Is Homophobia Associated With Homosexual Arousal?

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The authors investigated the role of homosexual arousal in exclusively heterosexual men who admitted negative affect toward homosexual individuals. Participants consisted of a group of homophobic men (n = 35) and a group of nonhomophobic men (n = 29); they were assigned to groups on the basis of their scores on the Index of Homophobia (W. W. Hudson & W. A. Ricketts, 1980). The men were exposed to sexually explicit erotic stimuli consisting of heterosexual, male homosexual, and lesbian videotapes, and changes in penile circumference were monitored. They also completed an Aggression Questionnaire (A. H. Busa & M. Perry, 1992). Both groups exhibited increases in penile circumference to the heterosexual and female homosexual videos. Only the homophobic men showed an increase in penile erection to male homosexual stimuli. The groups did not differ in aggression. Homophobia is apparently associated with homosexual arousal that the homophobic individual is either unaware of or denies.

Hostility and discrimination against homosexual individuals are well-established facts (Berrill, 1990). On occasion, these negative attitudes lead to hostile verbal and physical acts against gay individuals with little apparent motivation except a strong dislike (Herik, 1989). In fact, more than 90% of gay men and lesbians report being targets of verbal abuse or threats, and more than one-third report being survivors of violence related to their homosexuality (Fassinger, 1991). Although negative attitudes and behaviors toward gay individuals have been assumed to be associated with rigid moralistic beliefs, sexual ignorance, and fear of homosexuality, the etiology of these attitudes and behaviors remains a puzzle (Marmor, 1980). Weinberg (1972) labeled these attitudes and behaviors homophobia, which he defined as the dread of being in close quarters with homosexual men and women as well as irrational fear, hatred, and intolerance by heterosexual individuals of homosexual men and women.

Hudson and Ricketts (1980) have indicated that the meaning of the term homophobia has been diluted because of its expansion in the literature to include any negative attitude, belief, or action toward homosexuality. Fye (1983) has also argued that the broad definition of homophobia threatens to restrict our understanding of negative reactions to gay individuals. Furthermore, Hudson and Ricketts criticized studies for not making the distinction between intellectual attitudes toward homosexuality (homonegativism) and personal, affective responses to gay individuals (homophobia). They indicated that many researchers do not state the operational definition of what they term homophobic. To clarify this problem, Hudson and Ricketts defined homonegativism as a multidimensional construct that includes judgment regarding the morality of homosexuality, decisions concerning personal or social relationships, and any response concerning beliefs, preferences, legality, social desirability, or similar cognitive responses. Homophobia, on the other hand, was defined as an emotional or affective response including fear, anxiety, anger, discomfort, and aversion that an individual experiences in interacting with gay individuals, which may or may not involve a cognitive component. For example, ego-dystonic homosexuality or marked distress about one's sexual orientation may be a type of homonegativism but does not necessarily imply homophobia. This clarification is consistent with Weinberg's (1972) definition of homophobia, as well as Haaga's (1992) suggestion that the term be restricted to clearly phobic reactions.

It has also been argued that the term homophobic may not be appropriate because there is no evidence that homophobic individuals exhibit avoidance of homosexual persons (Bernstein, 1994; Rowan, 1994). Nevertheless, the only necessary requirement for the label of phobia is that phobic stimuli produce anxiety. Whether the individual exhibits avoidance or endures the anxiety often depends on the nature of the stimuli and the environmental circumstances. MacDonald's (1976) suggestions are consistent with this analysis because he defined homophobia as anxiety or anticipatory anxiety elicited by homosexual individuals. O'Donahue and Caselies (1993) noted that MacDonald's definition parallels the diagnostic criteria of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994) for simple phobia and captures the negative emotional reactions toward homosexuality that seem to have motivated use of the term. In a similar analysis, O'Donahue and Caselies described a tripartite model of homophobia consisting of cognitive, affective, and behavioral components that may interact differently with various situations associated with homosexuality.

Although the causes of homophobia are unclear, several psychoanalytic explanations have emerged from the idea of homophobia as an anxiety-based phenomenon. One psychoanalytic explanation is that anxiety about the possibility of being or becoming a homosexual may be a major factor in homophobia.
(West, 1977). For example, de Kuyper (1993) has asserted that homophobia is the result of the remnants of homosexuality in the heterosexual resolution of the Oedipal conflict. Whereas these notions are vague, psychoanalytic theories usually postulate that homophobia is a result of repressed homosexual urges or a form of latent homosexuality. Latent homosexuality can be defined as homosexual arousal which the individual is either unaware of or denies (West, 1977). Psychoanalysts use the concept of repressed or latent homosexuality to explain the emotional malaise and irrational attitudes displayed by some individuals who feel guilty about their erotic interests and struggle to deny and repress homosexual impulses. In fact, West (1977, p. 202) stated, "when placed in a situation that threatens to excite their own unwanted homosexual thoughts, they overreact with panic or anger." Slaby (1994) contended that anxiety about homosexuality typically does not occur in individuals who are same-sex oriented, but it usually involves individuals who are ostensibly heterosexual and have difficulty integrating their homosexual feelings or activity. The relationship between homophobia and latent homosexuality has not been empirically investigated and is one of the purposes of the present study.

Specifically, the present study was designed to investigate whether homophobic men show more sexual arousal to homosexual cues than nonhomophilic men as suggested by psychoanalytic theory. As O'Donahue and Caselles (1993, p. 193) have noted, an investigation of whether those who "agress against homosexuals become sexually aroused to homosexual stimuli (as certain psychoanalytic theories might predict)" would contribute to our understanding of homophobia. A secondary goal was to evaluate whether homophobic individuals are persons who are more generally hostile or aggressive than nonhomophilic men. The present investigation was designed to evaluate these two hypotheses.

Method

Participants

Caucasian heterosexual male volunteers (n = 64) recruited from the Psychology Department Research Subject Pool at the University of Georgia participated in the study. They were screened during large group testing during which time they completed the modified version of the Kinsey Heterosexual-Homosexual Rating Scale (Kinsey, Pomeroy, & Martin, 1948), the Index of Homophobia (IHP; Hudson & Ricketts, 1980), and the Aggression Questionnaire (Buss & Perry, 1992). They were contacted by telephone at a later date to schedule the laboratory portion of the study. All participants received partial course credit. The mean age of the men was 20.3 years (range 18 to 31 years).

Screening Measures

Kinsey Heterosexual-Homosexual Rating Scale. A modified version of the Kinsey Heterosexual-Homosexual Rating Scale was used to assess sexual arousal and prior sexual experiences. This version of the Kinsey is a 7-point scale on which individuals separately rated their sexual arousal and experiences from exclusively homosexual to exclusively heterosexual. Only participants who reported exclusively heterosexual sexual arousal and experiences (i.e., 1, is on both sides) were selected for participation.

IHP. The IHP is the most widely used measure of homophobia (O'Donahue & Caselles, 1993). The items of the IHP assess affective components of homophobia. The scale contains 25 items, and scores range from 0 to 100. Respondents were divided into four groups on the basis of their score: 0-25, high-grade nonhomophbic men; 26-50, low-grade nonhomophbic men; 51-75, low-grade homophobic men; and 76-100, high-grade homophobic men. The score obtained is a measure of "dread" an individual experiences when placed in close quarters with a homosexual; a low score equals low dread, and a high score equals high dread. Because most of the items contain the terms comfortable or uncomfortable, dread can be assumed to mean anticipatory anxiety about interacting with a homosexual person. For example, one item states "I would feel nervous being in a group of homosexuals." Positive and negative statements are used to control for response set biases. The authors reported .90 reliability coefficient on a sample of 300 respondents. O'Donahue and Caselles (1993, p. 187) commented that the authors of the IHP used a "more empirical and psychometrically sophisticated approach than previous researchers who have produced instruments to measure homophobia."

The men were divided into two groups on the basis of their scores on the IHP: 0-50 = nonhomophbic men, n = 29, M = 30.48, SD = 14.70; 51-100 = homophbic men, n = 35, M = 80.40, SD = 13.2. This split was necessary because of an inability to find an adequate number of exclusively heterosexual men who scored in the high-grade nonhomophbic range (0-25).

Response Measures

Penile plethysmography. A mercury-in-rubber (MIR) circumferential strain gauge (Bancroft, Jones, & Pullan, 1966) was used to measure erectile responses to the sexual stimuli. When attached, changes in the circumference of the penis caused changes in the electrical resistance of the mercury column, which were detected by a Parks Model 237 Plethysmograph (pre-amplifier: Parks Electronic Laboratory, Beaverton, OR). The pre-amplifier output was channeled into a Grass polygraph. Tumescence responses were recorded on the chart drive of the polygraph and were channeled to an analog-to-digital (A-to-D) interface connected to an IBM computer. A parallel recording on chart paper was used to identify abrupt changes suggestive of movement artifacts, which were eliminated from the data before analysis. The strain gauge was calibrated prior to each evaluation using a plexiglass calibrating cone, allowing for conversion (approximately 130 times/s) to millimeters (approximately .275 A-to-D units per mm) of penile circumference, which served as the primary dependent variable. The internal consistency and test-retest reliability of the penile plethysmograph is acceptable (O'Donahue & Letourneau, 1992), and penile plethysmographic responses to sexually explicit stimuli have been shown to discriminate between homosexual and heterosexual men (Tollison, Adams, & Tollison, 1979). Zuckerman (1971) described penile plethysmography as the most specific measure of sexual arousal because significant changes occur only during sexual stimulation and sleep.

Aggression Questionnaire. Buss and Perry's (1992) 29-item scale was used to assess an overall trait of aggression. The men rated each item on a scale of 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me). Items targeted four aspects of aggression: physical aggression, verbal aggression, anger, and hostility. Buss and Perry (1992) provided intercorrelation data suggesting a unitary trait of aggression. Only this overall score of aggression was used as the dependent variable.

Stimulus Materials

The stimuli were 4 min segments of explicit erotic videotapes depicting consensual adult heterosexual activity, consensual male homosexual activity, and consensual female homosexual activity. The sexual activity in the videos included sexual foreplay (e.g., kissing and undressing),
oral-genital contact (e.g., fellatio or cunnilingus), and intercourse (i.e., vaginal penetration, anal penetration, or tribadism in the lesbian film). The lesbian videotape was included because it has been shown to be highly sexually arousing to heterosexual men and is a better discriminator between heterosexual and homosexual men than other stimuli (Mavissikalian, Blanchard, Abel, & Barlow, 1975).

Procedure

The procedure was explained to the participant on arrival at the laboratory. He was informed that he could terminate participation at any time, and he signed informed consent. The participant was accompanied to a soundproof chamber, where he was seated in a comfortable reclining chair and was given instructions on the proper placement of the MIR strain gauge. After the experimenter’s departure from the experimental chamber into the adjoining equipment room, the participant attached the penile strain gauge. The adjoining equipment room housed the Grass polygraph, the videotape player, an IBM-compatible computer, and the two-way intercom. Once the participant indicated that the apparatus was in place by way of the intercom, a 4-min baseline was recorded in the absence of any stimuli. Next, the three sexually explicit videos were presented to the participant. Following each videotaped presentation, he rated his level of subjective sexual arousal (i.e., how “turned on” he was) and the degree of penile erection (i.e., from no change to 100% erection) on a scale of 0 to 10. The participant’s penile circumference was allowed to return to baseline levels before the next stimulus was presented. The sequence of presentation was counterbalanced across participants to avoid order effects. Following the final presentation, the participant was debriefed and dismissed.

Data Reduction

A change score was used to analyze the penile plethysmographic data where the mean penile circumference (in millimeters) in the first second of time was subtracted from subsequent seconds for each video presentation. These scores were divided into six 40-s time blocks. The average change score in penile circumference for each time block was then analyzed.

Results

Penile Plethysmography

The data were analyzed using mixed model analysis of variance (ANOVA) with one between-subjects factor (Groups) and two within-subjects factors (Stimulus Type and Time Blocks). The main effect for stimulus type, $F(2, 124) = 23.67, p < .001$; time blocks, $F(5, 310) = 137.46, p < .001$; and their interaction, $F(10, 620) = 21.73, p < .001$, were all significant, as was the Groups × Stimulus Type × Time Blocks interaction, $F(10, 620) = 2.11, p < .05$. No other main effects or interactions were significant. The data for each time block for the two groups are presented separately for each stimulus type in Figure 1. Inspection of this figure suggests that the interaction is due to differences between homophobic and nonhomophobic men across time blocks for only the homosexual video.

In order to evaluate this impression, we conducted ANOVAs of Groups × Time Blocks for each stimulus type. For the heterosexual and lesbian videos, only time blocks were significant, indicating increases in penile engorgement over time blocks, $F(5, 310) = 115.321, p < .001$, and $F(5, 310) = 64.878, p < .001$, respectively. There were no significant main effects of groups or an interaction with these two videos, indicating that both groups showed significant engorgement to these videos. For the male homosexual video, there was a significant main effect of groups, time blocks, and their interaction: $F(1, 62) = 6.14, p < .05$; $F(5, 310) = 19.04, p < .001$; and $F(5, 310) = 5.14, p < .001$, respectively. These results indicate that the homophobic men showed a significant increase in penile circum-

![Figure 1. Stimulus presentations by groups across time blocks.](image-url)
ference to the male homosexual video but that the control men did not. An analysis of the simple effects of this interaction with pairwise Tukey tests indicate that the groups were significantly different at time blocks 4, 5, and 6 (p < .01).

Another way of evaluating these data is to calculate the percentage of men who demonstrated no significant tumescence (i.e., 0–6 mm), modest tumescence (i.e., > 6–12 mm), and definite tumescence (i.e., > 12 mm) based on their mean tumescence score to the homosexual video. In the homosexual group, 20% showed no significant tumescence, 26% showed moderate tumescence, and 54% showed definite tumescence to the homosexual video; the corresponding percentages in the nonhomophobic group were 66%, 10%, and 24%, respectively.

**Subjective Ratings**

The data for the subjective estimates of sexual arousal and penile erection were analyzed with a mixed model ANOVA with one fixed factor (groups) and two repeated factors (stimuli and erection vs. arousal ratings). The main effect of stimulus type was significant, F(2, 124) = 90.93, p < .001, indicating significantly greater arousal and erection ratings to the heterosexual and lesbian videos than to the male homosexual video. The main effect of ratings (arousal vs. erection) was also significant, F(1, 62) = 8.78, p < .01, indicating the men rated more erection than arousal to the videos. The interaction of stimuli and arousal versus erection ratings was also significant, F(2, 124) = 9.34, p < .001. This interaction is due to greater ratings of erection and arousal to heterosexual and lesbian videos than to the male homosexual video. Furthermore, the interaction reveals little differences between the types of rating (arousal vs. erection) with the exception of the homosexual video, where there were significantly greater ratings of erection than arousal. These means are shown in Table 1. There were no other significant main or interaction effects of subjective ratings.

Pearson correlation coefficients were computed between the penile response measures and subjective ratings of arousal and erection, as shown in Table 1. These correlations ranged from .53 to .66 and indicate that participants’ ratings were generally in agreement with their penile responses. Pearson correlations coefficients were also computed with subjective ratings of arousal and erection ratings for each group, as shown in Table 2. These correlations are quite high and are all significant at the p < .01 level of confidence, indicating that these two ratings are essentially measuring the same event. The correlation of erection and arousal to the homosexual video in the nonhomophobic group was significantly smaller (i.e., p < .05 or p < .01 in all comparisons) when compared to other correlations. The decreased consistency between erection and arousal may have been due to the smaller changes in penile responses in this group, making subjective estimates more difficult.

Because of the above findings, we conducted three analyses of covariance for each video using the mean penile response across time blocks for each group, with subjective arousal as the covariate. There were no significant group differences for the heterosexual or lesbian videos, indicating that the reports of arousal were consistent with penile responses. However, there remained a significant difference between groups for the male homosexual video, F(1, 60) = 8.10, p < .01, to which homosexual men continued to display more penile erection after subjective arousal was statistically controlled. This finding indicates that reports of subjective arousal were not consistent with penile responses with the male homosexual video. These data appear to be due to underestimates of arousal, particularly by homosexual men, to the homosexual stimuli.

**Aggression Questionnaire**

A t test between groups was conducted on the Aggression Questionnaire. The difference between the scores for the homosexual (M = 58.37, SD = 14.39) and the nonhomophobic men (M = 55.96, SD = 14.75) was not statistically significant, t(62) = .65, p > .05. This result indicates that these groups did not differ in aggression as measured by this questionnaire.

**Discussion**

The results of this study indicate that individuals who score in the homosexual range and admit negative affect toward homosexuality demonstrate significant sexual arousal to male homosexual erotic stimuli. These individuals were selected on the basis of their report of having only heterosexual arousal and experiences. Furthermore, their ratings of erection and arousal to homosexual stimuli were low and not significantly different from nonhomophobic men who demonstrated no significant increase in penile response to homosexual stimuli. These data are consistent with response discordance where verbal judgments are not consistent with physiological reactivity, as in the case of homophobic individuals viewing homosexual stimuli. Lang (1994) has noted that the most dramatic response discordance occurs with reports of feeling and physiologic responses. Another possible explanation is found in various psychoanalytic

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**Table 1**

Means and Correlations of Subjective Ratings With Penile Response

<table>
<thead>
<tr>
<th>Video</th>
<th>Arousal</th>
<th>Erection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>7.14</td>
<td>1.97</td>
</tr>
<tr>
<td>Lesbian</td>
<td>6.28</td>
<td>2.94</td>
</tr>
<tr>
<td>Male homosexual</td>
<td>2.03</td>
<td>2.74</td>
</tr>
</tbody>
</table>

* Subjective ratings were correlated with mean penile response across time blocks.
* p < .01.

**Table 2**

Correlations Between Subjective Arousal and Subjective Erection Ratings

<table>
<thead>
<tr>
<th>Group</th>
<th>Heterosexual</th>
<th>Lesbian</th>
<th>Male homosexual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homophobic</td>
<td>.91</td>
<td>.95</td>
<td>.90</td>
</tr>
<tr>
<td>Nonhomophobic</td>
<td>.93</td>
<td>.94</td>
<td>.78</td>
</tr>
</tbody>
</table>
theories, which have generally explained homophobia as a threat to an individual's own homosexual impulses causing repression, denial, or reaction formation (or all three; West, 1977). Generally, these varied explanations conceive of homophobia as one type of latent homosexuality where persons either are unaware of or deny their homosexual urges. These data are consistent with these notions.

Another explanation of these data is found in Barlow, Sakheim, and Beck's (1983) theory of the role of anxiety and attention in sexual responding. It is possible that viewing homosexual stimuli causes negative emotions such as anxiety in homophobic men but not in nonhomophobic men. Because anxiety has been shown to enhance arousal and erection, this theory would predict increases in erection in homophobic men. Furthermore, it would indicate that a response to homosexual stimuli is a function of the threat condition rather than sexual arousal per se. Whereas difficulties of objectively evaluating psychoanalytic hypotheses are well-documented, these approaches would predict that sexual arousal is an intrinsic response to homosexual stimuli, whereas Barlow's (1986) theory would predict that sexual arousal to homosexual stimuli by homophobic individuals is a function of anxiety. These competing notions can and should be evaluated by future research.

The hypothesis that homophobic men are merely aggressive individuals is not supported by the present data. There were no differences in aggression scores between groups as measured by the Aggression Questionnaire. However, this questionnaire is a general measure of aggression and does not address the possibility of situational aggression or hostility where the situation involves homosexuality or interacting with a homosexual person. It is possible that aggressiveness in homophobic individuals is specific to homosexual cues.

These data also indicate that subjective estimates of arousal and erection are largely consistent with physiological indices of penile erections, with correlation coefficients ranging from .53 to .66. Because the relationships between subjective measures of erection and arousal were quite high, ranging from .78 to .95, it is likely that these two estimates are measures of similar or identical events. Most of these latter correlations were in the .90 range with the exception of nonhomophobic individuals' ratings of arousal and erection to homosexual stimuli, which was .78. As noted before, these results were probably due to the small penile responses to this stimulus, making subjective estimates more difficult and less consistent.

A major difficulty in this area of research is in defining and measuring homophobia. For example, with the scale used in the present study, we found it difficult to find heterosexual men who scored in the high-grade nonhomophobic range (0–25). Similarly, Hudson and Ricketts (1980) found that 56% of their sample scored in the homophobic range (i.e., > 51). This problem may be due to a high prevalence of homophobia; rather, it may be the result of the nature of this and similar scales. As O'Donahue and Caselles (1993) suggested, scales that assess homophobia measure only cognitive and affective components. The IHP and similar scales would be greatly strengthened by inclusion of a behavioral component that measures "fight or flight" reactions commonly found in phobia scales, such as the Fear Questionnaire (Marks & Mathews, 1978). Modification of these scales is needed and should include items that specifically assess actual or potentially aggressive or avoidant acts toward homosexual individuals or homosexual activities, as suggested by O'Donahue and Caselles (1993). In our opinion, negative attitudes and cognitions toward homosexuality are probably not sufficient to warrant the label of homophobia.

Future research should focus on several issues. First, more reliable scales for measuring homophobia should be devised that incorporate cognitive, affective, and behavioral components. Second, the issue of whether homophobic individuals meet the definitional criteria for simple phobia should be investigated by determining whether these individuals experience anxiety or avoidance when confronted with homosexual cues. Third, the issue of whether homophobia is specific to men or may also occur in women has not been addressed systematically, nor is it clear whether homophobic women may show sexual arousal to erotic lesbian stimuli. Fourth, it has been claimed that homophobic individuals have poor heterosexual adjustment, and this issue should be documented. With answers to these and similar issues, a clearer understanding of the nature of homophobia will be possible.

References


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