Homophobia and Physical Aggression Toward Homosexual and Heterosexual Individuals

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This study examined the relationship between homophobia (defined as self-reported negative affect, avoidance, and aggression toward homosexuals) and homosexual aggression. Self-identified heterosexual college men were assigned to homophobic (n = 26) and nonhomophobic (n = 26) groups on the basis of their scores on the Homophobia Scale (HS; L. W. Wright, H. E. Adams, & J. A. Bernat, 1999). Physical aggression was examined by having participants administer shocks to a fictitious opponent during a competitive reaction time (RT) task under the impression that the study was examining the relationship between sexually explicit material and RT. Participants were exposed to a male homosexual erotic videotape, their affective reactions were assessed, and they then competed in the RT task against either a heterosexual or a homosexual opponent. The homophobic group reported significantly more negative affect, anxiety, and anger-hostility after watching the homosexual erotic videotape than did the nonhomophobic group. Additionally, the homophobic group was significantly more aggressive toward the homosexual opponent, but the groups did not differ in aggression toward the heterosexual opponent.

Hostility and acts of aggression and violence against gay men and lesbians are widespread. The National Gay and Lesbian Task Force (1984) found that 94% of the 2,074 gay men and lesbians surveyed reported some type of lifetime victimization experience, 44% of those sampled had been threatened with physical violence, and 19% reported being hit, punched, kicked, or beaten at least once. Fassinger (1991) found that more than 90% of gay men and lesbians reported being targets of verbal abuse or threats, and more than one third reported interpersonal violence as a direct consequence of their sexual orientation (see Berrill, 1992, for a review). However, research on perpetrators of antigay violence has been limited, most of it descriptive, showing for example that men report greater hostility and animosity toward homosexuals than do women (D’Augelli & Rose, 1990). Perpetrators of aggressive acts are usually young men in their late teens or early twenties, who mainly aggress against individuals whom they perceive to be male homosexuals (Harry, 1990).

Aggression and violence directed toward homosexuals has been attributed to homophobia. However, there is no consistent definition of homophobia in the literature. The term homophobia has been broadly defined as any negative attitude, belief, reaction, or action toward homosexuals, but such a broad conceptualization makes comparisons across studies fraught with interpretive complications (Haaga, 1992). Hudson and Ricketts (1980) proposed a distinction between homonegativism—which they defined as a multidimensional construct that encompasses the entire domain of antigay responses, including attitudes, beliefs, and judgments regarding homosexuality—and homophobia, which they defined as a unidimensional construct that comprises emotional or affective responses. O’Donohue and Caselles (1993) stressed the importance of measuring affective and behavioral components of homophobia. Wright, Adams, and Bernat (1999) developed a measure of homophobia that assesses self-reported negative affect toward homosexuals, as well as concomitant behavior, such as avoidance and aggression toward homosexuals.

In one study, Adams, Wright, and Lohr (1996) demonstrated among their exclusively heterosexual college sample that homophobic men (i.e., those who reported negative affect toward homosexuals) showed greater physiological sexual arousal to consensual male homosexual activity than men who did not report negative affect toward homosexuals, but the groups showed similar levels of arousal to consensual heterosexual and lesbian erotic material. Additionally, the groups did not differ in their self-reports of arousal to homosexual erotic material, suggesting that homophobic men were either unaware of or denying their same-sex arousal. Also, although the groups did not differ in self-reported aggression, the results may have been limited by unwillingness to admit socially undesirable behavior. Moreover, homophobic men may be more aggressive toward homosexuals but do not differ in their aggression toward heterosexuals. This study raises interesting questions about the potential relationships among homophobia, negative affect, and behavior directed toward homosexuals. For example, do homophobic men actually experience more negative affect than nonhomophobic men in response to homosexual activity? Also, if homophobic affect is evoked, given...
the opportunity will homophobic men actually demonstrate more physical aggression toward homosexuals than nonhomophobic men?

The few studies that have examined homophobia and aggression have been limited in scope, have relied almost exclusively on self-report data, and have failed to incorporate valid behavioral measures of aggression. Patel, Long, McCammon, and Wuensch (1995), for example, found that negative affect toward homosexuals and personal reports of negative behavior were positively correlated, suggesting a possible link between homophobia and actual aggression toward homosexuals. However, the study did not address whether homophobia was only associated with aggression toward homosexuals or whether it was also associated with aggression toward heterosexuals, and it relied exclusively on self-report, which may be prone to response bias. The only study examining attitudes toward homosexuality and aggression toward homosexuals using a laboratory procedure (San Miguel & Millham, 1976) found that heterosexual men who advocated a high degree of repression of homosexuals responded more aggressively toward a homosexual than heterosexual confederate. However, the study was clearly limited because it used an aggression measure of dubious validity (i.e., negative evaluation) and defined homophobia in terms of intellectual beliefs about social repression rather than in terms of affective and behavioral responses toward homosexuals.

Collectively, these studies suggest a connection between homophobia and antihomosexual aggression. However, a number of important methodological, theoretical, and empirical questions need to be addressed. From a methodological standpoint, it is critical that valid measures of homophobia and aggression are used. Homophobia would be properly defined both in terms of negative affect (i.e., aversion, discomfort, and fear) and behavior (avoidance and aggression) toward homosexuals, rather than with respect to attitudes about homosexuality. Moreover, valid laboratory measures of aggression should complement self-report measures. Most important, it is essential to determine whether homophobic men specifically are more aggressive toward homosexuals than are nonhomophobic men, or whether they are merely more aggressive in general, which has not been empirically determined.

The purpose of the present study was to examine whether homophobia, defined as self-reported negative affect, avoidance, and aggression toward homosexuals, was associated with laboratory aggression toward homosexuals. A related goal was to determine whether homophobic aggression was context-specific (i.e., elicited by interacting with a male homosexual) or whether homophobic men generally were more aggressive than nonhomophobic men (i.e., showed more laboratory aggression toward both a homosexual and heterosexual individual than did nonhomophobic men). Finally, affective responses to homosexual erotica were compared in homophobic and nonhomophobic groups. We hypothesized that homophobic men would report more negative (specifically anxiety and hostility) and less positive affect in response to watching an erotic male homosexual videotape than would nonhomophobic men. We also expected that self-reported homophobic affect and behavior would predict experimental aggression; that is, specifically, that homophobic men would demonstrate more laboratory aggression (operationalized as increased shock intensity and shock duration) toward the homosexual con-

federate than would nonhomophobic men but would not differ in their aggression toward the heterosexual confederate.

Method

Participants

For the purpose of recruitment, 463 male participants from the psychology department research pool at the University of Georgia were screened in large groups using the modified version of the Kinsey Heterosexual–Homosexual Rating Scale (KRS; Kinsey, Pomeroy, & Martin, 1948), the Homophobia Scale (HS; Wright et al., 1999), the Marlow–Crowne Social Desirability Scale (SDS; Crowne & Marlow, 1960), and the Aggression Questionnaire (Buss & Perry, 1992).

Based on preliminary power analysis, 60 self-identified heterosexual participants were selected and took part in the laboratory portion of the study. Two did not follow instructions (i.e., one took the shock electrode off of his arm during the experiment, and one failed to watch the video) and thus were excluded. Six additional participants were excluded because, after they were debriefed, each raised questions about whether he was “actually” competing against another person during the reaction time (RT) task. Thus, the final sample consisted of 52 heterosexual men, who ranged in age from 18 to 25 years, with a mean age of 19.2 (SD = 1.3) years. The mean level of education was 13.9 (SD = 0.87) years. The ethnicity of participants was predominantly Caucasian (92.3%) and the remainder were African American (7.7%).

Screening Measures

KRS. A modified version of the KRS was used to assess sexual arousal and prior sexual experiences. This version is a 7-point scale on which individuals separately rated their sexual arousal and sexual experiences from exclusively homosexual to exclusively heterosexual. Only participants who reported exclusively heterosexual sexual arousal and experiences were selected for participation.

HS. The HS is a recently developed self-report questionnaire used to assess homophobia. In response to criticism of previous homophobia scales (e.g., O’Donohue & Caselles, 1993), items were developed specifically to measure cognitive, affective, and behavioral components of homophobia. The scale contains 25 items to which respondents rated on a 5-point Likert scale the extent to which they agree or disagree with various statements regarding their thoughts, feelings, and behaviors with respect to homosexuality. Positive and negative statements were used to control for response set biases. Scores ranged from 0 to 100, with higher scores indicative of greater homophobia. Wright et al. (1999) factor analyzed the HS and reported three reliable subscales tapping cognitive, negative affect–avoidance, and negative affect–behavioral aggression dimensions. The cognitive subscale includes attitudinal items such as “Homosexuality is acceptable to me” and “Homosexuality should not be against the law.” Examples of items from the negative affect–avoidance domain include: “Gay people make me nervous” and “It does (not) bother me to see two homosexual people together in public.” The negative affect–behavioral aggression subscale includes items such as, “I would hit a homosexual for coming on to me” and “I have rocky relationships with people I suspect are gay.” The authors reported an internal consistency coefficient of .94 for the total score, and test–retest reliability was excellent (.96) over a 1-week period. The HS shows strong convergent validity (r = .68) with the Index of Homophobia (IHP) (Hudson & Ricketts, 1980) but has the added advantage of assessing self-reported aggression toward homosexuals.

SDS. The SDS is a 33-item true–false scale that assesses the presence of a social desirability response set. The SDS was included to determine whether social desirability response bias was associated with differential laboratory aggression across homophobic and nonhomophobic groups.

Aggression Questionnaire. Buss and Perry’s (1992) 29-item scale was used to assess self-reported general aggression. Respondents rated each
item on a scale of 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me). Items of this scale target four aspects of aggression: physical aggression, verbal aggression, anger, and hostility. Buss and Perry provided data supporting the reliability and validity of this measure. Although previous research has shown that homophobic and nonhomophobic men report comparable levels of aggression on this measure (Adams et al., 1996), it was included to control for any potential group differences in reported aggression that may explain laboratory aggression.

**Study Design**

Participants were divided into two groups on the basis of their total scores on the HS. Men who scored 1 standard deviation or more above the sample mean ($M = 45.60$, $SD = 20.62$, $N = 463$) on the HS composed the homophobic group ($M = 78.57$, $SD = 7.99$, $n = 26$); individuals who scored 1 standard deviation or more below the sample mean on the HS composed the nonhomophobic group ($M = 14.38$, $SD = 6.80$, $n = 26$). This split maximized the number of exclusively heterosexual men scoring in the homophobic and nonhomophobic range. The study design was a $2 \times 2$ between-groups design with two fixed factors: group (homophobic, nonhomophobic) and opponent’s sexual orientation (homosexual, heterosexual). Homophobic and nonhomophobic participants were randomly assigned to conditions specifying the opponent’s sexual orientation. Thirteen participants were included in each condition.

**Apparatus**

The laboratory was organized to simulate a modified version of the Giancola and Zeichner (1995) aggression paradigm, which has been shown to be a reliable and valid measure of aggression (Giancola & Chermark, 1998; Giancola & Zeichner, 1995) that places participants in a situation in which electric shocks are received from and administered to a fictitious “opponent” during a competitive RT task. Physical aggression was operationalized as the shock intensity and shock duration selected by the participants (detailed below). The laboratory consisted of a sound-attenuated experimental chamber and a separate equipment room that contains a microcomputer, an Aversive Conditioner 100 (Farrell Instruments, Grand Island, NE) shock generator, and an intercom system. The experimental chamber contained the participant’s chair, which faces a table containing a black metal box equipped with several light-emitting diodes and electrical switches (i.e., the aggression console). Initially, participants were brought into the experimental chamber and seated at a table facing the aggression console. The RT button was mounted on a small black box placed just anterior to the aggression console. Five shock push buttons, labeled “1” (low) through “5” (high), were arranged on the console. A direct current voltmeter, located on the upper left-hand corner of the console, displayed needle deflections commensurate with the shock levels selected. The voltmeter was used to reinforce participants’ beliefs that they were actually administering shocks to an opponent during the competitive task. An Aversive Conditioner 100 (Farrell Instruments, Grand Island, NE) shock generator was used to shock participants during the RT task.

**Deception and Opponent Sexual Orientation Manipulation**

During the competitive RT task, participants ostensibly competed against a male opponent, who was actually a confederate and who was portrayed as either heterosexual or homosexual through videotape. On the videotape, the confederate answered a series of standardized demographic questions (i.e., first name, age, major, and relationship status), which ostensibly was videotaped for the purpose of showing the participant's opponent who he would be competing against. Immediately prior to the taping, each participant was told that his opponent was asked the same questions and that before the RT began, the opponent would view the videotape of the participant. In this way, the experimental manipulation of the opponents’ sexual orientation was introduced.

**Prim ing Condition and Stimulus Material**

Prior to the study, participants were given a fictitious cover story about the task, informing them that the study was aimed at understanding the effects of viewing sexually explicit material on RT in a competitive situation. Participants were informed that they would watch a videotape depicting either heterosexual or homosexual erotic material. In actuality, to prime negative feelings about homosexuality, all participants viewed adult male homosexual activity. The sexual activity in the 2.5-min videotape included sexual foreplay, oral–genital contact (i.e., fellatio), and intercourse (e.g., anal penetration). Previous research has shown that college students report negative affect such as anxiety and anger (Kelley, Byrne, Greendlinger, & Murnen, 1997) following exposure to male homosexual erotic material.

**Response Measures**

**Affective reactions.** Prior to the study and immediately after watching the male homosexual erotic videotape participants completed the State–Trait Anxiety Inventory, State Anxiety scale (STAI A-State; Spielberger, Gorush, & Lushene, 1970), the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), and the Anger–Hostility scale from the PANAS–Expanded form (PANAS–X; Watson & Clark, 1994). The STAI A-State is a widely used measure of state anxiety. Participants indicated the extent to which they were currently feeling anxious at the moment on a 4-point scale ranging from 1 (not at all) to 4 (very much so).

**Examples of items included “I am tense,” “I feel anxious,” and “I feel calm.” The STAI A-State has adequate psychometric properties (Spielberger et al., 1970).**

The PANAS consists of 20 mood descriptors comprising a 10-item Positive Affect (PA) and a 10-item Negative Affect (NA) scale. The PA scale contains the following terms: active, alert, attentive, determined, enthusiastic, excited, inspired, interested, proud, and strong. The NA scale contains the following terms: afraid, ashamed, distressed, guilty, hostile, irritable, jittery, nervous, scared, and upset. The Anger–Hostility scale of the PANAS–X consists of the following items: angry, irritable, hostile, scornful, disgusted, and loathing. Respondents rated the extent to which they were experiencing each term on a 5-point scale ranging from 1 (very slightly) to 5 (extremely). Watson and colleagues (Watson & Clark, 1994; Watson et al., 1988) reported extensive data supporting the reliability, factor structure, and construct validity of the PANAS and PANAS–X scales. Moreover, similar adjective checklists have been used to measure affective responses to material with a homosexual content (cf. Van de Ven, Bornholt, & Bailey, 1996).

**Measures of physical aggression.** In response to criticism that laboratory aggression paradigms often do not incorporate nonaggressive response
options (e.g., Tedeschi & Quigley, 1996), participants were provided with a nonaggressive alternative. This procedure, the Response Choice Aggression Paradigm (RCAP), was developed by Zeichner, Frey, Parrott, and Bitron (1999) to examine human aggression under laboratory conditions wherein participants are allowed to refrain from responding to provocation with aggression. The RCAP procedure is similar to the Giancola and Zeichner (1995) procedure but it provides for a no-response to provocation option, whereas previous paradigms forced participants to press a shock key on the aggression console. The following measures of physically aggressive behavior, modeled after those used by Giancola and Zeichner (1997), were obtained from the RCAP paradigm.

Shock intensity for all winning trials. This measure comprises the mean shock intensity selected by participants across all winning trials. Giancola and Chermack (1998) indicated that this measure represents an active and direct form of aggression.

Shock duration for all winning trials. This measure comprises the mean shock duration selected by participants across all winning trials. This measure represents an indirect and subtler form of aggression (Giancola & Chermack, 1998).

Proportion of 5s selected. This measure comprises the mean proportion of winning trials in which participants selected the highest shock intensity button (i.e., "5"). Chermack and Taylor (1995) suggested this measure represents extreme levels of aggression.

Proportion of 0s selected. This measure comprises the mean proportion of winning trials in which participants elected not to administer a shock (i.e., provided no response).

Procedure

Participants met individually with a male experimenter, were seated in a comfortable chair, and signed consent forms. Each was given a fictitious written cover story indicating that the study was aimed at investigating the effects of viewing sexually explicit material on RT in a competitive task. Each then completed baseline affective measures (PANAS, STAI-A State), after which the experimenter administered the demographic questionnaire. This brief (20-s) segment was videotaped ostensibly for the purpose of showing the participant’s opponent who he would be competing against during the RT task. The participant was informed that his opponent had been videotaped as well and that he would also view his opponent before the RT task began.

The RT task was next presented as a competition in which the participant would compete against a man in an adjacent room on a RT task consisting of 20 trials. The participant was informed that shortly after a yellow “ready” light appeared on the console, a red “hit” light would illuminate, at which time he was to press the RT button as quickly as possible. Winning a trial would allow him to deliver a shock to his opponent and losing a trial could result in him receiving a shock from his opponent. He was told that he had a choice of five different shock intensities to administer at the end of each winning trial. Additionally, he was told that he could elect not to administer a shock simply by not pressing a shock button after winning a trial. Next, he was informed that individual pain thresholds would be determined prior to the RT task. Then, he (and his opponent) would watch the erotic videotape, complete the affective measures, and then watch the videotape of his opponent before the RT task began.

After the procedures were explained, the experimenter assessed each participant’s pain thresholds from the experimental control room. An electrode was attached to the participant’s nondominant forearm distal to the elbow. Pain thresholds were determined by administering short duration shocks (0.5 s) of increasing intensity from the lowest available shock setting, which was imperceptible, until the shocks reached a subjectively reported “painful” level. The shocks the participant received during the procedure varied randomly between this “painful” level and 1 milliamperc (mA) below this value so that participants perceived some variability in the shocks they received (cf. Giancola & Zeichner, 1995). These shock intensity levels allowed for relatively high-provocation shocks to be administered to the participant throughout the procedure.

After the participant’s pain threshold was determined, he heard his opponent’s pain threshold responses over an intercom that interconnected the two testing chambers and the experimental control room. In actuality, the confederate, who served as the fictitious opponent on the videotape, responded to the questions of the experimenter regarding pain threshold in accordance with a list of standard audio taped responses to ensure that all participants heard the same experiment–confederate verbal exchange over the intercom. The confederate’s audiotaped responses were consistent with the voice he used during his videotaped response (i.e., either “heterosexual” or “homosexual”). After pain thresholds were determined, each participant was asked to watch the erotic (homosexual) videotape on his respective monitor, which was located adjacent to the aggression console. The experimenter controlled the videotape from a videocassette recorder located in the experimental chamber.

Following the erotic videotape, the participant (and ostensibly his opponent) completed the STAI-A State and PANAS and then watched the brief videotape of his opponent on the monitor before the RT task began. This was done to introduce the sexual orientation manipulation and to further ensure that the participant believed that he was competing against another person. The RT task, consisting of 20 contiguous trials interspersed by 7-s intervals, then began. The participant received one high-intensity shock after he lost a trial. All shocks were delivered to the participant for 0.5 s. The intensity of these shocks varied randomly (between the subjectively “painful” level and 1 mA below this value) across the losing trials. Participants won 10 trials and lost 10 trials. Participants’ responses were recorded by the microcomputer. In actuality, RT was not measured, but rather the intensity and duration of the shocks administered by the participant to his opponent after each “winning” trial were the dependent variables of interest. Prior to debriefing, participants completed a manipulation check questionnaire to verify the deception manipulation was successful (e.g., whether they believed they were competing against an opponent).

Results

Deception and Experimental Manipulation Check

To verify the success of the aggression task deception, participants completed a manipulation check questionnaire consisting of two questions. The first question, “What did you think of your opponent?” assessed whether participants believed that they were competing against an opponent. The manipulation appeared successful as participants typically described their opponent in terms of his behavior (e.g., “he’s got good reaction-time,” “he shocked me every time”). As previously described, the data of 6 participants who did not believe they were competing against another person were removed from further data analysis. Chi-square analysis revealed no significant differences across experimental conditions among those who did not believe they were competing against an opponent. To verify the success of the experimental manipulation, participants were also asked to indicate their opponent’s sexual orientation. All participants correctly identified the sexual orientation of their opponent, suggesting the manipulation was effective.

Demographic Data, Social Desirability, and Aggression Questionnaire

To ensure comparability across the homophobic and nonhomophobic groups, one-way analyses of variance (ANOVA)s for con-
tinuous data (e.g., age, education) or Kruskal–Wallis procedures for categorical data (e.g., race) were conducted on each of the demographic variables and the social desirability and aggression self-report measures. Results indicated that the homophobic group was significantly younger ($M = 18.8$ years, $SD = 0.84$) than the nonhomophobic group ($M = 19.7$ years, $SD = 1.5$). $F(1, 50) = 6.73$, $p < .05$. No other significant differences emerged between the groups. To determine the usefulness of age as a potential covariate, Pearson product–moment correlation coefficients were conducted between age and each of the aggression measures. Age was not significantly associated with any of the aggression measures. To verify the adequacy of random assignment across experimental conditions, a $2 \times 2$ (opponent sexual orientation) ANOVA was conducted, revealing no significant interaction effects of age across conditions. Thus, age was not used as a covariate in further analyses.

### Affective Response Changes

Affective responses (i.e., state anxiety, positive affect, negative affect, and anger–hostility) were assessed before the experiment and following the homosexual erotic videotape. A $2 \times 2 \times 4$ (group) X (time) X (affect measures) repeated measures multivariate analysis of variance (MANOVA) revealed a significant Group X Time X Affect interaction, Wilks's $\lambda = .67$, $F(3, 48) = 5.29$, $p < .01$, $\eta^2 = .25$. To decompose the three-way interaction, planned Group X Time repeated measures analyses were performed for each affective measure. Results showed a significant Group X Time interaction for the following measures: PANAS NA, $F(1, 50) = 20.32$, $p < .001$; PANAS Anger–Hostility, $F(1, 50) = 34.12$, $p < .001$, $\eta^2 = .34$; and a significant Group X Opponent interaction, Wilks's $\lambda = .75$, $F(4, 48) = 5.72$, $p < .001$, $\eta^2 = .34$, and a significant Group X Opponent interaction, Wilks's $\lambda = .79$, $F(4, 45) = 2.93$, $p = .05$, $\eta^2 = .12$. Univariate analyses for each dependent measure are detailed below. Table 1 illustrates the means and standard deviations of each affect measure for the participants in the homophobic and nonhomophobic groups.

Tests of simple effects showed that at pretest (i.e., before the experiment), homophobic men reported significantly greater negative affect (but not anger–hostility, anxiety, or positive affect) than nonhomophobic men, $F(1, 50) = 5.25$, $p < .05$. As hypothesized, at posttest (i.e., after watching the homosexual erotic videotape), the homophobic group reported significantly greater negative affect, anxiety, and anger–hostility than the nonhomophobic group, $F(1, 50) = 27.31$, $p < .001$; $F(1, 50) = 7.38$, $p < .05$; and $F(1, 50) = 44.13$, $p < .001$, respectively (see Table 1).

Within-group comparisons using paired sample $t$ tests indicated that the homophobic group reported a significant increase in negative affect, anxiety and anger–hostility, and a significant decrease in positive affect after watching the homosexual erotic videotape, $t(25) = 4.87$, $p < .001$; $t(25) = 2.28$, $p < .05$; $t(25) = 9.81$, $p < .001$; and $t(25) = -5.93$, $p < .001$, respectively. Additionally, paired sample $t$ tests indicated that the nonhomophobic group reported a significant increase in anger–hostility, $t(25) = 2.79$, $p < .01$, and a significant decrease in positive affect after watching the homosexual erotic videotape, $t(25) = -6.42$, $p < .001$. However, there was no significant change in negative affect or anxiety from baseline to posttest for the nonhomophobic group.

### Laboratory Aggression

Table 2 demonstrates the intercorrelations among the aggression measures. All aggression measures were significantly correlated. Additionally, the nonaggression measure (i.e., proportion of Os) was significantly inversely correlated with each of the aggression measures. To examine the joint contribution of these dependent measures, a $2 \times 2$ (opponent's sexual orientation) MANOVA was performed, indicating a significant multivariate main effect for group, Wilks's $\lambda = .66$, $F(4, 45) = 5.72$, $p < .001$, $\eta^2 = .34$, and a significant Group X Opponent interaction, Wilks’s $\lambda = .79$, $F(4, 45) = 2.93$, $p = .05$, $\eta^2 = .12$. Univariate analyses for each dependent measure are detailed below. Table 3 illustrates the means and standard deviations of each aggression measure.

**Shock intensity across all-winning trials.** A $2 \times 2$ (group) X (opponent) between-groups ANOVA revealed a significant interaction, $F(1, 48) = 6.47$, $p < .05$, $\eta^2 = .12$. A planned comparison test at the level of the homosexual opponent confirmed the hy-

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**Table 1**

<table>
<thead>
<tr>
<th>Affective measure</th>
<th>Before experiment</th>
<th>After homosexual erotic video</th>
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<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
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<tr>
<td><strong>STAI A-State</strong></td>
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<td>Nonhomophobic</td>
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*Note.* STAI A-State = State–Trait Anxiety Inventory State Anxiety Scale; PANAS = Positive and Negative Affect Schedule; PANAS–X = PANAS—Expanded form.
The hypothesis that the homophobic group selected significantly higher mean shock intensity across winning trials than the nonhomophobic group, $F(1, 24) = 27.04, p < .001, \eta^2 = .53$. As predicted, no significant difference emerged between the homophobic group and nonhomophobic group at the level of the heterosexual opponent, $F(1, 24) = 1.21, p > .05$.

**Shock duration for all winning trials.** A 2 (group) × 2 (opponent) between groups ANOVA revealed a significant interaction, $F(1, 49) = 9.51, p < .01, \eta^2 = .17$. A planned comparison test at the level of the homosexual opponent indicated that the homophobic group selected significantly longer average shock duration across winning trials than the nonhomophobic group, $F(1, 24) = 35.27, p < .001, \eta^2 = .60$. As hypothesized, no significant difference emerged between the homophobic group and the nonhomophobic group at the level of the heterosexual opponent, $F(1, 24) = 0.31, p > .05$.

**Proportion of 5s selected on winning trials.** A 2 (group) × 2 (opponent) between groups ANOVA revealed a significant interaction, $F(1, 48) = 4.19, p < .05, \eta^2 = .08$. A planned comparison test at the level of the homosexual opponent indicated that the proportion of 5s selected by the homophobic group was significantly greater than the proportion of 5s selected by the nonhomophobic group, $F(1, 24) = 11.75, p < .01, \eta^2 = .33$. As predicted, no significant difference emerged between the homophobic group and the nonhomophobic group at the level of the heterosexual opponent, $F(1, 24) = 1.17, p > .05$.

**Proportion of 0s selected on winning trials.** A 2 (group) × 2 (opponent) between-groups ANOVA revealed a significant effect of group, $F(1, 48) = 9.33, p < .01, \eta^2 = .16$, indicating that the proportion of 0s (no shock administered) selected by the nonhomophobic group ($M = 0.49, SD = 0.36$) was significantly higher (across both opponents) than the proportion of 0s selected by the homosexual group ($M = 0.20, SD = 0.34$). No significant interaction was detected, $F(1, 48) = 9.51, p < .07, \eta^2 = .07$. However, a planned comparison test at the level of the homosexual opponent indicated that proportion of 0s selected by the nonhomophobic group was significantly higher compared to the homophobic group, $F(1, 24) = 14.39, p < .001, \eta^2 = .39$. As predicted, no significant difference emerged between the nonhomophobic group and the homosexual group at the level of the heterosexual opponent.

Is Negative Affect Associated With Aggression Toward Homosexual or Heterosexual Opponents?

Additional analyses were conducted to determine whether changes in negative affect in response to the homosexual erotic videotape were associated with aggression toward the homosexual and heterosexual opponent. For each opponent condition, partial correlation coefficients were computed between residual changes in negative affect in response to the homosexual videotape (i.e., controlling for pretest negative affect) and aggression measures. As shown in Table 4, results indicated that increases in both anxiety and anger-hostility in response to the erotic homosexual video were positively associated with aggression (and inversely associated with nonaggression) toward the homosexual opponent.

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**Table 2**

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock intensity across winning trials</td>
<td></td>
<td>.73*</td>
<td>.74*</td>
<td>-.87*</td>
</tr>
<tr>
<td>Shock duration across winning trials</td>
<td></td>
<td></td>
<td>.44*</td>
<td>-.75*</td>
</tr>
<tr>
<td>Proportion of 5s across winning trials</td>
<td></td>
<td></td>
<td></td>
<td>-.43*</td>
</tr>
<tr>
<td>Proportion of 0s across winning trials</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. N = 52.*

* $p < .01.$

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**Table 3**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Homosexual opponent</th>
<th>Heterosexual opponent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Shock intensity for winning trials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homophobic</td>
<td>3.27</td>
<td>1.35</td>
</tr>
<tr>
<td>Nonhomophobic</td>
<td>0.92</td>
<td>0.92</td>
</tr>
<tr>
<td>Shock duration for winning trials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homophobic</td>
<td>0.32</td>
<td>0.13</td>
</tr>
<tr>
<td>Nonhomophobic</td>
<td>0.007</td>
<td>0.007</td>
</tr>
<tr>
<td>Proportion of 5s selected</td>
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<td></td>
</tr>
<tr>
<td>Homophobic</td>
<td>0.38</td>
<td>0.36</td>
</tr>
<tr>
<td>Nonhomophobic</td>
<td>0.003</td>
<td>0.006</td>
</tr>
<tr>
<td>Proportion of 0s selected</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homophobic</td>
<td>0.13</td>
<td>0.27</td>
</tr>
<tr>
<td>Nonhomophobic</td>
<td>0.60</td>
<td>0.36</td>
</tr>
</tbody>
</table>
However, there was no significant relationship between negative affect and aggression toward the heterosexual opponent.

Discussion

This study examined the relationship between homophobia and laboratory aggression directed toward a male homosexual versus a heterosexual confederate. Consistent with predictions, homophobic men reported significantly greater negative affect, specifically anxiety and anger–hostility, after watching the homosexual erotic videotape than nonhomophobic men. The homophobic group demonstrated significant baseline increases in negative affect, anxiety, and anger–hostility following the homosexual erotic videotape. The most salient finding was the dramatic increase in anger–hostility experienced by homophobic men. By contrast, the nonhomophobic group reported no significant baseline changes in negative affect or anxiety, but reported a slight increase in anger–hostility following the homosexual videotape. Although previous research has shown that heterosexual college men report increased anxiety and anger following exposure to male homosexual erotica (e.g., Kelley et al., 1997), the present study represents the first empirical demonstration of this relationship with homophobia specifically, highlighting the profound negative reactions experienced by some homophobic men when confronted with overt homosexuality.

A major goal of the present study was to determine whether homophobic men were more aggressive toward a male homosexual specifically or whether they generally were more aggressive (toward both the homosexual and heterosexual male). Consistent with hypotheses, the homophobic group showed significantly more aggression toward the homosexual opponent but did not differ from the nonhomophobic group in their aggression toward the heterosexual opponent. Additionally, the groups did not differ on a self-report measure of general aggression. These results provide evidence for the construct validity of the HS. In previous work (Wright et al., 1999), we advocated that homophobia involves both negative affect toward homosexuals (e.g., aversion, discomfort, disapproval) and concomitant behavior (e.g., aggression or avoidance). The present aggression findings bolster this position, as men who reported homophobic affect, coupled with a likelihood to avoid or aggress against gay individuals (i.e., homophobia as defined by the HS), actually showed more homosexual aggression in the laboratory. This empirical work extends previous self-report research. Patel et al. (1995), for example, found a positive correlation between negative affect toward homosexuals and personal reports of negative behavior toward homosexuals, including previous acts of aggression. More recently, Roderick, McCammon, Long, and Allred (1998) found that homophobic affect was correlated with self-reported antigay behaviors, including previous aggression perpetrated against homosexuals. Moreover, a recent factor analysis of the Revised Self-Report of Behavior Scale (Patel et al., 1995) demonstrated two reliable factors measuring avoidance behaviors and aggressive behaviors toward homosexuals (which generally are consistent with the factor structure of the HS used in the present study).

Additionally, through partial correlation analyses we demonstrated strong association between increases in baseline anger–hostility and anxiety in response to the homosexual erotic videotape and subsequent aggression toward the homosexual (but not the heterosexual) opponent. Although speculative, this finding suggests that anger, hostility, and perhaps anxiety evoked by situations or contexts associated with homosexuality may be important emotional precursors of antihomosexual aggression. Indeed, the homoerotic stimulus used to prime negative feelings about homosexuality was clearly evocative, especially for the homophobic group. Nonetheless, because all participants received this stimulus, the extent to which it actually contributed to aggression toward the homosexual opponent remains unknown. To show unequivocal situation by person interaction, it is critical to replicate the present findings using heterosexual erotic videotape as an alternative stimulus condition. If homophobic men demonstrate increased aggression toward the homosexual male (in the absence of negative affect evoked by the homosexual erotic videotape), then negative affect may be a less critical component of aggression than simply having a homophobic disposition. However, if homophobic men fail to show increased aggression toward the homo-

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**Table 4**

Partial Correlation Coefficients Between Negative Affect Measures and Laboratory Aggression Measures for the Heterosexual and Homosexual Conditions

<table>
<thead>
<tr>
<th></th>
<th>Heterosexual condition</th>
<th>Homosexual condition</th>
<th>Heterosexual condition</th>
<th>Homosexual condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock intensity</td>
<td>Heterosexual condition</td>
<td>Homosexual condition</td>
<td>Heterosexual condition</td>
<td>Homosexual condition</td>
</tr>
<tr>
<td>Proportion of 5s</td>
<td>Heterosexual condition</td>
<td>Homosexual condition</td>
<td>Heterosexual condition</td>
<td>Homosexual condition</td>
</tr>
<tr>
<td>Proportion of 0s</td>
<td>Heterosexual condition</td>
<td>Homosexual condition</td>
<td>Heterosexual condition</td>
<td>Homosexual condition</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01.
† p < .10.
sexual confederate, then negative affect may be a critical precursor of homophobic aggression.

The present study has several limitations. First, the laboratory analogue of aggression may not generalize to real world situations involving aggression. Although obvious ethical limitations prevent studying aggression in naturalistic contexts, it should be emphasized that few previous empirical studies have examined both affective and behavioral aspects of homophobia, and none have adequately measured aggression. In this sense, the present study fills a gap in the literature. Another limitation is that participants were selected based on their endorsement of relatively extreme scores on the HS. Although this was deemed necessary in order to form homogenous groups, this dichotomy may not represent the natural state of affairs. That is, the present findings may not generalize to individuals who demonstrate “moderate” levels of homophobia. Moreover, the use of a college convenience sample composed of predominantly young Caucasian men limits the generalizability of these findings to other groups. Future research should extend the present findings to diverse groups, including younger male high school students, who may be at increased risk for perpetrating aggression toward homosexuals (Van de Ven, 1994), as well as a known group of offenders who have committed hate crimes against homosexuals. Finally, although it is tempting to conclude that homophobia is uniformly associated with aggression toward gay individuals, it should be underscored that individual differences likely exist within the homophobic group. That is, some individuals with homophobic affect and cognition may be more likely to aggress against gay individuals, while others may choose to avoid gay individuals. Future research needs to address those mediating mechanisms responsible for translating homophobic cognition and affect into expressive behavior, as well as those situational contexts that give rise to aggression.

Despite these limitations, the present study provides strong empirical support linking the construct of homophobia with aggression toward homosexual males. Future studies should examine situational factors implicated in naturalistic incidents of antigay aggression. For example, it has been shown that alcohol increases human aggression and many perpetrators are intoxicated when committing hate crimes (Giancola & Zeichner, 1997). Moreover, future research should determine whether homophobia is limited to aggression toward gay men or associated with increased aggression toward lesbian or heterosexual women as well. Only through sound research can judicious social policy and effective prevention efforts be made.

References


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