoerStoep and Green (1988) indicated that conservative ethics mediated the relationship between religiosity and homonegative attitudes. Or researchers may want to examine religiosity (religious affiliation, frequency of church attendance, religious fundamentalism) as a moderator/mediator between certain predictor variables such as political conservativeness, gender, and race and multiple dimensions of attitudes towards LGB individuals (e.g., attitudes towards LGB civil rights).

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APPENDIX A

Figures

Figure Caption

Figure 1. Diagram of model depicting the individual and social identity development processes. Individual sexual identity development is comprised of six dimensions. Social sexual identity development is comprised of two dimensions. From "Heterosexual identity development: A multidimensional model of individual and social identity" by R. L. Worthington et al., 2002, *The Counseling Psychologist, 30*, p. 513. Copyright 2002 by Sage Publications. Reprinted with permission (pending).

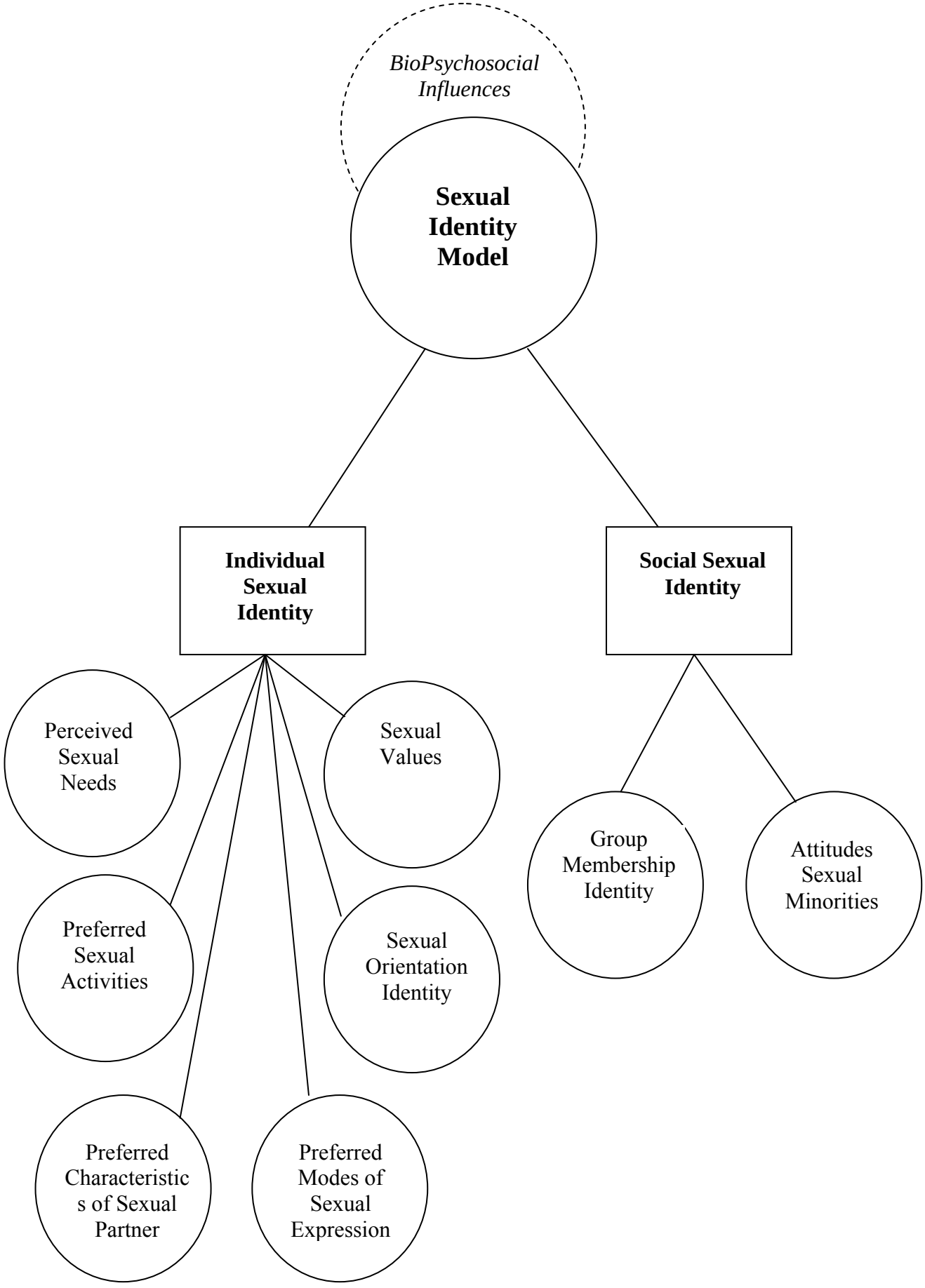

BioPsychosocial Influences
Sexual Identity Model
Individual Sexual Identity
Social Sexual Identity
Perceived Sexual Needs
Sexual Values
Preferred Sexual Activities
Sexual Orientation Identity
Preferred Characteristics of Sexual Partner
Preferred Modes of Sexual Expression
Group Membership Identity
Attitudes Sexual Minorities

Figure Caption

Figure 2. Diagram of model depicting six biopsychosocial factors that influence sexual identity development. From "Heterosexual identity development: A multidimensional model of individual and social identity" by R. L. Worthington et al., 2002, *The Counseling Psychologist, 30*, p. 511. Copyright 2002 by Sage Publications. Reprinted with permission (pending).

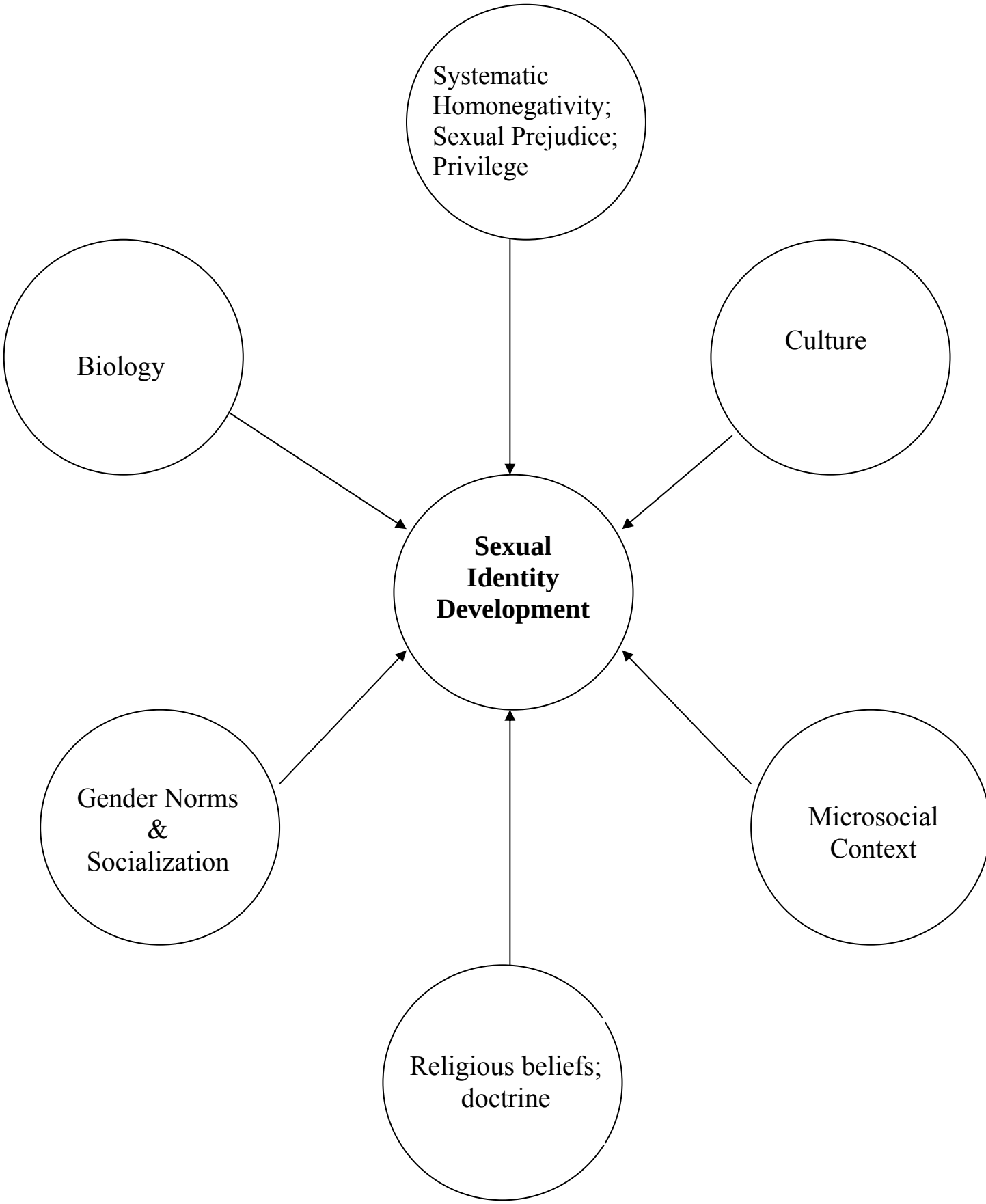
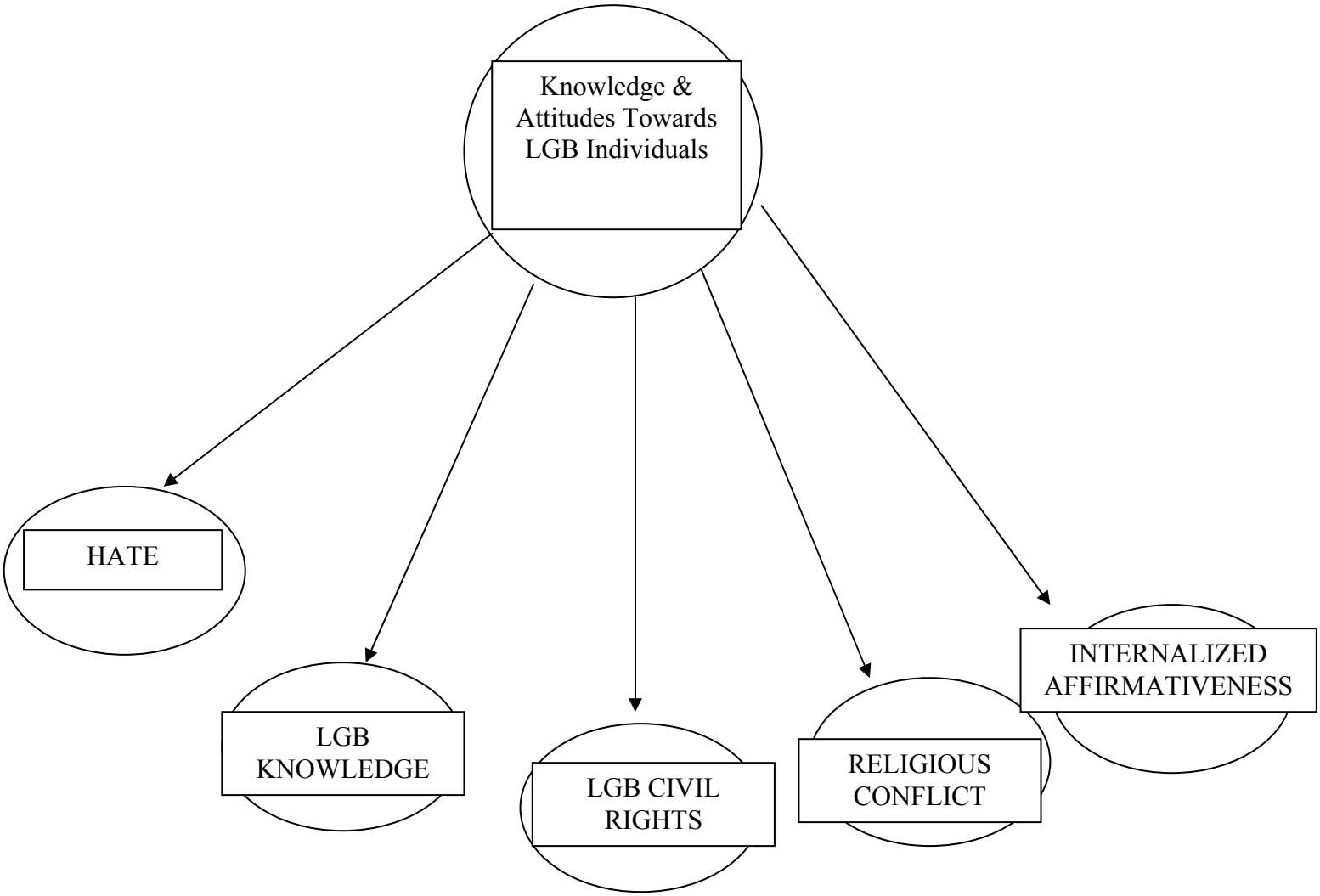

Systematic Homonegativity; Sexual Prejudice; Privilege
Biology
Culture
Sexual Identity Development
Gender Norms & Socialization
Microsocial Context
Religious beliefs; doctrine

Figure Caption

Figure 3. Diagram of the five-factor model depicting the five factors Hate, LGB Knowledge, LGB Civil Rights, Religious Conflict, and Internalized Affirmativeness. From "Development, Reliability, and Validity of the Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals (LGB-KASH)" by R. L. Worthington et al., 2005, *Journal of Counseling Psychology, 52*, 104-118.


Knowledge & Attitudes Towards LGB Individuals
HATE
LGB KNOWLEDGE
LGB CIVIL RIGHTS
RELIGIOUS CONFLICT
INTERNALIZED AFFIRMATIVENESS

APPENDIX B

Lesbian, Gay, and Bisexual Knowledge and Attitude Scale for Heterosexuals

(LGB-KASH; Worthington, Dillon, & Becker-Schutte, 2005)

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

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

NOTE: LGB = Lesbian, Gay, or Bisexual.

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

1. I feel qualified to educate others about how to be affirmative regarding LGB issues.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

2. I have conflicting attitudes or beliefs about LGB people.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

3. I can accept LGB people even though I condemn their behavior.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

4. It is important to me to avoid LGB individuals.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

5. I could educate others about the history and symbolism behind the "pink triangle."
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

6. I have close friends who are LGB.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

7. I have difficulty reconciling my religious views with my interest in being accepting of LGB people.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

8. I would be unsure what to do or say if I met someone who is openly lesbian, gay or bisexual.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

9. Hearing about a hate crime against a LGB person would not bother me.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

10. I am knowledgeable about the significance of the Stonewall Riot to the Gay Liberation Movement.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

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

11. I think marriage should be legal for same sex couples.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

12. I keep my religious views to myself in order to accept LGB people.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

13. I conceal my negative views toward LGB people when I am with someone who doesn't share my views.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

14. I sometimes think about being violent toward LGB people.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

15. Feeling attracted to another person of the same sex would not make me uncomfortable.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

16. I am familiar with the work of the National Gay and Lesbian Task Force.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

17. I would display a symbol of gay pride (pink triangle, rainbow, etc.) to show my support of the LBG community.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

18. I would feel self-conscious greeting a known LGB person in a public place.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

19. I have had sexual fantasies about members of my same sex.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

20. I am knowledgeable about the history and mission of the PFLAG organization.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

21. I would attend a demonstration to promote LGB civil rights.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

22. I try not to let my negative beliefs about LGB people harm my relationships with lesbian, gay, or bisexual individuals.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

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

23. Hospitals should acknowledge same sex partners equally to any other next of kin.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

24. LGB people deserve the hatred they receive.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

25. It is important to teach children positive attitudes toward LGB people.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

26. I conceal my positive attitudes toward LGB people when I am with someone who is homophobic.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

27. Health benefits should be available equally to same sex partners as to any other couple.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

28. It is wrong for courts to make child custody decisions based on a parent's sexual orientation.
|-----|-----|-----|-----|-----|
1 2 3 4 5 6

SCORING:

HATE = 4, 24, 8, 14, 9, 18

KNOWLEDGE = 20, 10, 16, 5, 1

CIVIL RIGHTS = 27, 23, 11, 28, 25

RELIGIOUS CONFLICT = 26, 12, 22, 7, 3, 13, 2

INTERNALIZED AFFIRMATIVENESS = 19, 15, 17, 6, 21

There are no reverse scored items. Subscale scores are obtained by averaging ratings on items receiving a response for each participant. As such, if item # 19 is not rated by a specific respondent, only the remaining four items on the internalized affirmativeness subscale are used to obtain the average, and so on. This method ensures comparable scores when there is missing data.

APPENDIX C

Modern Homonegativty Scale

(MHS; Morrison & Morrison, 2002)

Instructions: Please use the scale below to respond to the following items. Circle the number that indicates the extent to which each statement you strongly disagree or strongly agree. Please try to respond to every item.

1 2 3 4 5
Strongly Disagree Strongly Agree

(Noun = Gay men)

1. Many gay men use their sexual orientation so that they can obtain special privileges.
|-----|-----|-----|-----|-----|
1 2 3 4 5
2. Gay men seem to focus on the ways in which they differ from heterosexuals, and ignore the ways in which they are the same.
|-----|-----|-----|-----|-----|
1 2 3 4 5
3. Gay men do not have all the rights they need.*
|-----|-----|-----|-----|-----|
1 2 3 4 5
4. The notion of universities providing students with undergraduate degrees in Gay and Lesbian Studies is ridiculous.
|-----|-----|-----|-----|-----|
1 2 3 4 5
5. Celebrations such as "Gay Pride Day" are ridiculous because they assume that an individual's sexual orientation should constitute a source of pride.
|-----|-----|-----|-----|-----|
1 2 3 4 5
6. Gay men still need to protest for equal rights.*
|-----|-----|-----|-----|-----|
1 2 3 4 5
7. Gay men should stop shoving their lifestyle down other people's throats.
|-----|-----|-----|-----|-----|
1 2 3 4 5
8. If gay men want to be treated like everyone else, then they need to stop making such a fuss about their sexuality/culture.
|-----|-----|-----|-----|-----|
1 2 3 4 5
9. Gay men who are "out of the closet" should be admired for their courage.*
|-----|-----|-----|-----|-----|
1 2 3 4 5
10. Gay men should stop complaining about the way they are treated in society, and simply get on with their lives.
|-----|-----|-----|-----|-----|
1 2 3 4 5
11. In today's tough economic times, tax dollars shouldn't be used to support gay men's organizations.
|-----|-----|-----|-----|-----|
1 2 3 4 5
12. Gay men have become far too confrontational in their demand for equal rights.
|-----|-----|-----|-----|-----|
1 2 3 4 5

* = Reversed Score Items

Instructions: Please use the scale below to respond to the following items. Circle the number that indicates the extent to which each statement you strongly disagree or strongly agree. Please try to respond to every item.

1 2 3 4 5
Strongly Disagree Strongly Agree

(Noun = Lesbians)

1. Many lesbians use their sexual orientation so that they can obtain special privileges.
|-----|-----|-----|-----|
1 2 3 4 5
2. Lesbians seem to focus on the ways in which they differ from heterosexuals, and ignore the ways in which they are the same.
|-----|-----|-----|-----|
1 2 3 4 5
3. Lesbians do not have all the rights they need.*
|-----|-----|-----|-----|
1 2 3 4 5
4. The notion of universities providing students with undergraduate degrees in Gay and Lesbian Studies is ridiculous.
|-----|-----|-----|-----|
1 2 3 4 5
5. Celebrations such as "Gay Pride Day" are ridiculous because they assume that an individual's sexual orientation should constitute a source of pride.
|-----|-----|-----|-----|
1 2 3 4 5
6. Lesbians still need to protest for equal rights.*
|-----|-----|-----|-----|
1 2 3 4 5
7. Lesbians should stop shoving their lifestyle down other people's throats.
|-----|-----|-----|-----|
1 2 3 4 5
8. If lesbians want to be treated like everyone else, then they need to stop making such a fuss about their sexuality/culture.
|-----|-----|-----|-----|
1 2 3 4 5
9. Lesbians who are "out of the closet" should be admired for their courage.*
|-----|-----|-----|-----|
1 2 3 4 5
10. Lesbians should stop complaining about the way they are treated in society, and simply get on with their lives.
|-----|-----|-----|-----|
1 2 3 4 5
11. In today's tough economic times, tax dollars shouldn't be used to support lesbian's organizations.
|-----|-----|-----|-----|
1 2 3 4 5
12. Lesbians have become far too confrontational in their demand for equal rights.
|-----|-----|-----|-----|
1 2 3 4 5

* = Reversed Score Items

APPENDIX D

Religious Fundamentalism Scale

(RFS; Altemeyer & Hunsberg, 1992)

Instructions: Please use the scale below to respond to the following items. Circle the number that indicates the extent to which each statement you very strongly disagree or very strongly agree. Please try to respond to every item.

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

Very Strongly Disagree Very Strongly Agree

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

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

2. All of the religions in the world have flaws and wrong teachings. *

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

3. Of all the people on this earth, one group has a special relationship with God because it believes the most I his revealed truths and tries the hardest to follow his laws.

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

4. The long-established traditions in religion show the best way to honour and serve God, and should never be compromised.

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

5. Religion must admit all its past failings, and adapt to modern life if it is to benefit humanity.*

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

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

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

7. Different religions and philosophies have different versions of the truth, and may be equally right in their own way.*

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

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

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

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

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

10. No one religion is especially close to God, nor does God favor any particular group of believers.*

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

11. God will punish most severely those who abandon his true religion.

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

12. No single book of religious writings contains all the important truths about life.*

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

13. It is silly to think people can be divided into “the Good” and “the Evil”. Everyone does some good, and some bad things.

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

14. God’s true followers must remember that he requires them to constantly fight Satan and Satan’s allies on this earth.

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

15. Parents should encourage their children to study all religions without bias, then make up their own minds about what to believe.*

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

16. There *is* a religion on this earth that teaches, without error, God’s truth.

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

17. “Satan” is just the name people give to their own bad impulses. There really is *no such thing* as a diabolical “Prince as Darkness” who tempted us.*

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

18. Whenever science and sacred scripture conflict, science must be wrong.

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

19. There is no body of teachings, or set of scriptures, which is completely without error.

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

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

|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-4 -3 -2 -1 0 +1 +2 +3 +4

APPENDIX E

Functional Assessment of Chronic Illness Therapy-Spirituality Scale

(FACIT-Sp; Peterman, Fitchett, Brady, Hernandez, & Cella, 2002).

Instructions: Please use the scale below to respond to the following items. Circle the number that indicates the extent to which each statement reflects your beliefs and attitudes from not at all to very true for me. Please respond to every item.

1 2 3 4 5
Not at all Very true for me

1. I feel peaceful.
|-----|-----|-----|-----|-----|
1 2 3 4 5

2. I have a reason for living.
|-----|-----|-----|-----|-----|
1 2 3 4 5

3. My life has been productive.
|-----|-----|-----|-----|-----|
1 2 3 4 5

4. I have trouble feeling peace of mind.
|-----|-----|-----|-----|-----|
1 2 3 4 5

5. I feel a sense of purpose in my life.
|-----|-----|-----|-----|-----|
1 2 3 4 5

6. I am able to reach deep down inside myself in order to feel comfortable.
|-----|-----|-----|-----|-----|
1 2 3 4 5

7. I feel a sense of harmony in myself.
|-----|-----|-----|-----|-----|
1 2 3 4 5

8. My life lacks meaning and purpose.
|-----|-----|-----|-----|-----|
1 2 3 4 5

9. I find strength in my faith.
|-----|-----|-----|-----|-----|
1 2 3 4 5

10. I find comfort in my faith.
|-----|-----|-----|-----|-----|
1 2 3 4 5

11. Difficult times have strengthened my faith.
|-----|-----|-----|-----|-----|
1 2 3 4 5

APPENDIX F

Tables 1 and 2 for Maximum Likelihood Estimates for Indicator Variables for the 28-Item LGB-KASH Five-Factor Oblique Model and Second-Order Model

Table 1

Maximum Likelihood Estimates for Indicator Variables for the Five-Factor Oblique Model

Path	B	S.E.	Beta	C.R.	Sig.
LGB Hate to:					
4. It is important to me to avoid LGB individuals.	1.00		.71		
8. I would be unsure what to do or say if I met someone who is openly lesbian, gay or bisexual.	1.00	.07	.66	15.02	.00
9. Hearing about a hate crime against a LGB person would not bother me.	.88	.07	.52	12.13	.00
14. I sometimes think about being violent toward LGB people.	.63	.04	.62	14.33	.00
18. I would feel self-conscious greeting a known LGB person in a public place.	1.02	.07	.61	14.17	.00
24. LGB people deserve the hatred they receive.	.86	.06	.66	15.15	.00
LGB Knowledge to:					
1. I feel qualified to educate others about how to be affirmative regarding LGB issues.	.61	.05	.46	11.28	.00
5. I could educate others about the history and symbolism behind the "pink triangle."	.74	.05	.59	14.88	.00
10. I am knowledgeable about the significance of the Stonewall Riot to the Gay Liberation Movement.	.84	.05	.63	15.92	.00
16. I am familiar with the work of the National Gay and Lesbian Task Force.	1.00		.79		
20. I am knowledgeable about the history and mission of the PFLAG organization.	.84	.04	.79	19.54	.00
LGB Civil Rights to:					
11. I think marriage should be legal for same sex couples.	1.08	.06	.69	17.93	.00
23. Hospitals should acknowledge same sex partners equally to any other next of kin.	.95	.05	.75	19.43	.00
25. It is important to teach children positive attitudes toward LGB people.	.87	.05	.68	17.49	.00
27. Health benefits should be available equally to same sex partners as to any other couple.	1.00		.78		
28. It is wrong for courts to make child custody decisions based on a parent's sexual orientation.	.833	.05	.61	15.77	.00

Table 1 Continued

Maximum Likelihood Estimates for Indicator Variables for the Five-Factor Oblique Model

Path	B	S.E.	Beta	C.R.	Sig.
Internalized Affirmativeness to:					
6. I have close friends who are LGB.	.611	.05	.50	13.12	.00
15. Feeling attracted to another person of the same sex would not make me uncomfortable.	.55	.05	.45	11.64	.00
17. I would display a symbol of gay pride (pink triangle, rainbow, etc.) to show my support of the LBG community.	.84	.04	.80	23.37	.00
19. I have had sexual fantasies about members of my same sex.	.43	.04	.40	10.31	.00
21. I would attend a demonstration to promote LGB civil rights.	1.00		.86		
Religious Conflict to:					
2. I have conflicting attitudes or beliefs about LGB people.	.89	.08	.54	10.58	.00
3. I can accept LGB people even though I condemn their behavior.	1.03	.10	.55	10.69	.00
7. I have difficulty reconciling my religious views with my interest in being accepting of LGB people.	.89	.08	.55	10.72	.00
12. I keep my religious views to myself in order to accept LGB people.	.37	.08	.22	4.92	.00
13. I conceal my negative views toward LGB people when I am with someone who doesn't share my views.	1.00		.62		
22. I try not to let my negative beliefs about LGB people harm my relationships with lesbian, gay, or bisexual individuals.	.86	.10	.44	9.04	.00
26. I conceal my positive attitudes toward LGB people when I am with someone who is homophobic.	.47	.07	.31	6.69	.00

Note. Variables with the highest standardized regression coefficients were fixed to 1.00.

Table 2

Maximum Likelihood Estimates for Paths for Second Order Model

Path	B	S.E.	Beta	C.R.	Sig.
LGB to:					
Hate	-.22	.03	-.40	-8.09	.000
LGB Knowledge	.34	.04	.47	9.498	.000
LGB Civil Rights	.65	.05	.74	12.96	.000
Internalized Affirmativeness	1.00		.97		
Religious Conflict	-.39	.04	-.59	-9.62	.000

Note. Path with the highest standardized regression coefficient was fixed to 1.00.

APPENDIX G

Tables 1 and 2 for Maximum Likelihood Estimates for the Revised 21-Item LGB-KASH Five-Factor Oblique Model and Second-Order Model

Table 1

Maximum Likelihood Estimates for Indicator Variables for the Revised Five-Factor Oblique Model

Path	B	S.E.	Beta	C.R.	Sig.
LGB Hate to:					
4. It is important to me to avoid LGB individuals.	1.00		.74		
8. I would be unsure what to do or say if I met someone who is openly lesbian, gay or bisexual.	.98	.06	.67	15.31	.00
9. Hearing about a hate crime against a LGB person would not bother me.	.80	.07	.50	11.60	.00
18. I would feel self-conscious greeting a known LGB person in a public place.	.99	.07	.62	14.38	.00
24. LGB people deserve the hatred they receive.	.77	.05	.62	14.27	.00
LGB Knowledge to:					
5. I could educate others about the history and symbolism behind the "pink triangle."	.72	.05	.58	14.34	.00
10. I am knowledgeable about the significance of the Stonewall Riot to the Gay Liberation Movement.	.85	.05	.64	15.91	.00
16. I am familiar with the work of the National Gay and Lesbian Task Force.	1.00		.79		
20. I am knowledgeable about the history and mission of the PFLAG organization.	.85	.04	.80	19.28	.00
LGB Civil Rights to:					
23. Hospitals should acknowledge same sex partners equally to any other next of kin.	.97	.05	.77	19.66	.00
25. It is important to teach children positive attitudes toward LGB people.	.87	.05	.68	17.22	.00
27. Health benefits should be available equally to same sex partners as to any other couple.	1.00		.79		
28. It is wrong for courts to make child custody decisions based on a parent’s sexual orientation.	.81	.05	.61	15.28	.00

Table 1 Continued

Maximum Likelihood Estimates for Indicator Variables for the Revised Five-Factor Oblique Model

Path	B	S.E.	Beta	C.R.	Sig.
Internalized Affirmativeness to:					
15. Feeling attracted to another person of the same sex would not make me uncomfortable.	.53	.05	.44	11.35	.00
17. I would display a symbol of gay pride (pink triangle, rainbow, etc.) to show my support of the LBG community.	.84	.04	.81	20.82	.00
19. I have had sexual fantasies about members of my same sex.	.42	.04	.40	10.25	.00
21. I would attend a demonstration to promote LGB civil rights.	1.00		.87		
Religious Conflict to:					
2. I have conflicting attitudes or beliefs about LGB people.	1.12	.11	.60	10.04	.00
3. I can accept LGB people even though I condemn their behavior.	1.08	.12	.50	9.08	.00
7. I have difficulty reconciling my religious views with my interest in being accepting of LGB people.	1.08	.11	.59	9.93	.00
13. I conceal my negative views toward LGB people when I am with someone who doesn't share my views.	1.00		.54		

Note. Variables with the highest standardized regression coefficients were fixed to 1.00.

Table 2

Maximum Likelihood Estimates for Paths for Revised Second Order Model

Path	B	S.E.	Beta	C.R.	Sig.
LGB to:					
Hate	-.41	.04	-.59	-10.42	.000
LGB Knowledge	.26	.04	.30	6.02	.000
LGB Civil Rights	.84	.07	.79	12.50	.000
Internalized Affirmativeness	1.00		.79		
Religious Conflict	-.47	.05	-.71	-9.14	.000

Note. Path with the highest standardized regression coefficient was fixed to 1.00.