HOMOPHOBIA AND VIOLENCE: THE ROLE OF NEGATIVE AFFECT
AND ANGER IN ANTI-GAY AGGRESSION

by

DOMINIC JOSEPH PARROTT

(Under the Direction of Amos Zeichner, Ph.D.)

ABSTRACT

Pertinent literature indicates that homophobia is the primary determinant of anti-gay aggression. However, the extent to which negative emotional states (e.g., anger, anxiety) contribute to this deleterious behavior remains unclear. The purpose of the present investigation was to examine the role of negative affect in anti-gay aggression. Participants were 165 self-identified heterosexual men who completed a two-part study. Part 1 consisted of participants completing a questionnaire battery that included the Homophobia Questionnaire. Part 2 consisted of participants viewing an erotic videotape and competing in a reaction time task against a fictitious opponent. All participants were randomly assigned to one of two erotic video (heterosexual, male homosexual) and opponent sexual orientation conditions (heterosexual, male homosexual). Aggression was measured by participants’ average shock intensity selected on the Response-Choice Aggression Paradigm (RCAP), in which, under the guise of a reaction time task, participants had the choice to administer shocks or to completely refrain from retaliating to provocation from a fictitious male heterosexual or homosexual opponent. Analyses revealed a significant positive relationship between homophobia and physical aggression among participants who viewed homosexual erotica and competed against the homosexual opponent. Within each of the other experimental groups, the relationship between homophobia and physical aggression was not significant. Results also showed a positive relationship between homophobia and increases in negative affect, anger, and anxiety among participants who viewed male homosexual, but not heterosexual, erotic material. Contrary to hypotheses, negative affective states were not found to mediate the link between homophobia and anti-gay violence. However, a pattern of positive correlations between physical aggression during the task and changes in negative affective states was found among participants who viewed homosexual erotica and competed against the homosexual opponent. No notable pattern of correlations was found between these indices and the other experimental groups. Results support previous findings on the link between homophobia, negative affect, and anti-gay violence and provide new data pertinent to this relationship. Specifically, in addition to a homophobic
disposition, negative affect primed by exposure to homoerotic cues appears to play a critical role as a precursor to anti-gay aggression.

INDEX WORDS: Homophobia, Anti-gay violence, Homosexual aggression, Negative affect, Physical aggression, Aggression paradigm
HOMOPHOBIA AND VIOLENCE: THE ROLE OF NEGATIVE AFFECT
AND ANGER IN ANTI-GAY AGGRESSION

by

DOMINIC JOSEPH PARROTT
B.S. & B.Phil, University of Pittsburgh, 1997
M.S., The University of Georgia, 2001

A Dissertation Submitted to the Graduate Faculty of The University of Georgia in
Partial Fulfillment of the Requirements for the Degree

DOCTOR OF PHILOSOPHY

ATHENS, GEORGIA
2003
HOMOPHOBIA AND VIOLENCE: THE ROLE OF NEGATIVE AFFECT
AND ANGER IN ANTI-GAY AGGRESSION

by

DOMINIC JOSEPH PARROTT

Major Professor: Amos Zeichner
Committee: Nader Amir
Richard Marsh
Lily McNair
L. Stephen Miller

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
May 2003
ACKNOWLEDGEMENTS

There are a number of individuals who have aided in this study, as well as my graduate training, from its conception to its completion. Without their support and guidance, this project would not have been a success.

First and foremost, I thank my major professor, Amos Zeichner, for his mentorship, support, and guidance over the past five years. I will forever value our friendship. I also owe my gratitude to the late Henry E. Adams. Without his inspiration, it is likely that I would have never developed an interest in the research area addressed herein. I also acknowledge my dissertation committee, Nader Amir, Richard Marsh, Lily McNair, and L. Stephen Miller, for the support and feedback concerning this project; Michelle Malone for her outstanding aid in the laboratory and management of data collection; Phil Weinstein for his thespian abilities; and F. Charles Frey for helping me keep my sanity.

My professional development has clearly been the result of many of the aforementioned individuals. However, such growth would not be possible without the love and support of my family. I would like to thank my parents, Louis and Bernie Parrott, and my brother, Louis Parrott, Jr., for encouraging me to follow the career I have chosen, despite where it may take me personally or geographically. And, finally, I am eternally grateful to Tonia Brehmer, whose thoughtfulness and understanding has enriched my life and work beyond what words can describe. It is with great excitement that I look forward to our life together.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iv</td>
</tr>
<tr>
<td>SPECIFIC AIMS</td>
<td>1</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>2</td>
</tr>
<tr>
<td>METHOD</td>
<td>13</td>
</tr>
<tr>
<td>Participants and Recruitment</td>
<td>13</td>
</tr>
<tr>
<td>Experimental Design</td>
<td>14</td>
</tr>
<tr>
<td>Questionnaire Battery</td>
<td>15</td>
</tr>
<tr>
<td>Aggression Paradigm</td>
<td>16</td>
</tr>
<tr>
<td>Deception and Opponent Sexual Orientation Manipulation</td>
<td>18</td>
</tr>
<tr>
<td>Erotic Stimuli</td>
<td>19</td>
</tr>
<tr>
<td>Response Measures</td>
<td>19</td>
</tr>
<tr>
<td>Procedure</td>
<td>21</td>
</tr>
<tr>
<td>RESULTS</td>
<td>24</td>
</tr>
<tr>
<td>RCAP Manipulation Checks</td>
<td>24</td>
</tr>
<tr>
<td>Data Reduction</td>
<td>25</td>
</tr>
<tr>
<td>Preliminary Analyses</td>
<td>26</td>
</tr>
<tr>
<td>Regression Analyses</td>
<td>27</td>
</tr>
<tr>
<td>Does Negative Affect Mediate the Relationship Between Homophobia and</td>
<td></td>
</tr>
<tr>
<td>Anti-Gay Violence?</td>
<td>30</td>
</tr>
</tbody>
</table>
SPECIFIC AIMS

Specific Aim #1. To investigate the role of negative affective states as mediators of homophobia-driven anti-gay aggression.

Hypothesis 1. A positive relationship between homophobia and physical aggression was expected among participants who were primed with homoerotic material and competed against the homosexual opponent. No such relationship was expected among participants in the other experimental groups.

Hypothesis 2. A positive relationship between homophobia and the experience of negative affective states (i.e., negative affect, anger, anxiety) was expected following exposure to homosexual erotica but not after viewing heterosexual erotica.

Hypothesis 3. A positive relationship between negative affective states and physical aggression was expected after controlling for the independent and joint effects of homophobia, erotica, and opponent sexual orientation. Moreover, the effect of this three-way interaction on physical aggression (as predicted in Hypothesis 1) was expected to decrease significantly after accounting for the effect of negative affective states.

Specific Aim #2. To investigate the relationship between negative affective states and physical aggression as a function of pertinent situational variables.

Hypothesis 4. A positive relationship between negative emotional states and attendant aggressive behavior was expected, but only among those participants who received the homoerotic stimulus and competed against the homosexual confederate.
INTRODUCTION

Aggression against gay men and lesbians has been perpetrated for many years. Survey data indicate that over one third of gay men and lesbians report interpersonal violence and up to 94% report some type of victimization related to their sexual orientation (Fassinger, 1991; National Gay and Lesbian Task Force, 1990). Evidence also suggests that violence directed at homosexuals is not a transient phenomenon and will likely continue to be a highly prevalent problem in the United States (Berrill, 1992). A recent survey by the National Coalition of Anti-Violence Programs (NCAVP; 2000) confirmed that anti-gay prejudice and violence is still a widespread problem. In the majority of American cities sampled by the NCAVP, there was a 40% average increase in violent incidents against gays from 1998 to 1999. Furthermore, despite the general decline in the nation’s murder rate during that time period, a 13% rise in anti-gay murders was reported in 1999. These findings clearly indicate that violence against gay men and lesbians is a growing public concern and inform of the urgent need to uncover the risk factors that underlie anti-gay aggression.

Reviews of case reports of anti-gay violence provided by the NCAVP (2000) shed light on potential factors that drive these violent acts. For example, after purchasing condoms, a gay man was attacked by another male who repeatedly called him “faggot” while punching him in the face. Another report described a 30-year old gay man who was “picked up” by a younger male after leaving a gay bar. The younger male subsequently became violent and, upon getting out of the car, reportedly chased and assaulted the gay man. Finally, in one of the more graphic examples cited, a gay man
was attacked by two individuals who “slammed his head down onto the cement sidewalk, and then kicked, punched, and choked him.” During the assault, the assailants made numerous anti-gay statements, including “I’m going to kill you, you little faggot” and “You could be the next Matthew Shepard” (p. 21). Clearly, these acts involve not only a moral opposition to homosexuality, but they also resonate with intense hatred towards gay men. A common denominator for these and other similar acts is the assailant’s strong anti-gay sentiment coupled with exposure to a homosexual in a situation that also contains salient sexual cues (e.g., purchasing condoms, a ‘gay’ bar).

Pertinent literature has identified homophobia as a primary determinant of anti-gay violence, although a clear definition of this construct has been elusive. Hudson and Ricketts (1980) differentiated between homonegativism and homophobia. Whereas homonegativism reflects a multidimensional construct that includes anti-gay attitudes, beliefs, and judgements, homophobia is conceptualized as a unidimensional construct comprised of various emotional responses (e.g., fear, anger, disgust) that a person experiences during interactions with gay individuals. In contrast, Haaga (1991) contested such a link between homophobia and anxiety-based reactions, stating that it “seems, at least descriptively, more like a prejudice than a phobia” (p. 172). O’Donohue and Caselles (1993) proposed that homophobia consists of cognitive, behavioral, and emotional components that interact to produce varying types of anti-gay responses (e.g., aggression, avoidance). Indeed, researchers have theorized that homophobia is also characterized by a behavioral response, and that “negative attitudes and cognitions toward homosexuality are probably not sufficient to warrant the label of homophobia” (Adams, Wright, & Lohr, 1996; p. 444).
Although a consensus regarding the conceptualization of homophobia has not yet been reached, it appears that a trend is developing towards a tripartite definition that includes cognitive (e.g., prejudice towards gays), affective (e.g., anger, anxiety), and behavioral components (e.g., aggression, avoidance). While the underpinnings of these components remain unclear, psychoanalytic theory purports that a homophobic individual experiences negative emotions to homosexual material and, subsequently, displays aggression towards homosexuals due to repressed or latent homosexuality. Although the notion that homophobic men repress their own homosexuality has not been empirically tested, this model highlights the possibility that, when exposed to homosexual stimuli, homophobic men experience increased sexual arousal that may be related to subsequent negative emotions and attendant aggression. Indeed, West (1977, p. 202) stated that when homophobic men are “placed in a situation that threatens to excite their own unwanted homosexual thoughts, they overreact with panic or anger.” Independent studies have tested different aspects of this contention. Adams and colleagues (1996) examined sexual arousal in homophobic and nonhomophobic men in response to heterosexual, male homosexual, and lesbian erotic stimuli. Results indicated that while both groups exhibited significant sexual arousal to heterosexual and lesbian stimuli, only homophobic men evinced increased sexual arousal to male homosexual stimuli. In addition, recent empirical evidence suggests that homophobic men who are exposed to homosexual erotica experience increased negative affect, anger, and anxiety relative to nonhomophobic men (Bernat, Calhoun, Adams, & Zeichner, 2001; Parrott, Zeichner, & Hoover, 2003).
Other theoretical models of anti-gay violence have only recently begun to emerge in the scientific literature. Franklin (1998) posited that violence against gay men stems from social affiliation or value conflicts rather than from a negative affective response to internalized homosexual desires. She contends that aggression toward gay men is motivated by multiple factors, including the enforcement of gender norms, peer dynamics, thrill seeking, and resentment of homosexuals as a privileged social class.

While this conceptualization of anti-gay violence has yet to receive empirical support, the purported underlying theme of these motivations (i.e., exaggerated masculine ideology) has been linked to homophobia (Sinn, 1997; Truman, Tokar, & Fischer, 1996). Recent research has also suggested that hypermasculine characteristics may account for the homophobic man’s perception of gay men as threatening (Parrott, Adams, & Zeichner, 2002) and that masculine ideology mediates the link between one’s self-image and negative attitudes towards homosexual men (Kilianski, 2003).

Accumulating data indicate that homophobia is an important determinant of anti-gay aggression (Kantor, 1998). For example, research indicates that self-reported negative affect toward homosexuals by men is positively associated with past aggressive behavior towards gays (Patel, Long, McCammon, & Wuensch, 1995; Roderick, McCammon, Long, & Allred, 1998). Consistent with psychoanalytic theory, Franklin (2000) showed that individuals who were most defensive about their sexuality perceived homosexuals as more threatening and, as such, engaged in more frequent and severe acts of anti-gay violence. In the only laboratory-based test of the link between homophobia and anti-gay aggression, Bernat and colleagues (2001) examined anti-gay aggression among homophobic and nonhomophobic men after viewing male homosexual erotica.
Results indicated that relative to nonhomophobic men, homophobic men were more aggressive toward a homosexual confederate. However, the two groups did not differ in aggression toward a heterosexual confederate. Collectively, these studies confirm that homophobia is associated with the aggression directed specifically towards homosexuals.

Given the growing evidence that has implicated negative emotions and aggressive behavior in the conceptualization of homophobia, it is important for research on determinants of anti-gay violence to focus more closely on the relationship between these constructs. Before examining such potential relations, however, a more detailed examination of these constructs is warranted.

The past few decades have seen two separate paradigms of emotional research flourish: one that focuses on discrete emotional states and another that emphasizes two broad dimensions. With regard to the former, several prominent models of human emotion support the existence of discrete emotions such as fear or anger (e.g., Ekman, 1982; Ekman & Friesen, 1975). In contrast, theorists who espouse the latter position have identified two broad dimensions of affective structure: positive affect and negative affect (e.g., Diener, Larsen, Levine, & Emmons, 1985; Russell, Weiss, & Mendelsohn, 1989). These two approaches are not necessarily incompatible (Ehrlichman & Halpern, 1988), and, in fact, a hierarchical model of emotion has been proposed by Watson and Tellegen (1985) and received empirical support (Watson & Clark, 1992). This model posits that two broad dimensions of affect (i.e., positive and negative affect) are composed of several correlated yet distinct emotional states (e.g., happiness and interest, anger and fear). Pertinently, because self-reports of discrete emotions have specific and nonspecific variance, it is necessary for each level of the hierarchical structure to be
assessed in order to establish affect-specific relations to other constructs (Watson & Clark, 1992). Thus, for example, when studying the relation of anger to aggression, it is necessary to assess the broad dimension of negative affect as well as the discrete emotion of anger.

Aggression can be theoretically divided into emotional and instrumental aggression (Baron, 1977; Feshbach, 1964), although pure instances of either are rare in nature (Berkowitz, 1993a; Giancola, 1995). Emotional aggression, sometimes called "angry aggression," is motivated by the deliberate attempt to harm another person and reflects an affective and behavioral reaction to an unpleasant environmental stimulus. This behavior is often carried out without prior thought or planning by a person who is emotionally aroused. In contrast, instrumental aggression is motivated by a gain other than harming itself (e.g., money, social status, dominance). Instrumental aggression may involve feelings of anger, but because its primary function is to attain some secondary goal rather than do harm to another individual, anger is not thought to play a substantial role (Geen, 1998).

In a recent study of determinants of anti-gay violence, Bernat and colleagues (2001) examined the relationship between negative affect and emotional aggression. In addition to the aforementioned findings, a positive relationship was found between anti-gay aggression and both the broad dimension of negative affect and the discrete emotions of anger and anxiety, while no relationship between these variables was found for aggression towards a heterosexual man. Hence, these results suggest that negative emotions elicited via exposure to homoerotic stimuli are associated with subsequent anti-gay physical aggression.
The notion that negative affect is associated with attendant ‘emotional’ aggression has been recognized in the violence literature. In his cognitive-neoassociationistic theory, Berkowitz (1990; 1993a) argues that the elicitation of negative affect is the basic source of anger and emotionally aggressive behavior. According to this theory, negative affect, anger-related emotions and cognitions, and aggressive behavior exist within an associative network. The elicitation of negative affect is purported to activate other emotional, cognitive, and behavioral components within the network. Subsequent to an unpleasant event, higher-order cognitive processes are posited to modify the negative emotional experience and affect the likelihood of anger and subsequent aggression. As such, perceiving a negative event as a salient personal threat is likely to result in a higher risk for anger and attendant aggression.

In order to examine emotional aggression in a controlled environment, numerous laboratory paradigms have been developed. After considering many of these paradigms, Giancola and Chermack (1998) concluded that the most widely used and accepted of these paradigms is the Taylor Aggression Paradigm (TAP; Taylor, 1967) and its modified versions (Giancola & Zeichner, 1995). In these paradigms, participants compete against an opponent in some task (e.g., reaction time) in which they may win or lose on any given trial. Based upon the outcome of each trial, participants administer electrical shocks to or receive electrical shocks from their opponent. In actuality, no opponent exists and the win/loss sequence and shock intensity set by the "opponent" is predetermined by the experimenter. Measures of aggression are derived from the shock intensities and durations selected by the participants. Considering the well-documented research supporting the use of the TAP and its modified versions as a valid measure of
emotional aggression (Giancola & Chermack, 1998), investigations which require the examination of specific effects on aggression can benefit from the use of these shock-based paradigms.

Evidence-based reviews have presented strong evidence in support of the cognitive-neoassociationistic model (see Berkowitz, 1993b; Berkowitz and Heimer, 1989). For example, numerous laboratory-based studies have shown that individuals display increased levels of aggression following exposure to stimuli (e.g., high temperature, painful cold) that elicit negative affect (Bell & Baron, 1976; Berkowitz, Cochran, & Embree, 1981). Recent research has also suggested that the experience of negative affect may not only dispose individuals to become aggressive, but may also decrease the response latency of aggressive behavior (Verona, Patrick, & Lang, 2002).

The theoretical conceptualization of emotional aggression helps clarify the underpinnings of anti-gay violence. Specifically, to the extent that a man is homophobic, exposure to an environmental stimulus perceived as unpleasant (e.g., two gay men kissing) will elicit a negative emotional response. This negative emotional experience will serve to prime anger-related emotions and cognitions within the associative network and, potentially, trigger aggressive behavior toward a homosexual male.

Two recent investigations have provided support for this theory in the context of anti-gay violence. Parrott and colleagues (2003) showed that negative affect mediated the relationship between homophobia and activation of anger-related cognitive networks. However, this investigation did not examine how these variables related to physical aggression, and, as a result, only tentatively suggest that these processes are involved in subsequent physical aggression toward gay men. Bernat and colleagues (2001)
demonstrated that negative affect was associated with aggression toward a homosexual confederate but not towards a heterosexual confederate. Notably, because this study exposed all participants to homosexual erotica, the link between negative affect and anti-gay violence remains unclear.

One method that would elucidate the role of negative affect in anti-gay aggression involves the manipulation of negative affect via inclusion of both homosexual and heterosexual erotica. If homophobic men demonstrate increased aggression toward a homosexual male relative to a heterosexual male after exposure to heterosexual erotica, then negative affect may play a less critical role in anti-gay violence than the possession of a homophobic disposition. In contrast, if homophobic men demonstrate increased aggression toward a homosexual male only after viewing homosexual erotica (i.e., if they fail to display increased anti-gay aggression following heterosexual erotica), then negative affect may be a key component of anti-gay violence. Notably, the experimental design utilized by Parrott and colleagues (2003) involved exposure to both forms of erotic stimuli and, as a result, specific interpretations regarding the role of negative affect in anger network activation could be made. In order to make similar interpretations, it is necessary for research on anti-gay violence to incorporate this methodological change.

The purpose of the present investigation was to examine the role of negative emotions in anti-gay aggression. In order to address the limitations of Bernat and colleagues (2001) and advance our knowledge regarding the affect-aggression link, participants were randomly assigned to view male homosexual or heterosexual erotica and self-reported emotional experience was assessed before and after the presentation of these stimuli. Next, participants received information regarding the sexual orientation of
their opponent and subsequently engaged in the Response Choice Aggression Paradigm (RCAP; Zeichner, Frey, Parrott, & Butryn, 1999; Zeichner, Parrott, & Frey, 2003). This paradigm is similar to the TAP, except that it provides the participant with a choice of whether or not to administer a shock during the course of the competition. The addition of a response option enhances the realistic aspects of the paradigm while maintaining the internal validity of the procedure.

The primary hypothesis of the present study was that negative affective states (i.e., negative affect, anger, anxiety) mediate the relationship between homophobia and aggression toward a homosexual, but not heterosexual, confederate. Negative affect, anger, and anxiety were measured with the Negative Affect Subscale of the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), the Anger-Hostility subscale of the PANAS Expanded Form (PANAS-X; Watson & Clark, 1994), and the State Anxiety Inventory (STAI; Spielberger, Gorsuch, & Luschene, 1970), respectively. Physical aggression was assessed via from the Response Choice Aggression Paradigm (RCAP; Zeichner et al., 1999; 2003). Several secondary hypotheses were also put forth that, taken together, would provide support for the predicted mediation effect. First, a positive relationship between homophobia and physical aggression was expected among participants who were primed with homoerotic material and competed against the homosexual opponent. No such relationship was expected among participants in the other experimental groups. Second, it was hypothesized that homophobia would be positively related to the experience of negative affective states following exposure to homosexual erotica but not after viewing heterosexual erotica. Finally, it was hypothesized that negative emotional states would
be positively associated with attendant aggressive behavior, but only among those participants who received the homoerotic stimulus and competed against the homosexual confederate.
METHOD

Participants and Recruitment

From the University of Georgia Psychology Department research participants (RP) pool, 252 undergraduate men were recruited to participate in a two-part study. All participants responded to a study advertisement titled “Sexual and social beliefs and behaviors” and were informed that they would be asked to complete a questionnaire battery (Part 1) and participate in a separate experimental session (Part 2). As part of obtaining informed consent for Part 1, participants were informed that the experimental session involved viewing a 3-4 minute videotape that contained sexually explicit material of either a heterosexual or male homosexual nature. Participants were afforded the option to not complete the experimental session. Regardless of participation in the experimental session, all participants received course credit for completing the questionnaire battery.

From the initial sample, 190 self-identified heterosexual men between the ages of 18 and 25 completed the experimental session. The age range and gender of this sample is generally consistent with typical perpetrators of anti-gay aggression, who are usually males in their late teens or early twenties (Harry, 1990; National Coalition of Anti-Violence Programs (NCAVP), 2000). As indicated by responses on the Kinsey Heterosexual-Homosexual Rating Scale (KRS; Kinsey, Pomeroy, & Martin, 1948), 15 participants reported prior homosexual behavioral experiences and/or sexual arousal.
Furthermore, ten participants believed that the electric shocks and/or the “opponent” were bogus. As such, these participants were excluded from subsequent analyses.

The final sample consisted of 165 participants. They reported a mean age of 19.6 years ($SD = 1.6$), a mean level of education of 14.6 years ($SD = 1.4$), and an average yearly income of $57,460 ($SD = $26,614). The racial composition of this sample consisted of 138 European Americans, 12 African Americans, 9 Asian Americans, and 6 of an unspecified racial origin. Nearly all participants ($n = 161$) indicated that they were currently single, while only four participants were reportedly married.

**Experimental Design**

This study had three independent variables: Homophobia (a continuous variable), video exposure (heterosexual erotica, homosexual erotica), and opponent’s sexual orientation (heterosexual, homosexual). All participants were randomly assigned to one of the four experimental groups. When a given group was filled, participants were randomly assigned to the remaining groups. This procedure was followed until all experimental groups were filled. Upon excluding participants due to the parameters outlined above, experimental groups consisted of the following number of participants: 

- Heterosexual erotica, Heterosexual opponent ($n = 40$); 
- Heterosexual erotica, Homosexual opponent ($n = 41$); 
- Homosexual erotica, Heterosexual opponent ($n = 42$); 
- Homosexual erotica, Homosexual opponent ($n = 42$). 

Pertinent literature indicates that artificial dichotomization of quantitative measures may engender numerous negative consequences, including loss of information about individual differences, loss of effect size and statistical power, and loss of measurement reliability (MacCallum, Zhang,
Preacher, & Rucker, 2002). As such, homophobia scores were not dichotomized and
regression analyses were used in order to treat this construct as a continuous variable.

**Questionnaire Battery**

*Demographic form.* This self-report form assessed information such as age, sexual
orientation, race, marital status, years of education, and average yearly income.

*Homophobia Questionnaire.* (HQ; Wright, Adams, & Bernat, 1999). This 25-item
Likert scale measures the degree to which participants agree or disagree with various
statements regarding their thoughts, feelings, and behaviors toward homosexuality. This
instrument is unique in that it is the first measure of homophobia to include an
assessment of self-reported aggression toward homosexuals in addition to the
measurement of one’s cognitive and affective reactions to homosexuality. Scores range
from 0 to 100, with higher scores indicative of higher levels of homophobia. Concurrent
validity with other validated measures of homophobia in university students has been
established. The authors report an alpha reliability of .94 for the total scale and a one-
week test-retest reliability of .96. In this sample, the alpha reliability coefficient was .82.

*Kinsey Heterosexual-Homosexual Rating Scale.* (KRS; Kinsey et al., 1948). A
modified version of this instrument was used to assess self-reported prior sexual arousal
and experiences. This version is a 7-point scale on which participants separately rate
their sexual arousal and behavioral experiences from “exclusively heterosexual” to
“exclusively homosexual.” As noted previously, only participants who reported
exclusively heterosexual arousal and behavioral experiences were included in final
analyses.
Buss-Perry Aggression Questionnaire. (BAQ; Buss & Perry, 1992). This 29-item Likert scale assesses participants’ disposition toward physical aggression, verbal aggression, anger, and hostility. For the purpose of the present study, only the physical aggression subscale was analyzed. Participants rate each item on a scale from 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me), with higher scores indicative of an elevated tendency to engage in acts of physical aggression.

Among the men in the standardization sample, the authors report adequate convergent validity with constructs purported to be related to physical aggression (e.g., impulsivity, competitiveness). Moreover, pertinent literature indicates that high scores are related to high levels of laboratory-based physical aggression in men (Giancola, 2002). Although previous research indicates that homophobic and nonhomophobic men report comparable levels of physical aggression on this measure (Adams et al., 1996; Bernat et al, 2001), it was deemed prudent to assess this construct in order to identify group differences that could potentially confound laboratory-based physical aggression. The authors report an alpha coefficient and mean score (SD) for the physical aggression subscale of .85. In the present sample, the alpha reliability coefficient for the physical aggression subscale was .81. The mean composite score for the present sample (M = 23.4, SD = 7.00) was also consistent with the men in the standardization sample (M = 24.3, SD = 7.71).

Aggression Paradigm

The Response Choice Aggression Paradigm (RCAP; Zeichner et al., 1999; 2003) was used to measure physical aggression. In this task, participants are placed in a reaction time competition where electrical shocks are received from and administered to a "fictitious" opponent. The RCAP differs from the Taylor Aggression Paradigm (1967)
and its modified versions in that it allows participants to administer a shock following a "win" or a "loss" or to completely refrain from administering a shock to their opponent. The addition of a no-response option to laboratory paradigms that measure physical (Zeichner et al., 1999; 2003) and non-physical aggression (Cherek, 1981) has enhanced the realistic aspects of the paradigm and, at the same time, not diminished the internal validity of the procedure. The validity of laboratory-based measures of aggression has been extensively discussed in the pertinent literature (For example, see Bernstein, Richardson, & Hamock, 1987; Giancola & Chermack, 1998; Pedersen, Aviles, Ito, Miller, & Pollock, 2002).

In the RCAP, participants are seated at a table in a sound-attenuated chamber. The aggression console is situated on the participants' table and consists of a white metal box fitted with an assortment of electrical switches and corresponding light-emitting diodes. Ten shock push buttons labeled "1" through "10" are arranged on the console. Shocks are generated by a Precision Regulated Animal Shocker (Coulbourn Instruments, Allentown, PA). A reaction time (RT) key is located in the center of the console.

The task is presented as a RT competition, in which the participant competes against a fictitious participant who is “seated in an adjacent chamber.” The participant is told that after a yellow "press" light illuminates on the console, he is to depress and hold the RT key. Shortly after the RT key is depressed, a green "release" light illuminates, at which time he is to release the RT key as quickly as he can. After a 3-sec result determination period, a green "win" light or a red "lose" light illuminates, informing the participant about the outcome of that trial. The participant is told that he has the choice to deliver shocks to his opponent following trials he "wins" or "loses" and to do so as
often as he desires. He is told that ten shock intensities are available to administer to his opponent as “punishment” for a duration of his choosing. Likewise, the participant is informed that his opponent can make similar choices. The participant is also told that he may refrain from administering any shocks during the trials of the experiment.

**Deception and Opponent Sexual Orientation Manipulation**

At the outset of the study, the experimenter asked the participant several demographic questions (i.e., first name, year in college, study major, and relationship status) that were ostensibly videotaped for the purpose of informing the participant’s opponent about who he was competing against. The participant was told that he would receive similar information about his opponent. Immediately prior to the RT task, the participant viewed a brief videotape (20 sec) that portrayed his male opponent (a confederate) as a heterosexual or a homosexual male. Presentation of the videotape served to introduce the sexual orientation manipulation and to ensure further that the participant believed he was competing against another person.

The demographic videotape displayed the confederate answering the questions outlined above. In the homosexual opponent condition, the confederate responded to questions using stereotyped “gay affectations” and, when asked about his relationship status, he indicated that he had been involved in a “committed gay relationship with his partner, Steve, for the past two years.” In the heterosexual opponent condition, the confederate’s responses were identical to the former, except that he did not display gay affectations and indicated that he had been involved in a “committed dating relationship with his girlfriend, Ashley, for the past two years.”
Erotic Stimuli

Participants watched a 150 sec color videotape depicting either a consensual sexual interaction between two gay men or a consensual sexual interaction by a heterosexual dyad, including sexual foreplay (i.e., kissing and undressing), oral-genital contact (i.e., fellatio, cunnilingus), and intercourse (i.e., anal or vaginal penetration). Previous research has demonstrated that homophobic males report increased negative affect, including anxiety and anger, following exposure to male homoerotic material (Bernat et al., 2001; Kelley, Byrne, Greendlinger, & Murnen, 1997; Parrott et al., 2003).

Response Measures

Affective Reactions. After providing informed consent and watching the erotic videotape, participants’ state emotional experience was assessed with the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988), the Anger-Hostility scale from the PANAS-Expanded form (PANAS-X; Watson & Clark, 1994), and the State Anxiety Inventory (STAI; Spielberger et al., 1970). These instruments are presented in the Appendices.

The PANAS consists of 20 mood descriptors that comprise a 10-item Positive Affect and 10-item Negative Affect scale. The Anger-Hostility scale of the PANAS-X consists of six mood descriptors that assess the extent to which participants are experiencing anger. For these scales, participants rate the extent to which they are experiencing each descriptor on a 5-point scale from 1 (very slightly) to 5 (extremely). Both scales have shown adequate convergent validity to other measures of negative affect and anger states (Watson et al., 1988; Watson & Clark, 1994). The authors report internal consistency coefficients that range from .84 to .89 for these scales. In the present...
study, alpha reliability coefficients for both administrations of the Negative Affect and Anger-Hostility subscales ranged between .82 and .90.

The STAI is a 20-item Likert scale (1 = “not at all” to 4 = “very much so”) that assesses participants’ experience of anxiety at the present moment. Total scores range from 20 to 80, with higher scores indicating higher levels of state anxiety. The authors report adequate convergent validity to other indices of state anxiety in male samples. An internal consistency coefficient of .93 has been reported for this measure (Knight, Wall-Manning, & Spears, 1983). In the present study, an alpha reliability coefficient of .93 was obtained for both administrations.

Measures of Physical Aggression. The following measures of physical aggression were derived from the RCAP: Shock intensity, average shock intensity for trials in which the participant administered a shock, which represents an active and direct form of aggression; Proportion of Highest-shock, number of times the highest available shock (i.e., a “10”) was selected relative to the number of all other selected shocks, representing the tendency to display extreme levels of aggression; Shock duration, average shock-time duration for trials in which the participant administered a shock; and Shock Frequency, the number of times the participant administered a shock. Because the participant may enter the aggressive interaction at any point during the competitive task, the following indices of “aggression flashpoint” were also derived from the paradigm: Flashpoint latency, the number of trials that expire before the participant administers a first shock; Flashpoint intensity, the intensity of the first shock the participant selects; and Flashpoint duration, the duration of the first shock the participant selects.
While these indices are correlated (Zeichner et al., 1999), they represent conceptually different aspects of an aggressive interaction. For example, shock intensity and proportion of highest shock reflect a direct form of physical aggression (e.g., pushing, punching), while shock duration represents a more indirect form of physical aggression (e.g., keying a person’s car). The corresponding flashpoint measures are also conceptually distinct in that they only reflect an individual’s level of direct and indirect aggression at the point when an individual decides to become aggressive, or “flashes.” Furthermore, the measure of flashpoint latency corresponds to the length of time that an individual waits to become aggressive. Certainly, the expression of aggression may change during the course of an interaction, and these flashpoint measures provide valuable information pertinent to this initiation of aggressive behavior. As such, the exclusion of various indices or the combination of these indices into one unitary aggression construct would sacrifice these conceptual differences. Therefore, it was deemed necessary to include each index in subsequent data analyses.

Procedure

Participants came to the laboratory for two different sessions. During the first session, participants provided informed consent and, as part of this process, were informed that the experimental session involved viewing a 3-4 minute videotape that contained sexually explicit material of either a heterosexual or male homosexual nature. After obtaining informed consent, all participants completed a questionnaire battery consisting of the HQ, KRS, BAQ, and a demographic form. Participants who chose to complete the experimental session then scheduled an appointment for a subsequent day.
Regardless of participants’ choice to complete the experimental session, all participants were compensated with course credit.

For the experimental session, participants were met in a room separate from the aggression laboratory and informed consent was obtained. In order to disguise the RCAP as a measure of aggression, participants were informed that the purpose of the study was to examine the effect of sexually explicit material on reaction time. The experimenter then escorted participants to the experimental chamber. Participants were seated facing the aggression console and asked to complete baseline affective response measures (i.e., PANAS, PANAS-X, SAI). The videotaped demographic interview was then conducted.

Next, instructions regarding the execution of the task were administered and a shock electrode was attached to participants' index and middle finger of their nondominant hand in preparation for the pain assessment. First, assessment of the opponent’s pain threshold was heard over an intercom in the participants’ chamber. In actuality, an audiotape was played in which the confederate who served as the fictitious opponent in the videotape read a list of predetermined statements regarding his pain experience. When depicting a homosexual male, the confederate again used gay affectations during the pain threshold assessment. Next, participants’ pain threshold was assessed to determine the intensity parameters for the shocks they were to receive. This was accomplished via the administration of short-duration shocks (.50-sec) in an incremental stepwise intensity method from the lowest available shock setting, which was imperceptible, until the shocks reached a reportedly "painful" level.

After pain thresholds were determined, participants viewed the erotic videotape on a monitor located adjacent to the aggression console. The experimenter controlled the
videotape from a videocassette recorder located in the control room. Following presentation of the erotic videotape, participants (and ostensibly the opponent) completed the affective response measures a second time, viewed the videotape of their opponent, and began the RT competition. The competition consisted of 20 consecutive trials. Participants "won" ten trials, "lost" ten trials, and received an equal number of high intensity shocks set at 95% and 100% of their subjective “painful shock” threshold level. All shocks were administered on trials that participants "lost." Light emitting diodes were illuminated during administration of the corresponding shock levels. The win/lose sequence was predetermined and incorporated into the computer program that executed the task. Although the sequence was presented in a randomized fashion, all participants received the same sequence. Following the procedure, participants were debriefed fully, compensated with course credit, and thanked for their participation.
RESULTS

RCAP Manipulation Checks

In order for aggression data to be valid, it must be demonstrated that participants believed that they were competing against another individual on a "reaction time" task and that this task was not a measure of aggression. This was determined by the administration of a brief interview prior to debriefing of participants. First, they were asked whether or not they thought the task was a good measure of reaction time. Second, participants were asked to provide an "impression" of their opponent and comment on whether they thought their opponent was “reasonable.” The main criteria for exclusion were participants' belief that the "opponent" was fictitious and that the task was a measure of aggression. Directly assessing whether participants believed that the task involved reaction time could evoke suspicion about the task. Therefore, even if participants were deceived, they would likely indicate that they were not fooled in order to appear socially desirable to the experimenter. Of the 190 participants, only ten indicated that the task was not a measure of reaction time and/or that their opponent was “bogus.” Finally, participants were asked to give their impression regarding the opponent’s sexual orientation. All participants correctly identified the sexual orientation of their opponent.
Data Reduction

The following variables were in the data analysis.

Aggression. Aggression data were derived from the following RCAP indices: Shock intensity, which comprises the mean shock intensity selection for trials in which the participant administers a shock; Shock duration, which comprises the mean shock hold-time (i.e., button press) for trials in which the participant administers a shock; Proportion of Highest-Shock, which reflects the proportion of the number of times the highest available shock (i.e., a “10”) was selected relative to the number of all other selected shocks; Flashpoint Latency, which reflects the trial in which the participant first chose to administer a shock; Flashpoint Intensity, which reflects the intensity of the first shock selected by the participant; and Flashpoint Duration, which reflects the shock hold-time of the first shock selected by the participant.

Homophobia. This variable was determined by the composite score on the Homophobia Questionnaire.

Dispositional Physical Aggression. This variable was determined by the score on the physical aggression subscale of the BAQ.

Affective Response. Participants’ change in affective response during the study was assessed by subtracting composite scores on response measures at the outset of the study from scores obtained after viewing the homoerotic videotape. This method of calculation resulted in higher and more positive affective response change scores that
correspond to greater increases in negative emotions. Affective response was assessed by the following three measures: Negative Affect (NA), which was derived from 10 items on the PANAS (disinterested, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, afraid); Anger-Hostility (AH), which was derived from 6 items on the PANAS-X Expanded form (scornful, hostile, angry, irritable, loathing, disgusted); and State Anxiety (SAI), which was derived from the composite score of the SAI.

Preliminary Analyses

Sixty-two participants who completed Part 1 of the study chose not to participate in the experimental session. In order to evaluate any potential differences between these individuals and the final experimental sample of 165 participants, one-way ANOVAs were performed on pertinent demographic (e.g., age, years of education, yearly income) and experimental variables (e.g., homophobia, dispositional physical aggression). Analyses did not detect any significant differences for these variables.

Fourteen men chose not to administer any shocks during the competition and were eliminated from subsequent analyses. A series of chi-square analyses were performed to determine whether the proportion of aggressive responders differed among the experimental groups. Analyses did not detect any differences between these groups (See Table A1).

Demographic Data. To evaluate potential differences among experimental groups for pertinent demographic variables, a series of 2 (video) X 2 (opponent) ANOVAs were performed independently with the following dependent variables: age, years of education, and average yearly income. No significant group differences were found for these variables.
Group Characteristics. Random assignment to experimental groups was expected to ensure that the four experimental groups did not differ on pertinent dispositional variables (e.g., homophobia, physical aggression). Nonetheless, prior to hypothesis testing, it was necessary to confirm such equivalence among the experimental groups. As such, two 2 (video) X 2 (opponent) ANOVAs were performed with homophobia and dispositional physical aggression as the dependent variables. No significant group differences were found for either variable.

Regression Analyses

The principal aim of the present investigation was to examine the role of negative affect in the relationship between homophobia and anti-gay aggression. The primary hypothesis was an example of mediated moderation. Specifically, it was hypothesized that when heterosexual men were exposed to homosexual erotica, negative affective states (i.e., general negative affect, anger, anxiety) would mediate the relationship between homophobia and physical aggression toward a homosexual male but not toward a heterosexual male. In contrast, when heterosexual men were exposed to heterosexual erotica, negative affective states would not mediate the homophobia-aggression relationship toward men of either sexual orientation.

Given that homophobia scores are continuous, the use of linear regression analyses was indicated (MacCallum et al., 2002). Pertinent literature indicates that prior to computing regression models, continuous predictor variables, but not the criterion variable, should be centered (i.e., converting raw scores to deviation score form so that their means are equal to zero) for several reasons (Aiken & West, 1991). First, centering minimizes the multicollinearity between interaction terms and their constituent lower-
order terms. Second, the computation of interactions with raw scores yields incorrect regression coefficients for these effects because they are not scale invariant. In contrast, the use of centered variables in the computation of interaction terms accounts for scale invariance and, as such, yields an approximately “standardized” solution. Thus, homophobia scores were centered by subtracting the sample mean from each individual’s raw score. Furthermore, because the hypothesized interactions contain two categorical variables (i.e., opponent and videotape conditions), unweighted effects coding was employed to standardize these variables (Aiken & West, 1991). This procedure is preferred because it produces results that are immediately comparable to ANOVA procedures. As such, categorical predictor variables were coded as follows: Heterosexual opponent = -1; Homosexual opponent = 1, and Heterosexual video = -1; Homosexual video = 1. Interaction terms were calculated by obtaining cross-products of pertinent first-order variables. All parameter estimates for the regression models are reported as unstandardized bs.

The recommendations of Baron and Kenny (1986) were employed to test for the proposed “mediated moderation” effects. In this approach, regression models are computed over a series of three steps. First, homophobia, video, opponent, and pertinent higher-order interaction terms are entered into one model and regressed on indices of physical aggression (Step 1). These models tested the interactive effect of homophobia, video, and opponent on physical aggression. Second, the homophobia, video, and homophobia X video interaction term were regressed on each affective response index (Step 2). These models tested the interactive effect of homophobia and video on participants’ change in affect during the study. Finally, homophobia, video, opponent,
their pertinent interaction terms, and a given affective response index (e.g., negative affect, anger, anxiety) were regressed on each index of physical aggression (Step 3). These models tested for the conditional effect of affective response on physical aggression after accounting for other first-order variables. They also tested for the interactive effect of homophobia, video, and opponent on physical aggression after accounting for the conditional effect of a given affective response. In order to demonstrate mediated moderation, several criteria must be met. First, the three-way interaction term from Step 1 must significantly predict physical aggression. Second, the interaction term from Step 2 must significantly predict the mediator (i.e., negative affective states). Finally, in Step 3, the mediator must significantly predict physical aggression and the effect of the three-way interaction term must be weaker than was observed in the first regression model (i.e., a weaker effect of the three-way interaction term in Step 3 compared to Step 1 indicates that negative affective states mediate, in part, the relationship between the three-way interaction and physical aggression).

Significant interaction terms were interpreted by calculating the Pearson-product moment correlation coefficients within each experimental group. In order to determine whether correlation coefficients were significantly different, a Z test employing Fischer transformations of the correlation coefficients was performed (Rosenthal & Rosnow, 1991). Thus, for the proposed three-way interaction, four separate correlation coefficients were computed in order to test the effect of homophobia on physical aggression within each experimental group. The Fischer z-scores of these coefficients were then analyzed in order to determine whether these relationships were significantly different from one another.
Does Negative Affect Mediate the Relationship Between Homophobia and Anti-Gay Violence?

Step 1. For shock intensity, the regression model was significant, $F(7,143) = 3.20$, $p < .01, R^2 = .14$. The homophobia X video X word category interaction was also significant (See Table A3). Explication of this interaction indicated that, among participants who viewed homosexual erotica and competed against the homosexual opponent, a significant positive relationship between homophobia and shock intensity was detected, ($r = .57, p < .001$). In contrast, within each of the other three experimental groups, the relationship between homophobia and shock intensity was not significant (see Figure A1). Analyses also indicated that the significant correlation coefficient detected in the Homosexual video, Homosexual Opponent group (i.e., $r = .57$) was significantly different than the correlation coefficients computed from the other three experimental groups ($p < .05$).

For all other aggression indices, no significant interactions were detected. As a result, these indices were not included in subsequent steps of the test for mediation. Notably, however, the regression model for proportion of highest shock was significant, $F(7,143) = 2.15, p < .05$, and the homophobia X video X opponent interaction approached significance, ($b = .01, p < .11$). Further probing of this observation revealed a significant positive relationship between homophobia and proportion of highest shock in both the Homosexual video, Homosexual opponent ($r = .42, p < .01$) and Heterosexual video, Heterosexual opponent groups ($r = .33, p < .05$). In contrast, within each of the other two experimental groups, no significant relationships were detected. The significant correlation coefficients were not found to be significantly different from each
other, though analyses indicated that they were significantly different than the other two correlation coefficients.

**Step 2a.** With negative affect as the criterion variable, the full model was significant, $F(3,147) = 33.61, p < .001, R^2 = .41$. The homophobia X video interaction was also significant. Subsequent probing of this interaction indicated that after viewing the heterosexual video, the relationship between homophobia and negative affect change was not significant ($r = -.04, p = \text{n.s.}$). However, after viewing the homosexual video, a significant positive relationship was detected ($r = .32, p < .01$). Analyses indicated that these correlation coefficients were significantly different ($p < .05$), indicating that higher levels of homophobia were associated with greater increases in negative affect only after exposure to homosexual erotica (See Figure A2).

**Step 2b.** With anger as the criterion variable, the full model was significant, $F(3,147) = 60.66, p < .001, R^2 = .55$. The homophobia X video interaction was also significant. A plot of this interaction indicated that after viewing the heterosexual video, the relationship between homophobia and anger change was not significant ($r = -.09, p = \text{n.s.}$). However, after viewing the homosexual video, a significant positive relationship was detected ($r = .36, p < .01$). Analyses indicated that these correlation coefficients were significantly different ($p < .05$), indicating that higher levels of homophobia were associated with greater increases in anger only after exposure to homosexual erotica (see Figure A3).

**Step 2c.** With anxiety as the criterion variable, the regression model was significant, $F(3,147) = 34.42, p < .001, R^2 = .41$. The homophobia X video interaction was also significant. A plot of this interaction indicated that for participants who viewed
the heterosexual video, a significant negative relationship between homophobia and anxiety change was detected \( r = -0.23, p < 0.05 \). In contrast, among participants who viewed the homosexual video, a significant positive relationship was detected \( r = 0.39, p < 0.001 \). Analyses indicated that these correlation coefficients were significantly different \( p < 0.05 \), indicating that higher levels of homophobia were associated with greater increases in anxiety only after exposure to homosexual erotica (see Figure A4).

**Step 3.** With negative affect change entered as a predictor into the full model, the regression model was significant, \( F(8,142) = 2.79, p < 0.01, R^2 = 0.14 \). However, the two criteria for mediation (i.e., a significant conditional effect of negative affect and a reduced effect of the homophobia X video X opponent interaction term on shock intensity) were not met. Similarly, with anger change and anxiety change entered separately into the full model, the models were significant \( F(8,142) = 3.00, p < 0.01, R^2 = 0.15; F(8,142) = 2.75, p < 0.01, R^2 = 0.14 \), respectively, but the two criteria required for mediation were not met (see Figure A5).

**Relationship Between Negative Affect Measures and Physical Aggression Within Experimental Groups**

Although analyses did not show that negative affective states mediated the relationship between homophobia and anti-gay violence, it was deemed prudent to determine whether affective changes during the experiment covaried with attendant aggressive behavior within the four experimental groups. As such, Pearson product-moment correlation coefficients were computed between each affective response index and shock intensity within each experimental group. Among participants who viewed homosexual erotica and competed against the homosexual opponent, analyses indicated a
significant positive correlation between anger and shock intensity. Similarly, the relationship between shock intensity and both negative affect and anxiety was positive and approached significance. Among the other three experimental groups, no significant associations were detected between these measures (see Table A2).
DISCUSSION

The results of the present study support previous findings on the link between homophobia, negative affect, and anti-gay violence and provide new data pertinent to this relationship. In this experiment, homophobia was positively related to physical aggression toward a homosexual male among participants who viewed homoerotic material. Specifically, a significantly more positive relationship was found between homophobia and physical aggression toward the gay confederate relative to physical aggression toward the heterosexual confederate. In addition, homophobia was positively associated with increases in negative affect, anger, and anxiety following exposure to homoerotic material. These findings are consistent with previous research in this area (Bernat et al., 2001; Patel et al., 1995; Roderick et al., 1998) and confirm that homophobia is a key determinant of anti-gay violence and attendant negative emotional states following exposure to homoerotic material.

One limitation of previous research in this area was that the role of negative emotions in anti-gay violence was not known. In the investigation by Bernat and colleagues (2001), all participants viewed a homoerotic stimulus and, as a result, these researchers were unable to determine the extent to which negative affect contributed to homophobic aggression. The present study sheds light on this issue. Specifically, no relationship between homophobia and negative affective states (e.g., anger, anxiety) was detected among participants who viewed the heterosexual erotic video. Coupled with the observed positive association between homophobia and negative emotions among
participants who viewed the homoerotic video, it is clear that participants’ affective response is contingent upon the interaction between their level of homophobia and the nature of the erotic stimulus that they view. As previously noted, among participants who viewed homoerotic material, a significant relationship was not detected between homophobia and physical aggression toward a heterosexual confederate. Likewise, a significant relationship was not found between homophobia and physical aggression among participants who received the heterosexual erotic stimulus (regardless of the sexual orientation of their opponent). Taken together, these findings suggest that negative affective states (e.g., anger, anxiety) may, in fact, play a critical role as a precursor to aggression toward homosexual men.

The overarching aim of this investigation was to ascertain the role that negative emotions play in homophobia-driven aggression towards gay men. The primary hypothesis was that negative affective states would mediate the relationship between homophobia and aggression directed toward homosexual, but not heterosexual, men. This hypothesis was not supported. These data indicate that, while homophobic participants experienced increased negative affect following the homoerotic video and also displayed higher levels of anti-gay violence, their emotional states did not account for the effect of homophobia on attendant aggressive behavior.

One explanation for this finding may be that cognitive factors, rather than emotional, may be a more proximal determinant of homophobia-driven aggression toward homosexual men. Specifically, Parrott and colleagues (2003) found that negative affect mediates the relationship between homophobia and the activation of cognitive networks associated with anger. Coupled with the present findings, it is reasonable to
posit that negative affective states may lead to heightened activation of anger-related cognitions among homophobic men. In turn, anger-related cognitions, coupled with the already present anti-gay sentiment, may lead to higher levels of aggression directed specifically toward homosexual men. Future research that integrates assessment of both aggression and cognitive network activation is required in order to provide an adequate test of this hypothesis.

Although negative affective states were not found to mediate the homophobia-aggression relationship, one finding did emerge that demonstrates the importance of negative emotions as a correlate, if not a precursor, to anti-gay violence. Specifically, participants’ increase in anger during the experiment was found to predict increased physical aggression among participants who viewed homosexual erotica and competed against the homosexual confederate. A similar pattern emerged for negative affect and anxiety. In contrast, no such relationships were detected within the other three experimental groups. These results are consistent with the work of Bernat and colleagues (2001) and also extend their findings. Specifically, because significant relationships were only observed among participants who viewed homosexual erotica and who had a homosexual opponent, it appears that increased levels of negative emotions covary with, and may be a necessary catalyst for, the perpetration of anti-gay violence. That is, negative emotions appear to interact with homophobia to predict violence toward homosexual, but not heterosexual, males. As previously discussed, however, emotional arousal may precede the activation of subsequent cognitive factors (e.g., anger-related thoughts) that may have a direct influence on subsequent physical aggression toward homosexual men.
It is worthy to note that participants’ general disposition toward physical aggression did not appear to account for the present results. Indeed, assessment of this trait among the experimental groups did not reveal significant differences. It is important for future research in this area to assess individual differences in aggressive disposition. In addition, as research on anti-gay violence develops further, it will be pertinent to assess other dispositional variables, such as psychopathy or impulsivity, that may confound the link between homophobia and physical aggression toward homosexual men.

The results of this study are consistent with Berkowitz’s (1990; 1993a) conceptualization of emotional aggression. This theory asserts that the elicitation of negative affect activates related cognitive, emotional, and behavioral ‘nodes’ in an associative network that, in turn, may lead to aggressive behavior. It is posited that subsequent to the experience of negative affect, higher-order cognitive processes (e.g., appraisals, causal attributions) can alter the likelihood of anger and/or attendant aggression. In the present investigation, the elicitation of negative affect appeared to covary with angry feelings and aggressive behavior exclusively toward a homosexual male. However, among participants who competed against a heterosexual confederate, increased negative affect did not correlate with aggression. This finding may be explained by the involvement of conscious, higher-order cognitive processes that are purported to influence the activation of emotional and behavioral response systems (e.g., aggressive behavior). For example, it is possible that homophobic participants’ attributions of blame or responsibility were greater toward the homosexual, relative to the heterosexual, male confederate. As such, participants’ negative affective state did not
relate to physical aggression toward the heterosexual confederate. This interpretation should be considered tentative, however, because the assessment of pertinent cognitive processes was not conducted.

The fact that hypotheses were supported for the measure of shock intensity, but not for any other index of physical aggression, merits consideration. Aggression indices reflect conceptually independent information regarding the topography of an aggressive interaction. Consequently, it is possible, if not likely, that each aggression index will produce varying results. In the present study, the pattern of results observed for shock intensity, and to a lesser extent proportion of highest shock, seem congruent given the direct nature of these measures, the fact that participants were highly provoked and, in half the sample, primed with a very graphic stimulus that elicited robust increases in negative affect. In contrast, indices such as shock duration or flashpoint latency reflect indirect and/or subtle measures of physical aggression. Again, because of situational factors present in this investigation, the assessment of these subtle aspects of an aggressive interaction may have been compromised. Therefore, variations in these outcome measures are not believed to weaken the integrity of the link between homophobia, negative affect, and anti-gay aggression. Rather, they may suggest differences in the topography of the aggressive interaction toward heterosexual and homosexual individuals given the attendant situational factors.

Several limitations of the present study deserve mention. Participants included in the present study were undergraduate students and are not optimal representatives of anti-gay offenders. Examination of the relationships described herein among a non-university sample (e.g., known anti-gay offenders, high school students) would increase the external
validity of these findings. Nonetheless, pertinent demographic characteristics (e.g., age, gender) of the present sample are consistent with those associated with typical perpetrators of anti-gay aggression (Harry, 1990; NCAVP, 2000). Some participants chose not to participate in the experimental session and, as a result, it is possible that some individuals who were extremely homophobic were not assessed. The extent to which this occurred is unknown, as it is also possible that participants declined because they had completed their course requirements. Nonetheless, it appears that an adequate distribution of homophobia was obtained. Finally, the present study investigated perpetration of anti-gay violence toward homosexual men. It is unclear whether these relationships extend to perpetration of violence by men, or women, toward lesbians. Future research is needed to examine this possibility.

Despite these limitations, however, the results of the present study indicate that negative affect is a key ingredient in homophobia-driven aggression toward gay men. As such, social policy and clinical interventions aimed at reducing and eliminating anti-gay violence would benefit from addressing the regulation of affect among known perpetrators. In addition, programs designed to increase acceptance of homosexuality would also serve to decrease anti-gay sentiment and subsequent harmful acts of intolerance such as physical violence.

Scientific understanding of the variables and processes that lead to violence against gay men and lesbians is still in its infancy, and the epidemic nature of anti-gay aggression indicates a clear and urgent need to uncover risk factors that lead to this deleterious behavior. In particular, future research is needed to examine the role of additional personality or situational variables pertinent to this relationship. For example,
many acts of violence against gay men are reportedly committed within or outside of bars and nightclubs, thereby suggesting that alcohol consumption by the perpetrator may be involved in these acts (Human Rights Campaign, 2000). As such, it would be important to examine the effect of alcohol on anti-gay violence and attendant affective states. Furthermore, dispositional traits that have been shown to relate to aggression, such as trait anger, psychopathy, or impulsivity, also deserve consideration in subsequent research on anti-gay violence. Upon the accumulation of such data based on theory-driven research, a more complete and accurate conceptualization of homophobia-driven aggression can be achieved.
REFERENCES


FOOTNOTE

Past research in our laboratory indicates that the assessment of self-reported homophobia typically produces a distribution of scores that is positively skewed (i.e., more observations corresponding to low levels of homophobia than to high levels of homophobia). While the reason for this is unclear, it is possible that participants either minimize their “true” level of homophobia or, alternatively, that a very small percentage of the population actually report substantially high levels of homophobia. As such, it was reasonable to postulate that, upon completing data collection, relatively few participants would report genuinely high levels of homophobia. To address this problem and ensure further that individuals who report high levels of homophobia were represented in the final sample, large group screening for high levels of self-reported homophobia was conducted in order to supplement the aforementioned recruitment procedures. All participants who were recruited via large group screening were asked to participate in the two-part study described above.
APPENDIX A

DEMOGRAPHICS FORM

Age:_________

Years of Education completed (including kindergarten):_________

Marital Status (please check only one):

_____ Single (never married)
_____ Married
_____ Not married but living with intimate partner
_____ Divorced
_____ Widowed
_____ Separated

Ethnicity:

_____ American Indian or Alaska Native
_____ Asian
_____ Black or African American
_____ Hispanic or Latino
_____ Native Hawaiian or Pacific Islander
_____ White, non-Hispanic, non-Latino
_____ Other

Please indicate your sexual orientation: Heterosexual  Bisexual  Homosexual

Average annual income (if employed) OR parents’ average annual income (if they support you):

_____ $0 - $5,000
_____ $5,000 - $10,000
_____ $10,000 - $20,000
_____ $20,000 - $30,000
_____ $30,000 - $40,000
_____ $40,000 - $50,000
_____ $50,000 - $60,000
_____ $60,000 - $70,000
_____ $70,000 +
APPENDIX B

KINSEY HETEROSEXUAL-HOMOSEXUAL RATING SCALE

Which of the following 7 statements best describes your past sexual experiences? Rate yourself in terms of overt actions only, not in terms of psychological or sexual arousal.

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.

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
HQ

This questionnaire is designed to measure your thoughts, feelings, and behaviors with regards to homosexuality. It is not a test, so there are no right or wrong answers. Answer each item by circling the number after each question as follows:

1 = Strongly agree
2 = Agree
3 = Neither agree nor disagree
4 = Disagree
5 = Strongly disagree

1. Gay people make me nervous.     1    2    3    4    5
2. Gay people deserve what they get.    1    2    3    4    5
3. Homosexuality is acceptable to me. 1    2    3    4    5
4. If I discovered a friend was gay I would end the friendship. 1    2    3    4    5
5. I think homosexual people should not work with children. 1    2    3    4    5
6. I make derogatory remarks about gay people. 1    2    3    4    5
7. I enjoy the company of gay people. 1    2    3    4    5
8. Marriage between homosexual individuals is acceptable. 1    2    3    4    5
9. I make derogatory remarks like "faggot" or "queer" to people I suspect are gay.       1    2    3    4    5
10. It does not matter to me whether my friends are gay or straight. 1    2    3    4    5
11. It would upset me if I learned that a close friend was homosexual. 1    2    3    4    5
12. Homosexuality is immoral.     1    2    3    4    5
13. I tease and make jokes about gay people. 1    2    3    4    5
14. I feel that you cannot trust a person who is homosexual. 1    2    3    4    5
15. I fear homosexual persons will make sexual advances towards me. 1    2    3    4    5
16. Organizations which promote gay rights are not necessary. 1    2    3    4    5
17. I have damaged property of a gay person, such as "keying" their car. 1    2    3    4    5
18. I would feel uncomfortable having a gay roommate. 1    2    3    4    5
19. I would hit a homosexual for coming on to me. 1    2    3    4    5
20. Homosexual behavior should not be against the law. 1    2    3    4    5
21. I avoid gay individuals. 1    2    3    4    5
22. It bothers me to see two homosexual people together in public. 1    2    3    4    5
23. When I see a gay person I think, "What a waste." 1    2    3    4    5
24. When I meet someone I try to find out if he/she is gay. 1    2    3    4    5
25. I have rocky relationships with people that I suspect are gay. 1    2    3    4    5
APPENDIX D

BUSS-PERRY AGGRESSION QUESTIONNAIRE

Instructions: For each of the following below, please circle a number that best indicates how the statement applies to you. Answer according to the following scale:

1 - Extremely uncharacteristic of me  
3 - Moderately characteristic of me  
5 - Extremely characteristic of me

1. Once in a while I can't control the urge to strike another person      1 2 3 4 5
2. I tell my friends openly when I disagree with them 1 2 3 4 5
3. I flare up quickly but get over it quickly 1 2 3 4 5
4. I am sometimes eaten up with jealousy 1 2 3 4 5
5. Given enough provocation, I may hit another person 1 2 3 4 5
6. I often find myself disagreeing with people 1 2 3 4 5
7. When frustrated, I let my irritation show 1 2 3 4 5
8. At times I feel I have gotten a raw deal out of life 1 2 3 4 5
9. If somebody hits me, I hit back 1 2 3 4 5
10. When people annoy me, I may tell them what I think of them 1 2 3 4 5
11. I sometimes feel like a powder keg ready to explode 1 2 3 4 5
12. Other people always seem to get the breaks 1 2 3 4 5
13. I get into fights a little more than the average person 1 2 3 4 5
14. I can't help getting into arguments when people disagree with me 1 2 3 4 5
15. I am an even-tempered person 1 2 3 4 5
16. I wonder why sometimes I feel so bitter about things 1 2 3 4 5
17. If I have to resort to violence to protect my rights, I will 1 2 3 4 5
18. My friends say that I'm somewhat argumentative 1 2 3 4 5
19. Some of my friends think I'm a hothead 1 2 3 4 5
20. I know that "friends" talk about me behind my back 1 2 3 4 5
21. There are people who pushed me so far that we came to blows 1 2 3 4 5
22. Sometimes I fly off the handle for no good reason 1 2 3 4 5
23. I am suspicious of overly friendly strangers 1 2 3 4 5
24. I can think of no good reason for ever hitting a person 1 2 3 4 5
25. I have trouble controlling my temper 1 2 3 4 5
26. I sometimes feel that people are laughing at me behind my back 1 2 3 4 5
27. I have threatened people I know 1 2 3 4 5
28. When people are especially nice, I wonder what they want 1 2 3 4 5
29. I have become so mad that I have broken things 1 2 3 4 5

52
APPENDIX E

PANAS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what you feel this way right now, that is, at the present moment. Use the following scale to record your answers.

<table>
<thead>
<tr>
<th>1 Very slightly</th>
<th>2 A little</th>
<th>3 Moderately</th>
<th>4 Quite a bit</th>
<th>5 Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>interested</td>
<td></td>
<td></td>
<td>irritable</td>
<td></td>
</tr>
<tr>
<td>distressed</td>
<td></td>
<td></td>
<td>alert</td>
<td></td>
</tr>
<tr>
<td>excited</td>
<td></td>
<td></td>
<td>ashamed</td>
<td></td>
</tr>
<tr>
<td>upset</td>
<td></td>
<td></td>
<td>inspired</td>
<td></td>
</tr>
<tr>
<td>strong</td>
<td></td>
<td></td>
<td>nervous</td>
<td></td>
</tr>
<tr>
<td>scornful</td>
<td></td>
<td></td>
<td>determined</td>
<td></td>
</tr>
<tr>
<td>guilty</td>
<td></td>
<td></td>
<td>loathing</td>
<td></td>
</tr>
<tr>
<td>scared</td>
<td></td>
<td></td>
<td>attentive</td>
<td></td>
</tr>
<tr>
<td>hostile</td>
<td></td>
<td></td>
<td>jittery</td>
<td></td>
</tr>
<tr>
<td>enthusiastic</td>
<td></td>
<td></td>
<td>active</td>
<td></td>
</tr>
<tr>
<td>angry</td>
<td></td>
<td></td>
<td>afraid</td>
<td></td>
</tr>
<tr>
<td>proud</td>
<td></td>
<td></td>
<td>disgusted</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX F

SAI

DIRECTIONS: A number of statements which people used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at All</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel calm</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I feel secure</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I feel tense</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I feel strained</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I feel at ease</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. I feel upset</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I am presently worrying over</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>possible misfortunes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I feel satisfied</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. I feel frightened</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. I feel comfortable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. I feel self-confident</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. I feel nervous</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. I feel jittery</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. I feel indecisive</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. I feel relaxed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. I feel content</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. I am worried</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. I feel confused</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. I feel steady</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. I feel pleasant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX G

TABLES

Table A1.

*Distribution of Aggressive and Non-aggressive Responders Among Experimental Groups*

<table>
<thead>
<tr>
<th>Opponent Sexual Orientation</th>
<th>Heterosexual</th>
<th>Homosexual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erotic Video</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosexual</td>
<td>38/40 (95%)</td>
<td>37/41 (90%)</td>
</tr>
<tr>
<td>Homosexual</td>
<td>36/42 (85%)</td>
<td>40/42 (95%)</td>
</tr>
</tbody>
</table>
Table A2.

*Pearson Product-moment Correlation Coefficients Between Negative Affect Measures and Average Shock Intensity Within Experimental Groups*

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Negative Affect</th>
<th>Anger</th>
<th>Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homosexual Erotica</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homosexual Opponent</td>
<td>.25†</td>
<td>.39*</td>
<td>.29†</td>
</tr>
<tr>
<td>Heterosexual Opponent</td>
<td>.08</td>
<td>.13</td>
<td>.03</td>
</tr>
<tr>
<td>Heterosexual Erotica</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homosexual Opponent</td>
<td>-.01</td>
<td>.07</td>
<td>.01</td>
</tr>
<tr>
<td>Heterosexual Opponent</td>
<td>-.16</td>
<td>-.15</td>
<td>-.18</td>
</tr>
</tbody>
</table>

*Note:* *p < .01, †p < .10.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Step 1</th>
<th>Step 2a-c</th>
<th>Step 3a</th>
<th>Step 3b</th>
<th>Step 3c</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP x Vid x Op</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>t</td>
<td>2.95</td>
<td>2.52</td>
<td>2.94</td>
<td>1.22</td>
<td>2.93</td>
</tr>
<tr>
<td>p</td>
<td>&lt;.01</td>
<td>&lt;.01</td>
<td>&lt;.01</td>
<td>ns</td>
<td>&lt;.01</td>
</tr>
</tbody>
</table>

Note. HP x Vid x Op = Three-way interaction of homophobia, erotic video, and opponent’s sexual orientation; NA = Negative affect; ANG = Anger; ANX = Anxiety.
APPENDIX H

FIGURES

Figure A1.

Relationship between homophobia and average shock intensity within the four experimental groups.

Figure A2.

Relationship between homophobia and change in negative affect in response to homosexual and heterosexual erotica.

Figure A3.

Relationship between homophobia and change in anger in response to homosexual and heterosexual erotica.

Figure A4.

Relationship between homophobia and change in anxiety in response to homosexual and heterosexual erotica.

Figure A5.

Tests for the mediating effect of negative affect change on the relationship between homophobia and physical aggression as a function of erotic video and opponent sexual orientation.
Low                                     High

Homophobia

Average Shock Intensity

Homosexual Video,
Homosexual Opponent

Homosexual Video,
Heterosexual Opponent

Heterosexual Video,
Homosexual Opponent

Heterosexual Video,
Heterosexual Opponent
Note: HP x Vid x Op = Three-way interaction term of homophobia, erotic video, and opponent’s sexual orientation; * p < .01.