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Development, Reliability, and Validity of the Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals (LGB-KASH)

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Four studies on the development and validation of the Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals (LGB-KASH) were conducted. Exploratory factor analysis of an initial item pool yielded 5 factors assessing internalized affirmativeness, civil rights attitudes, knowledge, religious conflict, and hate—indicating that heterosexual knowledge and attitudes regarding LGB individuals could be conceptualized as multidimensional and wide-ranging. The stability of the multidimensional factor structure of the LGB-KASH was evaluated by confirmatory factor analysis. Test-retest stability, internal consistency, and validity coefficients supported the use and continued development of the new instrument. Significant differences were found between heterosexual and LGB individuals on all 5 factors, especially internalized affirmativeness, knowledge, and religious conflict. Implications for theory and research on heterosexual knowledge and attitudes are discussed.

Numerous scholars have conceptualized heterosexual attitudes toward lesbian, gay, and bisexual (LGB) individuals as multidimensional and wide-ranging (e.g., McNaught, 1997; Mohr, 2002; Mohr & Rochlen, 1999; Raja & Stokes, 1998; Riddle, 1985; Worthington, Savoy, Dillon, & Vernaglia, 2002). There are two concurrent yet divergent trends in the United States with respect to attitudes toward LGB individuals. Although Yang (2000) has reported data that suggest a gradual trend over the past 25 years toward increasingly more positive attitudes among the general population, there has also been a corresponding increase in highly publicized violence (Lacayo, 1998) and a mixture of outcomes in a variety of judicial and legislative legal battles over LGB civil rights issues. Furthermore, as LGB individuals become more visible in the mainstream of United States culture, heterosexuals' knowledge of LGB history, symbols, and community are likely to evidence corresponding increases. As a result, scholars in counseling psychology and other fields are trying to develop an understanding of how heterosexual individuals (and especially counselors) develop positive, affirmative attitudes toward LGB individuals (e.g., Bieschke, Eberz, Bard, & Croteau, 1998; Gelberg & Chojnacki, 1995). However, past theory and research have been strongly influenced by the conceptualization of heterosexual attitudes along a single cognitive continuum from *condemnation* to *tolerance* (i.e., Herek, 1984). Furthermore, research on heterosexual attitudes toward LGB individuals typically relies on instruments that are intended to measure *homophobia*. In fact, the term *LGB-affirmativeness* (i.e., positive, affirmative attitudes toward LGB individuals) is often assumed to be the absence (or reduction) of homophobia and heterosexism, or it is not specifically defined at all. Therefore, as heterosexual attitudes toward LGB individuals reflect widening complexities, it is critical that scientific measurement provides increasing precision of range and dimensionality.

Our purpose was to investigate the range and dimensionality of heterosexual knowledge and attitudes regarding LGB individuals and to produce a psychometrically sound instrument to measure them. The following sections will present (a) a brief description of existing knowledge and a brief summary pertaining to how heterosexual attitudes toward LGB individuals have been conceptualized in the past, (b) a review of existing measures of heterosexual attitudes, and (c) the rationale for the development and psychometric evaluation of the LGB Knowledge and Attitudes Scale for Heterosexuals (LGB-KASH).

Conceptualizing Heterosexual Attitudes Toward LGB Individuals

Heterosexual attitudes are wide-ranging and multidimensional. Definitions of homophobia and heterosexism have varied in the literature of several disciplines. Antigay attitudes have been characterized by using a number of different labels, of which *heterosexism*, *homophobia*, and *homonegativity* are the most common. Heterosexism is broadly defined as a belief system in which heterosexual practices are the prerequisite for privileged standing (Nakayama, 1998). Weinberg (1972) defined homophobia as the dread of being in close quarters with LGB individuals. Other

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researchers defined homophobia as an emotional reaction to the identity and sexual practices of LGB individuals (Rothblum & Bond, 1996). This emotional reaction is characterized by fear, hatred, dislike, or other negative emotions and can be rooted in many factors such as religious beliefs or cultural upbringing (Nakayama, 1998; Rothblum & Bond, 1996). Homonegativity has been defined as negative feelings and thoughts about LGB orientations or individuals (Hudson & Ricketts, 1980). Although social psychologists have generally found that attitudes are poor predictors of behavior, there is some evidence to suggest that homonegative affective experience is associated with self-reports of past homonegative behavior (Patel, Long, McCammon, & Wuensch, 1995), including violence and hate crimes (Berrill, 1990; D'Augelli & Rose, 1990; Franklin, 1998; Herek, 1994, 1998; Jenness & Broad, 1995; Savin-Williams, 1999).

The Role of Heterosexual Identity Development on Attitude Formation

Worthington, Savoy et al. (2002) articulated the connection between heterosexual attitudes toward sexual minorities and heterosexual identity development. They hypothesized that heterosexual attitudes toward LGB individuals are understood as an integral component of one's view of self as a sexual being. The centrality of gender to sexual identity and the construction of identities within a social hierarchy dominated by oppression and privilege are posited to be essential components of their model. Specifically, they hypothesized that gender socialization leads both boys and girls to associate gender stereotype nonconformity with homosexuality, which in turn stimulates homophobic reactions. For example, both males and females might be castigated via homophobic labels and harassment when they fail to conform to gender role stereotypes. Antigay attitudes, therefore, are conceptualized as functioning toward the preservation of the privileged status of heterosexuals and thought to be developed through a process of gendered socialization. Ultimately, self-definition as a heterosexual is suggested to be characterized primarily by rejection and hostility toward what one *is not*, rather than a self-definition based on what one *is*. Therefore, to become fully LGB-affirmative, an individual may require reevaluation of one's identity as a heterosexual. As such, sexual identity exploration (past or current) and synthesis are believed to be associated with higher levels of LGB-affirmativeness. Heterosexual individuals who have engaged in meaningful sexual self-exploration are more likely to be affirming of LGB individuals because their personal sexual experiences are likely to be more varied, making them less susceptible to homophobic confusion regarding the sexual variability in the world at large, which may also be a function of greater security in their own sexual identities (e.g., identity achievement) and general sense of sexuality.

According to the Worthington, Savoy et al. (2002) model of heterosexual identity, there are a host of biopsychosocial contextual factors that impact heterosexual identity development and ultimately lead toward the types of attitudes heterosexual individuals hold toward LGB individuals. For example, socialization within a culture that is characterized by systemic homonegativity, sexual prejudice, and privilege has a major influence on heterosexual attitudes toward LGB individuals. Society is saturated with images, role models, and stereotypes that negatively portray same-sex relationships and LGB individuals and may even implicitly sanction antigay violence. Therefore, although LGB-affirmativeness often has been described implicitly in the literature as the "absence of homophobia," the Worthington, Savoy et al. (2002) model suggests that the highest levels of LGB-affirmativeness require that heterosexuals overcome their socialization to develop (a) knowledge of LGB history, symbols, and community; and (b) a recognition of heterosexual hegemony and privilege that extends beyond tolerance. Although a relatively small number of the most homophobic individuals also may be more aware of LGB history, symbols, and community than many (or even most) moderately accepting individuals, the highest levels of LGB-affirmativeness are assumed to occur at levels beyond a generalized sense of acceptance and intellectualized support, which is likely to be manifested in greater knowledge and self-awareness. Indeed, the seemingly bipolar nature of the knowledge continuum for highly affirmative and homophobic individuals is a critical reason for the development of a scale that addresses knowledge and attitudes in a multidimensional fashion. Finally, another major contextual factor is religious socialization, which often results in potentially conflicting attitudes reflected in the statement, "Love the sinner, hate the sin," which is commonly applied to LGB individuals by persons of various religious orientations. Therefore, heterosexual attitudes toward LGB individuals are hypothesized to reflect (a) sexual self-awareness; (b) systemic homonegativity, sexual prejudice, and privilege; (c) knowledge of LGB history, symbols, and community; and (d) the potential for religious conflict.

Correlates of Heterosexist and Homonegative Attitudes

A large body of literature has unequivocally identified both heterosexism and homonegativity as pervasive in U.S. culture (Corey, 1998; Kimmel, 1997; Nakayama, 1998; Neisen, 1990). The most commonly cited correlates to antigay attitudes include social distance (Weinberg, 1972), biological sex (Herek, 1988; Kite, 1984; Kite & Deaux, 1986), gender role socialization and norms (MacDonald & Games, 1974; MacDonald, Huggins, Young, & Swanson, 1973), sexual conservatism (Ficarrotto, 1990; Minnigerode, 1976), authoritarianism (Greendlinger, 1985), discrimination and prejudice (Beran, Claybaker, Dillon, & Haverkamp, 1992; Ficarrotto, 1990; Henley & Pincus, 1978; Minnigerode, 1976), hostility and aggression (Herek, 1993; Logan, 1996), socioerotic reductionism (the heterosexist tendency for society to view sexual behaviors as the defining feature of LGB individuals' lives) (Davison & Friedman, 1981; Herek, 1993), and religiosity (Johnson, Brems, & Alford-Keating, 1997).

Broadly speaking, attitudes regarding dominance and discrimination have been postulated to arise from a general social dominance orientation (SDO) regarding people and groups (Sidanius & Pratto, 1999). Incorporating psychological, sociological, and evolutionary constructs, Sidanius and Pratto (1999) have proposed SDO as,

> a very general individual differences orientation expressing the value that people place on nonegalitarian and hierarchically structured relationships among social groups . . . [which] expresses general support for the domination of certain socially constructed groups over other socially constructed groups. (p. 61)

SDO has been empirically correlated to political conservatism, racial-ethnic prejudice, sexism, and a host of other prejudicial attitudes and has been described as a unifying construct in explaining oppressive attitudes and behaviors among individuals and societies (Sidanius & Pratto, 1999). Thus, attitudes (but not necessarily knowledge) regarding LGB individuals are likely to be related to SDO.

Existing Measures of Heterosexual Attitudes

The most commonly used measures of heterosexual attitudes are the Index of Homophobia (IHP; Hudson & Ricketts, 1980) and Attitudes Toward Lesbians and Gay Men (ATLG; Herek, 1984). These measures have been used in a wide range of empirical studies (Herek, 1994; Raja & Stokes, 1998). Two more recent measures of heterosexual attitudes are the Modern Homophobia Scale (MHS; Raja & Stokes, 1998) and the Attitudes Regarding Bisexuality Scale (ARBS; Mohr & Rochlen, 1999). Hudson and Ricketts (1980) developed the IHP to measure "homophobic versus nonhomophobic attitudes" (p. 357). Herek (1994) found one factor accounting for heterosexual attitudes: "condemnation-tolerance." He asserted that the items corresponded with "personal and cultural attitudes popularly termed homophobia" (Herek, 1994, p. 210). The ATLG is a 20-item measure with two subscales: Attitudes Toward Lesbians (ATL) and Attitudes Toward Gay Men (ATG). In light of the growing visibility of lesbians and gay men in Western society, Raja and Stokes (1998) argued that existing measures of homophobia should be updated. Raja and Stokes (1998) published a scale (the MHS) that, like Herek's ATLG, contained separate subscales for lesbians (MHS-L) and gay men (MHS-G), not on the basis of factor analysis but on the basis of mean differences in responses to items pertaining to the different target groups. The Attitudes Regarding Bisexuality Scale (ARBS; Mohr & Rochlen, 1999) differs from previous measures in several ways. First, it only addresses attitudes toward bisexual men and women. It also assesses the attitudes of heterosexual men, heterosexual women, gay men, and lesbians. Mohr and Rochlen identified two main factors: stability of bisexual orientation and tolerance of bisexual individuals. Three forms of the scale were created to assess attitudes about (a) female bisexuality (ARBS-F), (b) male bisexuality (ARBS-M), and (c) both male and female bisexuality (ARBS-FM). The items on the ARBS-F and ARBS-M are identical, with the exception of gender-specific referents for men and women. The ARBS-FM retains gender-specific items to assess the same dimensions of attitudes (stability and tolerance). Mohr (personal communication, May 8, 2002) reported that the three forms were very highly correlated (rs $> .90$) but suggested that mean differences on responses regarding men versus women support the use of the two forms targeting gender. In addition, Mohr, Israel, and Sedlacek (2001) found that attitudes regarding bisexuality predicted counselors' responses to a case study of a bisexual woman above and beyond attitudes toward lesbians and gay men.

Herek (1994) noted that, like other attitude scales, the ATLG was constructed and validated at a particular time and in a particular place, making its utility limited by its cultural context. As public discourse about sexual orientation evolves, the ATLG inevitably will require modification to be of continuing value (Herek, 1994), or it will otherwise need to be replaced by more modern instruments reflecting the complexity of heterosexual attitudes. Existing measures of heterosexual attitudes have allowed researchers to collect valuable information about how heterosexuals view LGB individuals. However, as suggested by Worthington, Savoy et al. (2002), the public discourse about sexual orientation is evolving, and it appears that there are a wide range of LGB-affirmative attitudes that may not be tapped by existing measures. Also, many LGB individuals have become more visible, causing many heterosexual individuals to experience ambivalent or uncertain attitudes (Worthington, Savoy et al., 2002). Finally, antigay violence reflects a level of attitude that encompasses hatred and violent behavior (Herek, 2000) that should certainly be conceptualized as extending beyond the level of "condemnation" reflected as the polar end of Herek's continuum of heterosexual attitudes. Attitudes reflecting "violent homonegativity" have not been incorporated into existing measures. This investigation extends the existing measurement of heterosexual attitudes by examining the multidimensionality and full range of attitudes with the development of a new scale.

The development and validation of the LGB-KASH included four studies. Study 1 included scale development procedures and an exploratory factor analysis (EFA) of LGB-KASH items and discriminant validity of the instrument as well as initial internal consistency. Study 2 investigated the factor stability of the initial exploratory factor solution and provided additional evidence of validity. Study 3 assessed the test-retest reliability of the instrument and provided evidence of convergent validity of the instrument as well as additional internal consistency. Study 4 investigated the sensitivity of the LGB-KASH to differences across participant sexual orientation identities.

Study 1: Scale Development, EFA, and Initial Reliability and Discriminant Validity Estimates

The purpose of this study was to develop a set of items to tap the hypothesized multidimensionality of heterosexual attitudes and to explore the underlying factor structure of the items. Discriminant validity was expected to be supported by the absence of, or minimal correlations between, LGB-KASH scores and impression management, as measured by the Balanced Inventory of Desirable Responding (BIDR; Paulhus & Reid, 1991). The LGB-KASH also was expected to demonstrate adequate internal consistency.

Method

Participants

Participants were recruited from (a) four midwestern universities via e-mail announcements and (b) the Internet. Five hundred ninety-eight heterosexually identified participants submitted valid responses to the survey questionnaire (211 men and 387 women). Responses from LGB individuals ($n = 79$, approximately 12%) were removed from the dataset for use in Study 4. The sample used for analysis of the scale included 422 heterosexual respondents ($n = 214$ from university e-mail solicitation and 208 from the Internet; 50% = female, 50% = male). The sample included adults ranging in age from 18 to 57 years ($M = 23.89$, $SD = 7.55$). Respondents reflected a wide range of educational levels, including less than high school graduate ($n = 4$, 0.95%), high school diploma ($n = 105$, 24.88%), some college ($n = 159$, 37.67%), associate of arts degree ($n = 7$, 1.65%), bachelor's degree ($n = 92$, 21.80%), and graduate degrees ($n = 48$, 11.37%). The majority were White/European American ($n = 347$,

82.5%), and 17.5% identified other racial or ethnic backgrounds, including 22 African American, 16 Hispanic/Latino(a), 7 Asian/Asian American, 2 Native American Indian, 2 biracial/multiethnic, 6 international (non-U.S. citizens), and 20 other or nonspecified. Respondents indicated residence in 21 different U.S. states and nine other countries (i.e., England, Ireland, Australia, Germany, Canada, Croatia, Israel, New Zealand, and Spain).

Measures

LGB-KASH. Smaller scale pilot studies were conducted to form the foundation for the present examination of heterosexual knowledge and attitudes (see Becker-Schutte & Worthington, 2001; Dillon et al., 1999). In the previous studies, 211 items were generated on the basis of a review of existing measures of homophobia, a review of scales measuring racism and sexism, the existing literature examining heterosexual attitudes toward LGB individuals, and the Worthington, Savoy et al. (2002) model of heterosexual identity. At the conclusion of the pilot studies, we had narrowed our list to 32 items. The remaining items were intended to reflect the following dimensions: violent homonegativity (e.g., "I sometimes feel violent toward gay men/lesbian women/bisexual individuals"); homophobic intolerance (e.g., "Same-sex marriage just does not make sense to me"); negatively ambivalent attitudes (e.g., "I do not care what LGB individuals do as long as they do not draw attention to themselves"); indifference (e.g., "I have never given much thought to my beliefs about lesbian, gay, or bisexual people"); positively ambivalent attitudes (e.g., "I'm not sure what to say or do when someone makes an anti-LGB joke or statement"); affirmative or supportive attitudes (e.g., "It is important to teach children positive attitudes about LGB people"); and specific attitudes toward lesbians or gay men or bisexual persons (e.g., "Lesbian women [gay men] should be allowed to adopt children"; "Gay men [Lesbian women] deserve the hatred they receive"). However, results of the initial pilot studies were limited and potentially biased in terms of (a) predominantly homogenous small samples (e.g., approximately 80% were college educated, White, females) and (b) the narrow scope of dimensions of possible heterosexual attitudes that the initial measures were hypothesized to assess. Therefore, 28 new items were developed to expand the range of items included under the affirmativeness, conflicting attitudes, and sexual orientation-specific subscales. These new items reflected more contemporary issues related to civil rights (e.g., "Hospitals should acknowledge same-sex partners equally to any other next of kin"), items intended to reflect differential negativity toward lesbians versus gay men versus bisexual individuals (e.g., ["Lesbian/Gay/Bisexual] individuals should not be allowed to work with children"), and issues of religiosity (e.g., "I keep my religious views to myself in order to accept LGB people"). These items were intended to reflect the present literature on heterosexual attitudes and offer the foundation for multiple forms of the LGB-KASH to independently examine attitudes and knowledge regarding gay men or lesbians or bisexual men and women. Thus, after the pilot studies and new round of item generation for the present study, the revised version of the LGB-KASH had a total of 60 items for this study. Items were arranged in a Likert format ranging from 1 (*very uncharacteristic of me*) to 7 (*very characteristic of me or my views*).

Demographic questionnaire. In addition to the scale items, participants responded to nine demographic questions (age, gender, highest level of education, race-ethnicity, sexual orientation identity, type of religious affiliation, frequency of religious attendance, and importance of religion/spirituality). Three of the demographic questions were focused on dimensions of religious or spiritual belief and were combined in the analysis as "religiosity" (i.e., the frequency of religious attendance, the influence of religious values, and the importance of religion/spirituality).

The BIDR. The BIDR (Paulhus & Reid, 1991) is a 40-item scale that measures two constructs associated with socially desirable responding. The two constructs are self-deceptive positivity (SDE) (i.e., the tendency to give self-reports that are honest but exaggerated claims of positive cognitive attributes) and Impression Management (IM; i.e., deliberate self-presentation of desirable behaviors to an audience). Items 1–20 assess self-deceptive positivity, and Items 21–40 assess impression management. For this investigation, we were only interested in the IM subscale and thus did not collect data for the SDE subscale. Respondents rate their agreement with each statement on a 7-point Likert scale (1 = *not true*, 4 = *somewhat true*, 7 = *very true*), with an IM test range of 0–20. High scores indicate exaggeratedly desirable responses on the IM subscale. The IM scoring key is balanced, with 10 items negatively scored. Total scores are calculated by first assigning items for which respondents report an extreme response (6 or 7) score of 1, and then summing each of these extreme response items. A Cronbach's alpha reliability coefficient of .75–.86 was reported for the IM subscale. Test-retest correlations over a 5-week period have been reported at .65 for the IM scale. The 40 BIDR items show convergent validity as a measure of socially desirable responding by correlating (.71) with the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) and (.80) the Multidimensional Social Desirability Inventory (Jacobson, Kellogg, Cauce, & Slavin, 1977). Examples of the items are "I do not care to know what other people really think of me" and "When I hear people talking privately, I avoid listening." Cronbach's alpha was .81. (Cronbach's alpha was calculated on the basis of raw data and not transformed scores.)

Procedure

A mailing list was constructed containing e-mail addresses of 800 students listed in the global directory of a major university system in the midwest. Potential respondents were sent an initial and follow-up e-mail that announced a research study regarding "human sexuality" and contained a link to the survey questionnaire Web page. The survey Web page also was posted on two public-access Internet sites containing links to psychological research studies. The survey Web page first provided an informed consent page, followed by the survey questionnaire. Debriefing information was contained at the end of the survey questionnaire. There were no incentives offered to participants.

A caveat of Internet-based data collection is the possibility that participants can submit their completed surveys more than once or that Web-based data collection is susceptible to malicious or random responding. As recommended by Schmidt (1997), Smith and Leigh (1997), and Mohr and Rochlen (1999), duplicate surveys were identified using the date, time, and origin of submission or Internet protocol (IP) address. In the event that duplicate surveys appeared to be submitted accidentally from the same IP address (e.g., two identical cases submitted within a minute or two), one survey from the pair of duplicate surveys was eliminated from the dataset. Schmidt (1997) noted that Internet-based survey methodologies are particularly susceptible to respondents who intentionally supply incorrect survey data to undermine the research. This danger may be especially great when conducting LGB research because of the pervasive societal intolerance about LGB issues. Furthermore, because the survey-taking environments of Internet users are highly variable, respondents may supply incorrect data because of inattentiveness and distractions. In addition, we used several survey items to check for random responding (e.g., "Please do not respond to this item," "Please click the button at the far right of the scale," etc.). Using a conservative approach to data screening (e.g., elimination of any case that contains a single indicator of potentially malicious or random responding), 28 cases were not included in the dataset on the basis of screening techniques. Specifically, examination of computer origin IP addresses led to 11 dropped cases. Seventeen additional cases were dropped because of values that reflected random or potentially malicious responding on the validity check items. The demographics of all cases in the sample were examined to identify identical demographic data (e.g., age, gender, race-ethnicity, sexual orientation identity, religious affiliation). None of the cases in the sample contained identical demographic data.

Results

Preliminary Analyses

We conducted a series of analyses to evaluate the extent to which there were demographic differences between the two sources of participants for the sample. Gender (men or women) was cross-tabulated with source of participants (Internet or university e-mail solicitation), and the resulting chi-square statistic was nonsignificant, $\chi^2(1, N = 422) = 1.37$, $p = .24$. In order to conduct a cross-tabulation for race-ethnicity, we collapsed the eight categories into two (Whites and People of Color) and eliminated international and "other" groups from the analysis. The resulting chi-square statistic was nonsignificant, $\chi^2(1, N = 422) = 0.33$, $p = .57$. We also conducted a one-way analysis of variance, with the source of participants as the grouping factor (Internet or university e-mail) and age of participants as the dependent variable. There was a difference between the two groups in age, $F(1, 421) = 16.07$, $p < .001$, $\eta^2 = .037$. Internet respondents were older on average ($M = 25.36$, $SD = 8.76$) than university e-mail respondents ($M = 22.46$, $SD = 5.83$); however, the effect size was small. Given these findings, we combined these two sources of participants in subsequent analyses and assumed that demographic differences between the two groups were not likely to influence the results.

Initial Screening

We used an item-total score correlation procedure to identify items that correlated well with the hypothesized subscales (based on the conceptualized framework). The standard criteria of .30 served as the lower limit for all respective subscale items using a Cronbach's alpha procedure (Nunnally & Bernstein, 1994). On the basis of the initial screening procedure, 18 of the original 60 items were eliminated from further consideration. We conducted an initial principal-axis factor analysis to determine whether assumptions necessary for EFA were met. The Kaiser-Meyer-Olkin measure of sampling adequacy for the initial EFA was .91. Bartlett's test of sphericity was significant at the .001 level, indicating that the sample size was large enough to evaluate the factor structure. According to the guidelines provided by Tabachnick and Fidell (1996), the data matrix approximated an identity matrix. Thus, the factor model was appropriate for analysis, and the condition of the data matrix was suitable for factor analysis.

EFA

We conducted an initial principal-axis factor extraction analysis. Items with communalities lower than .29 were deleted. Items with cross-loadings with either an absolute value greater than .35 or a relative discrepancy of less than .15 were also eliminated. An additional 14 of the remaining 42 items were eliminated on the basis of low communalities and cross-loadings, leaving 28 items. On the basis of the expected correlation of the factors, the researchers decided to use oblique rotation when conducting the exploratory analyses. On the basis of the eigenvalues greater than 1.00 (Kaiser, 1958), examination of the scree plot (Catell, 1966), percentage of variance accounted for, and expected solution sets, multiple factor solutions were explored (from one factor to eight factors). For each solution, an oblique rotation analysis was conducted with a forced number of factors. After exploring each of these factor structures for the most appropriate solution, it was determined that a five-factor solution was the most interpretable. The factor structure was chosen over the other solutions for the following reasons: (a) it resulted in the most robust factor structure; that is, it yielded items with stronger factor loadings and fewer cross-loadings than other solutions; (b) in the two-, three-, and four-factor solutions, there were no clear conceptual differences between the factors; and (c) there were very few and relatively weak item structures in the sixth, seventh, and eighth factors of the latter two solutions. In addition, we used the criterion of a minimum loading of three items on each factor (Floyd & Widman, 1995) in considering factor retention.

Factor Development

Named factors, factor loadings, communalities, and reliability statistics are presented in Table 1. There were six items on the first factor, which accounted for 29.76% of the variance, reflecting attitudes about avoidance, self-consciousness, hatred, and violence toward LGB individuals. We named this factor "Hate." The second factor contained five items and accounted for 7.44% of the variance. The items on the second factor reflected basic knowledge about the history, symbols, and organizations related to the LGB community. We named this factor "Knowledge of LGB History, Symbols, and Community." The third factor contained five items (accounting for 3.72% of the variance) that addressed beliefs about the civil rights of LGB individuals with respect to marriage, child rearing, health care, and insurance benefits. We named this factor "LGB Civil Rights." The fourth factor contained seven items, which accounted for 5.73% of the variance. The items on the fourth factor included conflictual beliefs and ambivalent homonegativity with respect to LGB individuals, often of a religious nature. We named this factor "Religious Conflict." The fifth factor contained five items (accounting for 2.13% of the variance) that reflected a personalized affirmativeness and a willingness to engage in proactive social activism. We named this factor "Internalized Affirmativeness." Cronbach's alphas were .81, .81, .87, .76, and .83 for the five subscales, respectively.

Relationships Between Factors and Other Measured Variables

Intercorrelations between subscales of the LGB-KASH, gender, religiosity, and the BIDR-IM are shown in Table 2. Subscale intercorrelations for the instrument were in the moderate to high range (absolute value of $r = .27$–$.64$) and fit the conceptualization of the scale. The single strongest correlation was between LGB Civil Rights and Internalized Affirmativeness ($r = .64$). There were significant and substantial correlations between the gender of participants and three of the factors: Hate ($r = .30$), Civil Rights ($r = -.35$), and Internalized Affirmativeness ($r = -.36$), in which more affirmative attitudes are associated with the female gender and stronger attitudes on the Hate subscale were associated with the male gender (see Table 2). Although religiosity positively correlated with Religious Conflict attitudes and negatively correlated with Civil Rights attitudes, neither of these correlations accounted for more than 3% of the shared variance. The BIDR-IM scale was negatively correlated with Hate and Internalized Affir-

Table 1
LGB-KASH Items and Item Statistics for Study 1

Item	Factor loadings					*M*	*SD*	h^2	α
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5				
8. It is important for me to avoid LGB individuals.	**.78**	.04	−.00	.02	−.06	1.82	1.37	.64	.74
9. LGB people deserve the hatred they receive.	**.71**	.06	−.24	−.21	.09	1.47	1.19	.58	.77
19. I would be unsure what to do or say if I met someone who is openly lesbian, gay, or bisexual.	**.62**	−.04	.20	.11	−.13	2.12	1.57	.41	.78
33. I sometimes think about being violent toward LGB people.	**.58**	.00	−.17	−.10	.16	1.32	1.02	.34	.79
20. Hearing about a hate crime against an LGB person would not bother me.	**.58**	−.01	−.06	.09	.06	1.89	1.53	.38	.78
43. I would feel self-conscious greeting a known LGB person in a public place.	**.54**	.00	.13	.15	−.22	2.27	1.74	.44	.78
47. I am knowledgeable about the history and mission of the PFLAG organization.	−.00	**.90**	−.14	.02	−.09	1.70	1.46	.61	.75
21. I am knowledgeable about the significance of the Stonewall Riot to the Gay Liberation Movement.	.04	**.79**	−.03	.05	−.10	1.97	1.67	.47	.76
35. I am familiar with the work of the National Gay and Lesbian Task Force.	−.01	**.79**	−.12	.08	.07	2.12	1.70	.58	.77
12. I could educate others about the history and symbolism behind the pink triangle.	−.09	**.68**	.00	.03	−.08	1.86	1.48	.37	.79
2. I feel qualified to educate others about how to be affirmative regarding LGB issues.	−.10	**.48**	.12	−.01	.05	3.09	1.81	.42	.80
60. Health benefits should be available equally to same-sex partners as to any other couple.	−.03	−.08	**.93**	.07	−.12	5.36	2.10	.66	.84
59. Hospitals should acknowledge same-sex partners equally to any other next of kin.	−.07	−.09	**.87**	.11	−.07	5.38	1.98	.62	.84
24. I think marriage should be legal for same-sex couples.	−.03	.03	**.70**	−.02	.10	4.37	2.41	.67	.84
55. It is wrong for courts to make child custody decisions based on a parent's sexual orientation.	−.19	.00	**.57**	.05	.03	4.79	2.27	.52	.85
37. It is important to teach children positive attitudes toward LGB people.	−.29	−.01	**.43**	.06	.22	4.90	2.11	.61	.86
26. I conceal my negative views toward LGB people when I am with someone who doesn't share my views.	.14	.04	.04	**.66**	.04	2.71	1.96	.44	.71
25. I keep my religious views to myself in order to accept LGB people.	−.07	.09	.23	**.64**	−.06	2.77	1.97	.32	.74
1. I try not to let my negative beliefs about homosexuality harm my relationships with LGB people.	−.26	−.09	−.30	**.57**	.15	3.74	2.23	.42	.72
14. I have difficulty reconciling my religious views with my interest in being accepting of LGB people.	.31	−.01	−.03	**.51**	.18	2.28	1.83	.38	.71
7. I can accept LGB people even though I condemn their behavior.	−.21	.08	−.35	**.50**	−.17	3.54	2.29	.51	.72
38. I conceal my positive attitudes toward LGB people when I am with someone who is homophobic.	.04	.08	.20	**.49**	−.04	2.52	1.74	.29	.75
5. I have conflicting attitudes or beliefs about LGB people.	.28	−.11	−.14	**.43**	.17	3.25	2.05	.41	.73
46. I have had sexual fantasies about members of my same sex.	.04	−.12	−.11	.08	**.85**	2.44	2.07	.43	.82
34. Feeling attracted to another person of the same sex would not make me uncomfortable.	−.04	.01	.01	.01	**.66**	3.27	2.22	.47	.80
36. I would display a symbol of gay pride (pink triangle, rainbow, etc.) to show my support of the LGB community.	.09	.16	.20	−.05	**.53**	2.33	1.92	.61	.78
13. I have close friends who are LGB.	−.18	.10	.02	−.05	**.46**	3.76	2.42	.47	.80
48. I would attend a demonstration to promote LGB civil rights.	.02	.32	.29	−.02	**.37**	3.74	2.23	.70	.77

Note. Unique factor loadings > .35 are in bold. Analysis is based on 422 observations. LGB (lesbian, gay, bisexual)-KASH item ratings range from 1 to 7. Likert scale anchors for Study 1 ranged from 1 = *very uncharacteristic of me or my views* to 7 = *very characteristic of me or my views.* Internal consistency estimates for Factors 1, 2, 3, 4, and 5 were $\alpha = .81$, $\alpha = .81$, $\alpha = .87$, $\alpha = .76$, and $\alpha = .83$, respectively. LGB-KASH = Knowledge and Attitudes Scale for Heterosexuals. Factor 1 = Hate; Factor 2 = Knowledge of LGB History, Symbols, and Community; Factor 3 = LGB Civil Rights; Factor 4 = Religious Conflict; Factor 5 = Internalized Affirmativeness; h^2 = item communalities at extraction; α = Cronbach's alpha coefficient if item deleted.

Table 2
Correlations Among LGB-KASH Subscales, Demographic Variables, and Selected Predictor Variables for Studies 1–3

	Study 1: LGB-KASH Factor					Study 2: LGB-KASH Factor					Study 3: LGB-KASH Factor				
Variable	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Factor 2	−.30**	—				.05	—				−.04	—			
Factor 3	−.61**	.40**	—			−.14	.28**	—			−.61**	.31*	—		
Factor 4	−.35**	−.27**	−.40**	—		.31**	−.36**	−.46**	—		.30	−.15	−.39**	—	
Factor 5	−.50**	.61**	.64**	−.41**	—	−.56**	−.09	.53**	−.41**	—	−.41**	.42**	.37**	.02	—
Gender	.30**	−.24**	.14**	−.35**	−.36**	.18**	.61**	−.27**	−.06	−.15**	.27*	.18	−.27*	.22	−.40**
Religiosity	.09*	.03	−.14**	.17**	.02	—	—	—	—	—	.12	−.37**	−.49**	.18	−.30*
BIDR-IM	−.12*	.05	−.04	−.11	−.12*	—	—	—	—	—	—	—	—	—	—
SDS	—	—	—	—	—	.30**	−.19**	−.41**	.13*	−.32**	—	—	—	—	—
MoSIEC Exploration	—	—	—	—	—	−.19**	.25**	.40**	−.23**	.39**	—	—	—	—	—
MoSIEC Commitment	—	—	—	—	—	−.11*	−.11*	−.04	.00	−.14**	—	—	—	—	—
MoSIEC Orientation	—	—	—	—	—	.11*	.17**	.05	.01	.22**	—	—	—	—	—
MoSIEC Synthesis	—	—	—	—	—	−.13**	−.06	−.01	−.02	−.10*	—	—	—	—	—
ATL	—	—	—	—	—	—	—	—	—	—	.48**	−.38*	−.82**	.45**	−.46**
ATG	—	—	—	—	—	—	—	—	—	—	.57**	−.27	−.89**	.50**	−.41**
ARBS Tolerance-M	—	—	—	—	—	—	—	—	—	—	−.49**	−.02	.70**	−.47**	−.30
ARBS Tolerance-F	—	—	—	—	—	—	—	—	—	—	−.44*	−.07	.74**	−.37*	−.21
ARBS Stability-M	—	—	—	—	—	—	—	—	—	—	−.24	.09	.14	−.39*	−.41*
ARBS Stability-F	—	—	—	—	—	—	—	—	—	—	−.45*	−.22	.52**	−.38*	−.10

Note. Study 1: $N = 422$. Study 2: $N = 312$. Study 3: $N = 45$. Dashes indicate data were not obtained. LGB-KASH = Lesbian, Gay, Bisexual-Knowledge and Attitudes Scale for Heterosexuals; Factor 1 = Hate; Factor 2 = Knowledge of LGB History, Symbols, and Community; Factor 3 = LGB Civil Rights; Factor 4 = Religious Conflict; Factor 5 = Internalized Affirmativeness. BIDR-IM = Balanced Inventory of Desirable Responding-Impression Management; SDS = Social Dominance Orientation Scale; MoSIEC = Measure of Sexual Identity Exploration and Commitment; ATL = Attitudes Toward Lesbians; ATG = Attitudes Toward Gay Men; ARBS = Attitudes Regarding Bisexuality Scale.
* $p < .05$. ** $p < .01$.

mativeness attitudes, and although neither accounted for a substantial proportion of the variance (< 5% in both cases), these negative correlations make sense with respect to the content of items on each subscale. None of the items regarding differential attitudes toward lesbians versus gay men versus bisexual men and women were retained in the final factor solution.

Study 2: Factor Structure Reliability and Construct Validity

A confirmatory factor analysis was used to investigate the factor stability of the five-factor solution of the LGB-KASH. Competing models of the LGB-KASH factor structure were tested as a means of investigating the construct validity of the measure. First-order and second-order models were compared as a means of ascertaining the best possible fit for the data. Additional reliability and validity data for this sample were also investigated with previously noted correlates of attitudes (i.e., SDO and sexual identity development). We hypothesized that the data obtained in Study 2 would fit the factor model established in Study 1 and that the pattern of subscale intercorrelations for the LGB-KASH would be similar for that obtained in Study 1 (i.e., moderately positive correlations for Factors 1, 2, and 3, which have moderately negative correlations with Factors 4 and 5; Factors 4 and 5 would have moderately positive correlations). In addition, we hypothesized that LGB Civil Rights, Knowledge, and Internalized Affirmativeness would be negatively correlated with SDO and positively correlated with sexual identity exploration, and Religious Conflict and Hate would be positively correlated with SDO and negatively correlated with sexual identity exploration.

Method

Participants

The 574 participants for this study were from two different sources: (a) participants who completed the survey online via a Web site containing psychological studies on the Internet (as in Study 1) and (b) participants who completed the survey as part of a larger investigation regarding campus climate at a major university (see below). The 312 participants from the campus climate study included 191 women and 121 men, all of whom identified as heterosexual. The sample contained participants in the following age ranges: 22 and under (n = 109, 34.93%), 23–32 years (n = 81, 25.96%), 33–42 years (n = 42, 13.46%), 43–52 years (n = 55, 17.62%), and 53 and over (n = 25, 8.01%). The sample contained undergraduate (n = 111, 35.57%), graduate (n = 11, 3.52%), and professional students (n = 27, 8.65%), along with faculty (n = 47, 15.06%), administrators (n = 6, 1.92%), and staff (n = 110, 65.25%). The sample contained participants in the following racial ethnic groups: 11 (3.52%) African American, 16 (5.12%) Asian/Pacific Islander, 8 (2.56%) Native American/Alaskan Native, 10 (3.20%) Chicano/Latino/Hispanic, and 265 (84.93%) White/Caucasian; 2 participants did not indicate racial-ethnic group membership. The 183 online participants included 143 women and 40 men, all of whom identified as heterosexual, ranging in age from 18 to 62 years (M = 24.69, SD = 8.29). The sample contained participants in the following racial-ethnic groups: 12 (6.55%) African American, 5 (2.73%)Asian/Pacific Islander, 7 (2.24%) biracial/multiethnic, 1 (0.54%) Native American/Alaskan Native, 9 (4.91%) Chicano/Latino/Hispanic, 135 (73.77%) White/Caucasian, and 10 (5.46%) "other"; 4 participants did not indicate racial-ethnic group membership.

Measures

The LGB-KASH. The set of 28 LGB-KASH items yielded from Study 1 was administered to participants in the present study.

Social Dominance Orientation Scale (SDS; Sidanius & Pratto, 1999). The SDS is a 14-item instrument designed to measure the theoretical construct of SDO (Sidanius & Pratto, 1999). Items are rated on a Likert-type scale ranging from 1 (*very negative*) to 7 (*very positive*). Respondents are asked to rate each item with respect to the degree of positive or negative feelings they hold toward the objects or statements that are contained in the items. Examples of items include the following: "Some groups of people are simply not the equals of others" and "Increased social equality." Various versions of the scale have been developed and refined over the course of more than 45 studies since 1979. Although the factor structure of the scale indicates two highly correlated components, the recommended scoring is for a single total score. Sidanius and Pratto (1999) reported extensive validity evidence for the scale (e.g., SDO has been empirically correlated with political conservatism, racial-ethnic prejudice, sexism, and a host of other prejudicial attitudes) and internal consistencies that range from .70 to .89. Cronbach's alpha for the present study was .93.

Measure of Sexual Identity Exploration and Commitment (MoSIEC; Worthington, Savoy, & Navarro, 2002). The MoSIEC was developed to measure sexual identity development within the framework described by Worthington, Savoy, and Navarro (2002). The instrument contains 26 items designed to measure four dimensions of sexual identity development on the following subscales: Exploration (9 items), Commitment (7 items), Sexual Orientation Uncertainty (4 items), and Synthesis (5 items). Items are rated on a Likert-type scale ranging from 1 (*very uncharacteristic of me*) to 6 (*very characteristic of me*). Higher scores on each subscale are indicative of higher levels of the construct measured by that subscale. Examples of items include the following: "I am actively trying to learn more about my own sexual needs" (Exploration), "I have a clear sense of the types of sexual activities I prefer" (Commitment), "My sexual orientation is not clear to me" (Sexual Orientation Uncertainty), and "The ways I express myself sexually are consistent with all of the other aspects of my sexuality" (Synthesis). Worthington, Savoy, and Navarro (2002) reported evidence for the validity of the scale via findings of hypothesized relationships with sexual conservatism, sexual self-monitoring, sexual assertiveness, awareness of sexual appeal, age, gender, and sexual orientation identity. They reported internal consistencies ranging from .74 to .89 for the various subscales. Cronbach's alphas for the present investigation were .79, .83, .76, and .78 for the Exploration, Commitment, Sexual Orientation Uncertainty, and Synthesis subscales, respectively.

Procedure

Data were collected via Internet-based data collection procedures. The campus climate study was publicized widely via newsprint and radio press releases and mass e-mail announcements and requests for participation. Approximately 3,930 students were directly solicited for participation in Phase 1, and 1,746 participated for an estimated response rate of 40%. Respondents received mass e-mail announcements on two occasions during the course of a single academic semester. Respondents could access a Web site containing the informed consent page for the climate study directly from a link contained in the e-mail. A link containing the words *I agree* was provided at the bottom of the informed consent page that routed participants to the demographic page and questionnaire. Participants were given the opportunity to submit an e-mail registration for a raffle drawing for various items, including free parking, free textbooks, and concert tickets. Screening for random and malicious responding was conducted prior to data analyses by using identical procedures described in Study 1. Thirty-six cases in the dataset were eliminated on the basis of screening techniques.

Results

Preliminary Analyses

We assessed the presence of differences on the subscale scores for the LGB-KASH by conducting a series of analyses of variance, with subsample as the grouping variable (Internet or climate study). There were significant statistical differences between three of the five LGB-KASH subscales. There were no significant differences between groups on Hate, $F(1, 572) = 1.32$, $p > .05$, $\eta^2 = .002$, and Knowledge, $F(1, 572) = 0.36$, $p > .05$, $\eta^2 = .001$. Significant differences were found for Religious Conflict, $F(1, 572) = 5.51$, $p < .05$, $\eta^2 = .01$, LGB Civil Rights, $F(1, 572) = 4.17$, $p < .05$, $\eta^2 = .007$, and Internalized Affirmativeness, $F(1, 572) = 1.32$, $p < .05$, $\eta^2 = .016$, in which members of the climate study sample expressed lower levels of Internalized Affirmativeness, higher levels of Religious Conflict, and more negative attitudes toward LGB Civil Rights. Effect sizes for all three of these group differences were very small, suggesting that the large sample size played a role in detecting small but unimportant differences; thus, we conducted the remaining analyses on the entire sample.

Confirmatory Factor Analysis

We conducted a confirmatory factor analysis on the 28 items of the LGB-KASH with the AMOS 5.0 computer program (Arbuckle, 1999). Comparisons were made between the identified five-factor oblique model, a second-order five-factor model, and an independence model. Several indexes assessing the degree to which the model fits the data were computed for each of the competing models. As has been noted extensively in the literature, the chi-square statistic tends to be affected by large sample sizes and is almost always significant despite reasonable fit to the data (Bentler & Bonett, 1980; Byrne, 2001), which also often occurs in models with numerous variables and high degrees of freedom (Bryant & Yarnold, 1995). Therefore, as suggested by Byrne (2001), we used several alternative indexes of fit as adjuncts to the chi-square statistic, including the χ^2/df ratio, goodness-of-fit index, adjusted goodness-of-fit index, root-mean-square residual (RMR), incremental fit index (IFI), parsimony comparative fit index (PCFI), and root-mean-square error of approximation (RMSEA).

Goodness-of-fit indicators for the competing hypothetical models for the 28-item LGB-KASH are shown in Table 3. As expected, the chi-square statistics for all three competing models were significant. In addition, an evaluation of our adjunct fit indexes suggested that a reasonable degree of fit was obtained for the five-factor oblique model, but the second-order model did not provide an improvement of fit over the first-order oblique model. The goodness-of-fit index and adjusted goodness-of-fit index did not reach recommended values (.90–.95), but the IFI, PCFI, and RMSEA reached values that indicate reasonable fit. In particular, the values associated with the IFI indicated the highest values for the five-factor oblique model, the PCFI falls within the expected range of values, and the RMSEA values below .08 represent reasonable errors of approximation in the population (Byrne, 2001). Furthermore, the confidence interval range for the RMSEA (reported in Table 3) was less than .10—a very narrow confidence interval that indicated "good precision of the RMSEA value in reflecting model fit in the population" (Byrne, 2001, p. 85)—and did not indicate a mediocre fit (Quintana & Maxwell, 1999). These findings suggest that the five-factor oblique model provides the best fit to the data and that the second-order model does not improve on the first-order model.

In order to evaluate the model misspecification, we analyzed the standardized residual covariances and the modification indexes provided by the AMOS 5.0 program. According to Byrne (2001), standardized residuals are analogous to Z scores and are therefore preferable to unstandardized residuals in the interpretation of model misspecification. Values greater than 2.58 are considered to be statistically discrepant from the zero residuals that would exist if the model were perfect. We found 77 standardized residual covariances that fell outside the expected range among the 378 covariances in the output (representing approximately 20% of the residuals). The majority of the residual covariances falling outside the expected range were associated with four items ("I feel qualified to educate others about how to be affirmative regarding LGB issues," "I would be unsure what to do or say if I met someone who is openly lesbian, gay or bisexual," "I sometimes think about being violent toward LGB people," and "I would feel self-conscious greeting a known LGB person in a public place"). The second type of information related to misspecification reflects the extent to which the hypothesized model is appropriately described, which is captured by the modification indexes (MIs). For each fixed parameter specified, AMOS provides an MI, the value of which represents the expected drop in overall chi-square value if the parameter were to be freely estimated in a subsequent run. Associated with each MI is an expected parameter change (EPC) value, which represents the predicted estimated change for each fixed parameter in the model, yielding important information regarding the sensitivity of the evaluation of fit to any reparameterization of the model (Byrne, 2001). There were a substantial number of parameters that produced large MIs and EPCs. However, we were

Table 3
Goodness-of-Fit Indicators for the Competing Hypothetical Models for the 28-Item LGB-KASH for Study 2

Model	χ^2	*df*	*p*	χ^2/df	GFI	AGFI	RMR	IFI	PCFI	RMSEA
Independence	6792.89	378	*ns*	17.97	.32	.27	.74	.00	.00	.17
Five-factor oblique	1325.52	340	*ns*	3.90	.84	.81	.21	.85	.76	.07
Second order	1546.61	346	*ns*	4.47	.80	.76	.24	.80	.73	.08

Note. $N = 574$. Confidence intervals for the RMSEA were as follows: Independence model: .169, .176; Five-factor oblique: .067, .075; Second-order: .078, .086. LGB-KASH = Lesbian, Gay, Bisexual-Knowledge and Attitudes Scale for Heterosexuals; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; RMR = root-mean-square residual; IFI = incremental fit index; PCFI = parsimony comparative fit index; RMSEA = root-mean-square error of approximation.

unable to locate any meaningful modifications in the model that might result in increased fit. Therefore, post hoc respecification of the model was not attempted in this study.

Descriptive Statistics

Subscale intercorrelations and bivariate correlations with the SDS and MoSIEC appear in Table 2. All of the intercorrelations among LGB-KASH subscales were significant and ranged from .11 to .59 (absolute values). All five of the LGB-KASH subscales were correlated (low to moderate) with the SDS and MoSIEC Exploration subscales in the hypothesized directions.

The means for the LGB-KASH subscales indicate that the participants generally reported more positive than negative views about LGB Civil Rights but moderately low levels of basic Knowledge, Religious Conflict, and Internalized Affirmativeness and very low levels of Hate (see Table 4). The internal consistency estimates for this sample were high for the Knowledge ($\alpha = .80$), Religious Conflict ($\alpha = .73$), Hate ($\alpha = .78$), Civil Rights ($\alpha = .88$), and Internalized Affirmativeness ($\alpha = .74$) subscales.

Study 3: Test-Retest Reliability Estimates and Convergent Validity Data

The purpose of Study 3 was to provide additional reliability data, specifically test-retest reliability estimates, for the LGB-KASH. Another purpose was to obtain additional validity estimates for the LGB-KASH. It was predicted that the LGB-KASH subscales would be related to existing measures of heterosexual attitudes toward LGB individuals. Specifically, LGB Civil Rights, Knowledge, and Internalized Affirmativeness were expected to negatively correlate with attitudes toward gay men and lesbians, as measured by the ATL and ATG, but Religious Conflict and Hate were expected to positively correlate with those scales. Given the relative newness of the ARBS, we examined relationships with it on the LGB-KASH in an exploratory fashion, but we did not hypothesize the size or direction of any relationships.

Method

Participants

Forty-five participants completed questionnaires for Study 3. Participants were 27 women and 18 men ranging in age from 18 to 41 years ($M = 22.55$, $SD = 6.27$). Of the participants, 37 identified as European American (82.22%), 6 (13.33%) identified as African American, and 2 (4.44%) identified as international (non-U.S. citizen). All 45 participants identified as heterosexual on the demographic questionnaire.

Measures

The ARBS. The ARBS is a 24-item scale that measures attitudes toward bisexuality (Mohr & Rochlen, 1999). The ARBS measures two constructs termed *stability* and *tolerance*. Stability refers to attitudes toward the stability and legitimacy of bisexuality as a sexual orientation identity as well as the stability of bisexual men and women in their relationships. Tolerance refers to the degree to which bisexuality is viewed as a moral, tolerable sexual orientation identity and not harmful to society. This version of the ARBS provides items that assess attitudes toward bisexuality in men (M) and women (F) separately along the two dimensions (stability and tolerance). Examples of items are "Male bisexuality is not usually a phase, but rather a stable sexual orientation" and "The only true sexual orientations for women are homosexuality and heterosexuality" (reversed scored). Respondents rate their agreement with each statement on a 5-point rating scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, and 5 = *strongly agree*), with a total test range of 12–60 on each separate scale. Higher scores indicate positive attitudes toward bisexuality. In the initial test development samples, internal consistency estimates were as follows: Stability-F, .89; Stability-M, .90; Tolerance-F, .86; Tolerance-M, .83. Three-week test-retest estimates were as follows for the ARBS subscales: Stability-F, .71; Stability-M, .86; Tolerance-F, .92; Tolerance-M, .84. Convergent validity analyses indicated that stability scores were positively correlated with contact with a bisexual person, willingness to have a bisexual best friend, willingness to date a bisexual person, and level of contact with heterosexual people. Stability scores were negatively correlated with having had a bad dating experience with a bisexual person and with identifying as exclusively lesbian or gay. Discriminant validity analyses indicated that neither stability nor tolerance scale scores were related to self-monitoring, need to evaluate, or age. Internal consistency estimates for the present sample were as follows: Stability-F, .86; Stability-M, .92; Tolerance-F, .93; Tolerance-M, .94.

The ATLG scale. The ATLG scale is a 20-item measure designed to assess attitudes toward lesbian women and gay men along a cognitive continuum from condemnation to tolerance (Herek, 1984). The ATLG consists of 10 items involving a lesbian target (ATL) and 10 items involving a gay male target (ATG). Examples of items include "Lesbians just cannot fit into our society" and "Male homosexuality is a perversion." Items are rated on a 9-point scale ranging from 1 (*strongly disagree*) to 9 (*strongly agree*). A coefficient alpha of .87 has been reported for this scale. Herek, 1984, reported coefficient alphas for the total scale (.87), ATL (.85), and ATG (.92). The construct validity of the ATLG was supported by correlating it with measures of religious conservatism-fundamentalism, contact with lesbians and gay men, traditional sex role attitudes, and levels of authoritarianism (Herek, 1984). The ATLG is usually scored so that

Table 4
Means, Standard Deviations, and Internal Consistency Estimates for LGB-KASH Subscale Scores for Studies 1–4

	Study 1			Study 2			Study 3 (a)			Study 3 (b)			Study 4		
Variable	*M*	*SD*	α	*M*	*SD*	α	*M*	*SD*	α	*M*	*SD*	α	*M*	*SD*	α
Hate	1.82	1.02	.81	1.62	0.85	.75	1.72	0.79	.68	1.47	0.68	.72	1.39	0.70	.78
LGB Knowledge	2.14	1.22	.81	2.06	1.06	.80	1.51	0.79	.85	1.56	1.01	.89	3.31	2.11	.94
Religious Conflict	2.96	1.29	.76	2.69	1.09	.73	3.02	1.07	.69	3.00	1.00	.54	2.45	1.13	.73
LGB Civil Rights	4.94	1.84	.87	4.44	1.50	.88	3.89	1.57	.86	4.21	1.23	.73	5.37	1.64	.92
Internalized Affirmativeness	2.91	1.66	.83	2.71	1.24	.74	2.23	1.02	.63	2.11	1.06	.59	4.03	2.07	.90

Note. Study 1: $N = 422$; Study 2: $N = 574$; Study 3 (a): $N = 45$; Study 3 (b): $N = 39$; Study 4: $N = 190$; (a) and (b) refer to the first and second administration, respectively, of the test–retest design; LGB-KASH = Lesbian, Gay, Bisexual-Knowledge and Attitudes Scale for Heterosexuals.

higher scores indicate negative attitudes. Internal consistency estimates for the present sample were as follows: ATL, .92; ATG, .91.

Procedure

Participants were recruited from three small undergraduate-level courses from two different institutions in the midwest, a small liberal arts community college near a large metropolitan area, and a major research university located in a midsized college town in a rural area. The three different courses were concerning the following topic areas: (a) psychology, (b) statistics, and (c) art history. Retest administration occurred 2 weeks after the first administration of the LGB-KASH. Participants signed a consent form during the first administration and completed the LGB-KASH and a demographic questionnaire during each of the two separate class periods. Participants were given a debriefing form describing the hypotheses of the study only after the second administration. All students completed the LGB-KASH on both administrations. The LGB-KASH was paired with the ATLG, the ARBS, or both in the first administration.

Results

Reliability Estimates

The 2-week test-retest reliability estimates for the LGB-KASH subscales were as follows: Knowledge, .85; LGB Civil Rights, .85; Internalized Affirmativeness, .90; Religious Conflict, .77; Hate, .76. Internal consistency estimates are reported in Table 4 along with subscale means and standard deviations.

Convergent Validity

Bivariate correlations were calculated among LGB-KASH, ATLG, and ARBS scores to test the relationships between these different measures of attitudes toward LGB individuals. Correlation coefficients are reported in Table 2. Results indicated significant correlations among the ARBS, ATLG, and LGB-KASH subscales. Religiosity and gender were again associated with the LGB-KASH subscales, but age was not. All but one of the bivariate correlations between the LGB-KASH and ATLG subscales were significant and in the expected direction. The pattern of significant correlations between the LGB-KASH and ARBS subscales was less consistent than for the ATLG. Religious Conflict attitudes were moderately and significantly correlated with all of the subscales of the ATLG and ARBS. Civil Rights attitudes were very strongly associated with the ATL, ATG, and Tolerance subscales of the ARBS for both men and women. Knowledge scores were uncorrelated with all but one (ATL) of the subscales of the ATLG and ARBS. Religious Conflict, Hate, and LGB Civil Rights attitudes were correlated in the expected directions with each of the ATLG and ARBS subscales, with only two exceptions; however, three of these bivariate correlations were not significant. Internalized Affirmativeness attitudes were correlated with both subscales of the ATLG but with only one subscale of the ARBS.

Study 4: Sensitivity to Differences Across Sexual Orientation Identities

The purpose of Study 4 was to further examine evidence of the validity for the LGB-KASH scores, specifically construct validity. We hypothesized that support for the validity of the LGB-KASH would be evidenced by higher degrees of Internalized Affirmativeness, LGB Civil Rights, and Knowledge but lower levels of Hate and Religious Conflict among self-identified LGB individuals than among heterosexuals.

Method

Participants

Participants for Study 4 were 95 women, 93 men, and 2 transgender individuals, including 111 individuals who identified as heterosexual, 27 gay men, 29 bisexual persons, 22 lesbians, and 1 person who reported "other." The racial-ethnic composition of the sample was as follows: 149 White/European American (78.4%), 6 Black/African American (3.2%), 12 Asian/Pacific Islander (6.3%), 1 biracial/multiethnic (0.1%), 13 Hispanic/Latino(a) (6.8%), 6 Native American Indian (3.2%), and 3 people who reported "other."

Measures

The LGB-KASH. The set of 28 LGB-KASH items yielded from Study 1 was administered to participants in the present study.

Procedure

LGB participants from Study 1 and another sample of heterosexual participants who participated on the Internet (as in Study 2) were included in this study. Participants completed the LGB-KASH according to procedures described in Studies 1 and 2.

Results

A one-way multivariate analysis of variance was completed to determine whether heterosexual and LGB participants differed on the subscales of the LGB-KASH. Wilks's lambda for the omnibus test was significant, $F(5, 183) = 122.56$, $p < .001$, $\eta^2 = .77$. We conducted a series of analyses of variance to examine the univariate differences. Differences were found between groups on all five subscales, including Hate, $F(1, 187) = 5.59$, $p < .05$, $\eta^2 = .029$, Knowledge, $F(1, 187) = 228.26$, $p < .001$, $\eta^2 = .550$, LGB Civil Rights, $F(1, 187) = 6.91$, $p < .01$, $\eta^2 = .036$, Religious Conflict, $F(1, 187) = 134.82$, $p < .001$, $\eta^2 = .419$, and Internalized Affirmativeness, $F(1, 187) = 494.02$, $p < .001$, $\eta^2 = .725$. As hypothesized, LGB individuals had lower scores on Hate and Religious Conflict and higher scores on Knowledge, LGB Civil Rights, and Internalized Affirmativeness. Very large effect sizes were obtained for Internalized Affirmativeness, Knowledge, and Religious Conflict. Means, standard deviations, and internal consistency estimates for each of the subscales can be found in Table 4.

Discussion

The intent of this investigation was to (a) test the multidimensionality of heterosexual attitudes and (b) provide initial reliability and validity evidence toward the development of a new instrument to measure heterosexuals' attitudes toward LGB individuals. The most important of the several significant findings of this investigation was that measurement of heterosexual knowledge and attitudes regarding LGB individuals appeared to be multidimensional and wide-ranging. Furthermore, we found evidence of internal consistency and stability as well as discriminant, convergent, and construct validity for the LGB-KASH in the following findings:

(a) relatively low but expected correlations with the IM subscale of the BIDR, indicating only minor correspondence with social desirable responding; (b) correspondence with two existing measures of attitudes toward LGB individuals; (c) correlations in the hypothesized direction with SDO and sexual identity exploration; and (d) findings indicating varying attitudes commensurate with self-identified sexual orientation of respondents (i.e., self-identified LGB individuals held more affirmative attitudes than heterosexuals). Finally, we also found that LGB-KASH scores were associated with gender and religiosity; however, these findings were somewhat inconsistent across studies and are further discussed below.

Results of the exploratory factor analyses of the LGB-KASH revealed the covariance among the original pool of LGB-KASH items was best explained by separate, but interrelated, dimensions of heterosexual knowledge and attitudes regarding LGB individuals. The multidimensionality of heterosexual knowledge and attitudes toward LGB individuals were represented in the LGB-KASH factors obtained in Study 1. The five factors of the LGB-KASH expanded the dimensions of heterosexual knowledge and attitudes measured by existing scales. Relations among the subscales support the assessment of a broader range of heterosexual knowledge and attitudes with the LGB-KASH. Although there were some minor variations across studies in the strength and significance of the subscale intercorrelations, their strength and direction were highly consistent across Studies 1–4.

The findings regarding sexual orientation-specific items (i.e., those that specified a particular LGB group such as gay men or lesbians or bisexual individuals) will be of particular interest to many researchers because they appear to be contrary to the dominant paradigm (in which parallel items are used to assess attitudes about each group in isolation). In Study 1, the items developed to tap differential attitudes on the basis of sexual orientation were not retained in the final solution because of low communalities or cross-loadings. However, although the sexual orientation-specific items were generally not supported in this investigation, our approach to evaluating them was distinct from the way that sexual orientation-specific forms have been produced in the past. Specifically, the ATLG and the ARBS forms regarding men and women were not produced by factor analytic data but as a result of mean differences data. Ultimately, the use of gender- or sexual orientation-specific forms should be on the basis of the research (or practice) objectives of the user. Although we viewed producing alternate forms of the LGB-KASH as beyond the scope of this series of studies, we believe that the instrument could be appropriately adapted for such use. Furthermore, future research should investigate the generalization of the dimensions reflected in the LGB-KASH to specific populations of lesbians versus gay men versus bisexual men and women.

We found that the ATLG and ARBS were moderately to highly related to most of the LGB-KASH subscale scores. These findings suggest that the LGB-KASH is an effective measure of attitudes toward lesbians, gay men, and bisexual men and women. Interestingly, the patterns of correlations suggest that the ATLG appears to measure differing levels of the five different dimensions of knowledge and attitudes contained in the LGB-KASH, with the majority of shared variance reflected in LGB Civil Rights attitudes. Similarly, the strongest relationships between the LGB-KASH and ARBS were among the LGB-KASH Civil Rights and ARBS Tolerance subscales. LGB-KASH Knowledge subscale scores were generally not reflected in the ATLG or the ARBS, thus distinguishing the differences between knowledge- and attitude-based constructs.

We also found that the LGB-KASH subscales were moderately related to SDO in the hypothesized directions. Attitudes about Civil Rights, Internalized Affirmativeness, and Hate had the strongest correlations (accounting for 9%–17% of the shared variance), whereas knowledge about the LGB community and religious conflict had significant but relatively low correlations (accounting for 2%–4% of the shared variance). This finding suggests that part, but not all, of the variance in heterosexual attitudes (and to a lesser degree knowledge) regarding LGB individuals can be explained by SDO. Furthermore, as hypothesized by Worthington, Savoy et al. (2002), a significant proportion of the variance in heterosexual knowledge and attitudes regarding LGB individuals is related to sexual identity development. In particular, heterosexual individuals who have explored their own sexual identities (in terms of perceived sexual needs, sexual values, sexual orientation identity, and preferences for modes of sexual expression and sexual activities) are more likely to express comfort with internal experiences of attraction to and affiliation with members of their same sex (i.e., internalized affirmativeness) and more strongly endorse progay civil rights attitudes. The convergent validity findings (i.e., correlations with the ATLG, ARBS, SDS, and MoSIEC) strongly support our initial rationale for the need for multidimensionality in the measurement of heterosexual knowledge and attitudes regarding LGB individuals.

Our findings were generally consistent with a body of literature suggesting that women hold more affirmative attitudes than men hold (e.g., Herek, 1994; Mohr & Rochlen, 1999). However, there were a number of inconsistencies across Studies 1–4 with respect to gender. Hate and Internalized Affirmativeness attitudes were consistent across all three studies in the direction and significance of their relations to gender in which men tended to express higher levels of Hate attitudes and women tended to express higher levels of Internalized Affirmativeness attitudes. The findings for the remaining subscales of the LGB-KASH were inconsistent in the direction and significance of the relations of gender to heterosexual attitudes. Specifically, Knowledge and Religious Conflict attitudes subscales each had one positive, one negative, and one nonsignificant correlation, and the LGB Civil Rights subscale had two negative correlations and one positive correlation. Combined, these findings suggest that gender differences with respect to attitudes may primarily exist on the extreme ends of the continuum and may be less consistent in between, a hypothesis that could not be tested using existing bipolar scales designed to measure homophobia.

The findings with respect to religiosity also were inconsistent between Studies 1 and 3 (religiosity was not measured in Studies 2 or 4). Of the correlations across the two studies, 6 of 10 were significant and consistent with past research with respect to the direction of association (e.g., religiosity was positively correlated with homonegativity and negatively associated with LGB affirmativeness). However, four of the subscales produced inconsistent findings between the two studies. Specifically, the Religious Conflict and Hate subscales produced significant positive correlations in Study 1 but nonsignificant correlations in Study 3, and the Knowledge and Internalized Affirmativeness subscales produced

significant negative correlations in Study 3 but nonsignificant correlations in Study 1. LGB Civil Rights attitudes were consistently negatively associated with religiosity in both studies; however, only the correlation in Study 3 accounted for a substantial proportion of the shared variance (24%). Despite these inconsistencies, religiosity seems to be negatively associated with LGB Internalized Affirmativeness, Knowledge, and support of LGB Civil Rights, but may be only inconsistently associated with attitudes that reflect Hate or Religious Conflict.

The findings regarding religiosity also may be related to problems of measurement of the religiosity variable as well as the relatively smaller sample size in Study 3. Religiosity was assessed with items reflecting traditional religious behaviors and spirituality. The combination of these related but potentially distinct aspects of religiosity may have inadvertently contributed to the inconsistent findings found across studies. There has been considerable debate among investigators as to how to conceptualize and measure religiosity (Hill & Hood, 1999). Although spirituality and religiosity seem synonymous, a review of existing measures suggests that each may be distinct (Hall, Tisdale, & Brokaw, 1994). Further research is required to assess the potential distinction between religiosity, spirituality, and other more specific religious dimensions in the context of attitudes toward LGB individuals.

The findings of the confirmatory factor analysis were somewhat mixed. Although there were three fit indexes that produced findings consistent with a reasonable fit of the data for the five-factor oblique model, further evaluation of the standardized residuals and modification indexes suggested that there may also be potential improvements in fit produced via model respecification. Therefore, although other findings were exceptionally positive with respect to the stability and validity of the instrument, additional research will be necessary to further examine the reliability of the factor structure of the LGB-KASH with other samples.

Limitations

Several limitations concerning the development of the LGB-KASH should be noted. First, although we tried to include items specific to individual target groups within the LGB collective, the factor solution did not effectively retain these items to measure independent attitudes toward lesbians, gay men, or bisexual men and women. Therefore, a limitation of the present scale is that it does not distinguish among attitudes toward these individual groups. As such, except under experimental conditions, or until additional research has extended our initial findings, the use of the LGB-KASH should be limited to only a general assessment of knowledge and attitudes regarding LGB individuals collectively. However, these findings do not preclude the modification of our items to produce more targeted measures of our construct dimensions, and future research should indeed examine the viability of that approach. In fact, an important question for future research will be whether heterosexuals' distinct attitudes toward lesbians, gay men, and bisexual men and bisexual women are reflective of the same (or similar) underlying dimensions. Second, the validity estimates in Study 3 were vulnerable to inflation because of the common method variance resulting from concurrent self-report data across the measures. These limitations notwithstanding, the LGB-KASH appears to be a psychometrically sound, multidimensional measure of a broad range of heterosexual knowledge and attitudes regarding LGB individuals and offers a number of important improvements in measurement over existing instruments available to counseling psychologists.

Implications for Theory, Research, and Measurement

The long-standing theoretical assumption that heterosexual attitudes can be understood only along the unidimensional, bipolar continuum ranging from condemnation to tolerance (Herek, 1994) has been challenged by these findings. We speculate that these results are not only a function of the evolution of heterosexual attitudes since Herek's seminal work in the area but also reflect an increasing need and interest in the precision of measurement in this area. A more precise understanding of heterosexual attitudes as multidimensional can have an important impact on professional training, research, and theory, as well as efforts to combat the negative effects of homonegative socialization among heterosexuals. Given that recent ballot initiatives were passed in 12 states prohibiting gay marriage, political scientists and civil rights activists may find the LGB-KASH useful in evaluating the confluence of attitudes and knowledge reflected in the scale as they relate to voter preferences on a variety of civil rights issues. For example, it would be valuable to know what types of attitudes voters hold toward LGB individuals that most strongly influence their voting behavior. Similarly, instruction or counseling intervention may be very different if a student or client believes that LGB individuals are immoral (i.e., high religious conflict) rather than if the person is worried about being associated with a stigmatized group (i.e., low internalized affirmativeness). In addition, a critical use of this scale would be in supervision and training counselors to identify and develop levels of affirmativeness, especially in terms of working with LGB clients. As the debate regarding reorientation therapies (i.e., interventions aimed at changing LGB orientations into heterosexual orientations) seems to have taken on momentum (see Drescher & Zucker, in press), a deeper understanding of the multidimensionality and range of knowledge and attitudes may become an important tool in examining specific issues raised on both sides. For example, because proponents of reorientation therapies tend to adopt arguments regarding the religious values and conflicts of same-sex attracted clients who pursue reorientation therapy (Beckstead & Morrow, 2004), the Religious Conflict subscale of the LGB-KASH is likely to be correlated with agreement regarding the efficacy of reorientation therapy. In addition, this scale could enable supervisors to assess trainees' levels of LGB-affirmativeness and develop supervision interventions promoting LGB-affirmative counseling competencies (Fassinger & Sperber Ritchie, 1997). Future studies also need to investigate the potential use of the LGB-KASH as an outcome measure to evaluate the effectiveness of LGB-affirmative training efforts.

References

Arbuckle, J. (1999). *Amos users' guide version 4.01.* Chicago: SmallWaters.

Becker-Schutte, A. M., & Worthington, R. L. (2001, August). *Re-examining the measurement of heterosexual attitudes toward lesbian, gay, and bisexual individuals.* Poster presented at the 109th Annual Convention of the American Psychological Association, San Francisco, CA.

Beckstead, A. L., & Morrow, S. L. (2004). Clients' experiences of con-

version therapy: The need for a new treatment model. *The Counseling Psychologist, 32,* 651–690.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin, 88,* 588–606.

Beran, N. J., Claybaker, C., Dillon, C., & Haverkamp, R. J. (1992). Attitudes toward minorities: A comparison of homosexuals and the general population. *Journal of Homosexuality, 23,* 65–83.

Berrill, K. (1990). Antigay violence and victimization in the United States: An overview. *Journal of Interpersonal Violence, 5,* 274–294.

Bieschke, K. J., Eberz, A. B., Bard, C. C., & Croteau, J. M. (1998). Using social cognitive career theory to create affirmative lesbian, gay, and bisexual research training environments. *The Counseling Psychologist, 26,* 735–753.

Bryant, F. B., & Yarnold, P. R. (1995). Principal-components analysis and exploratory and confirmatory factor analysis. In L. G. Grimm & P. R. Yarnold (Eds.), *Reading and understanding multivariate statistics* (pp. 99–136). Washington, DC: American Psychological Association.

Byrne, B. M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Mahwah, NJ: Erlbaum.

Catell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research, 1,* 245–276.

Corey, F. C. (1998). Blessed are the mysteries. In M. L. Hecht (Ed.), *Communicating prejudice* (pp. 257–271). Thousand Oaks, CA: Sage.

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24,* 349–354.

D'Augelli, A. R., & Rose, M. (1990). Homophobia in a university community: Attitudes and experiences of heterosexual freshmen. *Journal of College Student Development, 31,* 484–491.

Davison, G. C., & Friedman, S. (1981). Sexual orientation stereotypy in the distortion of clinical judgment. *Journal of Homosexuality, 6,* 37–44.

Dillon, F. R., Schwenn, H. H. T., Becker-Schutte, A. M., Guerra, R. M., Sanford, T., Worthington, R. L., & Patton, M. J. (1999, August). *Measuring heterosexuals' affirmative attitudes toward lesbian, gay, and bisexual individuals*. Poster session presented at the 107th Annual Convention of the American Psychological Association, Boston, MA.

Drescher, J., & Zucker, K. J. (Eds.). (in press). *The Spitzer ex-gay study: With commentaries on science, religion, politics, and culture*. Binghamton, NY: Haworth Press.

Fassinger, R. E., & Sperber Ritchie, B. (1997). Sex matters: Gender and sexual orientation in training for multicultural counseling competency. In D. B. Pope-Davis & H. L. K. Coleman (Eds.), *Multicultural counseling competencies: Assessment, education and training, and supervision* (pp. 83–110). Thousand Oaks, CA: Sage.

Ficarrotto, T. J. (1990). Racism, sexism, and erotophobia: Attitudes of heterosexuals toward homosexuals. *Journal of Homosexuality, 19,* 111–116.

Floyd, F. J., & Widman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment, 7,* 286–299.

Franklin, K. (1998). Unassuming motivations: Contextualizing the narratives of antigay assailants. In G. M. Herek (Ed.), *Stigma and sexual orientation* (pp. 1–23). Thousand Oaks, CA: Sage.

Gelberg, S., & Chojnacki, J. T. (1995). Developmental transitions of gay/lesbian/bisexual-affirmative, heterosexual career counselors. *Career Development Quarterly, 43,* 267–273.

Greendlinger, V. (1985). Authoritarianism as a predictor of response to heterosexual and homosexual erotica. *High School Journal, 68,* 183–186.

Hall, T. W., Tisdale, T. C., & Brokaw, B. F. (1994). Assessment of religious dimensions in Christian clients: A review of selected instruments for research and clinical use. *Journal of Psychology and Theology, 22,* 395–421.

Henley, N. M., & Pincus, F. (1978). Interrelationship of sexist, racist, and antihomosexual attitudes. *Psychological Reports, 42,* 83–90.

Herek, G. M. (1984). Attitudes towards lesbians and gay men: A factor analytic study. *Journal of Homosexuality, 10,* 39–51.

Herek, G. M. (1988). Heterosexuals' attitudes toward lesbians and gay men: Correlates and gender differences. *The Journal of Sex Research, 25,* 451–477.

Herek, G. M. (1993). The context of antigay violence: Notes on cultural and psychological heterosexism. In L. D. Garnets & D. C. Kimmel (Eds.), *Psychological perspectives on lesbian and gay male experiences. Between men-between women: Lesbian and gay studies* (pp. 89–107). New York: Columbia University Press.

Herek, G. M. (1994). Assessing heterosexuals' attitudes toward lesbians and gay men: A review of empirical research with the ATLG scale. In B. Greene & G. M. Herek (Eds.), *Lesbian and gay psychology: Theory, research, and clinical applications* (pp. 206–228). Thousand Oaks, CA: Sage.

Herek, G. M. (Ed.). (1998). *Stigma and sexual orientation: Understanding prejudice against lesbians, gay men, and bisexuals*. Thousand Oaks, CA: Sage.

Herek, G. M. (2000). The psychology of sexual prejudice. *Current Directions in Psychological Science, 9,* 19–22

Hill, P. C., & Hood, R. W. (1999). *Measures of religiosity*. Birmingham, AL: Religious Education Press.

Hudson, W. W., & Ricketts, W. A. (1980). A strategy for the measurement of homophobia. *Journal of Homosexuality, 5,* 357–372.

Jacobson, L. I., Kellogg, R. W., Cauce, A., & Slavin, R. S. (1977). A multidimensional social desirability inventory. *Bulletin of the Psychonomic Society, 9,* 109–110.

Jenness, V., & Broad, K. (1995). Antiviolence activism and the (in)visibility of gender in the gay/lesbian and women's movements. *Gender and Society, 8,* 402–423.

Johnson, M. E., Brems, C., & Alford-Keating, P. (1997). Personality correlates of homophobia. *Journal of Homosexuality, 34,* 57–69.

Kaiser, H. F. (1958). The varimax criterion for analytic rotation in factor analysis. *Psychometrika, 23,* 187–200.

Kimmel, M. S. (1997). Masculinity as homophobia: Fear, shame, and silence in the construction of gender identity. In M. M. Gergen & S. N. Davis (Eds.), *Toward a new psychology of gender* (pp. 223–242). New York: Routledge.

Kite, M. E. (1984). Sex differences in attitudes toward homosexuals: A meta-analytic review. *Journal of Homosexuality, 10,* 69–81.

Kite, M. E., & Deaux, K. (1986). Gender versus category clustering in free recall: A test of gender schema theory. *Representative Research in Social Psychology, 16,* 38–43.

Lacayo, S. (1998, October 26). The new gay struggle. *Time, 152*(17), 33–36.

Logan, C. R. (1996). Homophobia? No, homoprejudice. *Journal of Homosexuality, 31,* 31–53.

MacDonald, A. P., & Games, R. G. (1974). Some characteristics of those who hold positive and negative attitudes toward homosexuals. *Journal of Homosexuality, 1,* 9–27.

MacDonald, A. P., Huggins, J., Young, S., & Swanson, R. A. (1973). Attitudes toward homosexuality: Preservation of sex morality or double standard? *Journal of Consulting and Clinical Psychology, 40,* 161.

McNaught, B. (1997). *Now that I'm out, what do I do?* New York: St. Martin's Press.

Minnigerode, F. A. (1976). Age-status labeling in homosexual men. *Journal of Homosexuality, 1,* 273–276.

Mohr, J. J. (2002). Heterosexual identity and the heterosexual therapist: An identity perspective on sexual orientation dynamics in psychotherapy. *The Counseling Psychologist, 30,* 532–566.

Mohr, J. J., Israel, T., & Sedlacek, W. E. (2001). Counselors' attitudes regarding bisexuality as predictors of counselors' clinical responses: An

analogue study of a female bisexual client. *Journal of Counseling Psychology, 48,* 212–222.

Mohr, J. J., & Rochlen, A. B. (1999). Measuring attitudes regarding bisexuality in lesbian, gay male, and heterosexual populations. *Journal of Counseling Psychology, 45,* 353–369.

Nakayama, T. K. (1998). Communication of heterosexism. In M. L. Hecht (Ed.), *Communicating prejudice* (pp. 257–271). Thousand Oaks, CA: Sage.

Neisen, J. H. (1990). Heterosexism: Redefining homophobia for the 1990s. *Journal of Gay and Lesbian Psychotherapy, 1,* 21–35.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.

Patel, S., Long, T. E., McCammon, S. L., & Wuensch, K. L. (1995). Personality and emotional correlates of self-reported antigay behaviors. *Journal of Interpersonal Violence, 10,* 354–366.

Paulhus, D. L., & Reid, D. B. (1991). Enhancement and denial in socially desirable responding. *Journal of Personality and Social Psychology, 60,* 307–317.

Quintana, S. M., & Maxwell, S. E. (1999). Implications of recent developments in structural equation modeling for counseling psychology. *The Counseling Psychologist, 27,* 485–527.

Raja, S., & Stokes, J. P. (1998). Assessing attitudes toward lesbians and gay men: The Modern Homophobia Scale. *Journal of Gay, Lesbian, and Bisexual Identity, 3,* 113–134.

Riddle, D. (1985). *Opening doors to understanding and acceptance: A facilitator's guide for presenting workshops on lesbian and gay issues*. Organized by Kathy Obear and Amy Reynolds, Boston.

Rothblum, E. D., & Bond, L. A. (Eds.). (1996). *Preventing heterosexism and homophobia*. Thousand Oaks, CA: Sage.

Savin-Williams, R. C. (1999). Matthew Shepard's death: A professional awakening. *Applied Developmental Science, 3,* 150–154.

Schmidt, W. C. (1997). World-wide web survey research: Benefits, potential problems, and solutions. *Behavior Research Methods, Instruments, & Computers, 29,* 274–279.

Sidanius, J., & Pratto, F. (1999). *Social dominance: An intergroup theory of social hierarchy and oppression*. New York: Cambridge University Press.

Smith, M. A., & Leigh, B. (1997). Virtual subjects: Using the Internet as an alternative source of subjects and research environment. *Behavior Research Methods, Instruments, & Computers, 29,* 496–505.

Tabachnick, B. G., & Fidell, L. S. (1996). *Using multivariate statistics: Third edition*. California State University, Northridge: HarperCollins.

Weinberg, G. (1972). *Society and the healthy homosexual*. New York: St. Martin's Press.

Worthington, R. L., Savoy, H. B., Dillon, F. R., & Vernaglia, E. R. (2002). Heterosexual identity development: A multidimensional model of individual and social identity. *The Counseling Psychologist, 30,* 496–531.

Worthington, R. L., Savoy, H. B., & Navarro, R. (2002). *The Measure of Sexual Identity Exploration and Commitment (MoSIEC): Development, reliability, and validity*. Unpublished manuscript.

Yang, A. (2000). *From wrong to rights: Public opinions on gay and lesbian Americans' move toward equality*. Washington, DC: National Gay and Lesbian Task Force Institute.

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