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The Impact of Alcohol and Perceived Threats on Aggression Toward Sexual Minorities

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THE IMPACT OF ALCOHOL AND PERCEIVED THREATS ON AGGRESSION TOWARD SEXUAL MINORITIES

by

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Under the Direction of Dominic Parrott

ABSTRACT

The study aimed to fill critical gaps in the literature on aggression toward sexual minorities (1) by examining a specifically prejudice-based model, intergroup threat theory (ITT), to explain aggression toward sexual minorities, and (2) by determining the extent to which alcohol facilitates prejudice-based mechanisms of aggression toward sexual minorities. Participants comprised a final sample of 161 heterosexual, undergraduate men of ages ranging from 18 to 30. Participants completed measures of perceived threat based on the ITT model (i.e., realistic threat, symbolic threat), antecedents to these threats (i.e., AIDS-related stigma, religiosity, adherence to traditional male gender role norm of antifemininity), and frequency of both alcohol-related and non-alcohol-related aggression toward sexual minorities. Structural equation modeling was used to identify indirect effects, to statistically test contrasts between these indirect effects, and to employ multigroup models in moderated-mediation analyses. Perceived threats of ITT were expected to mediate positive associations between (1) antecedents of perceived threat and (2) frequency of alcohol-related and non-alcohol-related aggression toward sex-

ual minorities. Although the final sample was relatively small, this study found that, overall, indirect effects were mediated by symbolic threat more so than realistic threat. Additionally, indirect effects via symbolic threat on alcohol-related aggression were significant, but indirect effects on non-alcohol-related aggression were generally not significant. These results supported the view that perceived threats, particularly symbolic threat, of ITT, combined with the risk-enhancing role of alcohol, facilitates prejudice-based aggression in response to sexual minorities. Additional analyses showed that group differences based on (1) racial membership and (2) whether participants endorsed being religious were potential moderators. Moderated-mediation analyses showed that racial membership did not moderate indirect effects. However, among participants who reported being religious, realistic threat mediated associations between antecedents to threat rather than symbolic threat. Conversely, realistic threat was not a significant mediator among reportedly non-religious participants; however, symbolic threat was. Taken together, results showed that the type of perceived threat in response to a marginalized group, alcohol consumption, and social-group membership of perpetrators are critical when designing interventions to reduce prejudice-based aggression. Strengths, limitations, and other implications of the study were discussed.

INDEX WORDS: Alcohol, Aggression, Prejudice, Intergroup threat theory, Integrated threat theory, Perceived threat, AIDS-related stigma, Religiosity, Masculinity, Antifemininity, Gender roles

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DEDICATION

This dissertation is dedicated to my mother, Jeannette Vincent, and my deceased father, Joseph Vincent, for their sacrifices, which allowed me to go on to become a first-generation college student and a doctoral candidate. In the journey to get to where we are going, it is easy to forget where we came from. I am glad to say that I will not forget.

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1. INTRODUCTION

1.1 Overview

Violence based on sexual orientation is an ongoing, seemingly recalcitrant public health concern in the United States (NCAVP, 2007). Unfortunately, accurate estimates of the prevalence of hate crimes toward sexual minorities remain elusive due to factors such as a lack of data collection statutes for hate crimes based on sexual orientation (Anti-Defamation League, 2003). However, some telling data do exist. For example, Herek (2009) found in a recent national probability sample that approximately half of all sexual minorities experienced verbal abuse, 20% experienced a crime against their person or property, and more than one in ten were the victim of a violent crime. In addition to possible physical injury, physical and other forms of aggression perpetrated toward sexual minorities may result in negative psychological effects. For example, victims of hate crimes based on sexual orientation are at greater risk for posttraumatic stress, depression, anxiety, and anger relative to victims of nonbiased assaults (Herek, Gillis, & Cogan, 1999). In addition to the physical and mental health risks to victims, perpetrators face social and legal consequences depending on the severity of their aggressive actions if they are caught.

Importantly, alcohol plays a major role in acts of aggression toward sexual minorities and aggression in general. For example, approximately 27% of all violent crimes in the United States, which sum to approximately 1.4 million violent incidents each year, involve offenders who were perceived to have been drinking at the time of the crime (Bureau of Justice Statistics, 2006). Further, alcohol consumption is involved in approximately half of violent crimes reported to the police in North America (Pernanen, 1991). Pertinently, approximately 33% of perpetrators of hate crimes are intoxicated at the time of the incident (Dunbar, 2003). For example, in August 2010, police in Covington, KY reported that Timothy Searp and Devlin Burke accosted a group of people who were leaving a gay and lesbian bar (Terkel, 2010). Allegedly, Searp yelled anti-sexual-minority slurs at the group, slammed the head of one

woman in the group against a wall, and punched her (Terkel, 2010). Bystanders reportedly came to assist the group. Burke then allegedly stabbed three people with a knife (Terkel, 2010). Searp was arrested on a charge of alcohol intoxication, and Burke was arrested on a charge of second degree assault (Osborne, 2010). This is one of many incidents across the United States in which alcohol use co-occurs with acts of aggression toward sexual minorities (NCAVP, 2007). Given the pervasive and severe negative consequences of aggression toward sexual minorities and the apparent role of alcohol use in these attacks, continued theoretically and empirically driven research into the underlying causes of these crimes is needed.

There exist several critical barriers to studying the problem of aggression toward sexual minorities. Firstly, previous theories explaining aggression toward sexual minorities have not yet focused on sources of prejudice that ultimately motivate these acts. Secondly, the critical role of alcohol in fueling prejudiced-based mechanisms of aggression toward sexual minorities has yet to be examined. To directly address these barriers, the proposed research will empirically test the roles of perceived threats underlying prejudice and alcohol consumption on aggression toward sexual minorities.

1.2 Intergroup Threat Theory: Perceived Threats Leading to Prejudice

A critical determinant of aggression toward sexual minorities is sexual prejudice, which embodies "all negative attitudes based on sexual orientation, whether the target is homosexual, bisexual, or heterosexual" (Herek, 2000, p. 19). Survey-based research has shown a positive association between sexual prejudice and aggression toward sexual minorities (Franklin, 2000; Parrott, Peterson, Vincent, & Bakeman, 2008; Patel, Long, McCammon, & Wuensch, 1995; Roderick, McCammon, Long, & Allred, 1998). Likewise, laboratory-based studies have demonstrated that male sexual prejudice is positively associated with increased aggression toward gay, relative to heterosexual, men (Bernat, Calhoun, Adams, & Zeichner, 2001; Parrott & Zeichner, 2005; Parrott, 2009). Given the central role of sexual prejudice in aggression toward sexual minorities, a model designed to elucidate critical, unique pathways to

sexual prejudice is needed to better understand the fundamental sources of prejudice-based aggression toward sexual minorities. Such a model would be more specific than, but consistent with, more general theories of aggression.

Stephan and Stephan (2000) developed an integrated threat theory of intergroup conflict that addresses ingroup members' perception of threat from an outgroup. Intergroup threat theory (ITT; Stephan, Ybarra, & Morrison, 2009; Stephan & Stephan, 2000) combines various theories of intergroup relations and conflict, such as realistic group conflict theory (Campbell, 1965; Levine & Campbell, 1972; Sherif, 1966; Sherif, Harvey, White, Hood, & Sherif, 1961), group position theory (Bobo, 1988), and social dominance theory (Sidanius, Devereux, & Pratto, 1992; Sidanius & Pratto, 2001). Specifically, ITT asserts that thoughts and feelings of perceived threat set the stage for antipathy toward the outgroup (Esses, Haddock, & Zanna, 1993; Stephan & Stephan, 2000; Stephan et al., 2009). This integrative approach includes four components that help to explain threats perceived by the ingroup that may lead to negative attitudes, or prejudice, toward a specific outgroup. These components include realistic threat, symbolic threat, intergroup anxiety, and negative stereotypes. These components, or perceived threats, are elicited by antecedents that are specific to the target. For example, religious factors may represent an antecedent to threat in response to sexual minorities, such that particular religious beliefs may set the stage for a heterosexual to perceive sexual minorities as a threat to their value system. The proposed study focuses on realistic threat and symbolic threat. These components, particularly realistic and symbolic threat, and their origins will be discussed in the following paragraphs.

Realistic threat. A group experiences realistic threat when it perceives outgroup members as threats to its existence, to its political and economic power, and to its physical or material well-being (Stephan & Stephan, 2000). For example, the possibility of warfare represents a direct threat to the existence of the ingroup, and perceptions of social and economic injustice may indicate threats to the ingroup's economic power and material well-being. Additionally, an ingroup may perceive threats to its

well-being if members of the ingroup view the outgroup as disproportionately affected by a particular illness. However, *the actual existence of a threat is immaterial*. What matters most is ingroup members' subjective perception that a putatively realistic threat exists from the outgroup. For example, some heterosexual men may perceive sexual minorities as a threat to their own physical well-being if they are concerned about the spread of AIDS, which some heterosexuals may attribute to sexual minorities (Herek & Capitanio, 1999; Herek & Glunt, 1988; Herek, Mitnick, Burris, Chesney, Devine, Fullilove, et al., 1998; Malebranche, 2008).

Stephan and Stephan (2000) reported that realistic threat encompasses both realistic group conflict theory and group position theory. For example, realistic group conflict theory (Campbell, 1965; Levine & Campell, 1972; Sherif, 1966; Sherif, Harvey, White, Hood, & Sherif, 1961) conceptualizes prejudice as an intergroup phenomenon facilitated by competition between the groups for limited resources. Similar to realistic group conflict theory, group position theory (Blumer, 1958; Bobo, 1988; 1999) conceptualizes group dynamics as the source of prejudice. Specifically, this theory posits that prejudice arises from perceptions of where social groups are supposed to rank on a social hierarchy. This approach asserts that dominant group members feel superiority to outgroup members and view outgroup members as different or alien from them (Bobo, 1999). Importantly, the dominant group senses and maintains a proprietary claim over limited, socially valued statuses, rights, and resources (Bobo, 1999). Additionally, the dominant group perceives a threat from the subordinate outgroup, whose members may wish to obtain a greater share of statuses, rights, and resources (Bobo, 1999). This theory suggests that dominant group members may justify their position in a perceived social hierarchy via their sense of superiority and beliefs about the subordinate group. Stephan and Stephan (2000) noted that ITT extends previous theories by going beyond intergroup competition, emphasizing that realistic threat may include any perceptions of threat to the welfare of the ingroup and its members. Further, they emphasize subjectively perceived threats whether or not any such threat exists.

Symbolic threat. Symbolic threat is experienced by the ingroup due to perceived differences in the outgroup's beliefs, attitudes, morals, standards, and values (Stephan & Stephan, 2000). The ingroup may be threatened by the possibility that these differences will lead to unwanted changes in the ingroup's own system of values and culture (Stephan & Stephan, 2000). In sum, the intergroup differences represent symbolic threats to the ingroup's worldview (Stephan, Diaz-Loving, & Duran, 2000; Stephan & Stephan, 2000). For instance, highly religious, heterosexual men may fear that sexual minorities violate and threaten their values and beliefs due to their putatively nontraditional, sinful lifestyles (Herek, 1987; Hunsberger & Jackson, 2005).

Stephan and Stephan (2000) noted several theoretical precedents to symbolic threat as conceptualized in ITT, such as theories regarding symbolic racism and social dominance theory. For example, symbolic racism describes the phenomenon whereby White American's negative feelings and beliefs about African Americans are filtered through the belief that African Americans violate traditional moral values around discipline, obedience, and self-reliance (Kinder & Sears, 1981; Sears, 1988; 2003). Sears (2003) characterized symbolic racism as a blend between anti-African-American affect and conservative values. Theories of symbolic racism hold that some Whites use these beliefs to explain their resistance to efforts at changing the racial status quo (Kinder & Sears, 1981; Sears, 1988; 2003). Symbolic racism can be adapted to intergroup conflicts other than those between African Americans and Whites in United States. As applied to sexual prejudice, negative feelings toward sexual minorities may be filtered through conservative beliefs about relationships, religion, and society in ways that feel justified to heterosexuals who oppose sexual-minority rights issues (e.g., same-sex marriage, civil unions). Similar to theories of symbolic racism, social dominance theory (Sidanius, Devereux, & Pratto, 1992; Sidanius & Pratto, 2001) incorporates symbolic attitudes, viewing these attitudes as means by which an ingroup justifies its own desire for dominance over an outgroup. This theory asserts that prejudice serves to maintain and justify a social hierarchy that accords superiority or status to a dominant group. As such,

prejudice among individuals is associated with social dominance orientation, which is the extent to which an individual desires to view one social group as superior to and having greater status than another social group (Sidanius, Devereux, & Pratto, 1992; Sidanius & Pratto, 2001).

Stephan and Stephan (2000) stated that the symbolic threat component of ITT is most similar to Esses and colleagues' (1993) conceptualization of symbolic attitudes, wherein prejudice is positively associated with the extent to which the ingroup's values, customs, and traditions are blocked by an outgroup. More specifically, it is posited that prejudice emerges, in part, due to the ingroup's frustration at their traditional value system being blocked. Stephan and Stephan (2000) note that ITT is an extension of this conceptualization via its emphasis that perceptions of threat emerge as a result of *any* challenge to the traditional value system; that is, traditional values of the ingroup need not be "blocked."

Intergroup anxiety and negative stereotypes. Intergroup anxiety, the third component of ITT, represents the extent to which ingroup members fear "negative outcomes for the self, such as being embarrassed, rejected, or ridiculed" as a result of interacting with outgroup members (Stephan & Stephan, 1985; Stephan & Stephan, 2000, p. 27). Intergroup anxiety may be experienced as negative affect toward sexual minorities even among heterosexual men who endorse positive attitudes toward them.

Intergroup anxiety is a distinctively affective component of ITT, and Stephan and Stephan (2000) observed that anxiety has appeared in several theories of intergroup relations and conflict, particularly aversive racism theory (Gaertner & Dovidio, 1986). This theory posits that ingroup members may have unacknowledged negative affect, such as discomfort, fear, or disgust, that leads them to avoid members of a specific outgroup (Gaertner & Davideio, 1986). Stephan and Stephan (2000) noted that ITT focuses specifically on the anxiety about interacting with outgroup members, and associates this negative affect with prejudice.

The fourth component within ITT is negative stereotypes. Inasmuch as stereotypes about an outgroup are negative, ingroup members will expect negative interactions with members of the outgroup (Stephan & Stephan, 2000). The association between stereotypes and prejudice has a long history in the literature (Devine, 1989). Given that stereotypes serve to inform ingroup members' expectations of outgroup members' behavior (Hamilton, Sherman, & Ruvolo, 1990), ingroup members will perceive a threat, or fear of negative consequences, to the extent that stereotypes about outgroup members are negative.

Intergroup anxiety and negative stereotypes may be differentiated from both realistic and symbolic threat in that (1) intergroup anxiety describes a distinctively affective component of the theory beyond perceptions of threat (Stephan & Stephan, 2000), and (2) negative stereotypes are not correlated with other components of ITT as applied to sexual minorities (e.g., realistic threat, symbolic threat; Boone & Duran, 2009). Ideally, these two components would be included in any test of ITT. However, in the proposed study, inclusion of these variables goes beyond the study's aims because doing so (1) would require a sample size that would prohibit timely completion of the project, and (2) is not consistent with our emphasis on the unique role of *perception of threats* in intoxicated and non-intoxicated aggression.

Empirical support. To date, there have been only three studies that explicitly tested the role of ITT components in responses motivated by sexual prejudice. Boone and Duran (2009) examined the role of perceived threats of ITT and sexual prejudice on condom attitudes of heterosexual, male college students. In this study, significant positive correlations were found between realistic threat, symbolic threat, and sexual prejudice. In addition, greater perceptions of realistic and symbolic threat in response to gay men were positively associated with the belief that AIDS is a gay disease. Without testing the mediational role of ITT components, Oswald (2007) found that heterosexual men who were high, but not low, in sexual prejudice engaged in more social distancing in a high-symbolic-threat experi-

mental condition (i.e., a conversation with a gay man about dating) than they did in a low-symbolic-threat condition (i.e., a conversation that did not explicitly involve sexual orientation). Oswald's (2007) results are significant in that they implicate the role of perceived threats in direct, behavioral responses toward sexual minorities. In a similar study, Bromgard and Stephan (2006) found that participants distanced themselves from sexual minorities in a high threat condition regardless of their overt attitudes toward sexual minorities. Notably, none of these studies examined the how alcohol influenced perceptions of threat.

Research also indicates that realistic and symbolic threats are associated with prejudice toward outgroups other than sexual minorities. For example, in a study of American university students, the threats of ITT were found to be associated with prejudice toward immigrants from Mexico, Asia, and Cuba (Stephan, Ybarra, & Bachman, 1999). In addition, moderate to strong correlations were found between these threats and negative attitudes toward persons living with AIDS (Berrenberg, Finlay, Stephan, & Stephan, 2002). Finally, studies have found that realistic and symbolic threats are associated with negative attitudes of Israeli Jews toward Israeli-Palestinian relations (Maoz & McCauley, 2005), women's negative attitudes toward men (Stephan, Stephan, Demitrakis, Yamada, & Clason, 2000), and negative attitudes of Mexicans and Americans toward each other (Stephan, Diaz-Loving et al., 2000).

Intergroup threat theory as an explanatory framework for prejudice-based aggression. Based on ITT, concerns believed to be associated with sexual minorities, such as fear of contracting illness and holding cultural values that appear to conflict with those of sexual minorities, may lead potential perpetrators to feel threatened. In turn, the perception of threat may lead to cognitive responses, such as sexual prejudice (Stephen & Stephen, 2000) as well as behavioral responses, such as verbal and/or physical aggression (Stephen et al., 2009). In regard to aggression toward sexual minorities, perpetrators may attack sexual minorities because they feel threatened by critical factors that they associate with

sexual minorities. As conceptualized by the ITT model, these key factors are represented as antecedents to perceived realistic and symbolic threats.

1.3 Antecedents to Perceived Threats

ITT posits that perceived threats mediate associations between antecedents to these threats and prejudice, as well as other cognitive, emotional, and behavioral responses (Stephan & Stephan, 2000; Stephan et al., 2009). Among some heterosexual men, there are likely numerous antecedents to perceived threats in response to sexual minorities. However, there are specific antecedents that have received much attention in the literature. The three antecedents to be investigated in the proposed study were chosen because they have received substantial theoretical and empirical support as precursors to sexual prejudice.

AIDS-related stigma. A likely antecedent to heterosexual men's perceived threat in response to sexual minorities is AIDS-related stigma. Since the 1980s, the general public has associated AIDS with sexual minorities (Herek & Capitanio, 1999; Herek & Glunt, 1988; Herek, Capitanio, & Widaman, 2002). Indeed, individuals, including sexual minorities, have been physically assaulted because they were perceived to have AIDS (Nardi & Bolton, 1991). Herek and Glunt (1988) defined the stigma associated with AIDS as "all stigma directed at persons perceived to be infected with HIV" (p. 886), whether or not they are actually infected with the virus. Such AIDS-related stigma may serve an instrumental function (Herek & Capitanio, 1998) consistent with realistic threat, in that ingroup members (e.g., heterosexual men) fear infection. It may also serve a symbolic function (Herek & Capitanio, 1998) consistent with symbolic threat, in that ingroup members associate AIDS with moral decadence and homosexual behavior that violates cultural norms and values (Pryor, Reeder, Vinacco, & Kott, 1989). In sum, among heterosexual men, AIDS-related stigma may lead to perceptions of realistic threat and symbolic threat in response to sexual minorities. In turn, these perceived threats may set the stage for intoxicated and non-intoxicated aggression toward sexual minorities.

Religiosity. Rohrbaugh and Jessor (1975) defined religiosity as "an attribute of personality referring to cognitive orientations about a transcendent reality and about one's relation to it, orientations which are directly implicated by the impact they have on daily, secular life, and by participation in ritual practices" (p. 137). In short, religiosity represents the impact of religion on one's everyday life and the extent of one's religious participation. Studies have consistently found that factors associated with religion are linked to sexual prejudice (Herek, 1987; Hunsberger & Jackson, 2005). In regard to perceived threats of ITT, sexual minorities may represent a realistic threat for heterosexual men high in religiosity if they view sexual minorities as a threat to their political or economic power as a group. Indeed, many religious institutions in the United States are involved in political activities whereby they exercise their influence to benefit a preferred political candidate or policy issue (Shoop, 2005). Further, church involvement has been found to influence political behavior, ideology, and identity in members of various religious groups (Kellstedt and Green 1993; Layman 2001; Leege 1993; Wald, Kellstedt, & Leege, 1993). For example, religious institutions' opposition of gay rights issues, particularly gay marriage (Olson, Cadge, & Harrison, 2006) may influence their members' own views and behavior. Thus, for highly religious heterosexual men, sexual minorities may represent a realistic threat to the political power, objectives, and resources of their religious institutions. Likewise, sexual minorities may represent a symbolic threat to heterosexual men high in religiosity. Specifically, heterosexuals' belief that the values and behaviors of sexual minorities contradict and threaten their religious beliefs and attendant traditional value system may facilitate more negative attitudes toward sexual minorities (Herek, 1987; Hunsberger & Jackson, 2005). In sum, religiosity may lead to perceptions of realistic and symbolic threat in heterosexual men. Consequently, these perceived threats may lead to intoxicated and non-intoxicated aggression toward sexual minorities.

Traditional male gender role beliefs. Traditional beliefs about the male gender role may have a strong influence on perceptions of threat in response to sexual minorities. Pertinent theorists (e.g.,

Hamner, 1990; Herek, 1986, 2000, 2007; Franklin, 1998; Kimmel, 1997; Kite & Whitley, 1998; Pharr, 1988) assert that sexual prejudice and resultant aggression toward sexual minorities serve to reduce threats to masculinity, to maintain clear boundaries between male and female gender roles, and to enforce a social order that devalues departures from heterosexuality. To the extent that their masculine identity is reaffirmed via aggression, men presumably experience a reduction in perceived threat associated with the masculine gender role. Thompson and Pleck (1986) identified three specific traditional male role norms to which some heterosexual men adhere: (a) Status, which represents the belief that men must attain social status and the respect of others, (b) Toughness, which reflects the expectation that men be physically tough and willing to aggress, and (c) Antifemininity, which represents the belief that men should not act in stereotypically feminine ways or participate in stereotypically feminine activities.

Of these male role norms, extant studies have shown that extreme adherence to the antifemininity norm is the most robust predictor of anger and aggression toward sexual minorities (e.g., Parrott, 2009; Parrott et al., 2008). For instance, Parrott (2009) found that relative to other norms of masculinity, antifemininity was the strongest predictor of heterosexual men's aggression toward gay men, whereas adherence to this norm did not predict aggression toward heterosexual men. In addition, Wilkinson (2004) found that the association between male gender role beliefs and negative attitudes toward sexual minorities was due to heterosexual men's fears of appearing feminine as opposed to fears of losing masculine status. In this vein, Herek (1986) noted that aggression toward sexual minorities serves an ego-defensive function that helps some men protect their identities as both masculine and heterosexual men and avoid feared consequences of being perceived as feminine (Herek, 1986; Kimmel, 1997). As such, antifemininity may represent a realistic threat to some heterosexual men. In addition to realistic threat, heterosexual men who adhere strongly to the antifeminine norm may experience symbolic threat to the extent that they perceive sexual minorities as violating gender role beliefs

and values, and aggression may function to enforce maintenance of these norms and values (Parrott, 2009). Taken together, realistic and symbolic threat fueled by adherence to the antifemininity norm may lead to intoxicated and non-intoxicated aggression toward sexual minorities.

1.4 The Role of Alcohol Consumption on Aggression Toward Sexual Minorities

Extant laboratory-based studies have established that alcohol intoxication facilitates aggressive behavior (Bushman & Cooper, 1990; Chermack & Giancola, 1997; Taylor & Chermack, 1993). Further, epidemiological data indicate that alcohol use is involved in the perpetration of a substantial number of violent crimes and self-reported incidents of aggression every year in the United States (Bureau of Justice Statistics, 2006; Pernanen, 1991; Wells, Graham & West, 2000). Alcohol consumption is implicated in 68% of self-reported incidents of physical aggression (Wells, Graham, & West, 2000). Additionally, 33% of hate crimes occur when perpetrators are intoxicated (Dunbar, 2003). Likewise, recent evidence suggests that heterosexual men are more likely to aggress toward sexual minorities during days on which they have been drinking than during non-drinking days (Parrott, Gallagher, Vincent, & Bakeman, 2010). Given these data, the role of alcohol use in the perpetration of aggression toward sexual minorities must be considered in a prejudice-based model. While perceived threats may set the stage for aggression toward sexual minorities, alcohol likely exacerbates the perpetration of aggression. Indeed, theorists have advanced a number of explanatory models of alcohol-related aggression. For example, Parrott and Miller (2009) reviewed the three primary ways in which alcohol's pharmacological properties facilitate aggression: (a) its cognitive effects of limiting the inebriate's attention to salient, instigatory cues (i.e., alcohol-induced myopia as conceptualized in the attention-allocation model; Steele & Josephs, 1990), (b) its anxiolytic properties that attenuate fear responses in the inebriate (e.g., Ito, Miller, & Pollack, 1996), and (c) its psychological and physiological effects of increasing arousal (e.g., Giancola & Zeichner, 1995). These pathways help to explain why alcohol consumption and intoxication often co-occur with acts of aggression.

Alcohol-induced myopia and prejudice-based aggression. Parrott and Miller (2009) emphasized alcohol-induced myopia as the most important mechanism by which alcohol facilitates aggression toward sexual minorities. As posited by the attention-allocation model of alcohol myopia theory (Steele & Josephs, 1990), alcohol impairs attentional capacity, which then restricts the inebriate's attentional focus to the most salient cues in the environment. Because in most real-world situations cues that instigate behavior (e.g., provocation) are more salient and easier to process than cues that inhibit behavior (e.g., negative consequences of aggression), intoxication is likely to facilitate attention toward cues that instigate behavior. As a consequence of this attentional focus, aggression is more likely to occur.

Whereas the attention allocation model stipulates why alcohol facilitates aggression, the inhibition conflict model of alcohol myopia theory pertains to when alcohol-induced aggression will be most likely. Specifically, inhibition conflict asserts alcohol will most likely increase aggression when there are both instigatory and inhibitory cues in one's environment (Steele & Josephs, 1990). Given that instigatory cues may be more salient (i.e., easier to perceive), they are easier to process by an inebriate. In other words, the processes of alcohol myopia are not limited to the allocation of attention to salient, instigatory cues. Indeed, the very salience of instigatory cues makes them easier for an inebriate to process than inhibitory cues. In a meta-analysis that tested the inhibition conflict model, Ito, Miller, & Pollack (1996) found that alcohol increased aggression more so under conditions of high inhibition conflict than low inhibition conflict. Ito and associates (1996) also found that the dose, or amount, of alcohol was not a significant factor in regard to inhibition conflict. These results suggest that regardless of the level of intoxication, threatening, instigatory cues are more salient and easier to process for an inebriate in most situations.

In addition to the relative salience of instigatory cues (e.g., perceived threats) over inhibitory cues (e.g., social cues to suppress prejudiced attitudes and behaviors) among inebriates, Crandall and Eshleman's (2003) justification-suppression model posits that alcohol facilitates behavioral expression of

prejudice to the extent that prejudice is suppressed. Indeed, contemporary prejudice is often suppressed or filtered through symbolic attitudes toward outgroups (e.g., Crandall & Eshleman, 2003; Gaertner & Dovidio, 1986; Kinder & Sears, 1981; Sears, 1988; 2003). The justification-suppression model holds that prejudice may be suppressed due to societal norms against the expression of prejudice toward outgroups. Prejudice may be indirectly expressed through values, beliefs, and norms or even directly (e.g., via physical aggression) toward members of outgroups to the extent that they experience some "justification" for this expression of prejudice (Crandall & Eshleman, 2003).

Pertinently, prejudice may be more likely to be suppressed (and less likely to be justified) based on symbolic, relative to realistic, threats. Specifically, the concept of realistic threat is undergirded by theories such as realistic group conflict theory (Campbell, 1965; Levine & Campell, 1972; Sherif, 1966; Sherif et al., 1961) and group position theory (Blumer 1958; Bobo, 1988; 1999). As noted previously, these theories assert that prejudice is based on group dynamics, such as competition for limited resources, a sense of superiority over another group, and beliefs that an outgroup threatens the ingroups socially valued status and rights. Outgroup members may perceive ingroup members as direct threats to their physical and material well-being. Extant studies, such as the classic Robbers Cave experiment (e.g., Sherif et al., 1961), have established that group dynamics such as perceived competition for resources lead directly to aggression by ingroup members toward outgroup members. In contrast, the aforementioned concept of symbolic threat is based on theories such as symbolic racism (e.g., Sears, 2003) and symbolic attitudes (Esses et al., 1993), which view more "modern" versions of prejudice as being filtered through, or hidden behind, beliefs that the outgroup violates the ingroup's traditional moral values. These values are used to justify social inequities. In the case of symbolic threat, there may not be a perception of direct threat to material and physical well-being, but, rather, there may a perception of indirect threat via perceived violations to traditional norms. Given the differences in the theoretical underpinnings of realistic threat and symbolic threat, there may be more suppression of jus-

tification to aggress in the case of symbolic threat than in the case of realistic threat. As such, alcohol intoxication may be more likely to facilitate aggression under circumstances of symbolic threat than realistic threat. The latter may not rely as much on the effects of alcohol to facilitate aggression.

For example, a heterosexual man will be more likely to suppress aggressive responses toward a sexual minority whom he perceives to conflict with his religious views (i.e., primarily symbolic threat) than a sexual minority whom he perceives as spreading HIV or as a danger to his children (i.e., primarily realistic threat). In the latter circumstances, the heterosexual individual may feel greater "justification" to aggress against the sexual minority, although aggression may be possible under conditions of both realistic and symbolic threat. Because greater suppression may occur under the conditions of symbolic threat, alcohol may facilitate prejudiced-based aggression toward sexual minorities more so under conditions of symbolic threat than under conditions of realistic threat.

In sum, a prejudice-based model of aggression toward sexual minorities may predict intoxicated aggression toward sexual minorities, as alcohol may limit attention to threatening, instigatory cues based on perceived threats represented by sexual minorities. These instigatory cues (e.g., perceived threats represented by outgroup members) may be more salient and easier to process than inhibitory cues (e.g., social cues to suppress aggression toward outgroup members) in most real-world situations. Thus, the indirect effects via perceived threats on alcohol-related aggression are expected to be greater than indirect effects via perceived threats on non-alcohol-related aggression. Further, the influence of alcohol on facilitating prejudice-based aggression may be more pronounced when prejudice is suppressed, which is more likely the case under the conditions of symbolic threat than realistic threat (Stephan & Stephan, 2000). Thus, the indirect effects via symbolic threat are expected to be greater than the indirect effects via realistic threat.

1.5 Group Differences Based on Cultural Factors

Extant literature suggests that cultural subgroups groups within American society may vary in their attitudes and behaviors in response to sexual minorities and their reasons for these attitudes and responses. In particular, these studies have often focused on race and ethnicity.

Herek and Capitanio (1993) found no differences between African Americans and Whites in AIDS-related stigma in a national probability sample. However, Vincent, Peterson, and Parrott (2011) examined AIDS-related stigma in a regional, non-probability sample in the southeastern United States. They found that AIDS-related stigma was associated with aggression toward sexual minorities among White men with no prior contact with sexual minorities, but not among White men with prior contact with sexual minorities and African American men with or without prior contact with sexual minorities. These results suggest that race and prior contact may influence any effects that AIDS-related stigma may have on aggression toward sexual minorities. Vincent and associates (2011) examined prior contact with sexual minorities. However, studies have yet to examine the role of prior contact with persons living with HIV and AIDS on the link between AIDS-related stigma and aggression toward sexual minorities. Related to these findings are the results found by Waldner, Sikka, and Baig (1999) in a sample of undergraduate students. They found that correlations between knowledge of HIV transmission and sexual prejudice and between fear of AIDS and sexual prejudice were weaker among African Americans and Hispanics than among Whites. These latter results imply that AIDS-related stigma may not play as large of a role in aggression toward sexual minorities among some racial and ethnic minorities relative to Whites.

Evidence suggests that there may be racial differences in religiosity in the United States that may play an important role in the effects of perceived threat on aggression toward sexual minorities. Findings from the Pew Research Center (2009) show that African Americans in the United States show higher religiosity, or religious involvement, than other groups. For example, African Americans are more

religious than the general population in the United States on measures of religiosity such as attendance at religious services, frequency of prayer, and the importance of religion in one's life. These findings are consistent with an earlier report by Taylor, Chatters, Jayakody, and Leven (1996), who examined datasets from seven national surveys, including the 1986 Americans' Changing Lives study, the 1984 National Election Survey, and data from the annual General Social Survey from 1972 to 1990. Measures of religiosity consisted of survey items such as church attendance, reading of religious materials, and the importance of religion in one's life. Taylor and associates found that African Americans were significantly higher in religiosity than Whites in all samples and across all measures of religiosity.

In regard to the male role norm of antifemininity, Abreu, Goodyear, Campos, and Newcomb (2000) examined adherence to male role norms among community-recruited men on the West coast of the United States. They found that White men scored higher than African American men on antifemininity, whereas Latino men outscored both of these groups on antifemininity. These results suggest that cultural factors that might be related to race and ethnicity may influence adherence to the male role norm of antifemininity.

Others have found differences between African American and White men on measures of sexual prejudice. For example, Waldner and associates (1999) found in a sample of undergraduate students that African Americans endorsed sexual prejudice to a greater extent than Whites. Additionally, Lewis (2003) found evidence of different patterns of responses between African Americans and Whites. For example, African Americans had more negative attitudes than Whites in regard to acceptability of homosexuality, in general, but Whites had more negative attitudes than African Americans regarding specific issues such as gay civil liberties and employment non-discrimination policies that protect sexual minorities. Lewis (2003) controlled for factors such as religion. Given that perceived threats underlie sexual prejudice, there may be differences based on racial and possibly ethnic categories on realistic and symbolic threat. By extension, sexual prejudice is associated with antigay aggression (for a review, see

Parrott, 2009). As such, given differences between racial and ethnic groups in sexual prejudice, there may also be differences in frequency of alcohol-related and non-alcohol-related aggression toward sexual minorities.

Taken together, these results suggest that race and ethnicity should be taken into account when examining the effects of antecedents to perceived threat on aggression toward sexual minorities via perceived threats. Indeed, Lewis (2003) emphasized the importance of understanding that the roots of sexual prejudice may differ across racial categories.

There may also be differences based on religious affiliation in regards to religiosity. For example, the Pew Forum on Religion and Public Life (2008) of the Pew Research Center found differences on indices of religiosity based on religious categories ranging from Catholic, various forms of Protestant, Muslim, Jewish, Hindu, etc. Although they did not appear to test for statistical significance of these difference, they did find that, 79% of Evangelical Christians, 85% of members of historically Black churches, 83% of Mormons, 86% of Jehovah's Witnesses, and 72% of Muslims responded that religion was very important in their lives. In contrast, 57% of mainline Protestants, 56% of Catholics, 31% of Jews, and 45% of Hindus said that religion was very important in their lives. In addition, 30% of Evangelical Christians, 30% of members of historically Black churches, 31% of Mormons, and 17% of Muslims reported attending religious services more than once per week, whereas smaller percentages of mainline Protestants (8%), Jews (6%), and Hindus (6%) reported attending religious services more than once per week. In contrast, 71% Jehovah's Witnesses reported attending religious services more than once per week.

1.6 Intergroup Threat Theory, Alcohol Use, and Aggression Toward Sexual Minorities

The components of ITT have been used to predict heterosexual college men's attitudes toward condom use (Boone & Duran, 2009). Similarly, heterosexual men's perceptions of threat from gay men have been shown to predict their social distancing from gay men (Oswald, 2007). In addition, ITT has

been used to predict attitudes toward a number of different outgroups. However, a dearth of studies has employed the ITT framework to predict behavioral responses (e.g., aggression) and, specifically, responses to sexual minorities. The proposed study aims to fill these gaps in the literature by examining how perceived threats underlying sexual prejudice mediate the associations between pertinent antecedents to threat and intoxicated and non-intoxicated aggressive behavior toward sexual minorities. Specifically, the mediational role of perceived threats in linking antecedents to threat represented by sexual minorities (e.g., AIDS-related stigma, religiosity, and adherence to an antifeminine male role norm) to aggression toward sexual minorities will be investigated. Additionally, given that alcohol-induced myopia focuses attention onto instigatory cues such as perceived threats, the effects of perceived threats on intoxicated aggression relative to non-intoxicated aggression will be tested. Further, the effects of alcohol will be examined to determine whether alcohol differentially influences levels of aggression when aggression is "instigated" by symbolic threat than when aggression is "instigated" by realistic threat. Finally, group differences based on race, ethnicity, prior contact with someone living with HIV or AIDS, and religious affiliation will be examined. This study will test the moderating effects of these group differences on the indirect effects of antecedents to perceived threats on aggression toward sexual minorities.

1.7 Hypotheses

Hypothesis 1. Perceived threats (i.e., realistic threat, symbolic threat) of ITT will mediate the positive association between antecedents of these threats (i.e., AIDS-related stigma, religiosity, adherence to traditional male gender role norm of antifemininity) and frequency of both alcohol-related and non-alcohol-related aggression toward sexual minorities. The indirect paths from antecedents of threat to aggression via perceived threats will be significant. See Figure 1.

Hypothesis 1a. Perceived threats (i.e., realistic threat, symbolic threat) will mediate the associations between AIDS-related stigma and alcohol-related aggression.

Hypothesis 1b. Perceived threats (i.e., realistic threat, symbolic threat) will mediate the associations between religiosity and alcohol-related aggression.

Hypothesis 1c. Perceived threats (i.e., realistic threat, symbolic threat) will mediate the associations between antifemininity and alcohol-related aggression.

Hypothesis 1d. Perceived threats (i.e., realistic threat, symbolic threat) will mediate the associations between AIDS-related stigma and non-alcohol-related aggression.

Hypothesis 1e. Perceived threats (i.e., realistic threat, symbolic threat) will mediate the associations between religiosity and non-alcohol-related aggression.

Hypothesis 1f. Perceived threats (i.e., realistic threat, symbolic threat) will mediate the associations between antifemininity and non-alcohol-related aggression.

Hypothesis 2. The indirect effects of antecedents to perceived threats (i.e., AIDS-related stigma, religiosity, adherence to traditional male gender role norm of antifemininity) on alcohol-related aggression will be greater than the indirect effects of antecedents to perceived threats on non-alcohol-related aggression.

Hypothesis 2a. The indirect effects of AIDS-related stigma on alcohol-related aggression will be greater than the indirect effects of AIDS-related stigma on non-alcohol-related aggression.

Hypothesis 2b. The indirect effects of religiosity on alcohol-related aggression will be greater than the indirect effects of religiosity on non-alcohol-related aggression.

Hypothesis 2c. The indirect effects of antifemininity on alcohol-related aggression will be greater than the indirect effects of antifemininity on non-alcohol-related aggression.

Hypothesis 3. The indirect effects of antecedents to perceived threats (i.e., AIDS-related stigma, religiosity, adherence to traditional male gender role norm of antifemininity) on alcohol-related aggression toward sexual minorities will be greater when they are mediated by symbolic threat than when they are mediated by realistic threat.

Hypothesis 3a. The indirect effect of AIDS-related stigma on alcohol-related aggression will be greater when it is mediated by symbolic threat than when it is mediated by realistic threat.

Hypothesis 3b. The indirect effect of religiosity on alcohol-related aggression will be greater when it is mediated by symbolic threat than when it is mediated by realistic threat.

Hypothesis 3c. The indirect effect of antifemininity on alcohol-related aggression will be greater when it is mediated by symbolic threat than when it is mediated by realistic threat.

Hypothesis 4. There will be group differences based on antecedents to perceived threat (i.e., AIDS-related stigma, religiosity, antifemininity).

Hypothesis 4a. African American, Asian, and White men, and men of "other" races will differ on antecedents to threat (i.e., AIDS-related stigma, religiosity, antifemininity), perceived threats (i.e., realistic threat, symbolic threat), and alcohol-related and non-alcohol-related aggression.

Hypothesis 4b. Latino and Hispanic men will differ from non-Latino and non-Hispanic men on antecedents to threat (i.e., AIDS-related stigma, religiosity, antifemininity), perceived threats (i.e., realistic threat, symbolic threat) and alcohol-related and non-alcohol-related aggression.

Hypothesis 4c. Participants who know someone living with HIV or AIDS (i.e., prior contact) will show less AIDS-related stigma than participants who do not know someone living with HIV or AIDS.

Hypothesis 4d. Participants will differ in religiosity based on religious affiliation (see items on religious affiliation in Appendix A).

Hypothesis 5. Given group differences in antecedents to perceived threat (i.e., AIDS-related stigma, religiosity, antifemininity) based on race, indirect effects of antecedents to perceived threat on aggression will be moderated by racial membership. Indirect effects will be stronger for White men than for non-White men

Hypothesis 6. Given group differences based on ethnicity, indirect effects of antecedents to perceived threat (i.e., AIDS-related stigma, religiosity, antifemininity) on aggression will be moderated by

ethnicity. Indirect effects will be stronger for Latino and Hispanic men than for non-Latino and non-Hispanic men.

Hypothesis 7. Given group differences in AIDS-related stigma based on prior contact with someone living with HIV or AIDS, indirect effects of AIDS-related stigma on aggression will be moderated by prior contact such that the indirect effects will be stronger for men who have had no prior contact with someone living with HIV or AIDS than for men who have had prior contact.

Hypothesis 8. Given group differences in religiosity based on religious affiliation, indirect effects of antecedents to perceived threat (i.e., AIDS-related stigma, religiosity, antifemininity) on aggression will be moderated by religious affiliation such that the indirect effects of religiosity on aggression will be stronger for denominations that are relatively higher than others in religiosity.

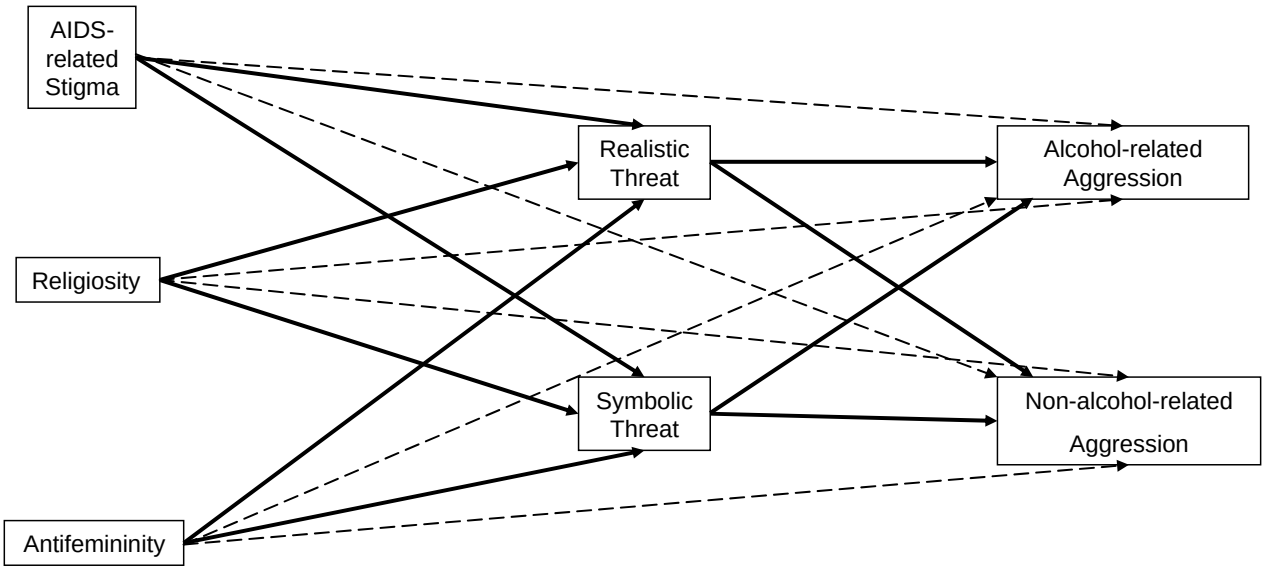

Figure 1. Conceptual path analytic model.

2. METHOD

2.1 Participants

Participants were 249, 18-30-year-old, heterosexual, undergraduate, male adults recruited from Department of Psychology Research Participant Pool using SONA, a Web-based tool for recruiting and scheduling research subjects. Men of this age range were selected because male perpetrators constitute approximately 80% of all assaults, and perpetrators of aggression toward sexual minorities are typically in their late teens or early twenties (Harry, 1990; NCAVP, 2007). One hypothesized antecedent to threat (i.e., antifemininity) that facilitates aggression toward sexual minorities has been theorized and empirically studied in reference to male-perpetrated aggression toward sexual minorities. Indeed, no such theories or data currently exist to explain or to guide research on female-perpetrated aggression toward sexual minorities. Moreover, aggression toward sexual minorities is less likely among women than it is among men (NCAVP, 2007). Further, although the convenience nature of the sample limited the generalizability of the results, the use of an undergraduate sample had the advantage of capturing young men in the age range of many perpetrators.

Of the sample of 249, five were excluded from further analyses because there were problems retrieving their computer-administered data. Of the remaining 244 participants, a heterosexual orientation was confirmed via participants' responses to the Kinsey Heterosexuality-Homosexuality Rating Scale (KRS; Kinsey, Pomeroy, & Martin, 1948) in accordance with the recommendations of Savin-Williams (2006). Specifically, 33 participants were removed from subsequent analyses because they did not endorse exclusive sexual arousal to females and sexual experiences that occurred mostly or exclusively with females. Missing values were excluded using listwise deletion from this sample of N = 211 because they were observations of alcohol-related aggression for non-drinkers. These values were neither missing at random nor valid. As such, they were not imputed. The process of removing non-drinkers excluded 41 participants, yielding a subsequent sample of N = 170. There was an additional nine partici-

pants who completed the survey via pen and paper. Only three of these participants were drinkers. In order to maintain methodological rigor, we only analyzed data for participants who completed the survey via MediaLab. The final sample consisted of 161 participants. Sample demographics and topography of alcohol consumption (e.g., mean number of drinking; mean number of heavy, or binge, drinking days) are presented in Tables 1 and 2.

2.2 Procedures

Sampling procedure. Participants were recruited from the Department of Psychology Research Participant Pool. Experimenters were trained graduate or undergraduate students who were responsible for participant recruitment and data collection. Participants did not have any contact with the investigator prior to the study. However, participants did interface with SONA, which is the department's online, administrative tool used to recruit from the Research Participant Pool and schedule eligible participants. They read a Research Recruitment Announcement that described the study. Specifically, participants were informed, via SONA, that the purpose of the study was to assess people's thoughts and feelings about social issues and behaviors (e.g., alcohol use). Also, via SONA, participants were informed about the requisite time commitment and information about compensation in the form partial course credit. Participants had the option of electing to participate in the study based on the description.

Survey procedure. Upon arrival to the project office, participants received a brief introduction to the procedures, provided informed consent, and completed a self-administered questionnaire battery on the computer. Participants completed the survey alone in a semi-private area divided by a barrier. Upon completion of the survey, each participant was debriefed and thanked for their participation. They were each compensated for their time with partial course credit.

2.3 Measures

Demographic items. Demographic data was collected using items requesting age, years of education, self-identified race, relationship status, self-identified sexual orientation, and religious affiliation(s) (see Appendix A). The survey was programmed such that participants who answered *no* to whether they were religious did not answer questions regarding religious affiliation. Those who answered *yes* answered questions regarding their religious affiliation.

Sexual orientation. A heterosexual orientation was established using aforementioned the KRS (see Appendix B), which assesses prior sexual arousal and experiences. This 7-point scale solicited participants' rating of their own sexual arousal and behavioral experiences from "exclusively heterosexual" to "exclusively homosexual."

AIDS-related stigma. AIDS-related stigma was assessed using a nine-item "stigma index" (p. 375; Herek et al., 2002; see Appendix C) from the 34 item of Herek's AIDS and Stigma Survey (HASS; Herek & Capitanio, 1993; Herek et al., 2002). The stigma index represented participants' stigmatizing responses regarding (a) behavioral intentions to avoid persons living with AIDS, (b) negative feelings toward persons living with AIDS, (c) coercive attitudes about quarantine and publicizing the names of persons living with AIDS, and (d) blaming persons living with AIDS for getting "what they deserve." Internal consistency for this measure typically exceeds .75. Cronbach's alpha in the present sample was 67. Although this was below the recommended range, "it is common to see published journal articles in which one or a few reliability coefficients are below .7, typically .6 or above" (Gilner & Morgan, 2000, p. 313). Additionally, many respondents in this college-student sample endorsed low or no AIDS-related stigma, which may have restricted item-level variance and attenuated the reliability coefficient.

There have been no formal evaluations of the validity of the AIDS-related stigma index. However, there is at least some evidence supporting the validity of this measure. Based on pertinent theory (e.g., Herek & Capitanio, 1999; Pryor et al., 1989), AIDS-related stigma should be correlated with sexual

prejudice. Consistent with this prediction, AIDS-related stigma was significantly, moderately correlated with sexual prejudice in the present sample (r = .52, p < .01; adjusted R^2 = .264 p < .001). Additionally, women tend to show less sexual prejudice than men (e.g., Kite & Whitley, 1998). As such, men and women should differ on scores of AIDS-related stigma. As expected, Herek and associates (2002) found that men tended to score higher on the AIDS-related stigma index than women. Additionally, national probability polls show that, as sexual prejudice has declined in the population of the United States (Saad, 2010, Yang, 1997), so has AIDS-related stigma (Herek et al., 2002). At present, there are no other measures that have been developed to assess AIDS-related stigma among individuals who are not assumed to be living with HIV or AIDS and who are not working in the helping professions (e.g., counseling, nursing).

Given that participants may differ on the measure of AIDS-related stigma based on whether they know someone with HIV or AIDS, the following item was added: "Do you know anyone with HIV or AIDS?" Participants were given the options of *Yes* and *No* in response to this item.

Religiosity. Participants' religiosity, or the importance of religion in their lives as well as the degree to which religion influences their decisions, was measured using the 8-item Religiosity Scale (RS; Rohrbaugh & Jessor, 1975; see Appendix D). The eight items yielded a composite religiosity score ranging from 0 to 32, with higher scores indicating greater religiosity. This particular measure is associated with negative attitudes toward sexual minorities (Boone & Duran, 2009). The Cronbach's alpha for the standardization sample was .89. Nicholas and Durrheim (1996) reported a Cronbach's alpha of .75. Cronbach's alpha in the present sample was .92.

Although they cited evidence that single-item scales of religiosity have demonstrated validity, Rohrbaugh and Jessor (1975) developed their eight-item measure to capture four aspects of religiosity: ritual religiosity (i.e., amount of time spent at religious services and amount of prayer), consequential religiosity (i.e., using religious teachings or advice to solve problems; the influence of religion on choices

of behavior), ideological religiosity (i.e., strength of belief in religion), and experiential religiosity (i.e., subjective experience of devotion, comfort, and security). Two items represented each dimension, respectively. Nicholas and Durrheim (1996) performed an exploratory factor analysis on the religiosity scale and reported that the items converged onto a single factor. Their findings support the use of this scale as a unidimensional measure of religiosity and the construct validity of the measure.

Adherence to the antifemininity male role norm. The seven-item antifemininity subscale of the 26-item Male Role Norms Scale (MRNS; Thompson & Pleck, 1986; see Appendix E) measured the extent to which participants believe that men should avoid acting in stereotypically feminine ways or participating in stereotypically feminine activities. Participants were asked to rate each item on a scale from 1 (strongly disagree) to 7 (strongly agree), with higher scores indicative of greater adherence to the traditional antifeminine norm. An internal consistency coefficient of .80 has been reported for this subscale (Thompson & Pleck, 1986). Cronbach's alpha in the present sample was .72.

Thompson and Pleck (1986) demonstrated construct validity of the MRNS, including the specific subscale measuring adherence to the antifeminine norm. Using exploratory factor analyses, they found that male role norms loaded onto three, separate factors: status, toughness, and antifemininity. These factors represented three major male role norms in the United States, and they mapped onto Brannon's (1976) multifaceted theory of masculinity ideology/male role norms. His conceptual framework included sub-constructs of *The Big Wheel* (i.e., status), *The Study Oak/Give 'Em Hell* (i.e., toughness), and *No Sissy Stuff* (i.e., antifemininity). Sinn (1997) conducted a confirmatory factor analysis to verify the tripartite structure of the male role norms as measured by the MRNS. The three, emergent factors matched Thomspon and Pleck's themes of status, toughness, and antifemininity.

Perceived threats. In order to evaluate participants' perceptions of *realistic threat* in response to sexual minorities (i.e., perceptions that sexual minorities pose a threat to the existence and well-being of heterosexual men), a 12-item scale adapted for heterosexual men's responses to sexual minori-

ties (Boone & Duran, 2009; see Appendix F) was administered. Participants rated each item on a 10-point scale ranging from "strongly disagree" to "strongly agree," with high scores corresponding to stronger perceptions of realistic threat. The authors reported a Cronbach's alpha of .87 in the standardization sample (Boone & Duran, 2009). Cronbach's alpha in the present samples was .86.

In order to evaluate participants' perceptions of *symbolic threat* in response to sexual minorities (i.e., perceptions that sexual minorities represent a threat to heterosexual men's core values, morals, standards, and beliefs), a 12-item scale adapted for heterosexual men's responses to sexual minorities (Boone & Duran, 2009; see Appendix F) was administered. Participants rated each item on a 10-point scale ranging from "strongly disagree" to "strongly agree," with higher scores representing stronger perceptions of symbolic threat in response to sexual minorities. The authors reported a Cronbach's alpha of .88 for the standardization sample (Boone & Duran, 2009). Cronbach's alpha in the present samples was .92.

At present, the only data available to demonstrate the validity of the measures of realistic and symbolic threat are strong correlations between realistic threat and sexual prejudice ($r = .76$, $p < .05$; Boone & Duran, 2009) and between symbolic threat and sexual prejudice ($r = .79$, $p < .05$; Boone & Duran, 2009). Given that some items on the two measures appear to be similar based on face validity, an exploratory factor analysis was conducted on the two measures combined to determine if they, in fact, measure two separate constructs, or types of perceived threat (see *Results*). As would be predicted based on theory, both realistic threat and symbolic threat correlated with sexual prejudice at $r = .76$ ($p < .01$) and $r = .85$ ($p < .01$), respectively.

Aggression on drinking and non-drinking days. Aggression on drinking and non-drinking days was assessed via computerized administration of two Timeline Followback interviews. Alcohol consumption during the past year was assessed with the standard Timeline Followback Interview (TLFB; Sobell & Sobell, 1992; 1996; see Appendix G). Aggression toward sexual minorities during the past year

was measured separately with a modified and psychometrically validated approach in which aggression, not alcohol consumption, is the target behavior (TLFB-AG; Parrott, Gallagher, Vincent, & Bakeman, 2010; see Appendix H). A standard definition of aggressive behavior (Baron & Richardson, 1994) and examples of different types of aggression (e.g., verbal threats, punching) was included. Both self-administered interviews employed anchoring events such as major holidays (e.g., New Year's Eve) and events of personal meaning to participants (e.g., vacations, birthdays). For the TLFB, participants were also asked to recall their typical drinking patterns to facilitate recall. TLFB and TLFB-AG interviews were administered sequentially so that participants would not explicitly link drinking and aggressive days (Parrott et al., 2010). Although both interviews were administered on the computer, the investigator was present behind a room divider so that the participant could easily ask questions. Reliability of computerized administration of the TLFB does not differ significantly from paper-and-pencil self-administration (Sobell, Brown, Leo, & Sobell, 1996).

In regard to the psychometric properties of the TLFB measure, O'Farrell and Langenbucher (1988) reviewed the literature on the reliability and validity of the TLFB procedure. Two studies with undergraduate students using the TLFB method reported high test-retest reliability over a three- to four-week test-retest period. Most reliability coefficients were above .87. Among outpatient problem drinkers with moderately severe alcohol problems, reliability coefficients over a six-week test-retest were above .70, and most were above .85. O'Farrell and Langenbucher (1988) also reported on studies that found concurrent validity between the TLFB and other sources of information. For example, one study found high agreement (r =.88) between alcoholics, who reported their own drinking behaviors using the TLFB, and their wives, who provided collateral information using the TLFB. Additionally, a study of undergraduate students found that their responses to the TLFB provided data with more sensitivity to their individual differences and more information about their drinking behavior and patterns than the established Quanitity-Frequency measure.

In the present study, the TLFB was adapted to provide information about aggression toward sexual minorities (i.e., TLFB-AG). Fals-Stewart, Birchler, and Kelley (2003) performed a similar adaptation when they created the Timeline Followback Spousal Violence interview (TLFB-SV). In determining test-retest reliability, they claimed correlations ranging from .91 to 1.0. Additionally, they examined concurrent and divergent validity. The TLFB-SV was moderately correlated with other, established measures of intimate partner violence. Correlations ranged from .32 to .67. Divergent validity was demonstrated in the lack of correlation between the TLFB-SV and a measure of positive impression management. Fals-Stewart's findings have been independently supported by other researchers. For example, the TLFB has been found to be reliable and valid when adapted to gambling behavior (Weinstock, Whelan, & Meyers, 2004) and condom use (Crosby, Stall, Paul, Barrett, & Midanik, 1996). Embedded in the TLFB-AG were items requesting additional information from the heterosexual male participants about the targets of their aggression other than sexual orientation. This was done in order to obfuscate the true aims of the study.

A review of participants' responses indicated severe underreporting on TLFB-AG responses. Specifically, only two participants out of the entire sample (*N* = 161) reported days of alcohol-related aggression, as indicated by days of aggression on the TLFB-AG that corresponded to days of drinking endorsed on the TLFB. Of these participants, one reported one day of alcohol-related aggression and the other reported nine days of alcohol-related aggression. In addition, only five participants of the total sample (*N* = 161) reported days of non-alcohol-related aggression, as assessed by days of aggression reported on the TLFB-AG that did not overlap with days of drinking reported on the TLFB. Of these five participants, two participants reported one day of non-alcohol-related aggression, one participant reported two days, and two participants reported three days. A grand total of six participants in the whole sample (*N* = 161), or four percent of the sample, reported any aggression, whether alcohol-related or

non-alcohol-related. Parrott and associates (2010) found that 37 men in their sample (*N* = 199), or 19% of their sample, reported any aggression in responses to sexual minorities.

Although the comparison between the present sample and Parrott and associates' (2010) sample suggests underreporting in the present sample, the difference between reported aggression based on the timeline followback procedure and reported aggression based on self-report scales used in the current sample (see next subsection, Frequency of alcohol-related and non-alcohol-related aggression scales) is even more striking. The two approaches were contrasted to statistically test for differences within the present sample. One participant was excluded because he reported on less than 50% of the days represented on the TLFB-AG. Based on the timeline followback procedure, two participants endorsed alcohol-related aggression in the sample (*N* = 160). In contrast, 58 participants endorsed alcohol-related aggression based on the alcohol-related aggression scale. Alcohol-related aggression as assessed by the timeline followback procedure versus the alcohol-related aggression scale demonstrated no statistically significant association, χ^2 (1) = 1.15, Cramer's *V* = .09, *p* = .28. Further, five participants endorsed non-alcohol-related aggression based on the timeline followback procedure, whereas as 75 participants endorsed non-alcohol-related aggression on the non-alcohol-related aggression scale. The association between these two different approaches was also not significant, χ^2 (1) = 1.50, Cramer's *V* = .10, *p* = .22. Taken together, these data indicate that the aggression scales captured more aggressive behavior than the timeline follow back procedure, and that participants underreported when they were presented with the TLFB-AG.

Frequency of alcohol-related and non-alcohol-related aggression scales. To date, there exists no standardized measure of frequency of aggression toward sexual minorities over a specific time period. As such, the proposed study used items from two well-established measures of aggression toward sexual minorities, the Antigay Behavior Inventory (ABI; Franklin, 2000) and the Self-Report of Behavior Scale – Revised (SBS-R; Roderick et al., 1998) in order to assess the frequency of aggression toward sex-

ual minorities in the past year. The SBS-R is a 20-item Likert-type scale that assesses the general tendency of aggressive and avoidant behaviors displayed against sexual minorities. The ABI is an 89-item behavior inventory that includes 13 items that also assess a general tendency of aggressive behaviors toward sexual minorities. Drawing from these two measures, 19 items were selected to assess aggression toward sexual minorities in the past year.

In order to scale the items specifically for frequency of aggression in the past year, participants were instructed to indicate on a 7-point scale how many times they had engaged in specific aggressive behaviors over the past year (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Responses ranged from 0 (never) to 6 (more than 20 times). Per Straus and colleagues (1996), total frequency variables were computed by adding the midpoints of the score range for each item to form total scores for both intoxicated and non-intoxicated aggression, respectively. To assess the perpetration of intoxicated and non-intoxicated aggression separately, participants were instructed to recall the frequency of using each behavior while intoxicated and while sober. Internal consistency coefficients in the present sample were .67 for intoxicated aggression and .64 for non-intoxicated aggression. As was the case with the AIDS-related stigma index, many respondents reported no or low aggression. In fact, all participants endorsed no aggression on eight items of the intoxicated aggression scale and nine items of the non-intoxicated aggression scale. These items were excluded from reliability analyses, as these items had zero variance. They were not included in further analyses.

The adapted questionnaires of intoxicated and non-intoxicated aggression are the only available measures that also assess intoxicated aggression. Concurrent validity of the adapted intoxicated and non-intoxicated aggression questionnaires could not be established within the current sample (i.e., demonstration of concurrent validity of these questionnaires with the TLFB and TLFB-AG) due to severe underreporting of aggression on the TLFB-AG. Nonetheless, the items in the intoxicated and non-intoxicated aggression scales were drawn from established measures of antigay aggression. The ABI has

high face and content validity, given items soliciting information about aggression toward sexual minorities, such as name-calling, threats, physically striking. Items were also drawn from the SBS-R. The SBS-R is significantly correlated with the ABI, albeit moderately (r = .44; Parrott, Peterson, Bakeman, 2011). Roderick and associates (1998) conducted a factor analysis on the SBS-R and found that it measured two separate constructs: avoidant behaviors and aggressive behaviors. This provided evidence of construct validity for the aggression items. The SBS-R was further revised by Parrott and Peterson (2008). Past research with this revised subscale has obtained internal consistency coefficients that exceed .70 (Parrott & Peterson, 2008; Vincent, Parrott, Peterson, 2011). Construct validity was expected to be demonstrated in the present study, given that indirect effects were hypothesized to differ based on whether the dependent variable was intoxicated aggression or non-intoxicated aggression. Hypotheses of differential effects for intoxicated and non-intoxicated aggression were supported by theories of the role of alcohol in aggression.

Table 1. *Demographic Characteristics of the Sample (N = 161): Age, Years of Education, Yearly Income, Race, Ethnicity, Current Relation Status, and Whether Participant is Religious*.

	M (SD)	Min	Max	*n*	%
Age	19.91 (2.36)	18	30		
Years of Education	13.96 (1.68)	12	23		
Yearly Income	53,239.75 (60,430.08)	0	30,000		
Race					
American Indian/ Alaska Native				2	1.2
Asian				30	18.6
Native Hawaiian/ Pacific Islander				1	0.6
African American/black				46	28.6
Caucasian/white				65	40.4
More than one race				17	10.6
Ethnicity					
Hispanic or Latino				13	8.1
Non-Hispanic or Non-Latino				148	91.9
Current relationship status					
Single/never married				152	94.4
Married/living as married				3	1.9
Not married but living with intimate partner				5	3.1
Divorced/separated				1	0.6
Widowed				0	0.0
Religious?					
No				73	45.3
Yes				88	54.7
# drinking days	43.66 (53.52)	1	289		
# heavy drinking days	20.47 (31.87)	1	176		
# drinks per drinking day	4.64 (4.10)	1	18		

Note. Heavy drinking days and binge drinking were defined as five or more drinks in a day. Due to rounding, percentages may not total 100% for each demographic characteristic.

Table 2. *Demographic Characteristics of the Sample (N = 202): Religious Affiliation.*

	n	%
Christian	77	47.8
Religions other than Christianity	9	5.6
Unaffiliated	2	1.2
Not religious	73	45.3
Type of Christian		
Protestant	21	13.0
Catholic	15	9.3
Jehovah's Witness	0	0.0
Orthodox Christian	1	0.6
Other Christian	40	24.8
Type of Protestant		
Evangelical churches	3	1.9
Mainline churches	6	3.7
Historically Black churches	2	1.2
Other Protestant	10	6.2
Type of religion other than Christianity		
Jewish	1	0.6
Buddhist	1	0.6
Muslim	4	2.5
Hindu	1	0.6
Other world religion	1	0.6
Other faiths of the U.S. (i.e., Unitarians and other liberal faiths, New Age, Native American religion)	1	0.6
Type of Muslim		
Sunni Muslim	1	0.6
Shia Muslim	3	1.9

Note. Due to rounding, percentages may not total 100% for each demographic characteristic. Religious subgroups may not total to 161 because they are a subset of a higher order category. All percentages reflect percentages out of the entire sample, N = 161.

3. RESULTS

3.1 Overview of Analyses

Preliminary analyses were conducted to screen and clean the data (e.g., determining whether assumptions of path analysis were met; Kline, 2005). Additionally, preliminary analyses were performed to determine sample characteristics based on all exogenous variables (i.e., independent variables) and endogenous variables (i.e., mediating and dependent variables). Finally, an exploratory factor analysis was conducted on the combined measures of realistic and symbolic threat to determine if these measures represent two separate constructs or one.

The study examined whether specific antecedents to perceived threat (i.e., AIDS-related stigma, religiosity, antifemininity) exercised effects on frequency of alcohol-related and non-alcohol-related aggression toward sexual minorities via perceived, intergroup threats (i.e., realistic threat, symbolic threat). Further, indirect effects on alcohol-related aggression were expected to be significantly greater than indirect effects on non-alcohol-related aggression. For primary analyses, the researcher used path analysis, a form of structural equation modeling, because it permits examination of multiple predictors, mediators, and outcome variables simultaneously while accounting for shared variance among the variables (Kline, 2005; Tabachnick & Fidell, 2007). This approach produces global fit indices that enable one to test the degree to which the hypothesized model fits the relations among the variables in the data. The fit indices and their criteria included a non-significant χ^2, a comparative fit index (CFI) value greater than .95, a standardized root mean square residual (SRMR) value less than .10, and a root mean square error of approximation (RMSEA) value equal to or less than .08 (Hu & Bentler, 1999; Kline, 2005; Vandenberg & Lance, 2000). In addition, the RMSEA yields a 95% confidence interval that can be used to further evaluate whether the RMSEA value is less than or equal to .08 (Kline, 2005).

Bias-corrected bootstrapping (Shrout & Bolger, 2002) was used to determine whether unique indirect effects were significant. Bootstrapping (Mooney & Duval, 1993) is a highly powered, nonpara-

metric procedure based on resampling with replacement. For the present study, 10,000 random samples from sample *n* = 161 of the data set were drawn to obtain unbiased estimates, confidence intervals, and standard errors of indirect effects that are equivalent to values that could be obtained by randomly sampling these indirect effects from the population. Bias-corrected bootstrapping was used because it corrects for bias resulting for the non-normal distribution of the bootstrapped samples of indirect effects (i.e., the products of direct effects; Steck & Jaakkola, 2003). Parameter constraints (i.e., inequality constraints) were used on the path model to test for significant differences between unique indirect effects (e.g., indirect effect of antifemininity on alcohol-related aggression via symbolic threat versus indirect effect of antifemininity on non-alcohol-related aggression via symbolic threat).

The study also examined whether there were group differences on study variables and whether there were moderation effects based on these group differences. Due to uneven sample sizes, *t*-tests were performed without the assumption of equal variance across groups when there were two groups and ANOVA with non-parametric posthoc comparisons (Field, 2005) when there were more than two groups. Based on these group differences, moderation effects on indirect effects of antecedents to perceived threat on aggression via perceived threats were examined by setting parameter constraints on paths representing pairs of indirect effects that were expected to differ across groups. Analyses were conducted using SPSS 18 (SPSS, Inc., 2007) and MPlus version 6.1 (Muthén & Muthén, 2010).

3.2 Preliminary Analyses

Assumptions of path analysis were tested and satisfied. As noted previously, a bias-correcting variant of bootstrapping was used. This is a highly powered, nonparametric procedure that does not rely on assumptions about the shape of the statistic sampling distribution. Nonetheless, variables were examined and graphed to assess normality (Kline, 2005). For example, skew and kurtosis statistics were required to be less than one or less than three times their standard deviations. (See below for more information on particular variables that required transformation). Bivariate scatterplots demonstrated

linearity in the relationships among pairs of variables. Assumptions of homoscedasticity and normality of error distribution were satisfied such that the standardized residuals were normally distributed across levels of the predictors. The assumption of independence of error terms was satisfied such that Durbin-Watson statistics ranged from 1.86 to 2.03, within the acceptable limits.

Intercorrelations among variables were computed to evaluate multicollinearity. Correlations were particularly high between the mediators. Multicollinearity was further assessed such that each independent variable was regressed on the other two IVs. Additionally, each mediator was regressed on the other mediator. Tolerance statistics ranged from .87 to 1.00, all greater than .20, and variance inflation factor (VIF) statistics ranged from 1.00 to 1.51, all less than 10. As an added measure, IVs were regressed on mediating variables, and vice versa. The lowest tolerance value and the highest VIF value were .35 and 2.82, respectively.

Some variables required transformation in order to meet assumptions. As such, the Box-Cox transformation procedure (Box & Cox, 1964; Osborne, 2010) was used to determine the ideal power transformations to meet requisite assumptions. Consequently, the following transformations were performed: (1) AIDS-related stigma exponentiated by 0.1, (2) religiosity exponentiated by 1.3, (3) revised realistic threat exponentiated by zero (i.e., natural log), (4) revised symbolic threat exponentiated by 0.5 (i.e., square root), (5) the natural log performed on intoxicated aggression, and (6) the natural log conducted on non-intoxicated aggression.

Univariate and multivariate outliers were identified and excluded from analyses so that they would not bias results of the primary analyses. Observations that were greater than three times the standard deviations from their respective means for each variable were excluded from primary analyses. Multivariate outliers were identified using the Mahalanobis distance statistic and omitted from further analyses if attendant *p*-values were less than .05. Between seven and 11 outliers were removed from

each analysis. Analyses showed that results were generally attenuated when these outliers were not removed.

Participant characteristics of the sample were examined (see Table 3). Although scores on study measures generally showed variability, there was a pattern of responding (e.g., positively skewed distributions prior to transformation) suggesting that some variables, particularly AIDS-related stigma, intoxicated aggression, and non-intoxicated aggression, represented low base-rate behaviors. Indeed, most scores on measures of study variables were generally positively skewed prior to transformation.

Exploratory factor analysis. Principal axis extraction with promax rotation was performed to determine whether the 24 items of the realistic and symbolic threat subscales listed in Table 4 reflected two underlying constructs. The underlying constructs represented by these hypothesized subscales (i.e., realistic threat, symbolic threat) were assumed to explain covariance among the variables (i.e., items on the subscales), with items on the survey serving as indicators of particular construct. Promax rotation, an oblique rotation method, was used due to expected correlations among factors. The two emergent factors were indeed correlated at .76.

Items 14 and 15 were omitted from further analyses because they correlated poorly with other variables (i.e., $r < .20$; Floyd & Widaman, 1995). Additionally, items 9, 12, 23, and 24 were excluded from further analyses due to particularly low communalities (i.e., item variance explained by the underlying factors) ranging from .294 to .366. In the social sciences, communalities with values below .40 are considered low (Costello & Osborne, 2005). The remaining 18 items were included in further analyses.

The criteria for retaining common factors included (a) factors that had eigenvalues greater than one and, to a lesser extent, (b) the percentage of added variance accounted in the model from each factor. Only two factors of 18 possible factors had eigenvalues greater than one. The two-factor solution explained a cumulative total of 61.55% of the variance in the model. Table 5 displays the eigenvalues,

change in percentage variance accounted for, and cumulative percentages of variance for by two constructs of the two-factor solution.

The variables appeared to be well defined by the factors. Initial communality estimates (h^2) for the variables, shown in Table 6, ranged from .462 to .737. Using a cutoff of .32 for inclusion of a variable in the interpretation of a factor (Tabachnick & Fidell, 2007), 15 of the 18 variables loaded exclusively onto one factor. Of these 15 items, 12 loaded onto factor one and three loaded onto factor two. These 12 items are displayed in Table 6. The remaining three items, tems 3, 4, and 10, were cross-loaded onto both factors with factors loadings above .40 for each. In addition to communalities, Table 6 displays the pattern matrix with loadings of variables on factors. Variables are ordered and grouped by size of loading to facilitate interpretation. In the footnotes, interpretive labels are suggested for the factors. The resultant, two factors were assigned the following interpretive labels: *revised realistic threat* (i.e., factor one) and *revised symbolic threat* (i.e., factor two). Although three items from the original measure of symbolic threat loaded onto factor one, all factors included from the original measure of realistic threat loaded exclusively onto factor one. The three items that loaded onto factor two were exclusively from the original measure of symbolic threat. As indicated by the Cronbach's alpha coefficients, (i.e., .93 for Revised Realistic Threat and .83 for Revised Symbolic Threat), both factors we internally consistent. The high internal consistencies suggested that the two, emergent factors were well defined by their respective items.

3.3 Primary Analyses

Hypothesis 1. Perceived threats (i.e., realistic threat, symbolic threat) of ITT were expected to mediate a positive association between antecedents of these threats (i.e., AIDS-related stigma, religiosity, adherence to traditional male gender role norm of antifemininity) and frequency of both alcohol-related and non-alcohol-related aggression toward sexual minorities. The indirect paths from antecedents of threat to aggression via perceived threats were hypothesized to be significant. The overall mod-

el with direct effects and revised perceived threat measures as mediators is shown in Figure 1. Table 7 presents correlations among the variables. Generally, the model fit the data adequately, as indicated by most of the model fit indices; χ^2 (6, *N* = 152) = 8.62, *p* = .20, CFI = 1.00, SRMR = .04, RMSEA = .05 (95% CI: .000, .127). A correlation between the disturbances (i.e., residuals) of mediators was added to improve model fit (i.e., fit indices showed improvement from model misfit to adequate fit). Prior to adding this correlation, the model fit the data poorly; e.g., χ^2 (7, *N* = 152) = 65.71, *p* = .000. A chi-square difference test indicated that adding this correlation between the mediators to the model improved model fit; χ^2 (1) = 57.09 > 3.84.

A separate model with original perceived threat measures as mediators instead of the revised measures is shown in Figure 2. Table 8 exhibits correlations among the variables for this model. Overall, the model fit the data adequately, as indicated by most of the model fit indices; χ^2 (6, *N* = 150) = 6.82, *p* = .34, CFI = 1.00, SRMR = .03, RMSEA = .03 (95% CI: .000, .113). A correlation between the disturbances of the mediators was added to improve model fit (i.e., fit indices showed improvement from model misfit to adequate fit). Prior to adding this correlation, the model fit the data poorly; e.g., χ^2 (7, *N* = 152) = 122.54, *p* = .000. A chi-square difference test indicated that adding this correlation between mediators to this alternate model also improved model fit; χ^2 (1) = 115.72 > 3.84.

Hypothesis 1a. Perceived threats (i.e., realistic threat, symbolic threat) were hypothesized to mediate the associations between AIDS-related stigma and alcohol-related aggression. As such, the indirect effects of AIDS-related stigma on alcohol-related aggression via realistic threat and symbolic threat, respectively, were expected to be significant. This hypothesis was not supported when revised realistic threat was used as the mediator, as indicated by a nonsignificant indirect path of AIDS-related stigma on alcohol-related aggression via revised realistic threat; β = .06, *p* = .193, (95% CI: -.016, .133). This hypothesis was weakly supported when revised symbolic threat was used as the mediator. The indirect effect was marginally significant β = .06, *p* = .045, (95% CI: 011, .110).

When the original realistic and symbolic threat measures were used, the hypothesis was not supported for realistic threat, but it was supported for symbolic threat. The indirect effect of AIDS-related stigma on alcohol-related aggression via realistic threat was nonsignificant; β = .02, *p* = .685, (95% CI: -.073, .121). However, the indirect effect of AIDS-related stigma on alcohol-related aggression via symbolic threat was statistically significant; β = .10, *p* = .041, (95% CI: .019, .177).

Hypothesis 1b. Perceived threats (i.e., realistic threat, symbolic threat) were hypothesized to mediate the associations between religiosity and alcohol-related aggression. Consequently, the indirect effects of religiosity on alcohol-related aggression via realistic threat and symbolic threat, respectively, were expected to be significant. This hypothesis was not supported when revised realistic threat was used as the mediator, as indicated by a nonsignificant indirect path of religiosity on alcohol-related aggression via revised realistic threat; β = .04, *p* = .209, (95% CI: -.012, .092). However, the hypothesis was supported when revised symbolic threat was used as the mediator. The indirect effect was statistically significant β = .12, *p* = .012, (95% CI: .042, .200).

Similar results were found when the original realistic and symbolic threat measures were used. The hypothesis was not supported for realistic threat, but it was supported for symbolic threat. The indirect effect of religiosity on alcohol-related aggression via realistic threat was nonsignificant; β = .01, *p* = .712, (95% CI: -.035, .055). However, the indirect effect of religiosity on alcohol-related aggression via symbolic threat was statically significant; β = .13, *p* = .028, (95% CI: .031, .218).

Hypothesis 1c. Perceived threats (i.e., realistic threat, symbolic threat) were hypothesized to mediate the associations between antifemininity and alcohol-related aggression. As a result, the indirect effects of antifemininity on alcohol-related aggression via realistic threat and symbolic threat, respectively, were expected to be significant. This hypothesis was not supported when revised realistic threat was used as the mediator, as indicated by a nonsignificant indirect path of antifemininity on alcohol-related aggression via revised realistic threat; β = .06, *p* = .181, (95% CI: -.014, .136). This hypothe-

sis was weakly supported when revised symbolic threat was used as the mediator. The indirect effect was marginally significant β = .06, *p* = .051, (95% CI: .009, .107).

When the original realistic and symbolic threat measures were used, the hypothesis was not supported for realistic threat, but it was supported for symbolic threat. The indirect effect of antifemininity on alcohol-related aggression via realistic threat was nonsignificant; β = .02, *p* = .684, (95% CI: -.070, .117). However, the indirect effect of antifemininity on alcohol-related aggression via symbolic threat was statistically significant; β = .10, *p* = .041, (95% CI: .020, .182).

Hypothesis 1d. Perceived threats (i.e., realistic threat, symbolic threat) were hypothesized to mediate the associations between AIDS-related stigma and non-alcohol-related aggression. As such, the indirect effects of AIDS-related stigma on non-alcohol-related aggression via realistic threat and symbolic threat, respectively, were expected to be significant. This hypothesis was not supported for either mediator. There was a nonsignificant indirect effect of AIDS-related stigma on non-alcohol-related aggression via revised realistic threat; β = .08, *p* = .100, (95% CI: .000, .153). Moreover, there were a nonsignificant indirect effect of AIDS-related stigma on non-alcohol-related aggression via revised symbolic threat; β = .04, *p* = .194, (95% CI: -.010, .082).

Similar results were found when the original realistic and symbolic threat measures were used as mediators. The hypothesis was not supported for realistic threat or symbolic threat. The indirect effect of AIDS-related stigma on non-alcohol-related aggression via realistic threat was nonsignificant; β = .05, *p* = .366, (95% CI:,-.044, .151). Additionally, the indirect effect of AIDS-related stigma on non-alcohol-related aggression via symbolic threat was nonsignificant; β = .07, *p* = .133, (95% CI: .007, .147).

Hypothesis 1e. Perceived threats (i.e., realistic threat, symbolic threat) were hypothesized to mediate the associations between religiosity and non-alcohol-related aggression. Consequently, the indirect effects of religiosity on non-alcohol-related aggression via realistic threat and symboic threat, respectively, were expected to be significant. This hypothesis was not supported for either mediator.

There was a nonsignificant indirect effect of religiosity on non-alcohol-related aggression via revised realistic threat; β = .05, *p* = .108, (95% CI: -.001, .105). Additionally, there were a nonsignificant indirect effect of religiosity on non-alcohol-related aggression via revised symbolic threat; β = .07, *p* = .138, (95% CI: -.008, .153).

Similar results were found when the original realistic and symbolic threat measures were used as mediators. The indirect effect of religiosity on non-alcohol-related aggression via realistic threat was nonsignificant; β = .02, *p* = .420, (95% CI: -.023, .068). Additionally, the indirect effect of religiosity on non-alcohol-related aggression via symbolic threat was nonsignificant; β = .09, *p* = .123, (95% CI: -.006, .184).

Hypothesis 1f. Perceived threats (i.e., realistic threat, symbolic threat) were hypothesized to mediate the associations between antifemininity and non-alcohol-related aggression. Consequently, the indirect effects of antifemininity on non-alcohol-related aggression via realistic threat and symbolic threat, respectively, were expected to be significant. This hypothesis was not supported for either mediator. There was a nonsignificant indirect effect of antifemininity on non-alcohol-related aggression via revised realistic threat; β = .08, *p* = .077, (95% CI: .006, .153). Moreover, there was a nonsignificant indirect effect of antifemininity on non-alcohol-related aggression via revised symbolic threat; β = .04, *p* = .196, (95% CI: -.009, .079).

Similar results were found when the original realistic and symbolic threat measures were used as mediators. The hypothesis was not supported for realistic threat or symbolic threat. The indirect effect of antifemininity on non-alcohol-related aggression via realistic threat was nonsignificant; β = .05, *p* = .358, (95% CI: -.041, .144). Additionally, the indirect effect of antifemininity on non-alcohol-related aggression via symbolic threat was nonsignificant; β = .07, *p* = .140, (95% CI: -.008, .152).

Hypothesis 2. The indirect effects of antecedents to perceived threats (i.e., AIDS-related stigma, religiosity, adherence to traditional male gender role norm of antifemininity) on alcohol-related aggres-

sion were hypothesized to be greater than the indirect effects of antecedents to perceived threats on non-alcohol-related aggression. Nonsignificant inequality constraints comparing the indirect effects on alcohol-related aggression versus non-alcohol-related aggression suggested that these hypotheses were not confirmed. However, the pattern of significant versus nonsignificant indirect effects provides support for these hypotheses. Indirect effects of antecedents to perceived threats (i.e., AIDS-related stigma, religiosity, antifemininity) via symbolic threat (based on revised and original measures of symbolic threat) on alcohol-related aggression tended to be either marginally significant or statistically significant (see Results; Primary Analyses; Hypothesis 1). In contrast, the indirect effects of antecedents to perceived threats (i.e., AIDS-related stigma, religiosity, antifemininity) via symbolic threat (based on revised and original measures of symbolic threat) on non-alcohol-related aggression were not significant (see Results; Primary Analyses; Hypothesis 1). These results are discussed in detail in the following three subsections.

Hypothesis 2a. The indirect effects of AIDS-related stigma on alcohol-related aggression were hypothesized to be greater than the indirect effects of AIDS-related stigma on non-alcohol-related aggression. As such, inequality constraints contrasting (1) the indirect effect of AIDS-related stigma via revised realistic threat on alcohol-related aggression and (2) the indirect effect of AIDS-related stigma via revised realistic threat on non-alcohol-related aggression were expected to demonstrate a statistically significant difference between the two paths. Likewise, inequality constraints contrasting (1) the indirect effect of AIDS-related stigma via revised symbolic threat on alcohol-related aggression and (2) the indirect effect of AIDS-related stigma via revised symbolic threat on non-alcohol-related aggression were expected to show a statistically significant difference between the two paths. These hypotheses were not supported based on statistical tests of inequality constraints between the paths. The contrast of the indirect effects of AIDS-related stigma via revised realistic threat on alcohol-related aggression versus non-alcohol-related aggression was not significant (p = .491). Similarly, the contrast of the indirect ef-

fects of AIDS-related stigma via revised symbolic threat on alcohol-related aggression versus non-alcohol-related aggression was not significant (p = .123).

Although differences between indirect effects tested using inequality constraints were not significant, there was some support for differential effects based on alcohol consumption. Namely, the indirect effect of AIDS-related stigma via revised symbolic threat on alcohol-related aggression approached statistical significance (see Results; Primary Analyses; Hypothesis 1). By comparison, the indirect effect of AIDS-related stigma via revised symbolic threat on non-alcohol-related aggression did not approach statistical significance (see Results; Primary Analyses; Hypothesis 1).

When the original measures of realistic and symbolic threat were used to represent mediators, there were still no statistically significances in the contrasts between the indirect effects on alcohol-related aggression versus non-alcohol-related aggression. The contrast of the indirect effects of AIDS-related stigma via realistic threat on alcohol-related aggression versus non-alcohol-related aggression was not significant (p = .330). Similarly, the contrast of the indirect effects of AIDS-related stigma via symbolic threat on alcohol-related aggression versus non-alcohol-related aggression was not significant (p = .250). Nonetheless, as documented previously, the indirect effect of AIDS-related stigma via symbolic threat on alcohol-related aggression was statistically significant. Conversely, the indirect effect of AIDS-related stigma via symbolic threat on non-alcohol-related aggression was not significant (see Results; Primary Analyses; Hypothesis 1).

Hypothesis 2b. The indirect effects of religiosity on alcohol-related aggression were hypothesized to be greater than the indirect effects of religiosity on non-alcohol-related aggression. Consequently, inequality constraints contrasting (1) the indirect effect of religiosity via revised realistic threat on alcohol-related aggression and (2) the indirect effect of religiosity via revised realistic threat on non-alcohol-related aggression were expected to demonstrate a statistically significant difference between the two paths. Likewise, inequality constraints between (1) the indirect effect of religiosity via revised

symbolic threat on alcohol-related aggression and (2) the indirect effect of religiosity via revised symbolic threat on non alcohol-related aggression were expected to show a statistically significant difference between the two paths. These hypotheses were not supported based on statistical tests of inequality constraints between the paths. The contrast of the indirect effects of religiosity via revised realistic threat on alcohol-related aggression versus non-alcohol-related aggression was not significant (p = .503). Similarly, the contrast of the indirect effects of religiosity via revised symbolic threat on alcohol-related aggression versus non-alcohol-related aggression was not significant (p = .088).

Although the contrast between indirect effects was not statistically significant, there was an alternate, noteworthy difference. As stated previously (see Results; Primary Analyses; Hypothesis 1), the indirect effect of religiosity on intoxicated aggression via revised symbolic threat was statistically significant. By comparison, the indirect effect of religiosity on non-alcohol-related aggression via revised symbolic threat was not significant.

When the original measures of realistic and symbolic threat were used to represent the mediators, there were still no statistically significances in the contrasts between the indirect effects of religiosity on alcohol-related aggression versus non-alcohol-related aggression. The contrast of the indirect effects of religiosity via realistic threat on alcohol-related aggression versus non-alcohol-related aggression was not significant (p = .391). Similarly, the contrast of the indirect effects of religiosity via symbolic threat on alcohol-related aggression versus non-alcohol-related aggression was not significant (p = .214). Nonetheless, as already noted, the indirect effect of religiosity via symbolic threat on alcohol-related aggression was statistically significant. In contrast, the respective indirect effect of religiosity via symbolic threat on non-alcohol-related aggression was not significant (see Results; Primary Analyses; Hypothesis 1).

Hypothesis 2c. The indirect effects of antifemininity on alcohol-related aggression were hypothesized to be greater than the indirect effects of antifemininity on non-alcohol-related aggression.

The indirect effects of antifemininity on alcohol-related aggression were hypothesized to be greater than the indirect effects of antifemininity on non-alcohol-related aggression. As such, inequality constraints between (1) the indirect effect of antifemininity via revised realistic threat on alcohol-related aggression and (2) the indirect effect of antifemininity on via revised realistic threat non-alcohol-related aggression were expected to demonstrate a statistically significant difference between the two paths. Likewise, inequality constraints between (1) the indirect effect of antifemininity via revised symbolic threat on alcohol-related aggression and (2) the indirect effect of antifemininity via revised symbolic threat on non-alcohol-related aggression were expected to show a statistically significant difference between the two paths. These hypotheses were not supported based on statistical tests of inequality constraints between the paths. The contrast of the indirect effects of antifemininity via revised realistic threat on alcohol-related aggression versus non-alcohol-related aggression was not significant (p = .477). Similarly, the contrast of the indirect effects of antifemininity via revised symbolic threat on alcohol-related aggression versus non-alcohol-related aggression was not significant (p = .133). Additionally, aside from nonsignificant differences between indirect effects tested using inequality constraints, the indirect effect of antifemininity via revised symbolic threat on alcohol-related aggression approached statistical significance (see Results; Primary Analyses; Hypothesis 1). By comparison, the indirect effect of antifemininity via revised symbolic threat on non-alcohol-related aggression did not approach statistical significance (see Results; Primary Analyses; Hypothesis 1).

When the original measures of realistic and symbolic threat were used to represent mediators, there were still no statistically significances in the contrasts between the indirect effects on alcohol-related aggression versus non-alcohol-related aggression. The contrast of the indirect effects of antifemininity via realistic threat on alcohol-related aggression versus non-alcohol-related aggression was not significant (p = .315). Similarly, the contrast of the indirect effects of antifemininity via symbolic threat on alcohol-related aggression versus non-alcohol-related aggression was not significant (p = .224).

Nonetheless, as documented previously, the indirect effect of antifemininity via symbolic threat on alcohol-related aggression was statistically significant. Conversely, the indirect effect of antifemininity via symbolic threat on non-alcohol-related aggression was not significant (see Results; Primary Analyses; Hypothesis 1).

Hypothesis 3. The indirect effects of antecedents to perceived threats (i.e., AIDS-related stigma, religiosity, adherence to traditional male gender role norm of antifemininity) on alcohol-related aggression toward sexual minorities were hypothesized to be greater when they are mediated by symbolic threat than when they are mediated by realistic threat. Nonsignificant inequality constraints comparing the indirect effects of antecedents on alcohol-related aggression via realistic threat versus symbolic threat (based on revised and original measures) suggested that these hypotheses were not supported. However, there was some support for these hypotheses. Indirect effects of antecedents to perceived threats (i.e., AIDS-related stigma, religiosity, antifemininity) on alcohol-related aggression via realistic threat (based on revised and original measures) were not significant (see Results; Primary Analyses; Hypothesis 1). In contrast, the indirect effects of antecedents to perceived threats (i.e., AIDS-related stigma, religiosity, antifemininity) on non-alcohol-related aggression via symbolic threat (based on revised and original measures) were either marginally significant or statistically significant (see Results; Primary Analyses; Hypothesis 1). These results are discussed in detail in the following three subsections.

Hypothesis 3a. The indirect effect of AIDS-related stigma on alcohol-related aggression was hypothesized to be greater when it was mediated by symbolic threat than when it was mediated by realistic threat. As such, an inequality constraint between (1) the indirect effect of AIDS-related stigma on alcohol-related aggression via revised symbolic threat and (2) the indirect effect of AIDS-related stigma on alcohol-related aggression via revised realistic threat was expected to show a statistically significant difference between the two paths. This hypothesis was not supported based on the statistical test of the inequality constraint between the paths. The contrast of the indirect effect of AIDS-related stigma

on alcohol-related aggression via revised symbolic threat versus revised realistic threat was not significant (p = .296). However, aside from nonsignificant differences between indirect effects tested using the inequality constraint, the indirect effect of AIDS-related stigma on alcohol-related aggression via revised symbolic threat approached statistical significance (see Results; Primary Analyses; Hypothesis 1). By comparison, the indirect effect of AIDS-related stigma on alcohol-related aggression via revised realistic threat did not approach statistical significance (see Results; Primary Analyses; Hypothesis 1).

When the original measures of realistic and symbolic threat were used to represent mediators, there was still no statistically significant difference in the contrasts between the indirect effects of symbolic threat versus realistic threat. The contrast of the indirect effects of AIDS-related stigma on alcohol-related aggression via symbolic threat versus realistic threat was not significant (p = .310). Nonetheless, as documented previously, the indirect effect of AIDS-related stigma on alcohol-related aggression via symbolic threat was statistically significant. Conversely, the indirect effect of AIDS-related stigma on alcohol-related aggression via realistic threat was not significant (see Results; Primary Analyses; Hypothesis 1).

Hypothesis 3b. The indirect effect of religiosity on alcohol-related aggression was hypothesized to be greater when it was mediated by symbolic threat than when it was mediated by realistic threat. As such, an inequality constraint contrasting (1) the indirect effect of religiosity on alcohol-related aggression via revised symbolic threat and (2) the indirect effect of religiosity on alcohol-related aggression via revised realistic threat was expected to show a statistically significant difference between the two paths. This hypothesis was not supported based on the statistical test of the inequality constraint between the paths. The contrast of the indirect effect of religiosity on alcohol-related aggression via revised symbolic threat versus revised realistic threat was not significant (p = .789). However, aside from nonsignificant differences between indirect effects tested using the inequality constraint, the indirect effect of religiosity on alcohol-related aggression via revised symbolic threat was statistically significant

(see Results; Primary Analyses; Hypothesis 1). By comparison, the indirect effect of religiosity on alcohol-related aggression via revised realistic threat did not approach statistical significance (see Results; Primary Analyses; Hypothesis 1).

When the original measures of realistic and symbolic threat was used to represent mediators, there was still no statistically significant difference in the contrasts between the indirect effects of symbolic threat versus realistic threat. The contrast of the indirect effects of religiosity on alcohol-related aggression via symbolic threat versus realistic threat was not significant (p = .293). Nonetheless, as documented previously, the indirect effect of religiosity on alcohol-related aggression via symbolic threat was statistically significant. Conversely, the indirect effect of religiosity on alcohol-related aggression via realistic threat was not significant (see Results; Primary Analyses; Hypothesis 1).

Hypothesis 3c. The indirect effect of antifemininity on alcohol-related aggression was hypothesized to be greater when it was mediated by symbolic threat than when it was mediated by realistic threat. As such, an inequality constraint between (1) the indirect effect of antifemininity on alcohol-related aggression via revised symbolic threat and (2) the indirect effect of antifemininity on alcohol-related aggression via revised realistic threat was expected to show a statistically significant difference between the two paths. This hypothesis was not supported based on the statistical test of the inequality constraint between the paths. The contrast of the indirect effect of antifemininity on alcohol-related aggression via revised symbolic threat versus revised realistic threat was not significant (p = .279). However, aside from differences between indirect effects tested using the inequality constraint, the indirect effect of antifemininity on alcohol-related aggression via revised symbolic threat approached statistical significance (see Results; Primary Analyses; Hypothesis 1). By comparison, the indirect effect of antifemininity on alcohol-related aggression via revised realistic threat did not approach statistical significance (see Results; Primary Analyses; Hypothesis 1).

When the original measures of realistic and symbolic threat were used to represent mediators, there were still no statistically significant difference in the contrasts between the indirect effects of symbolic threat versus realistic threat. The contrast of the indirect effects of antifemininity on alcohol-related aggression via symbolic threat versus realistic threat was not significant (p = .268). Nonetheless, as documented previously, the indirect effect of antifemininity on alcohol-related aggression via symbolic threat was statistically significant. Conversely, the indirect effect of antifemininity on alcohol-related aggression via realistic threat was not significant (see Results; Primary Analyses; Hypothesis 1).

Hypothesis 4. Groups based on race (i.e., African American, Asian, White, Other, ethnicity (i.e., Hispanic/Latino, non-Hispanic/non-Latino), prior contact with someone living with HIV or AIDS, and religious affiliation (e.g., Christianity, religions other than Christianity, non-religious people) were hypothesized to differ based on antecedents to perceived threat (i.e., AIDS-related stigma, religiosity, antifemininity), perceived threats (i.e., realistic threat, symbolic threat), and alcohol-related and non-alcohol-related aggression. As described subsequently, group differences were evident for racial category and for whether the participant endorsed being religious. No differences based on ethnicity and prior contact with a person living with HIV or AIDS were observed.

Hypothesis 4a. African American men (n = 46), Asian men (n = 30), and White men (n = 65), and men of "other" races (n = 20) were hypothesized to differ on antecedents to threat (i.e., AIDS-related stigma, religiosity, antifemininity), perceived threats (i.e., realistic threat, symbolic threat), and alcohol-related and non-alcohol-related aggression. Other races (i.e., American Indian/ Alaska Native, n = 2; Native Hawaiian- Pacific Islander, n = 1; more than one race, n = 17) were combined due to their relatively small cell sizes. Participants who endorsed being of more than one race comprised the majority of the category of other races. Levene's test of homogeneity of variance showed constant variance across racial groups on all measures except antifemininity, $F(3, 157) = 3.37$, p = .020; however, ANOVA is generally robust to violations of assumptions (Keppel, 1982). Omnibus, one-way ANOVAs showed that racial

differences on scores of religiosity, $F(3, 157) = 6.11$, $p = .00$; symbolic threat, $F(3, 157) = 5.92$, $p = .00$; and revised symbolic threat, $F(3, 157) = 5.27$, $p = .00$. The differences in the groups' scores approached statistical significant on revised realistic threat, $F(3, 157) = 2.60$, $p = .05$.

Posthoc, multiple comparisons were conducted to determine pairwise differences between the racial categories on scores of religiosity, symbolic threat, and revised symbolic threat. Due to unequal sample sizes, nonparametric posthoc comparisons using the Games-Howell procedure were used. Parametric procedures perform poorly when subsample sizes differ (Field, 2005). Based on posthoc, pairwise comparisons, Whites ($M = 29.48$, 95% CI [23.64, 35.31]) reported significantly lower levels of religiosity than African Americans ($M = 47.84$, 95% CI [41.63, 54.05])), $p = .000$. There were no other statistically significant, pairwise differences in religiosity. Additionally, Whites ($M = 40.79$, 95% CI [35.51, 46.06]) endorsed significantly lower levels of symbolic threat based on the original measure than African Americans ($M = 59.63$, 95% CI [51.77, 67.49]), $p = .001$. Whites ($M = 2.15$, 95% CI [1.96, 2.33]) also reported significantly lower levels of symbolic threat based on the revised measure than African Americans ($M = 2.68$, 95% CI [2.46, 2.90]), $p = .002$, and the difference on scores of revised symbolic threat between African Americans differed from other races ($M = 2.11$, 95% CI [1.72, 2.49]) approached statistical significance, $p = .052$. There were no other, significant posthoc comparisons. Table 11 displays these results.

Hypothesis 4b. Latino and Hispanic men were hypothesized to differ from non-Latino and non-Hispanic men on antecedents to threat (i.e., AIDS-related stigma, religiosity, antifemininity), perceived threats (i.e., realistic threat, symbolic threat) and alcohol-related and non-alcohol-related aggression. Based on Levene's test of equal variance, there was constant variance across both groups, F ranging from .00 to 1.286, p ranging from .259 to .986. A series of t-tests with equal variances assumed were conducted. The hypotheses were not supported. As shown in Table 12, there were no significant differences between Latino/Hispanic men and non-Latino/non-Hispanic men across any of the study varia-

bles. When the *t*-tests were repeated without equal variance assumed, the results were essentially the same.

Hypothesis 4c. Participants who knew someone living with HIV or AIDS (i.e., prior contact) were hypothesized to show less AIDS-related stigma than participants who did not know someone living with HIV or AIDS. Based on Levene's test of equal variance, the two groups had equal variance. A *t*-test with equal variances assumed was conducted. The hypothesis was not supported. There was no significant difference detected between participants who did not know someone living with HIV or AIDS, $n = 136$, *M(SD)* = 1.19(.08), and participation who did know someone living with HIV or AIDS, $n = 25$, *M(SD)* = 1.18(.08); $t = .84$, $p = .40$. When the *t*-test was repeated without equal variance assumed, the results were essentially the same.

Hypothesis 4d. Participants were hypothesized to differ in religiosity based on religious affiliation (see items on religious affiliation in Appendix A). Group differences in religiosity were examined based on whether the participant endorsed being religious (i.e., *yes* or *no*), general religious affiliation (i.e., Christian, other religion [e.g., Jewish, Buddhist, Muslim, Hindu etc.]), type of Christian, type of Protestant, and type of non-Christian (e.g., Muslim, other non-Muslim [e.g., Jewish]). Other, fine-grained comparisons were not feasible due to particularly small cell sizes. Overall, the hypotheses suggest that the most meaningful difference, based on the current sample, is whether or not participants endorse being religious (i.e., *yes*, *no*). These findings are reported in further detail in the following three subsections.

Religious: yes or no. Participants who endorsed being religious were expected to score higher on religiosity than participants who did not endorse being religious. *No* was coded as zero, $n = 73$, *M(SD)* = 15.68(13.17); and *Yes* was coded as one, $n = 88$, *M(SD)* = 53.82(14.14). Based on Levene's test of equal variance, there was constant variance across both groups, $F = .04$ $p = .840$. A *t*-test with equal

variances assumed supported the hypothesis, $t(159) = -17.58$, $p = .000$. When the *t*-tests were repeated without equal variance assumed, the results were essentially the same.

General religious affiliation. Participants were expected to differ in their scores of religiosity based on religious affiliation. Initially, results appeared to support this hypothesis. Specifically, Christians ($n = 77$, $M = 54.3$, $SD = 113.94$), participants of religions besides Christianity (e.g., Jewish, Muslim, Hindu) ($n = 9$, $M = 53.21$, $SD = 15.46$), and participants who did not know or answer regarding religious affiliation, ($n = 73$, $M = 15.68$, $SD = 13.17$) differed in their scores on religiosity, $F(3, 157) = 104.44$, $p = .000$. Levene's test of homogeneity of variance demonstrated constrant variance across groups. Participants who were reportedly unaffiliated (e.g., no religion "in particular") ($n = 2$, $M = 37.96$ $SD = 14.00$), were not included due to their unusually small cell sizes (i.e., $n < 5$).

Non-parametric, posthoc comparisons (i.e., Games-Howell), showed that differences were between Christian ($M = 54.31$, 95% CI [51.14, 57.47]) and participants who did not know or answer regarding their religious affiliation ($M = 15.68$, 95% CI [12.61, 18.75]), $p = .000$, and between participants of non-Christian religions ($M = 53.21$, 95% CI [41.32, 65.09]) and those who did not know or answer regarding their religious affiliation, $p = .000$. Further, as noted previously (see Method, Measures, Demographic items), participants answered religious affiliation questions if they endorsed being religious (i.e., *yes*; see Results, Primary Analyses, Hypothesis 4d, *Religious: Yes or No*). As such, 100% of participants who identified a religious affiliation (i.e., Christian, religion other than Christian, "unaffiliated") endorsed being religious, whereas 0% participants who did not know or chose not to answer regarding religious affiliation endorsed being religious. Conversely, none of the participants who identified a religious affiliation endorsed not being religious (i.e., *no*; see Results, Primary Analyses, Hypothesis 4d, *Religious: Yes or No*), whereas all of the participants who did know or answer regarding religious affiliation endorse not being religions.

Other religious groups. Additional analyses showed that, among Christians, participants did not differ in scores of religiosity based on the type of Christianity they endorsed. Specifically, Protestants (*M* = 51.20, 95% CI [43.84, 58.56]), Catholics (*M* = 47.62, 95% CI [39.78, 55.46]), and "other" types of Christians (*M* = 58.17, 95% CI [54.50, 61.84]) showed no differences in their scores on religiosity, with *p*-values ranging from .075 to .894. Due to small cell sizes (e.g., Jewish, *n* = 1; Buddhist, *n* = 1; Muslim, *n* = 4; Hindu, *n* = 1; member of historically Black church, *n* = 2; member of Evangelical church, *n* = 3), additional comparisons within religious groups were not feasible.

Hypothesis 5. Given group differences in antecedents to perceived threat (i.e., AIDS-related stigma, religiosity, antifemininity) based on race, indirect effects of antecedents to perceived threat on aggression were hypothesized to be moderated by racial membership (i.e., White, African American, Asian, other racial categories). Indirect effects were expected to be stronger for White men than for non-White men, particularly African American men. A four-group model was attempted. However, this model would not converge (e.g., significance tests of model parameters could not be performed) due to an insufficient number of observations for the relative complexity of the model. Given that there were statistically significant differences observed between Whites and African Americans, but not between Asians and other racial groups, Asians and other racial groups were combined into a larger "Other" category. Although this is obviously not ideal, it provided a means to include all participants in the final sample. The resultant three-group model examining revised measures of perceived threats as mediators fit the data adequately; χ^2 (18, *N* = 152) = 9.63, *p* = .94, CFI = 1.00, SRMR = .031, RMSEA = .00 (95% CI: .000, .022).

Although the indirect effect of religiosity on alcohol-related aggression via revised symbolic threat was significant for the single-group model (see Results, Primary Analyses, Hypotheses 1a – 1c), the indirect effect was not significant in the three-group model of racial categories for Whites (ß = .04, *p* = .698, 95% CI [-.122, .200]), African Americans (ß = .11, *p* = .159, 95% CI [-.018, .227]), and Other (ß =

.04, *p* = .680, 95% CI [-.107, .178]). None of the other indirect effects were significant. Additionally, none of the contrasts between indirect effects tested in the one-group model were significant in the three-group, racial-comparison model.

A three-group model examining the original measures of perceived threats as mediators also fit the data adequately; χ^2 (18, *N* = 152) = 14.09, *p* = .72, CFI = 1.00, SRMR = .034, RMSEA = .00 (95% CI: .000, .095). Although the indirect effect of religiosity on alcohol-related aggression via symbolic threat was significant for the single-group model (see Results, Primary Analyses, Hypotheses 1a – 1c), the indirect effect was not significant in the three-group model of racial categories for Whites (ß = -.06, *p* = .520, 95% CI [-.197, .086]), African Americans (ß = .15, *p* = .163, 95% CI [-.027, .336]), and Other (ß = .14, *p* = .140, 95% CI [-.016, 301]). None of the other indirect effects were significant. Additionally, none of the contrasts between indirect effects tested in the one-group model were significant in the three-group, racial-comparison model.

Hypothesis 6. Given group differences based on ethnicity (i.e., Latino/Hispanic, non-Latino/non-Hispanic), indirect effects of antecedents to perceived threat (i.e., AIDS-related stigma, religiosity, antifemininity) on aggression were hypothesized to be moderated by ethnicity. Indirect effects were expected to be stronger for Latino and Hispanic men than for non-Latino and non-Hispanic men. However, as reported previously (see Results, Primary Analyses, Hypothesis 4b), there were no group differences on any pertinent variables based on participants' ethnicity.

Hypothesis 7. Given group differences in AIDS-related stigma based on prior contact with someone living with HIV or AIDS, indirect effects of AIDS-related stigma on aggression were hypothesized to be moderated by prior contact such that the indirect effects would be stronger for men who have had no prior contact with someone living with HIV or AIDS than for men who have had prior contact. However, as documented previously (see Results, Primary Analyses, Hypothesis 4c), there were no group differences in AIDS-related stigma based on prior contact with someone living with HIV or AIDS. Addi-

tional analyses were conducted in order to determine whether there would be differences in other study variables (e.g., religiosity, antifemininity, revised realistic and symbolic threat) based on prior contact with someone living with HIV or AIDS. No differences were detected.

Hypothesis 8. Given group differences in religiosity based on religious affiliation, indirect effects of religiosity on aggression were hypothesized to be moderated by religious affiliation such that the indirect effects of religiosity on aggression were expected to be stronger for denominations that are higher in religiosity than others. It was expected that indirect effect via symbolic threat of religiosity on alcohol-related aggression would be greater for participants who endorsed *yes* for being religious relative to participants who endorsed *no* for being religious. As stated previously, the two-group model based on whether participants endorsed *yes* or *no* to being religious seemed most appropriate for moderation analyses (see Results, Primary Analyses, Hypothesis 4d). This two-group model examining revised measures of perceived threats as mediators fit the data adequately; χ^2 (12, N = 152) = 11.29, p = .51, CFI = 1.00, SRMR = .038, RMSEA = .00 (95% CI: .000, .011).

The indirect effects of AIDS-related stigma, religiosity, and antifemininity on alcohol-related aggression via revised symbolic threat were significant for the single-group model (see Results, Primary Analyses, Hypotheses 1a – 1c). The indirect effect via revised symbolic threat of religiosity on alcohol-related aggression was not significant for participants who were reportedly not religious (ß = .10, p = .064, 95% CI [.011, .190]) or for participants who were reportedly religious (ß = .00, p = .950, 95% CI [-.086, .080]). As such, the hypothesis was not supported. However, among participants who reported not being religious, given the proximity of the p-value to .05 (i.e., .64) in combination with the confidence interval that does not include zero and the relatively small sample size, the indirect effect of religiosity on alcohol-related aggression via revised symbolic threat could be interpreted as marginally significant.

However, for the non-religious group, the indirect effect via revised symbolic threat of AIDS-related stigma on alcohol-related aggression was significant (ß = .16, *p* = .031, 95% CI [.039, .288]). By comparison, for the religious group, the indirect effect via revised symbolic threat of AIDS-related stigma on alcohol-related aggression was not significant (ß = .00, *p* = .950, 95% CI [-.059, .054]). Additionally, the indirect effect via revised symbolic threat of antifemininity on alcohol-related aggression was marginally significant among participants who were purportedly not religious (ß = .13, *p* = .050, 95% CI [.020, .233]), but not among participants who were purportedly religious (ß = .00, *p* = .948, 95% CI [-.076, .071]).

Moreover, there were several indirect effects via realistic threat on both alcohol-related and non-alcohol-related aggression that were statistically significant among religious participants that were not significant among non-religious participants. Among the religious group, indirect effects via revised realistic threat of AIDS-related stigma on alcohol-related aggression (ß = .15, *p* = .023, 95% CI [.041, .254]) and of antifemininity on alcohol-related aggression (ß = .17, *p* = .004, 95% CI [.072, .258]) were statistically significant. Further, among the religious group, indirect effects via revised realistic threat of AIDS-related stigma on non-alcohol-related aggression (ß = .14, *p* = .040, 95% CI [.027, .242]) and of antifemininity on non-alcohol-related aggression (ß = .15, *p* = .005, 95% CI [.062, .239]) were significant. None of these effects were significant among the non-religious group. For participants who were reportedly not religious, the indirect effects via revised realistic threat of AIDS-related stigma on alcohol-related aggression (ß = .01, *p* = .901, 95% CI [-.109, .127]) and of antifemininity on alcohol-related aggression (ß = .01, *p* = .905, 95% CI [-.095, .110]) were not significant. Also, among non-religious participants, the indirect effects via revised realistic threat of AIDS-related stigma on non-alcohol-related aggression (ß = .01, *p* = .899, 95% CI [-.102, .120]) and of antifemininity on non-alcohol-related aggression (ß = .01, *p* = .907, 95% CI [-.093, .108]) were not significant. None of the other indirect effects in the two-group model of religious and non-religious participants were significant.

None of the contrasts of indirect effects using parameter constraints between religious and non-religious participants were significant. However, one was marginally significant. The contrast between the indirect effect of AIDS-related stigma on alcohol-related aggression via symbolic threat among non-religious participants was statistically significantly different from the indirect effect of AIDS-related stigma on alcohol-related aggression via symbolic threat among reportedly religious participants; $b = 2.643$, $SE = 1.371$, $p = .054$. This marginally significant difference suggested that the indirect effect may have been stronger among self-identified non-religious participants than self-identified religious participants.

The two-group model examining the original measures of perceived threats as mediators fit the data fairly; χ^2 (12, $N = 150$) = 16.82, $p = .16$, CFI = 0.99, SRMR = .048, RMSEA = .73 (95% CI: .000, .011). When the original measures of realistic and symbolic threat were used as mediators, none of the indirect effects or contrasts between indirect effects were statistically significant.

Table 3. *Characteristics of the Sample based on Exogenous Variables (i.e., Independent Variables) and Endogenous Variables (i.e., Mediating and Dependent Variables*).

Study Variables	*M*	*SD*	Range	
			Minimum	Maximum
AIDS-related stigma	16.53	3.78	11.00	29.00
Religiosity	15.16	8.35	0.00	29.20
Antifemininity	23.69	7.78	7.00	40.00
Realistic threat	40.68	19.18	12.00	100.00
Symbolic threat	48.18	25.63	12.00	111.00
Revised realistic threat	39.53	23.22	12.00	111.00
Revised symbolic threat	13.66	8.85	3.00	30.00
Alcohol related aggression	6.80	12.49	0.00	78.50
Non-alcohol-related aggression	5.44	11.05	0.00	66.00

Note. Sample size was consistent across all variables, *N* = 161. Revised realistic threat and revised symbolic threat were derived from an exploratory factor analysis designed to determine whether the measures of realistic and symbolic threat measure two distinct constructs.

Table 4. *Items from the subscales of Symbolic Threat and Realistic Threat from the Intergroup Threat Theory questionnaire.*

Item #	Item Content
Symbolic Threat	
Q1	The sexual behavior of gay males is morally wrong.
Q2	Gay males have the same values as the majority of Americans.
Q3	Gay male are undermining straight people's traditional system of values.
Q4	The values and beliefs of gay males are basically very similar to those of most others.
Q5	Gay males pose little or no threat to the cultural practices of straight people.
Q6	The sexual behavior of gay males is a sin.
Q7	Gay males want their rights to be put ahead of the rights of others.
Q8	The family values of gay males are quite similar to the family values of straight people.
Q9	The behavior of gay males goes against social norms.
Q10	Gay characters on television corrupt the morals that straights instill in their children.
Q11	The goal of all gay males is self-gratification.
Q12	HIV/AIDS is God's punishment to gay males.
Realistic Threat	
Q13	Gay males in the military have reduced the readiness and combat capabilities of the U.S.
Q14	It is important to use medical research funding to find a cure for HIV/AIDS.
Q15	The government's focus on gay issues has led it to ignore more pressing political issues and economic problems.
Q16	Supporting gay rights is causing the U.S. to lose some of its political power.
Q17	Gay males hold more political power than they should.
Q18	Gay males discriminate against straights.
Q19	Gay males hold more economic power than they should.
Q20	Gay males are a danger to children.
Q21	Supporting "gay rights" is a waste of taxpayer's money.
Q22	Gay males have tainted America's blood supply.
Q23	Gay owned business help to support the American economy.
Q24	Health insurance costs will increase if benefits are extended to the partners of gay males employees.

Table 5. *Initial Eigenvalues, Change(Δ) in Percentage of Variance Accounted for in the Model for Each Additional Factor, and Cumulative Percentage After Principle Axis Extraction with Promax Rotation for Two-Factor Solution.*

		Extraction Sums of Squared Loading	
Factor	Initial Eigenvalues	Δ% of Variance in Model for Each Factor	Cumulative % of Variance in Model for each Factor
1	9.97	55.37	55.37
2	1.11	6.18	61.55

Table 6. *Factors Loadings (Pattern Matrix) and Communalities (h^2) for Principle Axis Extraction with Promax Rotation (Two-Factor Solution) on Items of Realistic Threat and Symbolic Threat.*

Item	F_1	F_2	h^2
Q16 Support of gay rights cost political power	**.883**	-.079	.712
Q13 Gay males in military have reduced capabilities	**.753**	-.162	.462
Q20 Gay males are a danger to children	**.733**	.121	.725
Q17 Gay males hold more political power than should	**.709**	.051	.586
Q18 Gay males discriminate against straights	**.697**	-.042	.487
Q11 The goal of all gay males is self-gratification	**.652**	.034	.547
Q22 Gay males have tainted America's blood supply	**.629**	.153	.627
Q19 Gay males hold more economic power than should	**.628**	.152	.601
Q2 Gay males have the same values as majority	**.626**	.040	.507
Q21 Supporting "gay rights" is waste of taxpayer money	**.611**	.247	.712
Q7 Gay males want rights put ahead of rights of others	**.601**	.074	.518
Q5 Gay males pose little or no threat to cultural	**.466**	.272	.519
Q6 The sexual behavior of gay males is a sin	-.180	**1.012**	.779
Q1 The sexual behavior of gay males is morally wrong	-.120	**.955**	.753
Q8 Family values of gay males are quite similar	.278	**.440**	.456

Notes. Some item content labels are abbreviated. Factor labels are Revised Realistic Threat (F_1) and Revised Symbolic Threat (F_2). Using a cutoff of .32, factor loadings less than .32 indicate variables that do not load onto the factor. Strong factor loadings (i.e., above .32) are in bold font.

Table 7. *Correlation Matrix of all Scores in a Path Model that Includes Measures of the Following Variables: (1) AIDS-Related Stigma, (2) Religiosity, (3) Adherence to the Male Role Norm of Antifemininity, (4) Revised Realistic Threat, (5) Revised Symbolic Threat, (6) Alcohol-Related Aggression, and (7) Non-Alcohol-Related Aggression.*

Measure	1	2	3	4	5	6	7
1. AIDS-related stigma	1.00						
2. Religiosity	0.20*	1.00					
3. Antifemininity	0.36**	0.15	1.00				
4. Revised realistic threat	0.57**	0.37**	0.53**	1.00			
5. Revised symbolic threat	0.45**	0.58**	0.43**	0.73**	1.00		
6. Alcohol-related aggression	0.25**	0.09	0.20*	0.36**	0.33**	1.00	
7. Non-alcohol-related aggression	0.26**	0.09	0.19*	0.31**	0.26**	0.81**	1.00

Table 8. *Correlation Matrix of all Scores in a Path Model that Includes Measures of the Following Variables: (1) AIDS-Related Stigma, (2) Religiosity, (3) Adherence to the Male Role Norm of Antifemininity, (4) Realistic Threat (from the Original Measure), (5) Symbolic Threat (from the Original Measure), (6) Alcohol-Related Aggression, and (7) Non-Alcohol-Related Aggression.*

Measure	1	2	3	4	5	6	7
1. AIDS-related stigma	1.00						
2. Religiosity	0.20*	1.00					
3. Antifemininity	0.36**	0.15	1.00				
4. Realistic threat	0.54**	0.33**	0.52**	1.00			
5. Symbolic threat	0.53**	0.52**	0.52**	0.85**	1.00		
6. Alcohol-related aggression	0.25**	0.09	0.20*	0.36**	0.37**	1.00	
7. Non-alcohol-related aggression	0.26**	0.09	0.19*	0.33**	0.31**	0.81**	1.00

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

Table 9. *Standardized Regression Coefficients, p-values, and 95% Confidence Intervals Derived from Maximum Likelihood Estimation with Bias-Corrected Bootstrapping of Indirect Effects for Analysis of a Path Model of Alcohol-Related and Non-Alcohol-Related Aggression via Revised Realistic Threat and Revised Symbolic Threat.*

Indirect Effect					β	*b*	SE	95% CI	*p*
AR Stigma	→	Rev Realistic Threat	→	Alcohol-rel Aggression	.06	0.90	.70	(-.016, .133)	.193
Religiosity	→	Rev Realistic Threat	→	Alcohol-rel Aggression	.04	0.00	.00	(-.012, .092)	.209
Antifemininity	→	Rev Realistic Threat	→	Alcohol-rel Aggression	.06	0.01	.01	(-.014, .136)	.181
AR Stigma	→	Rev Symbolic Threat	→	Alcohol-rel Aggression	.06[a]	0.92	.46	(.011, .110)	.045
Religiosity	→	Rev Symbolic Threat	→	Alcohol-rel Aggression	.12*	0.01	.00	(.042, .200)	.012
Antifemininity	→	Rev Symbolic Threat	→	Alcohol-rel Aggression	.06[b]	0.01	.00	(.009, .107)	.051
AR Stigma	→	Rev Realistic Threat	→	Non-alcohol-rel Aggression	.08	1.15	.71	(.000, .153)	.100
Religiosity	→	Rev Realistic Threat	→	Non-alcohol-rel Aggression	.05	0.00	.00	(-.001, .105)	.108
Antifemininity	→	Rev Realistic Threat	→	Non-alcohol-rel Aggression	.08	0.01	.01	(.006, .153)[†]	.077
AR Stigma	→	Rev Symbolic Threat	→	Non-alcohol-rel Aggression	.04	0.55	.42	(-.010, .082)	.194
Religiosity	→	Rev Symbolic Threat	→	Non-alcohol-rel Aggression	.07	0.00	.00	(-.008, .153)	.138
Antifemininity	→	Rev Symbolic Threat	→	Non-alcohol-rel Aggression	.04	0.01	.00	(-.009, .079)	.196

Note. *N* = 152. β = standardized regression coefficient. CI = confidence interval for standardized coefficients.
[a]*p* = .045. [b]*p* = .051. *$p < .05$. [†]Although confidence intervals suggest marginal significance, *p*-value for this sample is clearly greater .05.

Table 10. *Standardized Regression Coefficients, p-values, and 95% Confidence Intervals Derived from Maximum Likelihood Estimation with Bias-Corrected Bootstrapping of Indirect Effects for Analysis of a Path Model of Alcohol-Related and Non-Alcohol-Related Aggression via Realistic Threat (from Original Measure) and Symbolic Threat (from Original Measure).*

Indirect Effect					β	*b*	SE	95% CI	*p*
AR Stigma	→	Realistic Threat	→	Alcohol-rel Aggression	.02	0.36	.89	(-.073, .121)	.685
Religiosity	→	Realistic Threat	→	Alcohol-rel Aggression	.01	0.00	.00	(-.035, .055)	.712
Antifemininity	→	Realistic Threat	→	Alcohol-rel Aggression	.02	0.00	.01	(-.070, .117)	.684
AR Stigma	→	Symbolic Threat	→	Alcohol-rel Aggression	.10*	1.48	.73	(.019, .177)	.041
Religiosity	→	Symbolic Threat	→	Alcohol-rel Aggression	.13*	0.01	.00	(.031, .218)	.028
Antifemininity	→	Symbolic Threat	→	Alcohol-rel Aggression	.10*	0.02	.01	(.020, .182)	.041
AR Stigma	→	Realistic Threat	→	Non-alcohol-rel Aggression	.05	0.80	.89	(-.044, .151)	.366
Religiosity	→	Realistic Threat	→	Non-alcohol-rel Aggression	.02	0.00	.00	(-.023, .068)	.420
Antifemininity	→	Realistic Threat	→	Non-alcohol-rel Aggression	.05	0.01	.01	(-.041, .144)	.358
AR Stigma	→	Symbolic Threat	→	Non-alcohol-rel Aggression	.07	1.05	.70	(-.007, .147)	.133
Religiosity	→	Symbolic Threat	→	Non-alcohol-rel Aggression	.09	0.00	.00	(-.006, .184)	.123
Antifemininity	→	Symbolic Threat	→	Non-alcohol-rel Aggression	.07	0.01	.01	(-.008, .152)	.140

Note. $N = 152$. β = standardized regression coefficient. CI = confidence interval for standardized coefficients.
*$p < .05$.

Table 11. *Means, Standard Deviations, Sample Sizes, and One-Way, Between-Subjects Analyses of Variance for Study Variables by Race.*

	White			African American			Asian			Other Races			ANOVAs		
Study variable	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*df*	*F*	*p*
AIDS-related stigma	1.27	0.07	65	1.20	0.06	46	1.21	0.09	30	1.17	0.09	20	3, 157	2.29	.08
Religiosity	29.48	23.54	65	47.84	20.91	46	35.50	21.57	30	34.96	23.05	20	3, 157	6.11	.00*
Antifemininity	23.46	8.92	65	24.26	6.49	46	24.23	6.70	30	22.30	8.34	20	3, 157	0.36	.78
Realistic threat	37.68	17.02	65	45.15	22.41	46	43.70	18.53	30	35.60	16.97	20	3, 157	2.13	.10
Symbolic threat	40.78	21.29	65	59.63	26.47	46	51.00	26.75	30	41.65	26.31	20	3, 157	5.92	.00*
Revised realistic threat	5.71	1.67	65	6.53	1.97	46	6.24	1.82	30	5.50	1.79	20	3, 157	2.60	.05
Revised symbolic threat	2.15	0.76	65	2.68	0.74	46	2.42	0.75	30	2.11	0.82	20	3, 157	5.27	.00*
Alcohol-related aggression	1.11	1.20	65	1.46	1.19	46	1.09	1.25	30	1.42	1.20	20	3, 157	1.01	.39
Non-alcohol-related aggres-sion	0.90	1.16	65	1.16	1.15	46	0.99	1.32	30	1.06	1.21	20	3, 157	0.44	.73

Note. Nonparametric posthoc comparisons were conducted due to unequal sample sizes. For variables that have been transformed, the means for the transformed data used in the analysis are shown.

*p-value is significant

Table 12. *Means, Standard Deviations, Sample Sizes, and Independent Samples t-tests with Equal Variances Assumed for Study Variables by Ethnicity.*

	Hispanic or Latino			Non-Hispanic or Non-Latino			*t*-tests		
Study variable	*M*	*SD*	*n*	*M*	SD	*n*	*df*	*t*	*p*
AIDS-related stigma	1.19	0.07	13	1.187	0.08	148	159	0.01	.99
Religiosity	41.05	19.80	13	36.13	23.75	148	159	0.72	.47
Antifemininity	21.62	9.57	13	23.87	7.61	148	159	-1.00	.32
Realistic threat	33.92	17.68	13	41.27	19.25	148	159	-1.33	.19
Symbolic threat	41.69	23.07	13	48.75	25.84	148	159	-0.95	.34
Revised realistic threat	5.54	1.64	13	6.06	1.84	148	159	-0.97	.33
Revised symbolic threat	2.17	0.79	13	2.36	0.79	148	159	-0.82	.41
Alcohol-related aggression	1.17	1.26	13	1.25	1.21	148	159	-0.24	.81
Non-alcohol-related aggression	0.84	1.25	13	1.03	1.19	148	159	-0.54	.59

Note. Levene's test of equality of variances across groups showed equal variances between the two groups across all study variables. All *p*-values are greater than .05. Tests were also conducted with equal variances not assumed; however, the results were essentially the same.

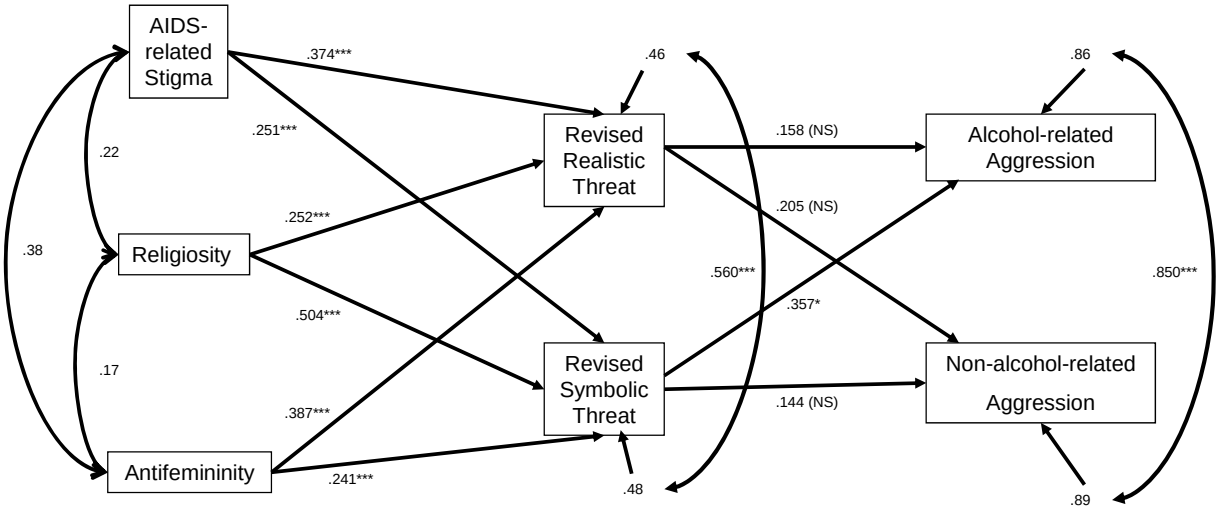

Figure 2. Path analytic model with revised perceived threat measures reflecting mediators.

* p <.05. ** p < .01. *** p < .001. (NS) nonsignificant.

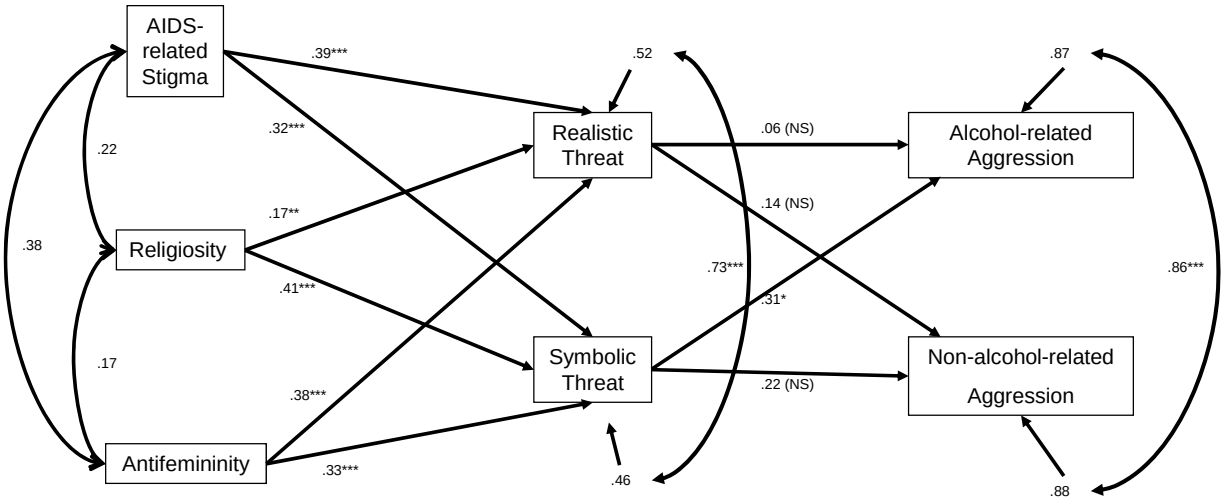

Figure 3. Path analytic model with original perceived threat measures reflecting mediators.

* p <.05. ** p < .01. *** p < .001. (NS) nonsignificant.

4. DISCUSSION

This study examined individual-level predictors of alcohol-related and non-alcohol-related aggression toward sexual minorities as mediated by perceived threats of intergroup threat theory (ITT; e.g., Stephan & Stephan, 2000). This study represented a theoretical integration of alcohol-myopia theory (AMT; e.g., Steele & Josephs, 1990) and ITT using quantitative methods. Most notably, the model predicted that perceived threats of ITT would mediate stronger indirect effects on alcohol-related aggression than non-alcohol-related aggression, because perceived threats of ITT may serve as strong, instigatory cues in response to sexual minorities. Further, the model predicted that indirect effects via symbolic threat would be greater than indirect effects via realistic threat, as alcohol was predicted to be more crucial in facilitating enacted aggression under conditions of symbolic threat than realistic threat. Overall, the results provided support for the hypotheses. The study also demonstrated the importance of understanding how group differences based on factors such as religious affiliation may moderate these mediated effects.

4.1 The Indirect Effects via Perceived Threats on Alcohol-related and Non-alcohol-related Aggression

This study predicted that perceived threats (i.e., realistic threat, symbolic threat) of ITT would mediate the effects of antecedents of these threats (i.e., AIDS-related stigma, religiosity, adherence to traditional male gender role norm of antifemininity) on frequency of both alcohol-related and non-alcohol-related aggression toward sexual minorities. Consequently, the indirect paths from antecedents of threat toward aggression via perceived threats were expected to be positive and statistically significant. The results partially supported these hypotheses. When revised measures of realistic and symbolic threat reflected the mediators (i.e., perceived threats), the indirect effect of religiosity on alcohol-related aggression via symbolic threat was the only significant indirect effect. However, indirect ef-

fects of both AIDS-related stigma and antifemininity on alcohol-related aggression via symbolic threat were marginally significant. Interestingly, when original measures of realistic and symbolic threat represented the mediators, the indirect effects of all three antecedents to threat on alcohol-related aggression were significant. These statistically significant indirect effects were mediated by symbolic threat, but not realistic threat.

Taken together, these findings support the view that perceived threat, specifically symbolic threat, mediates the associations between antecedents to threat and aggression in response to sexual minorities when alcohol is involved. These results are consistent with prior research showing that perceived threats may play critical roles in anti-sexual-minority behaviors. In particular, Oswald (2007) found that heterosexual men who were high, but not low, in sexual prejudice engaged in more social distancing in a high-symbolic-threat experimental condition than they did in a low-symbolic-threat condition. Additionally, these results are consistent with prior research suggesting that alcohol facilitates aggression in response to sexual minorities (e.g., Dunbar, 2003; Parrott et al., 2010; Parrott & Miller, 2009). The present study extends these findings by examining specific mechanisms by which prejudice and alcohol act in concert to facilitate anti-sexual-minority behavior (i.e., aggression).

Notably, none of the statistical tests of contrasts comparing indirect effects were significant. Nonetheless, there was support for the hypothesis that indirect effects on alcohol-related aggression differed from indirect effects on non-alcohol-related aggression. Specifically, none of the indirect effects on non-alcohol-related aggression were significant in the primary, one-group model, whereas indirect effects on alcohol-related aggression were either significant or marginally significant (when mediated by symbolic threat). Based on the findings with the present sample, it appears that the role of perceived threats on aggression toward sexual minorities depends largely on whether the perpetrator has consumed alcohol. Although additional research is needed, elevation of perceived threat appears to be a critical mechanism by which intoxicated men perpetrate acts of prejudice-based aggression toward

sexual minorities. The synthesis of prejudice-based theories (e.g., ITT) and theories of alcohol-related risk-behavior (e.g., AMT) may be an important avenue to understanding why alcohol is implicated in a third of physical attacks on sexual minorities (Dunbar, 2003).

Of further note, none of the indirect effects via realistic threat were significant in the primary, one-group model, whereas the indirect effects via symbolic threat were significant. These findings are consistent with prior theory. For example, Crandall and Eshleman's (2003) justification-suppression model asserts that alcohol facilitates behavioral expressions of prejudice to the extent that prejudice is suppressed. In turn, contemporary forms of prejudice are often filtered or hidden behind symbolic attitudes toward outgroups (e.g., prejudice filtered through beliefs that an outgroup differs in their social values from the ingroup; Crandall & Eshleman, 2003; Gaertner & Dovidio, 1986; Kinder & Sears, 1981; Sears, 1988; 2003). Such latter theories comprise the underlying basis of symbolic threat (e.g., Stephan & Stephan, 2000), which encapsulates the concept of suppressed prejudice. These theories of symbolic, or suppressed, prejudice may also explain, at least in part, how alcohol facilitates prejudice-based aggression.

The fact that none of the indirect effects via realistic threat were significant may partly be explained by the small, non-significant direct effects of realistic threat on alcohol-related and non-alcohol-related aggression. These results were inconsistent with theories on which the construct of realistic threat is predicated. Specifically, prior studies (e.g., Sherif et al., 1961) suggested that conditions of perceived realistic threat, such as perceptions of competition for resources, lead directly to intergroup aggression and conflict. However, perceptions of realistic threat (e.g., perceived competition for scarce resources; perceived threats to well-being) were self-reported by participants. It is possible that different results would be obtained if conditions of threat were experimentally manipulated. Additionally, this present sample consisted of undergraduate students. Generally, attitudes toward social issues are generally more liberal on college campuses than in the general population (Astin 1977; Dey, 1997,

Pascarella & Terenzini, 1991). As such, any realistic threat (i.e., beliefs that sexual minorities pose an actual threat to physical or material well-being) among this college sample may not be associated with actual aggression toward sexual minorities. It is more likely that varying levels of symbolic threat, which represents contemporary, "suppressed" prejudice, may be more likely to be associated with aggression among any sexually prejudiced participants within the sample. Among college samples, strong, explicit, anti-sexual-minority attitudes that might be reflected in realistic threat may violate social norms within an academic setting.

4.2 Group Differences: Race, Ethnicity, Prior Contact with Someone Living with HIV or AIDS, and Religious Affiliation

Group differences based on self-identified racial membership (i.e., African American, Asian, White, Other), ethnicity (i.e., Hispanic/Latino, non-Hispanic/non-Latino), prior contact with someone living with HIV or AIDS, and religious affiliation (e.g., Christianity, religions other than Christianity, non-religious people) were analyzed. African Americans reported significantly higher levels of religiosity and symbolic threat (on both revised and original measures of symbolic threat) than Whites, but African Americans did not differ from Asian and the other racial groups. There were no statistically significant differences in regards to Asians and participants included in the Other category. The findings regarding differences between African Americans and Whites in religiosity are generally consistent with results showing that nationally representative samples of African Americans generally report higher levels of religiosity than Whites in the United States (e.g., Pew Research Center, 2009). In regards to the differences in symbolic threat, previous findings suggest that sources of sexual prejudice may differ between African Americans and Whites in United States (e.g., Lewis, 2003). Consistent with results of Herek and Capitanio (2003) in their national probability poll, there were no racial differences in AIDS-related stigma. Contrary to Abreu and colleagues' (2000) study of a community-recruited sample of men on the West coast of the United States, racial groups in the current sample did not differ in their reports of ad-

herence the to male role norm of antifemininity. However, as suggested by differences between college populations and the general public (Astin 1977; Dey, 1997, Pascarella & Terenzini, 1991), the fact that the present sample was drawn from a college population rather than the general population may have affected reports of adherence to the traditional gender norm of masculinity. Racial differences that may be present in the population may not be reflected in the present sample on some study variables.

There were no differences found between Latino/Hispanic men and non-Latino and non-Hispanic men on antecedents to perceived threat, perceived threats, and alcohol-related and non-alcohol-related aggression. These findings appear to be in contrast with prior results, such as a study by Waldner and associates (1999), who found that Hispanic men scored higher than African American men but did not differ from White men on measures associated with AIDS-related stigma. Also, factors related to AIDS-related stigma were more weakly associated with sexual prejudice among Hispanic and African American participants than among White participants (Waldner et al., 1999). Additionally, Abreu and colleagues (2000) reported that Latino men endorsed higher levels of adherence to antifemininity than African American men, but Latino men's scores on adherence to antifemininity did not differ from that of Whites. However, Waldner and associates (1999) and Abreu and others (2000) are among many researchers who compared Hispanics or Latinos to other races without distinguishing ethnicity from race. More recently, the US Census bureau has emphasized their definition of Hispanic and Latino categories as ethnicities that are independent of race (e.g., African American/Black, Asian, White, etc.) (e.g., Grieco & Cassidy, 2001). Differences between the present sample and the findings of Waldner and colleagues (1999) and Abreu and others (2001) may be partly due to the fact that the present study, in keeping with the definition espoused by the US Census Bureau, categorized ethnicity (i.e., Hispanic/Latino, non-Hispanic/non-Latino) separately from race. Thus, the manner in which ethnic differences were defined in the present study differed from prior studies. Also, in the present sample, there were a small number of participants, 13 out of a total of 161 individuals, who reported being Hispanic or Latino.

In conjunction with the fact that the present sample is a convenience sample, the current sample may not be representative of putative ethnic differences.

This study detected no difference between participants with and without prior contact with persons living with HIV or AIDS. Although only 25 of 161 participants reported knowing someone living with HIV or AIDS, group means were nearly identical (see Results, Primary Analyses, Hypothesis 4c). Further, additional analyses showed no differences between these two groups on any other study variable. As noted previously, this may be due, at least in part, to the fact that data were drawn from a college sample. In addition to being more liberal than the general population, this sample may be more knowledgeable about and have less irrational fear of HIV and AIDS. As such, they may not require prior contact with someone living with HIV and AIDS to show low levels of AIDS-related stigma. AIDS-related stigma was low and similar for both groups.

Contrary to the original hypotheses, participants did not differ on religiosity as a function of religious affiliation (e.g., Christianity, Islam, etc.) These results differ from those found by Pew Forum on Religion and Public Life Center (2008), which showed that there were differences in religiosity between religious denominations, including within-group differences among those who identified as Christians. However, these disparate results may be explained by the fact that the Pew study was based on a national probably sample, whereas the present study was based on a convenience sample of college students. Again, college samples may differ from the general population in the United States in their attitudes and attendant behaviors (Astin 1977; Dey, 1997, Pascarella & Terenzini, 1991). The Pew sample may have been more representative of interfaith differences in religiosity. However, participants differed in religiosity depending on their religious identity versus non-religious identity. Religiously identified participants were higher in religiosity than non-religiously identified participants. In other words, regardless of religious denomination, the key issue in the present sample was whether participants endorsed being religious.

4.3 Moderation of Indirect Effects Based on Group Difference

Given that group differences on study variables were only found for categories of self-identified race and religious affiliation, these were the only two sets of group differences on which moderated-mediation analyses were based. Ethnicity and prior contact with someone living with HIV or AIDS were not included. Contrary to hypotheses, moderated-mediation analyses detected no differences between racial groups. Indeed, none of the indirect effects of race were significant in the three-group model examining differences between African Americans, Whites, and members of other racial groups. Unfortunately, an "other" category had to be created and Asian's were combined with this "other" category due to lack of statistically significant differences between these groups in this sample and lack of power to test the moderating effects the original, four-group, categorical variable (i.e., African American, Asian, White, and "Other") intended to represent race. Extant scholars (e.g., Lee, Mountain, & Koenig, 2001; Osborne & Feit, 1992; Williams, 1994) have cautioned against arbitrary categorization of race in research and highlighted that race is generally not a well-defined construct.

In regard to differences based on religious versus non-religious identity (i.e., between participants who reported being religious versus those who reported not being religious), there were no significant indirect effects of religiosity on alcohol-related or non-alcohol-related aggression. In contrast, examination of the other antecedents to threat revealed a distinct pattern of effects. Specifically, among self-identified non-religious participants, there were significant indirect effects of AIDS-related stigma and antifemininity on alcohol-related aggression via revised symbolic threat. These effects were not detected among self-identified religious participants. In contrast, among self-identified religious participants, revised realistic threat mediated effects of (1) AIDS-related stigma on both alcohol-related and non-alcohol-related aggression and (2) antifemininity on non-alcohol-related aggression. By comparison, among participants who endorsed not being religious, none of these effects were significant. Although statistical tests of contrasts between indirect effects showed no statistically significant differ-

ences, the pattern of results (i.e., indirect effects that were significant in one group but not the other) suggests that realistic and symbolic threat may be more pertinent among men who are religious and non-religious, respectively.

These findings suggest that symbolic threat (i.e., filtered, suppressed forms of prejudice) may be more pertinent for those who are not religious relative to those who are. Importantly, sexual prejudice is not limited to persons who are religious. It may be that individuals who are not religious are less likely to espouse explicitly prejudiced attitudes toward sexual minorities even if they harbor such attitudes. In contrast, some religious individuals may feel justified in their attitudes based on their religious beliefs. As such, both religious and non-religious men may aggress toward sexual minorities. However, as implicated by the justification-suppression model (Crandall & Eshleman, 2003), alcohol would play a greater role in facilitating aggression among non-religious men when their sexual prejudice is suppressed than among religious men. Conversely, some highly religious men may view sexual minorities as a direct threat to their physical and material well-being (e.g., fear for the safety of their children based on beliefs that sexual minorities will corrupt them). As such, alcohol may play a lesser role in anti-sexual-minority aggression among some religious men.

4.4 Strengths

The present study represents one of the few studies to examine behavioral outcomes (e.g., aggression) of ITT and one of only two known studies to investigate behavioral outcomes in response to sexual minorities. The other study, conducted by Oswald (2007), addressed social-distancing behavior among heterosexual men toward gay men. Results showed that further study is clearly merited.

Additionally, this study is the first to quantitatively test an integrative model of alcohol-related risk-behavior theories (e.g., AMT) and extant theories of prejudice and intergroup conflict (i.e., as reflected by ITT) to explain alcohol-related aggression toward sexual minorities. Findings provide preliminary support for a multifaceted view of this type of aggression. For example, motivations for anti-

sexual-minority aggression and the role alcohol in such aggression may differ, on average, between individuals and between social groups.

Furthermore, this study is the first to provide support for the validity of the ITT measures of realistic and symbolic threat (Boone & Duran, 2009). Although these measures were revised based on an exploratory factor analysis in the present sample, there were differential outcomes for both the original and revised versions of these measures (e.g., indirect effects that were significant when mediated by symbolic threat, but not by realistic threat). In the primary model, results via realistic and symbolic threat as represented by revised and original measures of these constructs were either statistically significant or marginally significant. A notable exception was the two-group model representing religious affiliation. There were statistically significant indirect effects when the revised measures of realistic and perceived threat were employed, but no significant indirect effects when original measures were utilized.

Finally, this study provided preliminary results of a new questionnaire that assessed alcohol-related aggression (see Method, Measures, Frequency of intoxicated and non-intoxicated aggression scales). The questionnaires reflecting alcohol-related and non-alcohol-related aggression were adapted from established measures (e.g., SBS-R; Roderick et al., 1998). Prior to this study, there existed no self-report scales that assess alcohol-related aggression toward sexual minorities. Also, primary analyses of this study showed that there were differential outcomes between the questionnaire that examined alcohol-related aggression and the questionnaire that assessed non-alcohol-related aggression (see Method, Measures, Frequency of intoxicated and non-intoxicated aggression scales; see also Results, Primary Analyses, Hypotheses 1 through 6). Further study will help to refine these measures and develop new alternative measures to further establish construct validity.

4.5 Limitations

Although overall results of this study are promising, this research has several limitations. As such, findings should be interpreted with care. For example, this study relied on retrospective self-report of attitudes and behaviors. Despite attempts at increasing participants' sense of privacy (e.g., room divider shielding participants' responses from experimenters), some participants may have responded in socially desirable ways (e.g., reporting more favorable attitudes toward persons living with HIV or AIDS toward sexual minorities than they actually have) or may have experienced inaccuracies in their recall (Bordens & Abbott, 2002).

Additionally, the present study employed a convenience sample of undergraduate students. As such, the generality of these results is limited. As noted previously, attitudes toward social issues are generally more progressive on college campuses than in the general population (Astin 1977; Dey, 1997, Pascarella & Terenzini, 1991). Other studies have employed national probability samples (e.g., Herek, Capitanio, & Widaman, 2002; Lewis, 2003) or have regionally recruited community samples (e.g., Parrott et al., 2011; Vincent, Parrott, Peterson, in press). These sampling methods may enhance external validity. Nonetheless, as noted previously (see Method, Participants), the use of a college sample has the advantage of capturing men in the age range of typical perpetrators of aggression toward sexual minorities (e.g., late teens or early twenties; Harry, 1990; NCAVP, 2007).

Another limitation of the study is the relatively small sample size and small subsample, or cell, sizes. For example, the final sample consisted of 161 participants. A total of 41 participants were excluded because they were non-drinkers who could not be assessed based on alcohol-related aggression. Future studies should exclude non-drinkers at the stage of recruitment when examining alcohol-related aggression in the entire sample. Additionally, there were small cell sizes for some of the subgroups in the study (e.g., Jews, Buddhists, members of historically Black churches, American Indians/Alaska Natives). One method used by Herek & Capitanio (1999) was to oversample particular populations of Afri-

can Americans to ensure equivalent sample sizes relative to Whites. Despite small cell sizes resulting from the sampling strategy of the current study, the advantages of capturing heterosexual men study outweighed the disadvantages.

Moreover, the cross-sectional, correlational design of this study precludes definitive conclusions regarding causal relations among the variables. Such inferences are best drawn from experimental manipulation of variables. Alternately, longitudinal, prospective studies may be useful for establishing temporal relations among variables. However, relations among the variables, including statistically significant associations, were generally consistent with theories of intergroup conflict, prejudice, and alcohol-related risk-behavior.

Some of the measures used in the present study required validation (e.g., measures of perceived threat, measures of alcohol-related and non-alcohol-related aggression). Ideally, such measures would be tested and refined in a pilot study. In spite of this limitation, findings provided support for the validity of these measures. Due to severe underreporting, one assessment strategy that could not be validated was the timeline followback method adapted for anti-sexual-minority aggression (i.e., TLFB-AG; Parrott et al., 2010). There are several possible reasons for this. In prior research by Parrott and colleagues (2010), an experimenter administered the TLFB-AG to participants as part of a semi-structured interview. When the timeline follow method is delivered by an administrator, participants' memories can be actively aided with prompts throughout the session without participants exerting much effort to solicit assistance with any questions or difficulties in recall. Additionally, participants may have been unlikely to have a definitive pattern of aggressive behavior that would assist them with recall. In contrast, participants may have been more likely to have a pattern of drinking, and their drinking may have been more likely to be associated with particularly salient events (e.g., birthday parties, holidays, vacations) than their aggressive behaviors in response to a specific group. Also, aggression in response to sexual minorities may be a low-base-rate behavior (e.g., D. J. Parrott, personal communication, May 1, 2012; Parrott

et al., 2010). As such, the low frequency of anti-sexual-minority behavior relative to the frequency of alcohol consumption (and the association of drinking with specific occasions) may have led to more difficulty recalling anti-sexual-minority behaviors. Further, the TLFB-AG included additional items not pertinent to the study in order to obfuscate the specific aims of the study. In contrast, the version of the TLFB-AG utilized by Parrott and associates (2010) focused exclusively on aggression toward sexual minorities. Consequently, participants may have had to recall more events for the current study than the prior study, diminishing their recall of particular types of aggression (e.g., anti-sexual-minority aggression).

This study could not account for all possible antecedents and perceived threats that may predict alcohol-related and non-alcohol-related aggression toward sexual minorities. There may be other, critical variables that affect alcohol-related and non-alcohol-related aggression that were not included in the study. Indeed, the disturbances (i.e., residual, or error, variances) of the mediators (i.e., realistic threat, symbolic threat) were lower than disturbance of the dependent variables (i.e., alcohol-related aggression, non-alcohol-related aggression). For example, in the model in which revised measures of perceived threat represented realistic and symbolic threat, disturbances of the mediators were .46 for realistic threat and .48 for symbolic threat, whereas the disturbances for the dependent variables were .86 for alcohol-related aggression and .89 for non-alcohol-related aggression. These values indicate that the model accounted for 54% and 52% of the variance in realistic threat and symbolic threat, respectively, but only 14% and 11% of the variance in alcohol-related aggression and non-alcohol-related aggression, respectively. Further, the association between alcohol-related aggression and non-alcohol-related aggression was high ($r = .85$). This pattern of results suggests that there may be additional factors not accounted for in the model. This additional factor may reflect a proclivity to aggression that underlies both alcohol-related and non-alcohol-related aggression. Nevertheless, the models analyzed in the pre-

sent study were based on firm theoretical grounding, and hypotheses were supported at least to some extent.

The high correlation between alcohol-related and non-alcohol-related aggression further indicates that many participants who are aggressive toward sexual minorities when they have been drinking are also aggressive toward them when they are sober. However, the fact that the pattern of results (i.e., statistically significant or marginally significant indirect paths versus non-significant paths) differed between alcohol-related and non-alcohol-related aggression suggests that the mechanisms that facilitate aggression toward sexual minorities are different when men are drunk versus when they are not drunk.

Although a major strength of this study is that it integrates theories of alcohol-related risk behavior (e.g., AMT) with a composite theory of prejudice (i.e., ITT), the present study may not be a direct test of these theories. For example, a more direct test of these theories could be accomplished using an experimental design in addition to self-report questionnaires. A between-group, experimental design to incorporate different combinations of conditions: (1) sober versus intoxicated, (2) low symbolic threat versus high symbolic threat, (3) low realistic threat versus high realistic threat, and so on. Such a design could reproduce in the laboratory real world conditions, such as a condition in which a heterosexual, male participant who identifies as non-religious is administered alcohol and then presented with a high-symbolic-threat condition with a gay man. For illustration, Oswald (2007) experimentally manipulated symbolic threat by having an ostensibly gay, male confederate discuss his dating life with heterosexual male participants in a high-symbolic-threat condition.

In regard to AMT, the presence and extent of alcohol myopia is conditional upon how much alcohol the inebriate consumes. In the current study, participants responded to an item on the alcohol-related aggression scale that asked whether or not they were intoxicated at the time of their aggressive actions. They were not asked how much they drank in the scale. Such information would have been possible to obtain had the results of the TLFB-AG been valid (i.e., no pattern of severe underreporting).

Additional research is needed to develop measures that include specific amounts of alcohol consumption at the time of an aggressive act toward a sexual-minority individual.

4.6 Implications

Given the findings of the present study, a number of implications for future research and prevention and intervention efforts exist. For example, the findings suggest that it is important to examine prejudice-based aggression through a multifaceted lens using multivariate methods, investigating the synergy of multiple mechanisms (e.g., risk-enhancing effects of alcohol; perceived threats) that underlie aggression toward sexual minorities. Moreover, this research may be extended to other marginalized groups, such as racial and ethnic minorities and members of persecuted faiths. Also, prior research has focused primarily on attitudes (i.e., prejudice) as an outcome or perceived threats (e.g., Maoz & McCauley, 2005; Stephan, Ybarra, & Bachman, 1999), without examining behavioral outcomes or multiple, interacting avenues toward these behavioral outcomes. Rich information may be lost or neglected as a result.

Additionally, Vincent and associates (in press) reviewed a number of prevention and intervention programs that have been designed to reduce sexual and other forms of prejudice. Findings of the current study may be used to inform these interventions. For example, Vincent and associates (in press) cited that a number of effective, prejudice-reduction strategies have been based on intergroup contact theory and its variants. Conditions of intergroup contact in these interventions can be manipulated so as to reproduce the effects of prejudice reduction under various types and levels “threatening” conditions (e.g., reducing prejudice when putative differences in values and social norms are made salient, as in conditions of symbolic threat). Such a strategy could improve the ecological validity of these interventions. Alternately, other types of interventions reviewed by Vincent and associates (in press) have demonstrated that the use of entertainment media can be effectively implemented to reduce prejudice at the community level. Research such as the current study can facilitate the design of interventions so

as to target specific threats perceived by particularly ingroups (e.g., members of a particular faith or socially ascribed racial group) to improve the effectiveness and efficiency of these interventions.

4.7 Conclusion

The current study represented an integrative model of theories of prejudice (i.e., intergroup threat theory) and theories of alcohol-related risk behavior (i.e., alcohol-myopia theory; justification suppression model). The results indicated that antecedents to threat (i.e., AIDS-related stigma, religiosity, adherence to the traditional male role norm of antifemininity) led to realistic and symbolic threat. In turn, these threats differentially predicted alcohol-related and non-alcohol-related aggression. In particular, this study showed that indirect effects of antecedents to threat on alcohol-related versus non-alcohol-related aggression are differentially mediated by realistic and symbolic threat. For the sample as a whole, symbolic threat proved to be the most robust mediator of indirect effects of antecedents on alcohol-related aggression. Indirect effects via realistic threat and indirect effects on non-alcohol-related aggression where generally not significant. Group differences were found on study variables. Specifically, African Americans endorsed greater levels of religiosity and symbolic threat than Whites; however, none of the indirect effects were statistically significant in a three-group model with racial membership as the moderator. Additionally, there were group differences based on religious affiliation (i.e., endorsement of being religious versus non-religious). A two-group model with religious affiliation as the moderator demonstrated that symbolic threat and alcohol played critical roles in anti-sexual-minority aggression among reportedly non-religious participants, whereas realistic threat and non-alcohol-related aggression played more important roles among self-identified religious participants.

Overall, findings suggest that (1) it is critical to understand the different types of perceived threat that lead to prejudice-based aggression; (2) alcohol plays a key role under conditions of symbolic threat, but a lesser role under conditions of realistic threat; and (3) sources of aggression may differ based on social-group membership. These findings may inform future research and interventions aimed

at reducing prejudice and attendant aggression toward marginalized, including aggression that is facilitated by the risk-enhancing effects of alcohol intoxication.

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APPENDICES

Appendix A

Demographics Form

Age: _____

Years of Education including kindergarten: _____

Marital Status (please check one)
__ Single (never married)
__ Married
__ Not married but living with intimate partner
__ Divorced
__ Widowed
__ Separated

How do you describe your ethnicity?
___ Hispanic or Latino
___ Non-Hispanic or Non-Latino

How do you describe your race?
___ American Indian or Alaska Native
___ Asian
___ Native Hawaiian or Other Pacific Islander
___ Black or African American
___ White
___ More Than One Race

Please indicate your sexual orientation: Heterosexual Homosexual Bisexual

YOUR average yearly income if you support yourself or your parents' average yearly income if they support you (please check one).

___ $0-$5,000
___ $5,000-$10,000
____ $40,000-$50,000
____ $50,000-$60,000

___ $10,000-$20,000
___ $20,000-$30,000
___ $30,000-$40,000
____ $60,000-$70,000
____ $70,000+

Religious Affiliation: Do you consider yourself to be a religious person?
___ Yes
___ No

If YES, what religion are you affiliated with?
___ Christian
___ Protestant
    ___ Evangelical churches
    ___ Mainline churches
    ___ Historically Black churches
___ Catholic
___ Mormon
___ Jehovah's Witness
___ Orthodox
    ___ Greek Orthodox
    ___ Russian Orthodox
    ___ Other
___ Other Christian
___ Other Religions
___ Jewish
    ___ Reform
    ___ Conservative
    ___ Orthodox
    ___ Other
___ Buddhist
    ___ Zen Buddhist
    ___ Theravada Buddhist
    ___ Tibetan Buddhist
    ___ Other
___ Muslim
    ___ Sunni
    ___ Shia
    ___ Other
___ Hindu
___ Other world religion

___ Other faiths
    ___ Unitarians and other liberal faiths
    ___ New Age
    ___ Native American religion
___ Unaffiliated
___ Atheist

___ Agnostic
___ Nothing in particular
    ___ Secular unaffiliated
    ___ Religious unaffiliated
___ Don't Know
___ Refuse to Answer

If your religion or spiritual beliefs are not captured above, how would you describe them?

_____

_____

Appendix B

Kinsey Heterosexual-Homosexual Rating Scale

Which of the following 8 statements best describes your past sexual experiences? Please rate yourself in terms of overt actions only, not in terms of psychological or sexual arousal. Read ALL responses before indicating your answer. Circle only ONE response.

1. All sexual experiences have been with females. No physical contacts with other males have resulted in erection or orgasm.
2. Most sexual experiences have been with females, but infrequent physical contacts with other males has resulted in erection or orgasm.
3. Most sexual experiences have been with other females, but quite a bit of sexual contact with other males has occurred. However, sexual experiences with females are more numerous.
4. Equal sexual contact has occurred with males and females.
5. Most sexual experiences have been with males, but a fair amount of sexual experience with females has also occurred.
6. Most sexual experiences have been with males, but infrequent physical contacts with females has resulted in erection or orgasm.
7. All sexual experiences have been with males. No physical contacts with females have resulted in erection or orgasm.

Which of the following 7 statements best describes your psychological reactions? Please rate yourself in terms of sexual arousal only, not overt experiences. Read ALL responses before indicating an answer. Circle only ONE response.

1. All sexual arousal occurs in response to female sexual contact or fantasies involving sexual contact with females.
2. Most sexual arousal occurs in response to female sexual contact or fantasies involving sexual contact with females. However, infrequent male sexual contact or fantasies involving sexual contact with other males has resulted in sexual arousal, but these reactions are weaker than the sexual arousal that results from female sexual contact.
3. Most sexual arousal occurs in response to female sexual contact or fantasies involving sexual contact with females, but definite sexual arousal also occurs in response to male sexual contact or fantasies about sexual contact with males. However, sexual arousal to females is stronger.
4. Equal sexual arousal occurs in response to sexual contact or fantasies with males and females.

5. Most sexual arousal occurs in response to sexual fantasies or contact with males, but a fair amount of sexual arousal to females has also occurred.
6. Most sexual arousal has occurred in response to sexual contact or fantasies with males. However, infrequent sexual arousal has occurred in response to female sexual contact or fantasies involving sexual contact with females.
7. All sexual arousal occurs in response to male sexual contact or fantasies involving sexual contact with males.

Appendix C:

AIDS and Stigma: 1999 Survey Items

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The following pages report exact wording for some of the items used in a 1999 national telephone survey on AIDS and stigma. Many of the items were also used in previous surveys conducted by the author in 1991 and 1997. Skip patterns and filler items are not included. The surveys were supported by grants from the National Institute of Mental Health (R01 MH55468 and K02 MH01455).

FEELING THERMOMETER

These next questions are about some of the different groups in the United States. I'll read the name of a group and ask you to rate the group on a thermometer that runs from zero (0) to one hundred (100). The higher the number, the warmer or more favorable you feel toward that group. The lower the number, the colder or less favorable you feel. If you feel neither warm nor cold toward them, rate that group a fifty.

…. (How about) People with AIDS? (On a scale from zero to one hundred, how would you rate this group?)

INTERACTIONS WITH PERSONS WITH AIDS: FEELINGS AND INTENTIONS

Suppose you had a young child who was attending school where one of the students was known to have AIDS. How would you feel about that? Would you feel comfortable having your child at that school, or would you feel uncomfortable?

. • Would you feel very comfortable or only somewhat comfortable?
. • Would you feel very uncomfortable or only somewhat uncomfortable?

What do you think you would actually do if you had a child who was attending school where one of the students had AIDS? Would you send your child to another school, or would you leave your child in the same school?

Would you encourage your child to be especially nice to the student with AIDS, would you discourage your child from having any contact with him or her, or would you encourage your child to treat him or her the same as always?

Suppose you worked in an office where one of the men working with you developed AIDS. How would you feel about that? Would you feel comfortable working with him, or would you feel uncomfortable?

1. • Would you feel very comfortable or only somewhat comfortable?
2. • Would you feel very uncomfortable or only somewhat uncomfortable?

What do you think you would actually do if you had an office job where one of the men working with you developed AIDS? Would you still be willing to work with him, would you ask that he be assigned to work someplace else, or would you ask that you yourself be assigned to work with someone else?

Would you go out of your way to help him if he needed help with his work, would you try to avoid contact with him, or would you treat him the same as always?

Suppose that you found out that the owner of a small neighborhood grocery store where you liked to shop had AIDS. How would you feel about that? Would you feel comfortable shopping at that store, would you feel uncomfortable, or wouldn't it make any difference?

. • Would you feel very comfortable or only somewhat comfortable?
. • Would you feel very uncomfortable or only somewhat uncomfortable?

What do you think you would actually do if you found out that the owner of a small neighborhood grocery store where you like to shop had AIDS? Would you continue to shop there, or would you probably go someplace else to shop?

Do you think you would shop there more often or less often than you did before you found out the owner had AIDS, or would you continue to shop there as much as you did before you found out?

SYMBOLIC CONTACT

Now we have a couple of questions about how people might act in certain situations.

Suppose you were given a very nice sweater that had been worn once by another person who you didn't know. Before you got the sweater, it was cleaned and sealed in a new plastic package so that it looked like it was brand new. Assuming you liked the sweater, how likely do you think it is that you would wear it — very likely, somewhat likely, not too likely, or not at all likely?

Thinking of that same sweater, suppose you found out that the person who had worn it the one time before had AIDS. Knowing this, how likely do you think it is that you would wear it — very likely, somewhat likely, not too likely, or not at all likely?

How would you feel about drinking out of a glass in a restaurant if you knew that a few days earlier someone with AIDS drank out of the same glass? If it was washed and sterilized, would you be very comfortable, somewhat comfortable, not very comfortable, or not at all comfortable drinking out of that glass?

BELIEFS ABOUT HIV TRANSMISSION

These next questions are about the different ways some people think AIDS might be spread. As I read each of the following, please tell me how likely you think it is that a person could get AIDS or AIDS virus infection in that way.

How about sharing a drink out of the same glass with someone who has the AIDS virus? Would you say if someone does that they're very likely, somewhat likely, somewhat unlikely, very unlikely to get AIDS, or is it impossible to get AIDS from sharing a glass with someone who has the AIDS virus?

How about by using public toilets? (Would you say if someone does that they're very likely, somewhat likely, somewhat unlikely, very unlikely to get AIDS, or is it impossible to get AIDS by using public toilets?)

How about from being coughed on or sneezed on by someone who has the AIDS virus? Would you say if that happens someone is very likely, somewhat likely, somewhat unlikely, very unlikely to get AIDS, or is it impossible to get AIDS from being coughed on or sneezed on by someone with the AIDS virus

ATTITUDES TOWARD PEOPLE WITH AIDS

Now I'm going to read a list of statements people have made. As I read each one, please tell me how much you agree or disagree.

How about "People with AIDS should be legally separated from others to protect the public health?" Would you say you agree strongly, agree somewhat, disagree somewhat, or disagree strongly?

(How about) "The names of people with AIDS should be made public so that others can avoid them?" (Would you say you agree strongly, agree somewhat, disagree somewhat, or disagree strongly?)

(How about) "Women who are pregnant should be required to be tested for the AIDS virus in order to protect the health of their unborn baby?" (Do you agree strongly, agree somewhat, disagree somewhat, or disagree strongly?)

(How about) "Most people with AIDS don't care if they infect other people with the AIDS virus?" (Do you agree strongly, agree somewhat, disagree somewhat, or disagree strongly?)

(How about) "Most people with AIDS are responsible for having their illness?" (Do you agree strongly, agree somewhat, disagree somewhat, or disagree strongly?)

(How about) "People who got AIDS through sex or drug use have gotten what they deserve?" (Do you agree strongly, agree somewhat, disagree somewhat, or disagree strongly?)

TRUST OF AUTHORITIES AND EXPERTS

(How about) "Scientists and doctors can be trusted to tell us the truth about AIDS?" (Do you agree strongly, agree somewhat, disagree somewhat, or disagree strongly?)

Many scientists and doctors say AIDS is not spread by casual social contact. Do you think what they're telling us is definitely true, probably true, probably false or definitely false?

HIV MANDATORY TESTING

Do you favor or oppose legally requiring people at risk for getting AIDS to be tested regularly for the AIDS virus?

. • Do you strongly favor or only somewhat favor legally requiring people at risk for getting AIDS to be tested regularly for the AIDS virus?
. • Do you strongly oppose or only somewhat oppose legally requiring people at risk for getting AIDS to be tested regularly for the AIDS virus?

Do you favor or oppose legally requiring people from other countries who want to live in the United States to first have an AIDS test to prove they are not infected with the AIDS virus?

. • Do you strongly favor or only somewhat favor legally requiring people from other countries who want to live in the United States to first have an AIDS test to prove they are not infected with the AIDS virus?
. • Do you strongly oppose or only somewhat oppose legally requiring people from other countries who want to live in the United States to first have an AIDS test to prove they are not infected with the AIDS virus?

FEELINGS TOWARD PEOPLE WITH AIDS

People have many different feelings when they think about people who have AIDS. As I read each of the following feelings, please tell me how you personally feel.

How about feeling sympathetic toward them? Would you say you feel very sympathetic, somewhat, a little, or not at all sympathetic when you think about people with AIDS?

How about feeling angry at them? Would you say you feel very angry, somewhat, a little, or not at all angry when you think about people with AIDS?

(How about) afraid of them? Would you say you feel very afraid, somewhat, a little, or not at all afraid of people with AIDS?

(How about) disgusted by them? Would you say you feel very disgusted, somewhat, a little, or not at all disgusted by people with AIDS?

PERCEPTIONS OF PERSECUTION

How much would you say that people with AIDS have been unfairly persecuted over the years? Would you say they have faced a great deal of unfair persecution, some, a little bit, or no unfair persecution at all?

How about these days? Would you say that people with AIDS now face a great deal of unfair persecution, some, a little bit, or no unfair persecution at all?

HIV TESTING AND CONCERNS ABOUT STIGMA

[SKIP THE FOLLOWING ITEMS IF R HAS AIDS]

If you were going to be tested in the future for some reason, how concerned would you be that you might be treated differently or discriminated against if your test result were to come out positive for the AIDS virus? Would you be very concerned, somewhat concerned, a little concerned, or not at all concerned?

How much would the fact that you would be...[very concerned/somewhat concerned/a little concerned] ...about being treated differently or discriminated against, affect your decision to get tested - a great deal, some, a little, or not at all?

Appendix D

Religiosity Scale

1. How often have you attended religious services during the past year? __ times.

2. Which of the following best describe your practices of prayer or religious meditation?
    a. Prayer is a regular part of my daily life
    b. I usually pray in times of stress or need but rarely at any other time
    c. I pray only during formal ceremonies
    d. Prayer has little importance in my life
    e. I never pray

3. When you have a serious personal problem, how often do you take religious advice or teaching into consideration?
    a. Almost always
    b. Usually
    c. Sometimes
    d. Rarely
    e. Never

4. How much of an influence would you say that religion has on the way that you choose to act and the way you choose to spend your time each day?
    a. No influence
    b. A small influence
    c. Some influence
    d. A fair amount of influence
    e. A large influence

5. Which of the following statements comes closest to your belief about God?
    a. I am sure that God really exists and that He is active in my life
    b. Although I sometimes questions His existence, I do believe in God and believe He knows of me as a person
    c. I don't know if there is a personal God, but I do believe in a higher power of some kind

   d. I don't know if there is a personal God or higher power of some kind, and I don't know if I will ever know
   e. I don't believe in a personal God or higher power

6. Which of the following statement comes closest to your belief about life after death (immortality)?
   a. I believe in a personal life after death, a soul existing as a specific individual
   b. I believe in a soul existing after death as a part of a university spirit
   c. I believe in a life after death of some kind, but I really don't know what it would be like
   d. I don't know whether there is any kind of life after death, and I don't know if I will ever know
   e. I don't believe in any kind of life after death

7. During the past year, how often have you experienced a feeling of religious reverence or devotion?
   a. Almost daily
   b. Frequently
   c. Sometimes
   d. Rarely
   e. Never

8. Do you agree with the following statement? "Religion gives me a great amount of comfort and security in life"
   a. Strongly disagree
   b. Disagree
   c. Uncertain
   d. Agree
   e. Strongly agree

Appendix E

Antifemininity Subscale of the Male Role Norms Scale

The following statements are related to the role of men in society. They ask you to rate your level of agreement or disagreement with each one. There are no right or wrong answers. We will use a scale in which 1 means that you strongly disagree with the statement and 7 means that you strongly agree with the statement. Of course, you can respond with a number between 1 and 7. Again, the higher the number, the more you agree with the statement. Conversely, the lower the number, the more you dis-agree with the statement.

1	It bothers me when a man does something that I consider "feminine."	1 2 3 4 5 6 7
2	A man whose hobbies are cooking, sewing, and going to the ballet probably wouldn't appeal to me.	1 2 3 4 5 6 7
3	It is a bit embarrassing for a man to have a job that is usually filled by a woman.	1 2 3 4 5 6 7
4	Unless he is really desperate, I would probably advise a man to keep looking rather than accept a job as a secretary.	1 2 3 4 5 6 7
5	If I heard about a man who was a hairdresser and a gourmet cook, I might wonder how masculine he was.	1 2 3 4 5 6 7
6	I think it's extremely good for a boy to be taught to cook, sew, clean the house, and take care of younger children.	1 2 3 4 5 6 7
7	I might find it a little silly or embarrassing if a male friend of mine cried over a sad love scene in a movie.	1 2 3 4 5 6 7

Appendix F

Combined Measures of Realistic Threat and Symbolic Threat

Instructions: Use the scale printed below each item to indicate your agreement with each of the following statements concerning gay males.

1. The sexual behavior of gay males is morally wrong.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

2. Gay males in the military have reduced the readiness and combat capabilities of the U.S.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

3. Gay males have the same values as the majority of Americans.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

4. It is important to use medical research funding to find a cure for HIV/AIDS.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

5. Gay males are undermining straight people's traditional system of values.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

6. The government's focus on gay issues has led it to ignore more pressing political issues and economic problems.

A	B	C	D	E	F	G	H	I	J
Strongly									Strongly

Disagree Agree

7. The values and beliefs of gay males are basically very similar to those of most others.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

8. Supporting gay rights is causing the U.S. to lose some of its political power.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

9. Gay males pose little or no threat to the cultural practices of straight people.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

10. Gay males hold more political power than they should.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

11. The sexual behavior of gay males is a sin.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

12. Gay males discriminate against straights.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

13. Gay males want their rights to be put ahead of the rights of others.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

14. Gay males hold more economic power than they should.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

15. The family values of gay males are quite similar to the family values of straight people.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

16. Gay males are a danger to children.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

17. The behavior of gay males goes against social norms.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

18. Supporting "gay rights" is a waste of taxpayer's money.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

19. Gay characters on television corrupt the morals that straights instill in their children.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

20. Gay males have tainted America's blood supply.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

21. The goal of all gay males is self-gratification.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

22. Gay-owned businesses help support the American economy.

A	B	C	D	E	F	G	H	I	J
Strongly Disagree									Strongly Agree

23. HIV/AIDS is God's punishment to gay males.

A	B	C	D	E	F	G	H	I	J

Strongly Disagree — Strongly Agree

24. Health insurance costs will increase if benefits are extended to the partners of gay male employees.

A B C D E F G H I J

Strongly Disagree — Strongly Agree

Appendix G

Timeline Followback Interview – Alcohol

Subject ID: _____ Date:_____

TIMELINE FOLLOWBACK CALENDAR: 2010

1 Standard Drink is

One 12 oz can/bottle of beer

One 5 oz glass of regular (12%) wine

1 ½ oz of hard liquor (e.g. rum, vodka, whiskey)

1 mixed or straight drink with 1 ½ oz hard liquor

Complete the Following

Start Date (Day 1): _____ **End Date** (yesterday):_____

MO DY YR MO DY YR

2010	SUN	MON	TUES	WED	THURS	FRI	SAT
						New Year's 1	2
JAN	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	M. Luther King 18	19	20	21	22	23
	24	25	26	27	28	29	30
	31	1	2	3	4	5	6
FEB	7	8	9	10	11	12	13
	Valentine's Day 14	President's Day 15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	1	2	3	4	5	6
MAR	7	8	9	10	11	12	13
	14	15	16	St.Patrick's Day 17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	31	Passover 1	Good Friday 2	3
APR	Easter 4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	30	1
MA	2	3	4	5	6	7	8
	Mother's Day 9	10	11	12	13	14	15

Y	16	17	18	19	20	21	22
	23	Memorial Day 24	25	26	27	28	29
	30	31					

2010	SUN	MON	TUES	WED	THURS	FRI	SAT
			1	2	3	4	5
JUN	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	Father's Day 20	21	22	23	24	25	26
	27	28	29	30	1	2	3
JUL	Independence Day 4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	30	31
AUG	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	31	1	2	3	4
SEP	5	Labor Day 6	7	8	9	10	Rosh Hashanah 11
	12	13	14	15	16	17	18
	19	Yom Kippur 20	21	22	23	24	25
	26	27	28	29	30	1	2
OCT	3	4	5	6	7	8	9
	10	Columbus Day 11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
	Halloween 31	1	Election Day 2	3	4	5	6
NOV	7	8	9	10	Veterans' Day 1	12	13
	14	15	16	17	18	19	20
	21	22	23	24	Thanksgiving 25	26	27
	28	29	30	1	2	3	Hanukkah 4
DEC	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	Christmas 25
	26	27	28	29	30	31	

Appendix H

Timeline Followback Interview – Aggression

Subject ID: _____ Date:_____

TIMELINE FOLLOWBACK CALENDAR: 2010

What we mean by "Aggression": Any act in which your intent was to cause physical or emotional harm to somebody, and they likely were motivated to avoid it.

Examples of Acts of Aggression: Insulting a person; punching, pushing, kicking, or throwing objects at someone; using a weapon to attack someone; spreading negative talk about someone; keying someone's car or destroying their property; stealing something from someone to cause them harm (rather than to simply obtain their possessions).

Complete the Following

Start Date (Day 1): _____ **End Date** (yesterday):_____

2010	SUN	MON	TUES	WED	THURS	FRI	SAT
						New Year's 1	2
JAN	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	M. Luther King 18	19	20	21	22	23
	24	25	26	27	28	29	30
	31	1	2	3	4	5	6
FEB	7	8	9	10	11	12	13
	Valentine's Day 14	President's Day 15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	1	2	3	4	5	6
MAR	7	8	9	10	11	12	13
	14	15	16	St.Patrick's Day 17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	31	Passover 1	Good Friday 2	3
APR	Easter 4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24

	25	26	27	28	29	30	1
M	2	3	4	5	6	7	8
A	Mother's Day 9	10	11	12	13	14	15
Y	16	17	18	19	20	21	22
	23	Memorial Day 24	25	26	27	28	29
	30	31					

2010	SUN	MON	TUES	WED	THURS	FRI	SAT
			1	2	3	4	5
J	6	7	8	9	10	11	12
U	13	14	15	16	17	18	19
N	Father's Day 20	21	22	23	24	25	26
	27	28	29	30	1	2	3
J	Independence 4 Day	5	6	7	8	9	10
U	11	12	13	14	15	16	17
L	18	19	20	21	22	23	24
	25	26	27	28	29	30	31
A	1	2	3	4	5	6	7
U	8	9	10	11	12	13	14
G	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	31	1	2	3	4
S	5	Labor Day 6	7	8	9	10	Rosh Hashanah 11
E	12	13	14	15	16	17	18
P	19	Yom Kippur 20	21	22	23	24	25
	26	27	28	29	30	1	2
O	3	4	5	6	7	8	9
C	10	Columbus Day 11	12	13	14	15	16
T	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
	Halloween 31	1	Election Day 2	3	4	5	6
N	7	8	9	10	Veterans' Day 1	12	13
O	14	15	16	17	18	19	20
V	21	22	23	24	Thanksgiving 25	26	27
	28	29	30	1	2	3	Hanukkah 4
D	5	6	7	8	9	10	11

E	12	13	14	15	16	17	18
C	19	20	21	22	23	24	Christmas 25
	26	27	28	29	30	31	