

Homosexuality as a Specific Risk Factor for Eating Disorders in Men

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Abstract: **Objective:** The current study examined whether homosexuality is a specific risk factor for disordered eating in men. **Method:** Men (64 heterosexual and 58 homosexual) completed the Beck Depression Inventory (BDI), the Rosenberg Self-Esteem Scale (RSE), the Masculinity and Femininity scales of the Bem Sex-Role Inventory (BSRI), the Bulimia Test-Revised (BULIT-R), the Eating Attitudes Test (EAT-26), and the Body Shape Questionnaire (BSQ). **Results:** Homosexual men had more pathological scores on the BDI, RSE, BULIT-R, EAT-26, and BSQ. Additionally, homosexual men reported greater discomfort with sexual orientation. After controlling for differences in depression, self-esteem, and comfort with sexual orientation, sexual orientation continued to account for significant variance in BULIT-R, EAT-26, and BSQ scores. **Discussion:** Future research may benefit from exploring aspects of homosexuality that may contribute specifically to risk for disordered eating in men. © 2002 by Wiley Periodicals, Inc. *Int J Eat Disord* 31: 300–306, 2002. DOI 10.1002/eat.10036

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Although anorexia and bulimia nervosa occur primarily in females, 10–15% of eating disorders occur in males (Carlat & Camargo, 1991). Research examining both sexes indicates that male sufferers are similar to female sufferers in terms of age of onset, dissatisfaction with current body shape, and weight control methods (Keel, Klump, Leon, & Fulkerson, 1998; Olivardia, Pope, Mangweth, & Hudson, 1995). Despite several similarities, homosexuality appears to be a unique risk factor for eating pathology in men (Beren, Hayden, Wilfley & Grilo, 1996; French, Story, Remafedi, & Resnick, 1996; Hefner, 1994; Williamson, 1999).

Among men suffering from eating disorders, 10–42% have identified themselves as homosexual or bisexual (Carlat, Camargo, & Herzog, 1997; Herzog, Norman, Gordon, & PePOSE, 1984; Mangweth et al., 1997; Olivardia et al., 1995), which is, on average, higher than the overall base rate of homosexuality in the male population (6%; Seidman & Rieder, 1994). Yager, Kurtzman, Landsverk, and Wiesmeier (1988) found that 2.1% of homosexual men could be diagnosed with a past eating disorder, compared to 0.33% of

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heterosexual men. Similarly, gay men have scored significantly higher on both the Eating Disorder Inventory Bulimia subscale (Siever, 1994) and the Eating Attitudes Test-26 (Williamson & Hartly, 1998). French et al. (1996) revealed striking differences between homosexual and heterosexual males in lifetime prevalence of recurrent binge-eating episodes (25% vs. 10%, respectively) and purging (11.7% vs. 4.4%, respectively). Gay males also have displayed a higher rate of body image disturbance compared to heterosexual males (Beren et al., 1996; French et al., 1996; Herzog, Newman, & Warshaw, 1991; Schneider, O'Leary, & Jenkins, 1995; Silberstein, Mishkind, Striegel-Moore, & Timko, 1989; Williamson & Hartley, 1998). Thus, research has indicated that gay men, compared to heterosexual men, display more behavioral and cognitive features of eating disorders. Some research (e.g., Brand, Rothblum, & Soloman, 1992; Pope, Hudson, & Jonas, 1986) has cast doubt on the association between male homosexuality and disordered eating. Schneider and colleagues (1995) found no significant difference between heterosexual and homosexual men on the Dietary Restraint and Disinhibition scales of the Three-Factor Eating Questionnaire. In addition, no significant differences in rates of homosexuality were found between eating disordered and non-eating disordered men in two studies (Olivardia et al., 1995; Mangweth et al., 1997).

Despite contradictory evidence, the majority of studies reviewed (12 of 16 studies) support a significant association between eating pathology and homosexuality in men. Furthermore, past failures to find a significant association may have been due to insufficient statistical power as studies supporting a significant association had a mean sample size nearly double that of studies that did not (approximately 120 vs. 65 subjects). Indeed, Mangweth et al. (1997) noted that, after including 50 American subjects from the Olivardia et al. (1995) study in their analysis, the differences in sexual orientation of the two groups went from near-significance ($p = .06$) to statistical significance ($p = .03$).¹ Therefore, homosexuality appears to be a risk factor for eating pathology in men.

While most studies suggest that homosexuality is a risk factor for disordered eating in men, it is unclear whether it is a specific risk factor for eating pathology, or a general risk factor for psychopathology. A specific risk factor for eating disorders would increase risk for eating disorders more than it would increase risk for other forms of psychopathology (e.g., depression). A general risk factor would increase risk for developing any psychiatric disorder, including, but not restricted to, eating disorders. If social stigmatization of homosexuality caused general psychological distress that expressed itself as discomfort with sexual orientation, poor self-esteem, depression, and disordered eating, then homosexuality might act as a general risk factor. Conversely, homosexuality might be related to factors that specifically increase risk for eating disorders, such factors might include increased feminine gender role identification (Murnen & Smolak, 1997) or increased pressure to maintain a thin physique to attract a male partner (Epel, Spanakos, Kasl-Godley, & Brownell, 1996).

The current study sought to determine if homosexuality is a specific risk factor for disordered eating in men. It was predicted that: (1) Homosexual men would report higher levels of disordered eating attitudes and behaviors compared to heterosexual men, and (2) Sexual orientation would contribute specifically to levels of eating pathology.

¹Note: Mangweth et al. (1997) included nonresponses within the count of individuals endorsing a homosexual or bisexual orientation. As there were more nonresponses among eating disordered men, this may have artificially increased the representation of homosexual/bisexual men in the eating disordered group. Recalculation of the association between sexual orientation and eating disorders from the Mangweth et al. (1997) and Olivardia et al. (1995) studies, including only those individuals who indicated their sexual orientation, reveals that significantly more men with eating disorders were homosexual or bisexual (11.5%) compared to non-eating disordered men (1.8%; $\chi^2(1) = 4.15, p < .05$).

METHOD

Participants

Men ($n = 122$) were recruited from the community via advertisement for heterosexual or homosexual men to participate in a study on sexual orientation and eating patterns. Potential participants completed a confidential telephone screen to ascertain sexual orientation. Subjects were classified as homosexual if they endorsed a homosexual orientation and reported no sexual contact with a member of the opposite sex over the past 2 years ($n = 58$). Subjects were classified as heterosexual if they endorsed a heterosexual orientation and reported no sexual contact with a member of the same sex over the past 2 years ($n = 64$). Individuals who reported a bisexual orientation or had engaged in sexual behavior incongruent with their reported sexual orientation were excluded from participation.

Age ranged from 18 to 50 years old. The mean age of the heterosexual group (26.11 ± 7.66 years) was significantly lower than the mean age of the homosexual group (29.09 ± 8.69 years; $t(120) = -2.01, p < .05$). The two groups did not differ significantly in demographic variables relating to ethnicity, body mass index, education, or socioeconomic status (all p -values $>.10$). Of those responding to the demographic questions, 71.3% ($n = 87$) were White, 7.4% ($n = 9$) African American, 6.6% ($n = 8$) Asian/Pacific Islander, 4.9% ($n = 6$) Hispanic, 0.8% ($n = 1$) Native American, 0.8% ($n = 1$) Middle Eastern, and 8.2% ($n = 10$) of mixed ethnicity. Mean (SD) body mass index was $24.6 (4.2)$ kg/m^2 . Of the participants, 17.4% ($n = 22$) completed a graduate degree, 68.6% ($n = 83$) completed a bachelor's degree, 13.2% ($n = 16$) obtained a high school diploma, and 0.8% ($n = 1$) did not complete high school. Occupational status of the group was distributed among professional (28.7%), administrative (18.9%), clerical/sales (19.7%), and student (32.8%). Significantly fewer homosexual men had ever been married (8.6%), compared to heterosexual men (26.6%; $\chi^2(1) = 6.62, p = .01$).

Procedure

Individuals who met participation criteria were mailed a packet, consisting of: (1) a consent form, (2) payment form, (3) all relevant surveys, and (4) two stamped addressed envelopes for returning consent and payment forms separately from questionnaires. Of the 154 individuals who were mailed an assessment packet, 122 (79.2%) returned the packet. Forms took approximately 30 minutes to complete. After the return of the questionnaires, a check for \$10 was mailed to participants. In addition, subjects were entered into a lottery with two \$200 prizes.

Participants completed a questionnaire that asked about age, height, weight, ethnicity, sexual orientation, educational level, occupational level, relationship status, age of identification of sexual orientation, and comfort level with sexual orientation (1 = Very Uncomfortable, and 6 = Very Comfortable). Participants also completed the following six standardized questionnaires: Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961); Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965); Bem Sex-Role Inventory (BSRI; Bem, 1974); Eating Attitudes Test-26 (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982); Bulimia Test-Revised (BULIT-R; Thelen, Farmer, Wonderlich, & Smith, 1991); and, the Body Shape Questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987). As the BULIT-R and BSQ were developed with females, some items were

altered to reflect the male population being tested. For example, in the BSQ question, "Has being with thin women made you feel self-conscious about your shape?" the word "women" was changed to "men." However, internal reliability remained high for both scales. For the current sample, Cronbach's α was .87 for the BDI, .89 for the RSE, .75 for the BRSI femininity scale, .89 for the BRSI masculinity scale, .89 for the EAT-26, .95 for the BULIT-R, and .96 for the BSQ.

Analyses

Analyses were conducted in SPSS for Macintosh. A p -value of .01 was set for statistical significance due to the large number of measures and resulting comparisons. Correlational analyses were conducted to assess associations between variables in the whole group. Given the significant difference in age between homosexual and heterosexual men, ANCOVAs were conducted with age as a covariate to assess differences between homosexual and heterosexual men on measures. However, results report unadjusted means for descriptive purposes. Variables that differed between the two groups and that significantly correlated with measures of eating pathology were entered as covariates for further analyses. This allowed the determination of whether general distress, as measured by lower self-esteem and greater depression, mediated differences in eating pathology between homosexual and heterosexual men. If covariates reflecting general psychopathology eliminate differences in eating pathology, then this would suggest that homosexuality is a general risk factor that does not specifically increase risk for disordered eating above that for other forms of psychopathology.

RESULTS

Table 1 presents correlations between variables measured for the full sample. Measures of disordered eating were highly correlated with depression and poor self-esteem. Further, while levels of femininity did not correlate significantly with any measure of pathology, lower levels of masculinity were associated with depression, worse self-esteem, and body dissatisfaction. Similarly, participants recording less comfort with their sexual orientation reported more depression, worse self-esteem, more anorexic symptoms, and greater body dissatisfaction.

Table 2 presents results from ANCOVAs assessing the effect of sexual orientation on measures of general distress and eating pathology, with age entered as a covariate.

Table 1. Pearson correlations for all variables

| | BDI | RSE | BULIT-R | EAT-26 | BSQ | BSRI-M | BSRI-F |
|---------|--------|--------|---------|--------|-------|--------|--------|
| RSE | -.58** | | | | | | |
| BULIT-R | .38** | -.35** | | | | | |
| EAT-26 | .31** | -.21* | .67** | | | | |
| BSQ | .48** | -.45** | .79** | .66** | | | |
| BSRI-M | -.45** | .56** | -.23 | -.06 | -.29* | | |
| BSRI-F | -.05 | .04 | -.08 | .03 | -.07 | .06 | |
| COMFOR | -.29* | .27* | -.21 | -.27** | -.29* | .13 | -.14 |

Note: BSRI-M represents the BSRI Masculinity subscale, and BSRI-F represents the BSRI Femininity subscale.
 $p < .01$; ** $p < .001$.

Sexual orientation accounted for a significant portion of variance in depression, self-esteem, comfort with sexual orientation, bulimic symptoms, anorexic symptoms, and body dissatisfaction. Homosexual men reported greater levels of distress and eating pathology, and less comfort with their sexual orientation compared to heterosexual men.

Because of significant differences in levels of depression, self-esteem, and sexual orientation comfort between the two groups, and the correlations between these measures and eating pathology, ANCOVAs were conducted on the BULIT-R, EAT-26, and BSQ scores, with age, BDI, RSE, and sexual orientation comfort scores entered as covariates. Sexual orientation continued to account for significant variance in bulimic symptoms ($F(1, 112) = 6.82; p = .01$), anorexic symptoms ($F(1, 113) = 13.46; p < .001$), and body dissatisfaction ($F(1, 112) = 18.11; p < .001$). Interestingly, sexual orientation did not account for significant variance in depression ($F(1, 114) = 2.50; p = .12$), self-esteem ($F(1, 113) = 0.21; p = .65$), or comfort with sexual orientation ($F(1, 112) = 4.05; p = .05$) after entering age, BULIT-R, EAT-26, and BSQ scores as covariates.


Applying a cut-off score of 102 for the BULIT-R suggested by Thelen et al. (1991), 8 homosexual men (13.8%) compared to no heterosexual men (0%) appeared to suffer from bulimia nervosa ($\chi^2(1) = 9.30, p = .002$). Similarly, 12 homosexual men (20.7%) compared to only one heterosexual man (1.6%) scored above the suggested cut-off score of 20 for the EAT-26 (Garner et al., 1982) indicative of anorexia nervosa ($\chi^2(1) = 11.69, p = .0006$). Finally, 7 homosexual men (12.1%) compared to no heterosexual men (0%) scored above the suggested cut-off score of 18 for the BDI (Coyne, 1994) characteristic of a major depressive episode ($\chi^2(1) = 8.19, p = .004$). Hierarchical loglinear analysis with backwards elimination was conducted including the following dichotomous variables in the model: scoring above or below the suggested cut-off scores for the BULIT-R, EAT-26, and BDI, and sexual orientation. The best-fitting model included the following two-way interactions: sexual orientation and BULIT-R scores (Likelihood ratio $\chi^2(1) = 4.77, p = .03$), sexual orientation and EAT-26 scores (Likelihood ratio $\chi^2(1) = 5.54, p = .02$), sexual orientation and BDI scores (Likelihood ratio $\chi^2(1) = 10.76, p = .001$), and BULIT-R scores and EAT-26 scores (Likelihood ratio $\chi^2(1) = 13.45, p = .0002$). Thus, the association between sexual orientation and eating disorders did not appear to be mediated by an association between sexual orientation and depression. 

Table 2. ANCOVAs (age as covariate) of measures of general psychological distress, eating pathology, and comfort with sexual orientation

| Measures | Sexual orientation | | <i>F</i> (1, 119) |
|----------------------|---------------------------|-------------------------|-------------------|
| | Heterosexual Mean (SD) | Homosexual Mean (SD) | |
| BDI | 5.44 (5.32) | 9.71 (6.71) | 16.26** |
| RSES ^a | 33.63 (3.96) | 31.16 (5.77) | 5.03* |
| BRSI-M | 99.41 (15.17) | 93.09 (14.58) | 4.60 |
| BRSI-F | 91.83 (10.83) | 92.05 (9.91) | 0.00 |
| COMFORT ^b | 5.66 (0.97) | 4.86 (1.28) | 13.40** |
| BULIT-R ^a | 52.15 (11.86) | 66.49 (25.88) | 13.13** |
| EAT-26 ^a | 5.03 (4.35) | 11.43 (8.91) | 23.97** |
| BSQ ^a | 59.53 (20.55) | 85.33 (28.71) | 31.15** |

^a*df* = 1,118.
^b*df* = 1,117.
p* < .01; *p* < .001.

DISCUSSION

The results of the current study indicate that homosexual men have greater body dissatisfaction and higher levels of bulimic and anorexic symptoms, compared to heterosexual men. These results are consistent with previous research finding an association between homosexuality and eating pathology in non-clinical male samples (Beren et al., 1996; French et al., 1996; Herzog et al., 1991; Schneider et al., 1995; Siever, 1994; Silberstein et al., 1989; Williamson & Hartley, 1998). In addition, homosexual men report higher depression, lower self-esteem, and less comfort with their sexual orientation. Although disordered eating was associated with these variables, sexual orientation continued to account for a significant portion of variance in measures of body dissatisfaction, anorexic and bulimic symptoms, after controlling for depression, self-esteem, and comfort with sexual orientation. Notably, the reverse was not true. That is, sexual orientation did not account for significant variance in depression, self-esteem, or comfort with sexual orientation after controlling for differences in age, body dissatisfaction, and anorexic and bulimic symptoms. The current study expands upon previous research by examining whether general psychopathology mediates differences in eating pathology seen in homosexual and heterosexual men. Because homosexual men report greater disordered eating, even after controlling for levels of general psychological distress, this suggests that homosexuality may be a specific risk factor for eating disorders in the male population.

There has been much speculation as to why there is increased disordered eating in gay men. One hypothesis focuses on gender role identification. In females, studies have associated eating pathology with increased femininity (for review, see Murnen & Smolak, 1997). However, the current study found that homosexual men did not report higher levels of femininity relative to heterosexual men. Furthermore, femininity did not correlate significantly with measures of eating pathology in men. Thus, the current study does not support identification with femininity as a factor contributing to a specific association between homosexuality and eating disorders in men.

Strengths of the current study include the large, diverse community-based sample, good response rate, and assurance of a clear, stable sexual orientation. Despite its strengths, the present study has limitations. The largest limitation is the use of a non-clinical sample to assess the relationship between eating pathology and sexual orientation. Although some research supports a continuum model for eating pathology (e.g., Kendler et al., 1991), other research does not (e.g., Gleaves, Lowe, Snow, Green, & Murphy-Eberenz, 2000). A more rigorous study design could compare men with general psychiatric disorders, men with eating disorders, and men with no psychiatric disorders to explore whether homosexuality is a specific risk factor for eating disorders in men. A second limitation was the use of depression, self-esteem, and comfort with sexual orientation as measures of general psychological distress as these may represent different rather than more general sources of distress. Our hope was that, in combination, these measures might reflect general psychological distress. In conclusion, the present study supports a specific association between eating pathology and male homosexuality. Future studies may benefit from exploring aspects of homosexuality that contribute specifically to risk for disordered eating in men. Such research may help increase awareness of disordered eating in men and identify targets for prevention and intervention efforts.

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