REGULAR ARTICLE

# Eating Disorders in Diverse Lesbian, Gay, and Bisexual Populations

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**ABSTRACT**

**Objective:** This study estimates the prevalence of eating disorders in lesbian, gay, and bisexual (LGB) men and women, and examines the association between participation in the gay community and eating disorder prevalence in gay and bisexual men.

**Method:** One hundred and twenty six white heterosexuals and 388 white, black, Latino LGB men and women were sampled from community venues. DSM-IV diagnoses of anorexia, bulimia, and binge eating disorder were assessed using the World Health Organization's Composite International Diagnostic Interview.

**Results:** Gay and bisexual men had significantly higher prevalence estimates of eating disorders than heterosexual men. There were no differences in eating disorder prevalence between lesbian and bisexual women and heterosexual women, or across gender or racial groups. Attending a gay recreational group was significantly related to eating disorder prevalence in gay and bisexual men.

**Conclusion:** Researchers should study the causes of the high prevalence of eating disorders among gay and bisexual men. © 2007 by Wiley Periodicals, Inc.

**Keywords:** gay; lesbian; sexuality; community

*(Int J Eat Disord 2007; 40:218–226)*

## Introduction

National population-based studies have found that eating disorders affect 1–3% of women and less than 0.5% of men,[1–3] except for binge eating disorder which was found to affect 2% of the men in the study by Hudson et al.[3] Although anorexia and bulimia nervosa occur primarily in women, 5–20% of people with eating disorders are men.[4–6] Studies suggest that a disproportionate number of these men are gay and bisexual. In both community[7] and clinical[8,9] samples of men with eating disorders, 14–42%—compared with about 3% of the U.S. male population[10]—are gay or bisexual. Consistent with these findings, studies have found that compared with heterosexual men, gay and bisexual men have more behavioral symptoms indicative of eating disorders.[8,9,11–18] For example, Strong et al.[19] found that the proportion of gay and bisexual men with symptoms related to disordered eating was 10 times higher than among heterosexual men (10 and 1%, respectively).

One prominent explanation for the high prevalence of eating disorders among gay and bisexual men can be referred to as the *sociocultural perspective*. The sociocultural perspective implicates social and cultural values and norms that advance notions of an ideal body image that are unobtainable by many,[20] which can influence self-esteem and attitudes towards eating and food.[21] Thus, the perspective posits that gay and bisexual men are affected by social norms and values that guide cultural notions of beauty. Gay and bisexual men aim to sexually attract men, and therefore, they are subject to similar pressures and demands as heterosexual women. For example, Siever[13] suggested that gay and bisexual men are more likely than heterosexual men to view their bodies as sexual objects, and therefore, like heterosexual women, may be more vulnerable to experiencing body dissatisfaction. Gay culture and the gay community have also been implicated in this hypothesis. It has been suggested that values and norms in the gay male community place a heightened focus on physical appearance to which men may feel pressured to conform.[16,22,23] Others, however, have suggested

Accepted 20 November 2006
Supported by 5T32 DA07233 from National Institute on Drug Abuse.
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Published online 29 January 2007 in Wiley InterScience (www.interscience.wiley.com). DOI: 10.1002/eat.20360

that participation in the gay community (e.g., attending gay-affirmative events like "Pride") provides support that may *protect* men from developing eating disorders.[24]

Applying the sociocultural perspective to lesbian and bisexual women, researchers have proposed that they may be *less* prone to eating disorders because they do not share with heterosexual women the standards of feminine beauty espoused by Western culture. In support, some studies have shown that lesbians and bisexual women have lower levels of body dissatisfaction than heterosexual women,[13,25,26] and that lesbians who are socially more involved with other lesbians have a more positive body image.[27,28] Other studies, however, found no differences between lesbians and heterosexual women in body dissatisfaction.[22,27,29] Similarly, some studies found that lesbians and bisexual women had fewer symptoms of eating disorders than heterosexual women,[12,13,19,30] but others found no differences between lesbian and bisexual women and heterosexual women.[31] Finally, one study found higher levels of eating disorders in lesbians compared with heterosexual women.[18]

Despite the interest in the question of eating disorders in lesbians, gay men, and bisexuals (LGB) and the relevance of this question to the study of health disparities related to sexual orientation,[32] existing studies have serious limitations. First, to date no study has assessed the prevalence of eating disorders in LGB populations using DSM criteria. Instead, studies have used measures of body dissatisfaction[22] or symptoms of eating disorders[11] that may suggest the presence of an eating disorder, but do not provide evidence of a clinical diagnosis. Exceptions are Herzog et al.[8] and Carlat et al.[9] who used DSM criteria to diagnose participants with eating disorders, but these used clinical samples that cannot provide population prevalence estimates.

Second, existing studies have used primarily two types of samples: college students[30] and clinical samples.[9] Both types of samples are likely to be biased. The former typically recruits volunteers by describing the study's focus on disordered eating and body satisfaction. Such samples may overrepresent volunteers whose interest in the topic is motivated by having greater difficulties around eating disorders than nonvolunteers. The latter, clinical samples, may overestimate disorder prevalence in gay and bisexual men if they are more likely then heterosexual men to be treated for mental disorders—something that has been documented in numerous studies.[33]

Third, to date no study has assessed racial/ethnic variability in eating disorders among LGB subpopulations. Assessing racial/ethnic variation in eating disorders is important because, although inconclusive, recent research among heterosexual women has suggested that there are fewer differences among racial groups in levels of eating disordered behavior than was previously thought.[34,35]

The current study fills gaps in our knowledge of eating disorders in LGB populations. It is the first study to assess DSM-IV diagnostic categories in a community-based sample and to report on variation in eating disorders among white, black, and Latino LGB individuals. We tested the hypotheses that gay and bisexual men have a higher prevalence of eating disorders than heterosexual men, and lesbian and bisexual women have a lower prevalence of eating disorders than heterosexual women. We also tested differences in the prevalence of eating disorders among LGB individuals across the dimensions of race, age, and sexual identity.

Finally, following the sociocultural perspective, we hypothesized that among gay and bisexual men, participation in body or appearance focused organizations in the gay community is associated with increased risk for eating disorders. Therefore, men who participate in organizations that emphasize physical appearance (e.g., a gay gym or sports team) will have a higher prevalence of eating disorders than men who are not affiliated with such organizations in the gay community.

## Method

### *Sampling*

We used a venue-based sampling of both LGB and straight respondents. Venues were selected following ethnographic immersion into the communities of interest by the field director and outreach workers. Sampling venues were selected to ensure a wide diversity of cultural, political, ethnic, and sexual representation within the demographics of interest. Respondents were sampled in diverse New York City venues (e.g., business establishments, such as bookstores and cafes, social groups, outdoor areas, such as parks, and snowball referrals). Recruitment was done by outreach workers who approached potential study participants and invited them to participate in the study, described as concerning the health of "New York City communities," in venues that were primarily nongay, or the health of "LGB communities," in venues that catered primarily to LGB individuals. To reduce bias, venues were excluded from our venue-sampling frame if they were likely to over- or underrepresent people receiving support for mental health problems (e.g., 12-step programs, HIV/AIDS treat-

ment facilities), or significant life events (e.g., organizations that provide services to people who have experienced domestic violence).

Between February 2004 and January 2005, 25 outreach workers visited a total of 274 venues in 32 different New York City zip codes. Recruiters first completed a brief screening form for each potential respondent that would determine eligibility for participation in the study. Respondents were eligible if they were 18–59 years old, New York City residents for 2 years or more, and self-identified as: (a) heterosexual or lesbian, gay, or bisexual; (b) male or female; and (c) white, black, or Latino (respondents may have used other identity terms in referring to these social groups). Because the study design called for a comparison of LGB groups with white heterosexuals, no black or Latino heterosexual respondents were included. We used quota sampling to ensure approximately equivalent numbers of respondents of similar age, across gender and race/ethnicity. Eligible respondents were contacted by trained research interviewers and invited to participate in a face-to-face interview. The cooperation rate for the study was 79% and the response rate was 60%.[36] Response and cooperation rates did not vary greatly by gender, race, and sexual orientation. Recruitment efforts were successful at reaching individuals who resided in diverse New York City neighborhoods and avoiding concentration in particular "gay neighborhoods" that is often characteristic of sampling of LGB populations. Interviewed individuals resided in 128 different New York City zip codes and no more than 3.8% of the sample resided in any one zip code area.

### Participants

A total of 524 eligible respondents were interviewed in person. The sample of 396 LGB respondents included equal numbers of white (34%, $n = 134$), Black (33%, $n = 131$), and Latino (33%, $n = 131$) as well as equal numbers of men (50%, $n = 198$) and women. The heterosexual comparison group consisted of 128 white men (51%, $n = 65$) and women (49%, $n = 63$). The mean age of the respondents was 32 (SD = 9). Nineteen percent had education equal to or less than a high school diploma ($n = 97$); 52% had a negative net worth (they owed more than their total assets); and 16% ($n = 83$) were unemployed. Some notable demographic differences existed among the subgroups in the sample defined by race/ethnicity, gender, and sexual orientation. The Latina lesbians/bisexual women were the least educated (30%, $n = 20$ having a high school diploma or less); the Black lesbian/bisexual women had the highest instance of negative net worth (73%, $n = 45$); and the straight white men had the highest rate of unemployment (25%, $n = 18$). This analysis is based on 516 (128 heterosexual and 388 LGB) respondents who completed the World Mental Health Composite International Diagnostic (WHM-CIDI).

Interviews lasted a mean of 3.8 h (SD = 55 min). Respondents were paid $80 for their participation in the study. The research protocol was reviewed by the Western Institutional Review Board. Respondents signed a written informed consent after the study procedure had been fully explained to them.

### Measures

Diagnoses were made using the computer-assisted personal interview version 19 of the WMH-CIDI, a fully structured measure used in the National Comorbidity Study (www.hcp.med.harvard.edu/ncs).[37,38] We assessed the presence of both lifetime and current (12 months) eating disorders, including full syndrome anorexia, bulimia, and binge eating disorder. To classify participants, we used the algorithms from Hudson et al.'s[3] study of the prevalence of eating disorders in the National Comorbidity Survey Replication (www.hcp.med.harvard.edu/ncs/eating.php) with one exception. For Criterion D for bulimia, we only used EA17f (did you feel like your self-esteem and confidence depended on your weight or body shape?), which Hudson et al. acknowledge would be the stricter interpretation of this criterion (see Appendix).

Although most of the CIDI questions reflected the DSM-IV criteria, Hudson et al.[3] identified two exceptions. To meet the criteria for binge eating disorder, the DSM-IV requires a minimum of 6 months of regular binge eating episodes, while the CIDI asked only whether the individual experienced 3 months of symptoms. Therefore, participants who reported more than 3 months of symptoms, but less than 6 months of regular binge eating, would be classified as having binge eating disorder according to this algorithm, but not the DSM-IV criteria. Also, for eating binges in bulimia and binge eating disorders, the DSM-IV requires an assessment of loss of control. For binge eating disorder, the DSM-IV further requires an assessment of marked distress. These items were assessed in the CIDI by a series of questions about attitudes and behaviors that are indicators of loss of control and distress, rather than by direct questions.

Consistent with others,[6,39] we also defined subclinical anorexia as (a) having a fear or gaining weight or becoming fat and (b) experiencing disturbance in how one perceives their body (see Appendix). Subclinical bulimia was defined using the same criteria as full syndrome bulimia except there was no requirement regarding the frequency of binging and compensatory behavior. We also used Hudson et al.'s[3] algorithm for subclinical binge eating disorder, which was defined as binge eating episodes that occur at least twice a week for at least 3 months, and not during the course of anorexia, bulimia, or full syndrome binge eating disorder. All of the subclinical diagnosis categories included full syndrome and subthreshold cases. We used this expanded category in this study because the eating disorder literature has suggested

**TABLE 1. Lifetime prevalence estimates (and standard errors) of full syndrome and subclinical[a] eating disorders in diverse New York City populations ($n = 516$)**

| | Lifetime Prevalence Estimates | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Men | | | | | Women | | | | |
| | Gay and Bisexual | | | | Heterosexual | Gay and Bisexual | | | | Heterosexual |
| Diagnosis | White ($n = 65$) | Black ($n = 64$) | Latino ($n = 64$) | All Gay and Bisexual Men ($n = 193$) | White ($n = 65$) | White ($n = 67$) | Black ($n = 64$) | Latino ($n = 64$) | All Lesbian and Bisexual Women ($n = 195$) | White ($n = 63$) |
| Full syndrome anorexia | 1.5 (1.5)[b] | 1.6 (1.5) | 0 (NA) | 1 (.7) | 0 (NA) | 0 (NA) | 0 (NA) | 0 (NA) | 0 (NA) | 0 (NA) |
| Full syndrome bulimia | 4.6 (2.6) | 4.7 (2.6) | 9.4 (3.6) | 6.2 (1.7) | 0 (NA) | 4.5 (2.5) | 3.1 (2.2) | 6.3 (3) | 4.6 (1.5) | 3.2 (2.2) |
| Full syndrome binge eating | 1.5 (1.5) | 4.7 (2.6) | 9.4 (3.6) | 5.2 (1.6) | 1.5 (1.5) | 4.5 (2.5) | 1.6 (1.5) | 7.8 (3.3) | 4.6 (1.5) | 1.6 (1.6) |
| Any full syndrome eating disorder | 7.7 (3.3) | 7.8 (3.3) | 11 (4) | 8.8 (2) | 1.5 (1.5) | 7.5 (3.2) | 3.1 (2.1) | 11 (4) | 7.2 (2) | 4.8 (2) |
| Subclinical anorexia | 1.5 (1.5) | 4.7 (2.6) | 3.1 (2.2) | 3.1 (2.1) | 0 (NA) | 0 (NA) | 0 (NA) | 0 (NA) | 0 (NA) | 3.2 (2) |
| Subclinical bulimia | 7.7 (3.3) | 4.7 (2.6) | 15.6 (4.5) | 9.3 (2) | 0 (NA) | 6 (3) | 3.1 (2.2) | 7.8 (3.3) | 5.6 (1.6) | 4.8 (2.7) |
| Subclinical binge eating | 6.2 (3) | 11 (4) | 11 (4) | 9.3 (2) | 4.6 (2.6) | 4.5 (2.5) | 3.1 (2.1) | 11 (4) | 6.2 (1.7) | 1.6 (1.6) |
| Any subclinical eating disorder | 12.3 (4) | 15.6 (4.5) | 18.8 (5) | 15.5 (2.6) | 4.6 (2.6) | 9 (3.5) | 4.7 (2.6) | 15.6 (4.5) | 9.7 (2.1) | 8 (3.4) |

[a] Subclinical categories include cases who also met criteria for full syndrome disorders.
[b] Values in parentheses indicate standard errors.

that the full syndrome diagnosis criteria may be too restrictive.[40,41]

Three measures assessing participation in the gay community were used for analysis of the gay and bisexual male subgroups. First, we used a collective membership self-esteem subscale[42] that included four items, such as "I am a worthy member of the social groups I belong to." Respondents rated the extent to which they agreed on a scale of one (strongly agree) to seven (strongly disagree) (Cronbach's $\alpha = 0.78$). Second, attendance at a gym and/or recreational organization (e.g., sports team) that is heavily attended by other gay and bisexual men was measured as a dichotomous variable with "1" indicating attendance. Third, participation in gay or bisexual groups and organizations was measured as the percentage of professional, recreational, religious, political, and/or charitable organizations (excluding those whose function is the treatment of disorders) that the respondent belonged to that were heavily attended by other gay or bisexual men.

**Sociodemographic Correlates.** This included gender, race/ethnicity (white, black/African American, or Latino/Hispanic/Spanish), sexual orientation (heterosexual, gay, lesbian, or bisexual), and age (18–29 and 30–59 years old).

### *Statistical Analysis*

To test the first two hypotheses about prevalence of disorders, we estimated lifetime prevalence and standard errors, and tested differences between heterosexual and gay, lesbian, and bisexual men and women. We also tested differences among LGB subgroups for full syndrome and subclinical anorexia, bulimia, and binge eating disorder. To test the community participation hypothesis, we examined among gay and bisexual men the relationships between the three measures of participation in the community and presence of current (12-months) disorders. In all these analyses, except for full syndrome anorexia or bulimia, we present the odds ratios (ORs) and 95% confidence intervals (CIs). Because there were no heterosexual men with full syndrome anorexia or bulimia, we used Fisher's exact test to assess differences between heterosexual and gay/bisexual men. Some sociodemographic differences among subgroups, for example, that Black and Latino respondents had lower indicators of SES (mentioned earlier), reflect population differences between the groups. The sample is similar to the New York City population, therefore we did not control for SES in the analyses.[43] However, our subgroup of white heterosexual men had higher than expected prevalence of unemployment, which may be related to sampling bias. To test the impact of this potential bias on our results we controlled for unemployment in all logistic regression analyses. Because none of these results dif-

**TABLE 2. Differences in prevalence of lifetime full syndrome and subclinical[a] eating disorders in diverse New York City populations by sexual orientation, gender, race/ethnicity, age, and sexual identity[b,c]**

| | Full Syndrome | | | | Subclinical | | | |
|---|---|---|---|---|---|---|---|---|
| | Anorexia | Bulimia | Binge Eating | Any Eating Disorder | Anorexia | Bulimia | Binge Eating | Any Subclinical Eating Disorder |
| **a. Lesbians, gay men, and bisexuals versus heterosexuals (n = 516)** | | | | | | | | |
| Sexual orientation by gender | | | | | | | | |
| Men | | | | | | | | |
| Gay/bisexual | $\chi^2 = .67$, $p = 1.0$ | $\chi^2 = 4.2$, $p = .04$ | 3.5 (0.4, 28) | 6.1 (0.8, 47.4) | $\chi^2 = 2.06$, $p = .34$ | $\chi^2 = 6.5$, $p = .009$ | 2.1 (0.6, 7.4) | 3.8 (1.1, 13) |
| Heterosexual | | | 1.0 | 1.0 | | | 1.0 | 1.0 |
| Women | | | | | | | | |
| Lesbian/bisexual | NA | 1.5 (0.3, 7) | 3.0 (0.4, 24.1) | 1.5 (0.4, 5.5) | $\chi^2 = 6.24$, $p = .06$ | 1.2 (0.3, 4.4) | 4.0 (0.5, 32) | 1.2 (0.4, 3.5) |
| Heterosexual | | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| **b. Lesbian, gay, and bisexual subgroups (n = 388)** | | | | | | | | |
| Gender | | | | | | | | |
| Male | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Female | NA | 0.7 (0.3, 1.7) | 0.88 (0.35, 2.23) | 0.80 (0.43, 1.67) | NA | 0.6 (0.2, 1.2) | 0.64 (0.29, 1.36) | 0.58 (0.32, 1.08) |
| Race/ethnicity | | | | | | | | |
| White | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Black | 1.0 (0.06, 16.6) | 0.8 (0.2, 2.8) | 1.03 (0.25, 4.21) | 0.70 (0.26, 1.91) | 3.1 (0.3, 30.6) | 0.5 (0.1, 1.7) | 1.35 (0.48, 3.74) | 0.95 (0.43, 2.11) |
| Latino | NA | 1.7 (0.6, 5.0) | 3.0 (0.93, 9.70) | 1.49 (0.64, 3.50) | 2.0 (0.2, 23.2) | 1.8 (0.7, 4.3) | 2.19 (0.85, 5.62) | 1.75 (0.85, 3.59) |
| Sexual identity | | | | | | | | |
| Gay/lesbian | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Bisexual | 4.6 (0.3, 74.3) | 1.4 (0.5, 4.1) | 1.22 (0.39, 3.80) | 1.65 (0.70, 3.87) | 2.3 (0.4, 12.8) | 1.8 (0.7, 4.3) | 1.15 (0.45, 2.92) | 1.78 (0.89, 3.58) |
| Age | | | | | | | | |
| 30–59 years | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 18–29 years | NA | 2.1 (0.8, 5.4) | 1.15 (0.46, 2.90) | 1.70 (0.80, 3.61) | 1.0 (0.2, 5.1) | 3.0 (1.2, 6.7) | 0.77 (0.36, 1.64) | 1.31 (0.71, 2.39) |

[a] Subclinical categories include cases who also met criteria for full syndrome disorders.
[b] Fisher's exact test and probability values are provided where a comparison group had 0 cases.
[c] Values given indicate odds ratios (95% confidence intervals).

**TABLE 3. Current (1 year) and lifetime full syndrome and subclinical[a] eating disorders by community participation in gay and bisexual men[b] ($n$ = 193)**

| | Current (12 months) | | Lifetime | |
|---|---|---|---|---|
| | Full Syndrome | Subclinical | Full Syndrome | Subclinical |
| Collective self-esteem (membership) | 0.79 (0.41, 1.52) | 0.65 (0.40, 1.05) | 0.69 (0.45, 1.08) | 0.72 (0.51, 1.02) |
| % of organizations that are LGB | 1.01 (.99, 1.04) | 1.01 (0.99, 1.03) | 1.00 (0.98, 1.01) | 1.00 (0.99, 1.01) |
| Gym membership | | | | |
| No | 1.0 | 1.0 | 1.0 | 1.0 |
| Nongay gym | 0.62 (0.05, 7.07) | 0.48 (0.09, 2.61) | 0.70 (0.19, 2.52) | 0.86 (0.30, 2.44) |
| Gay gym | 2.33 (0.41, 13.19) | 1.64 (0.49, 5.46) | 0.96 (0.30, 3.02) | 1.58 (0.64, 3.90) |
| Member of a gay professional organization | | | | |
| No | 1.0 | 1.0 | 1.0 | 1.0 |
| Yes | 0.39 (0.04, 3.37) | 1.39 (0.44, 4.36) | 0.73 (0.22, 2.35) | 1.2 7(0.55, 2.92) |
| Member of a gay recreation organization | | | | |
| No | 1.0 | 1.0 | 1.0 | 1.0 |
| Yes | 3.46 (0.65, 18.30) | 3.63 (1.09, 12.02) | 1.55 (0.57, 4.20) | 1.39 (0.64, 3.05) |
| Member of a religious organization | | | | |
| No | 1.0 | 1.0 | 1.0 | 1.0 |
| Yes | 1.07 (0.12, 9.29) | 1.07 (0.22, 5.11) | 1.42 (0.38, 5.34) | 1.35 (0.46, 3.92) |
| Member of a gay political organization | | | | |
| No | 1.0 | 1.0 | 1.0 | 1.0 |
| Yes | 0.52 (0.61, 4.45) | 0.86 (0.23, 3.23) | 0.66 (0.18, 2.41) | 0.77 (0.29, 2.01) |
| Member of a gay charity organization | | | | |
| No | 1.0 | 1.0 | 1.0 | 1.0 |
| Yes | 2.28 (0.49, 10.57) | 1.70 (0.54, 5.35) | 0.89 (0.28, 2.88) | 1.60 (0.68, 3.68) |

[a] Subclinical categories include cases who also met criteria for full syndrome disorders.
[b] Values given indicate odds ratios (95% confidence intervals).

fered from the uncontrolled results we present the unadjusted ORs. Data were analyzed using logistic regression and crosstabluation procedures in the SPSS statistical software (version 13.0).

## Results

### *Eating Disorder Prevalence*

In **Table 1** we present the lifetime prevalence estimates and standard errors for eating disorders in LGB and heterosexual respondents. Tests of differences between LGB and heterosexual respondents by gender are displayed in **Table 2**, section a. Compared with heterosexual men, gay and bisexual men had a significantly higher prevalence of lifetime full syndrome bulimia, subclinical bulimia, and any subclinical eating disorder. There were no significant differences between heterosexual women and lesbians and bisexual women in the prevalence of any of the eating disorders.

We also tested differences among LGB subgroups as shown in **Table 2**, section b. We found no significant differences in the lifetime prevalence of any of the eating disorder categories between white LGBs and black and Latino LGBs. Despite the finding that there were no significant race/ethnic differences among the LGB subgroups, it is notable that Latino and black LGB men and women had particularly a high prevalence of eating disorders, including subclinical bulimia, and any subclinical eating disorder (see **Table 1**).

Also, among the LGB participants, we found no differences in the prevalence of any of the eating disorders between women and men, or between respondents who had a bisexual versus a gay or lesbian identity. Respondents aged 18–29 were significantly more likely than those aged 30–59 to have subclinical bulimia.

### *Participation in the Gay Community and Eating Disorders in Gay and Bisexual Men*

We tested the association of participation in the gay community and the prevalence of current (12 months) eating disorders in gay and bisexual men ($n$ = 193), and the results are presented in **Table 3**. There were no significant associations between the prevalence of current full syndrome eating disorders and any of the measures of participation in the gay community, but we found that, compared with nonparticipants, respondents who participated in a gay recreational organization or group had a significantly higher prevalence of current subclinical eating disorders, including anorexia, bulimia, and/or binge eating disorder. But other results did not concur. Respondents who were members of gyms—whether those gyms had a primarily gay clientele or not—did not differ from respondents who were not members of a gym. Similarly, there was no association between the prevalence of current eating disorders and the percent-

age of LGB-affiliated group and organizations of total number of groups and organizations the respondent belong to memberships.

## Conclusion

Our study is the first to assess DSM diagnostic categories, rather than use measures that may be indicative of eating disorders (e.g., eating disorder symptoms), in community-based ethnically/racially diverse populations. We found that gay and bisexual men have a higher prevalence of eating disorders than heterosexual men, which is consistent with our hypothesis based on the sociocultural perspective and with reports in the literature. [8,9,11–19,44]

We also found that the prevalence of eating disorders among lesbians and bisexual women is comparable to heterosexual women. Past research on lesbians and eating disorders has yielded mixed results. Some studies have found that lesbians have fewer eating disorder symptoms then heterosexual women,[12,13,19,30] but others have found no significant differences between the groups.[31] Our findings support Share and Mintz[31] who suggested that lesbians and bisexual women may not be immune to the high body image standards that our culture sets for women, and are therefore at risk for eating disorders just like their heterosexual peers.

We also found that the younger LGB men and women (18–29 years old) were more likely to have subclinical bulimia compared with the older LGB participants (30–59 years old), which is consistent with prior research.[45] This may be due to a cohort effect that suggests that the younger generation of men and women are more vulnerable to sociocultural messages about appearance.[46] Our finding that Black and Latino LGBs have at least as high a prevalence of eating disorders as white LGBs is of particular interest because racial/ethnic variability in eating disorders among LGB individuals has not yet been studied. Even among heterosexual racial/ethnic minority groups, eating disorders have not been examined sufficiently. The little research that exists shows conflicting results with some studies showing that racial/ethnic minorities are at lower risk for eating disorders,[47] while others show that there are few differences among ethnic/racial groups in the prevalence of anorexia and bulimia.[34,35]

To test hypotheses based on the sociocultural perspective that, among gay and bisexual men, participation in the gay community may contribute to the prevalence of eating disorders, we tested the relationship of several factors related to participation with the gay community and lifetime and 1-year prevalence of eating disorders. Our findings are not consistent with the hypothesis with one exception. Participation in gay recreational groups was related to a higher prevalence of current subclinical eating disorders. However, several other measures of participation in the gay community did not yield a similar conclusion. For example, a sense of connectedness to the gay community was related to fewer current eating disorders, which suggests that feeling connected to the gay community may have a protective effect against eating disorders. This is an area that will need further exploration, using measures that more accurately reflect the construct implied by the hypothesis. It may be that how the gay/bisexual man is connected to the gay community, in addition to his feelings and perception of that connection, impacts the prevalence of eating disorders in this population.

These findings should be interpreted in the context of two major limitations. First, our data are based on nonprobability sampling which may bias our results. Of greatest concern would be a bias that led to over- or underrepresentation of individuals with eating disorders. Our sampling strategy was designed to minimize such bias and is a great improvement over current studies of LGB populations whose study volunteers may have been motivated by having greater difficulties around body image and eating disorders than nonvolunteers. A second major limitation is that our sample size was not as large as would be optimal to study eating disorders, particularly because eating disorders have a low base rate in the general population. As a result, we report large and sometimes unstable standard errors and CIs. This is most pronounced in the group of heterosexual men. Although this may have led us to misidentify some associations, it should not affect the findings that were significant, or our conclusion about the prevalence of eating disorder among LGB men and women.

Our results suggest that clinicians and public health practitioners working with gay and bisexual men need to be aware of the clinical manifestations of eating disorders. They should avoid commonly held conventions that lesbian and bisexual women are less vulnerable to eating disorders than heterosexual women, and similarly that racial/ethnic minorities are less vulnerable than whites. Clinicians should be particularly attentive to younger LGB clients who are at an increased risk for eating disorders.

**Appendix: Operationalizations in the CIDI of Criteria for Subclinical Anorexia and Bulimia**

| Criteria | Operationalization from CIDI |
|---|---|
| Subclinical Anorexia | |
| Intense fear of gaining weight or becoming fat, even though underweight | Yes on EA6:<br>At the time you weighed (weight reported in EA2) were you very afraid that you might gain weight? |
| Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low-body weight | Yes on at least one of the following four questions:<br>EA10: Did you feel like you were heavier than you should have been or heavier than you wanted to be?<br>EA10b: Did you think some parts of your body were too fat?<br>EA10c: Did you feel like your self-esteem or confidence depended on your ability to stay thin or to lose even more weight?<br>EA10d: Did anyone tell you that your low weight was bad for your health? |
| Full Syndrome Bulimia | |
| Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following: | |
| (1) Eating, in a discrete period of time (e.g., within any 2-h period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances. | (1) Yes on EA16:<br>The next question is about "eating binges" when a person eats a large amount of food during a short period like 2 h. By a "large amount" I mean eating so much food that it would be like eating two or more entire meals in one sitting, or eating so much of one particular food—like candy or ice cream—that it would make most people feel sick. With that definition mind, did you ever have a time in your life when you went on eating binges at least twice a week for several months or longer? |
| (2) A sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating). | (2) Yes on at least one of the following four questions indicative of loss of control:<br>EA17a: Did you eat until you felt uncomfortably full?<br>EA17b: Did you usually continue to eat even when you did not feel hungry?<br>EA17c: Did you usually eat alone because you were embarrassed by how much you ate?<br>EA17h: Did you often get upset both during and after binges that your eating was out of your control? |
| Recurrent inappropriate compensatory behavior in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, enemas, or other medications; fasting, or excessive exercise. | Yes on at least one of the following:<br>Did you ever do any of the following things regularly after binging in order to control your weight:<br>EA23a: Did you fast by not eating at all or only taking liquids for 8 h or longer?<br>EA23b: Did you take water pills, diuretics, or weight-control medicines?<br>EA23c: Did you make yourself vomit?<br>EA23d: Did you take laxatives or enemas?<br>EA23e: Did you exercise excessively? |
| Self-evaluation is unduly influenced by body shape and weight. | Yes on EA17f:<br>Did you feel like your self-esteem and confidence depended on your weight and body shape? |
| The disturbance does not occur exclusively during episodes of anorexia nervosa. | In cases that met criteria for anorexia nervosa, as defined above, there was evidence that bulimia nervosa was present at times when anorexia nervosa was absent, as evidenced by:<br>(1) Onset of compensatory behaviors twice weekly or more associated with binge eating at least one year prior to onset of anorexia nervosa;<br>(2) Most recent compensatory activities twice weekly or more associated with binge eating at least 1 year after most recent episode of anorexia nervosa; or<br>(3) Total duration of regular compensatory behaviors associated with binge eating that was at least 1 year longer than the period encompassed by anorexia nervosa. |

The paper reports on results from a study funded by NIMH (R01-MH066058, "Minority Stress, Identity, and Mental Health," Principal Investigator: Ilan H. Meyer, Ph.D.). Matthew B. Feldman was supported as a postdoctoral fellow in the Behavioral Sciences Training in Drug Abuse Research program sponsored by Medical and Health Research Association of New York City, Inc. (MHRA) and the National Development and Research Institutes, Inc. (NDRI). The authors thank Greg Falkin and Anna Keski-Rahkonen for their valuable comments on earlier drafts of this manuscript.

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