

# Body-Image Dissatisfaction in Gay Versus Heterosexual Men: Is There Really a Difference?

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**Background:** Gay men are thought to experience body-image concerns or disorders more frequently than heterosexual men. It is unclear, however, whether these putative concerns are due to *unrealistic body ideals* (aspiring to a body shape that is difficult or impossible to attain), *body-image distortion* (misperceiving the actual shape of one's body), or both.

**Method:** We administered a well-established computerized body-image test, the "somatomorphic matrix," to 37 gay men recruited from the community in April 1999 and compared the results with previous data from 49 community-recruited heterosexual comparison men and 24 clinic-recruited heterosexual men with eating disorders.

**Results:** Gay men were indistinguishable from the community-recruited heterosexual comparison men on measures of both body ideals and body-image distortion. By contrast, eating-disordered men were significantly distinguishable from both other groups on body-image distortion. The lack of differences between community gay and heterosexual men on body-image indices seems unlikely to represent a type II error, since the somatomorphic matrix showed ample power to detect abnormalities in the eating-disordered men, despite the smaller sample size of the latter group.

**Conclusion:** Contrary to our hypotheses, gay men did not differ significantly from heterosexual men on measures of body image. These unexpected findings cast doubt on the widespread belief that gay men experience greater body-image dissatisfaction than heterosexual men. If our findings are valid, it follows that some previous studies of body image in gay men may possibly have been influenced by selection bias.

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Many people are dissatisfied with the appearance of their bodies.<sup>1</sup> For example, some individuals—especially women—are concerned that they are not sufficiently thin<sup>2</sup>; others—especially men—are concerned that they are not sufficiently muscular.<sup>3</sup> These types of body dissatisfaction may arise for either of 2 reasons: an *unrealistic body ideal* (aspiring to a degree of thinness or muscularity that one cannot easily attain) or a *body-image distortion* (misperceiving one's actual degree of fatness or muscularity). For example, in a previous study comparing women dieters with nondieters,<sup>4</sup> we found little evidence that dieters harbored an unrealistic ideal of thinness, but clear evidence that they experienced a distorted perception of their fatness. Similar body-image distortion may occur in some men. For example, Mangweth et al.<sup>5</sup> found that men with eating disorders exhibited body-image distortion with regard to their body fat—seeing themselves as fatter than they really were—although they did not differ from normal comparison men in their body fat *ideal*.

Gay men are frequently reported to experience greater body image dissatisfaction than heterosexual men. This impression was supported by initial reports from clinical samples, which suggested an increased prevalence of eating disorders in the male gay population.<sup>6</sup> Clinical populations, however, may not be representative of the overall source population; therefore, community samples of gay men provide more reliable findings. Among community studies, most,<sup>7-14</sup> though not all,<sup>15,16</sup> have suggested that gay men were susceptible to body image disturbance, and hence were also more likely to exhibit eating disorders. These disturbances of body image in gay men were usually attributed to the high emphasis on body appearance in the gay culture—perhaps because gay men typically have more partners than heterosexual men. Thus, investigators have speculated that gay men may be more focused on physical attractiveness in order to attract potential male partners.

We sought to explore the phenomenon of body-image dissatisfaction by comparing gay men recruited from the community with 2 comparison groups: a community group of heterosexual men and a clinical group of heterosexual men with eating disorders. We hypothesized that gay men would differ from heterosexual men on measures of both

*body perception* (overestimating their own fatness and underestimating their own muscularity to a greater degree than heterosexual men) and *body ideal* (aspiring to a thinner and/or more muscular body than heterosexual men).

## METHOD

We recruited 37 gay men, at least 18 years of age, by announcements and word of mouth at prominent venues of the gay culture in Innsbruck, Austria. We provided no written advertisements or detailed descriptions of the study, in order to minimize selection bias toward subjects with particular concerns about body image. Our announcement simply stated that we were asking gay men to be part of a study in which their self-image would be assessed using a program on a laptop computer. Data were collected in April 1999. We compared these men with earlier samples of (1) 24 heterosexual eating-disordered men (14 with anorexia nervosa and 10 with bulimia nervosa) previously described<sup>5</sup> and (2) 49 heterosexual male university students, drawn from a group of 54 previously described,<sup>17</sup> from which 5 gay students were removed. The heterosexual students, who were from the University of Innsbruck, were recruited using posted advertisements, by announcements in classes, and by word of mouth. The eating-disordered men were recruited from among consecutive patients seeking treatment at the inpatient or outpatient units at the Department of Psychosomatics at the Innsbruck University Hospital. Prior to study inclusion, all subjects signed informed consent on a form that had been approved by the Ethics Commission of the University of Innsbruck.

Using methods identical to our previous studies,<sup>5,17</sup> we determined each man's height, weight, percent body fat, and fat-free mass index (FFMI), a measure of muscularity.<sup>18</sup> We then administered the "somatomorphic matrix,"<sup>17</sup> a biaxial computerized test of body image perception that presents the subject with a drawing of a male body that he can "morph" through 10 levels of fat and 10 levels of muscularity to produce any of 100 possible images. We asked each man to choose the images that he thought best represented (1) his own body, (2) the body he ideally would like to have, (3) the body of an average man of his age, and (4) the body most appealing to other gay men (or in the case of the 2 heterosexual comparison groups, the male body most appealing to women). Thus, for each subject, we obtained 5 indices of fat and 5 of muscularity: the fat and FFMI of his own body, and the fat and FFMI of each of the 4 computer images chosen in response to the questions above. We also derived a body-image distortion index, operationally defined as "perceived minus measured," representing the difference between the subject's actual measurements and his perception of himself (the latter was the computer image

chosen in response to question 1). We compared the 3 study groups on all 6 indices by analysis of variance (ANOVA) followed with Tukey test for post hoc pairwise comparisons. Level of significance was set at  $p \leq .05$ .

## RESULTS

The 3 groups were similar in age (mean [SD] for gay men, 28.2 [6.5] years; eating-disordered men, 28.6 [6.5] years; heterosexual comparison men, 27.2 [3.7] years;  $F = 0.69$ ,  $df = 2,107$ ;  $p = .50$ ). As compared with the other 2 groups, eating-disordered men were significantly thinner and less muscular, and they displayed significantly more distorted body perception (i.e., greater perceived-minus-measured body fat and FFMI; Table 1). Gay men, however, displayed no significant differences from community heterosexual men on any index, including the fat and muscularity of their body ideals.

## DISCUSSION

We had hypothesized that gay men would display *body-image distortion*—seeing themselves as fatter or less muscular than they actually were—and an *unrealistic body ideal*—aspiring to a particularly lean and muscular physique. Remarkably, both of our hypotheses were rejected; gay men showed no significant differences from community heterosexual comparison men on any of our body-image indices. Admittedly, the gay men aspired to a body ideal that was much more muscular than they were themselves—but this ideal was essentially identical to that chosen by the heterosexual men in the present study and in previous similar studies.<sup>17</sup>

It might be argued that this finding represents a type II error (a false-negative finding), because our sample was too small or our instruments were too insensitive to detect abnormalities. This speculation is reinforced by a recent study showing that the somatomorphic matrix displays low test-retest reliability on many measures.<sup>19</sup> However, despite the substantial "background noise" potentially caused by low reliability (i.e., higher standard deviations, which would be most likely to cause a bias toward the null), the somatomorphic matrix still showed ample power to detect body-image distortion in the eating-disordered men in the present study, despite the smaller size of the eating-disordered sample. Also, in other studies using similar sample sizes, the somatomorphic matrix has shown ample power to detect differences—for example, in recent comparisons of male body image in traditional versus industrialized societies<sup>20</sup> and in Taiwanese men versus American and European men.<sup>21</sup> By extension, then, it seems unlikely that the somatomorphic matrix would have failed to detect a large or clinically meaningful difference in body-image perception between the gay and heterosexual men in the present study.

**Table 1.** Indices of Body Fat and Muscularity in Gay, Eating-Disordered, and Heterosexual Comparison Men

Variable	Gay Men [1] (N = 37)	Heterosexual Community			p Value for Comparisons <sup>a</sup>		
		Eating-Disordered Men [2] (N = 24)	Heterosexual Men [3] (N = 49)	Overall, <sup>b</sup> 1 & 2 & 3	Pairwise	1 & 2	1 & 3
Body fat indices, mean % body fat <sup>c</sup> (SD)							
Measured body	13.1 (6.5)	8.5 (5.5)	13.8 (5.9)	.002	.013	.838	.002
Perceived body	13.4 (8.6)	14.3 (10.7)	14.6 (8.2)	.820			
Perceived minus measured	0.4 (5.4)	5.9 (7.5)	0.8 (5.7)	.001	.002	.935	.003
Ideal body	13.2 (5.4)	13.7 (6.5)	13.9 (4.9)	.844			
Average body	17.2 (4.8)	19.8 (7.4)	19.0 (5.7)	.180			
Men's or women's ideal	14.5 (5.3)	15.3 (7.2)	14.7 (5.0)	.843			
Muscularity indices, mean FFMI <sup>d</sup> (SD)							
Measured body	19.2 (1.8)	17.4 (2.3)	19.0 (1.2)	< .001	< .001		.001
Perceived body	19.6 (2.0)	19.4 (2.5)	19.5 (1.5)	.972			
Perceived minus measured	0.4 (2.3)	2.0 (2.9)	0.5 (1.5)	.007	.010	.948	.013
Ideal body	21.8 (2.2)	21.6 (2.4)	21.5 (1.8)	.792			
Average body	20.4 (1.7)	20.4 (1.7)	20.2 (1.7)	.873			
Men's or women's ideal	23.1 (2.1)	22.2 (2.1)	22.6 (1.9)	.210			

<sup>a</sup>By 1-way ANOVA (overall), followed by Tukey test for pairwise comparisons.<sup>b</sup>F-test; df = 2,107.<sup>c</sup>Body fat expressed as percent of body weight. Typically, body fat < 10% = lean; 10%–25% = average; > 25% = overweight, obese.<sup>d</sup>Muscularity expressed as fat-free mass index [FFMI] in kg/m<sup>2</sup>. Typically, FFMI = 18 represents a man with slight build with low muscularity; FFMI = 20 represents a man of roughly average muscularity; FFMI = 22 represents a man with distinct muscles; and FFMI = 25 represents approximately the upper limit of muscularity than can be attained by a lean man without use of anabolic steroids or other drugs.

If the results of the present study are indeed valid, why have previous studies often reported body-image dissatisfaction in gay men? One possibility is that many studies may have been influenced by selection bias. Studies of gay men identified in clinical populations<sup>6,22,23</sup> or recruited by specific advertisements referring to eating disorders or eating patterns<sup>7,9,12,14</sup> might be more weighted toward individuals with body-image concerns. Even in studies using nonclinical populations, bias might have resulted from recruiting gay men who were quite intensively involved in the "gay scene," because they were recruited from gay groups or gay newspapers.<sup>8,9,13,24–26</sup> Men intensively involved in the gay scene might experience greater body-image concerns than gay men who were not so involved; in fact, Beren et al.<sup>11</sup> found that the connection to the gay community was a significant predictor of body dissatisfaction.

By contrast, our announcements and word-of-mouth recruitment in the small gay community of Innsbruck might have attracted a somewhat more representative sample of gay men. If this conjecture is correct, then it follows that ordinary "rank and file" gay men may not experience substantially greater body-image abnormalities than heterosexual men—but that these ordinary gay men may be underrepresented in most psychiatric studies.

One previous study,<sup>16</sup> also using a nonclinical sample of gay men, obtained results somewhat similar to ours. In this study, Herzog and colleagues<sup>16</sup> compared body-image attitudes in 43 gay and 32 heterosexual men, using a set of 12 figure drawings ranging from very thin to very fat. As in our study, these authors found no differences between the 2 groups in either their perceived body shape or their

chosen body ideal. However, the gay subjects in this earlier study, unlike ours, weighed significantly less than heterosexual subjects. Similarly, Beren et al.<sup>11</sup> found that gay men were closer to their ideal than heterosexual men, even though they were more dissatisfied with their bodies.

Several limitations of our study should be considered. First, despite the above discussion, we cannot exclude the possibility that selection bias of some type might have influenced the composition of 1 or more of our groups. For example, it is possible that for some reason our sample might have been biased against gay men with body-image dissatisfaction. Second, we did not obtain psychiatric histories from our community gay and heterosexual men; therefore, these 2 groups might have included some undiagnosed cases of eating disorders. However, given the evidence that eating disorders are more common in gay men,<sup>9,10,11,23</sup> any such undiagnosed cases of eating disorders would be more likely to fall in the gay group—thus tending to widen, rather than narrow, the differences between the gay and heterosexual men on body-image measures. In other words, our finding of an *absence* of differences between the 2 groups on body-image measures would not plausibly seem due to the inclusion of undiagnosed cases of eating disorders.

Third, it seems possible that occasional subjects in the heterosexual group might have misrepresented their sexual orientation because of denial or embarrassment. It seems unlikely, however, that this phenomenon affected enough of the 49 putative community heterosexuals to materially alter the findings. Fourth, we cannot be certain whether our findings in a gay Austrian population are due

to a specific local cultural phenomenon or whether they represent findings that generalize to other cultures. With rare exceptions,<sup>24</sup> most previous studies have been performed in the United States.

A fifth limitation is that the somatomorphic matrix measures only 1 aspect of body image dissatisfaction. It is possible that other features, such as facial appearance, or the appearance of other specific parts of the body, such as the buttocks, might matter strongly to gay men—but these features are not assessed by the somatomorphic matrix. Conversely, even if some gay men did show evidence of body dissatisfaction on the somatomorphic matrix, this might not translate into actual dissatisfaction if, for example, body appearance was not particularly important to these individuals. The latter possibility is somewhat academic, however, because the somatomorphic matrix failed to show evidence of dissatisfaction among the gay men in the first place.

In summary, our findings cast some doubt on the widely held belief that gay men experience greater body-image problems than heterosexual men. Further studies of larger community samples of gay men, recruited with methods designed to minimize selection bias and evaluated with a range of measures, will be needed to confirm our findings.

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