

Gender Differences in Social Consequences of Perceived Overweight in the United States and Australia

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This study investigated attitudes about body weight and appearance in a group of young adults. Undergraduate psychology students at the Flinders University of South Australia and at the University of Vermont were asked about their weight and dieting, consciousness about their body, the degree to which their weight had interfered with social activities, their perceptions about the causes of obesity, and their stereotypes about fat and thin men and women. Although 20% of the sample was overweight, 50% of subjects perceived themselves to be overweight to some degree. As expected, weight was a much greater issue for women, who felt more overweight, dieted more, expressed more body consciousness, and reported that weight had interfered more with social activities than did men. Also as expected, Vermont students reported greater frequency of dieting, more concern about weight, and more body consciousness than did students in Australia. Finally, men and women in both cultures stereotyped obese targets significantly more negatively than they did nonobese targets. The results indicate excessive and maladaptive concerns with weight in general, and among women and U.S. students in particular.

Obesity is a major concern in the United States, particularly for women, who are more unhappy with their body image and more likely to perceive themselves as overweight than men are (cf. Wooley, Wooley, & Dyrenforth, 1979,

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for a review). In addition to individuals who are actually obese (20% over average weight), about 33% of average-weight women and 10% of average-weight men consider themselves overweight (Silverstone, 1974). When high-school students were asked about their ideal weights, 80% of females and less than 20% of males reported wanting to weight less than they did (Dwyer, Feldman, & Mayer, 1967).

A number of studies indicate that obese people are viewed negatively by others and by themselves. Harris, Harris, and Bochner (1982) found that college students rated obese people as less active, intelligent, hardworking, successful, athletic, and popular than nonobese people. When asked to rank order various categories of people as potential marital partners, students report preferring to marry an embezzler, cocaine user, shoplifter, and blind person before they would marry an obese person (Venes, Krupka, & Gerard, 1982). Obese people are less likely to be accepted to good colleges (Canning & Mayer, 1967) and to be considered ideal employees (Larkin & Pines, 1979). Physicians consider the obese to be weak-willed and awkward (Mad-dox & Liederman, 1969) and even landlords are less likely to rent to the obese (Karris, 1977).

The high prevalence of actual and perceived overweight is related to epidemic proportions of dieters in this country, most of who are female. Most people begin diets for social (e.g., increase sexual attractiveness, increase appearance) rather than for health or medical reasons. Yet few people lose significant amounts of weight on diets, and even fewer maintain their weight loss for over a year (cf. Brownell, 1982, for a review). Far from improving health, diets may involve health-threatening practices, may lead to the development of eating disorders, and when terminated before an ideal weight is attained, may contribute to low self-esteem and attributions of failure.

Given the proportion of individuals who perceive themselves to be overweight, the negative attitudes about the obese, and the relative lack of success of diets, it is predictable that most people are interpersonally affected by our society's concern with weight. The purpose of this study was to investigate *social* consequences of perceived overweight. Our interest was in investigating the extent to which individuals are concerned about the appearance of their body and report their weight to have interfered with social activities. We were also interested in examining perceived reasons about the causes of overweight in general, and in people's stereotypes about obese and nonobese men and women. We hypothesized that women would be more affected by the social consequences of overweight than would men, given the salience of weight and dieting for women in our society.

To date, most research on weight, dieting, and attitudes about the obese has focused exclusively on the United States. The present study compared attitudes about weight and dieting among college students in the United States and Australia in order to investigate to what degree concern with weight,

stereotypes about the obese, and prevalence of dieting exist in a developed country other than the United States.

Finally, most research on concerns about weight and dieting have focused on adolescents. Since adolescence is a time of increased focus on physical appearance and interpersonal relationships, perceived social consequences of overweight may be at a peak during this age period. To investigate whether social consequences of overweight recede with age, we compared teenagers with young adults in our college sample.

METHOD

Subjects

Subjects were undergraduate students at the Flinders University of South Australia and at the University of Vermont. Subjects were enrolled in introductory psychology classes and received course credit for experimental participation. A total of 283 students (65 men and 218 women) from the University of Vermont participated in the study, with a mean age of 18.2 years (median = 18, range = 17-35). There were 229 (72 men and 157 women) students from the Flinders University, with a mean age of 22.9 years (median = 19, range = 16-49). The two universities were comparable in size and both were situated in the largest city of a rural state.

Measures

Weight and Dieting. A comprehensive questionnaire was developed that included seven components. First, subjects were asked to report their height, weight, perceived degree of overweight or underweight on a 7-point Likert scale, ideal weight, whether they had ever been on a diet for at least two weeks to lose weight, and whether they were currently dieting.

Restraint. Herman and Polivy's (1980) Revised Restraint Scale was included in the questionnaire. This scale measures extent of dieting and concern about weight gain, and consists of ten items (e.g., "would a weight fluctuation of 5 pounds affect the way you live your life?") that are rated on 4-point Likert scales. A high score on this scale reflected a high degree of restraint.

Body Consciousness. Miller, Murphy, and Buss (1981) have devised the Body Consciousness Questionnaire, a scale of bodily consciousness and concern. This scale consists of 15 items (e.g., "I am aware of my best and worst facial features") that are rated on 5-point Likert scales (*extremely characteristic to extremely uncharacteristic*). This scale comprises three factors: Pri-

vate Body Consciousness (the disposition to focus on internal bodily sensations), Public Body Consciousness (the disposition to focus on and be concerned with the external appearance of the body), and Body Competence (confidence in the body's performance). A high score indicated high body consciousness and competence, respectively.

Weight as Social Interference. A nine-item scale was developed by the authors to investigate the extent to which subjects reported their weight to have interfered with social activities (attending a party, asking someone out on a date, being asked out on a date, having a close friend, wearing fashionable clothing, wearing a bathing suit, renting a house or apartment, getting a job, and being considered sexually attractive by others). Items were rated on 5-point Likert scales (*not at all interfered to definitely interfered*). A high score indicated that weight had interfered with social activities. This scale had high internal reliability, with Cronbach's alpha = .88.

Perceived Etiology of Obesity. The authors developed a ten-item scale designed to investigate subjects' beliefs about the etiology of obesity (snacking between meals, eating large portions at meals, consuming large numbers of calories, eating in secret, being physically inactive, not engaging in programmed exercise, being lazy, having little willpower, being unable to resist food, and having overweight parents). These beliefs reflect theories about the causes of obesity that are prevalent in the media and in diet books. Subjects were asked to rate each item on a 5-point Likert scale according to whether overweight individuals engaged in the behavior *much more than normal-weight individuals* or *much less than normal-weight individuals*. A high score indicated that subjects rated the behavior occurring in overweight individuals much more than in normal-weight individuals. Cronbach's alpha of this scale was .69.

Stereotypes About the Obese. Finally, subjects were asked to rate the extent to which eight qualities (warmth, friendliness, happiness, self-confidence, self-indulgence, self-discipline, laziness, and attractive appearance) were typical of a thin man, a thin woman, a fat man, and a fat woman. Each quality was rated on a 5-point Likert scale (*extremely characteristic to extremely uncharacteristic*) and a high score indicated that subjects perceived that quality to be very characteristic of the target person. This scale was a modified version of a scale developed by De Jong (1980) to tap weight-related stereotypes of adolescents.

RESULTS

Weight and Dieting

Mean height reported by subjects was 5'5" (1.65m) for women and 5'10"

and 160 pounds (73 kg) for men. The mean reported ideal weight was 118 pounds (53 kg) for women and 161 pounds (74 kg) for men. A weight-height index of the form W/H^2 was calculated to obtain an objective index of overweight, where weight (W) is expressed in kilograms and height (H) in meters. Powers (1980) has termed this the *Body Mass Index*, and it has been found to be the most valid and reliable of weight indices, in that it is the least correlated with height (Billewicz, Kemsley, & Thomson, 1962; Kholsa & Lowe, 1967) and the most correlated with independent measures of body fat (Keys, Fidanza, Karvonen, Kimura, & Taylor, 1972). Using a score greater than 24 on this index for obesity (Garrow & Webster, 1985), results indicated that only eight men and seven women (3% of the sample) were obese. A further 17% had a score between 20 and 24, indicating overweight (Garrow & Webster, 1985). Thus, 20% of the subjects were overweight, with most only mildly so.

In contrast to this, over half (54%) of the subjects judged themselves to be overweight (mostly slightly so), compared to 32% who perceived their weight to be average and 14% who felt they were underweight. Additionally, a parametric measure of degree of subjective overweight was calculated by obtaining the difference between subjects' reported actual and ideal weights as a percentage of ideal weight in order to determine the extent to which subjects perceived themselves overweight. This produced a mean of 6% overweight. Of the sample, 5% considered themselves to be more than 20% overweight, 18% considered themselves to be between 10% and 20% overweight, 52% rated themselves to be less than 10% overweight, 10% listed the same ideal weight as actual weight, and 15% listed higher ideal weights than actual weights.

Analyses of variance were performed to investigate gender, nationality (Australia, United States), and age (teenagers aged 20 and under, adults aged 21 and over) as between-group factors. The Body Mass Index for women ($M = 18.4$) was significantly lower than that of men ($M = 19.9$), indicating women's lower weight, [$F(1) = 31.9, p < .001$]. Teenagers ($M = 18.5$) had a significantly lower Body Mass Index than did adults ($M = 19.8$), reflecting teenagers' lower weight [$F(1) = 17.5, p < .001$]. In contrast to reported actual weight, however, women were significantly more likely than men to perceive themselves as overweight [$M_s = 4.8$ and 4.1 , respectively, on the 7-point scale; $F(1) = 36.7, p < .001$]. Women also demonstrated a significantly higher discrepancy between reported actual and ideal weights ($M = 7.9\%$) than did men [$M = 0.3\%$; $F(1) = 77.6, p < .001$]. It is convenient that nationality produced no main nor interaction effects, so that any subsequent nationality differences cannot be attributed to differences in reported actual weights, ideal weights, or perceived degree of overweight between Australian and U.S. university students.

Fifty percent of subjects indicated that they had been on a diet for at

were significantly more likely to have dieted than were men [59% vs 24%; $\chi^2(1) = 46.6, p < .001$]. Women were also significantly more likely than were men to be currently dieting [32.5% vs 7.3%; $\chi^2(1) = 32.1, p < .001$]. Subjects at the University of Vermont were more likely to have dieted (55%) than were subjects at the The Flinders University of South Australia [42%; $\chi^2(1) = 7.7, p < .01$]. Vermont subjects were also more likely to be currently dieting (32%) than were Australian subjects [18%; $\chi^2(1) = 12.7, p < .001$].

Weight-Related Dependent Measures

Scores on the Restraint, Body Consciousness, Weight as Social Interference, and Perceived Etiology of Obesity scales were analyzed by a 2 (gender) \times 2 nationality \times 2 (age) \times 3 (degree of overweight: Body Mass Index < 20 = average weight, $20-24$ = overweight, and > 24 = obesity) analysis of variance. Means for all dependent measures are presented in Table 1.

Age. There were no significant main effects nor interactions for age on any dependent measure. Thus, results for this variable will not be reported.

Degree of Overweight. There was a significant main effect for degree of overweight on Restraint, with overweight subjects more likely to report dieting and concern about weight [$M_s = 14.0$ for average weight, 15.7 for overweight, and 19.1 for obese subjects, respectively; $F(2) = 88.5, p < .001$]. There was a significant main effect for degree of overweight on Body Competence, with overweight subjects less likely to feel confident about their boyd's performance [$M_s = 9.0$ for average weight, 8.6 for overweight, and 6.8 for obese subjects, respectively; $F(2) = 4.8, N = .01$]. Finally, there was a significant main effect for degree of overweight on the Weight as Social Interference Scale, with overweight subjects more likely to report that their weight had interfered with eight of the nine social behaviors on this scale [$M_s = 14.9$ for average weight, 18.3 for overweight, and 20.6 for obese subjects, respectively; $F(2) = 23.7, p < .001$].

Gender. Women had significantly higher scores on Restraint ($M = 15.7$) than did men ($M = 11.1$), indicating greater frequency of dieting and concern about weight [$F(1) = 88.5, p < .001$]. Women scored significantly higher on Public Body Consciousness ($M = 15.2$) than did men [$M = 13.6$; $F(1) = 5.9, p < .02$] and significantly lower on Body Competence ($M = 8.6$) than did men [$M = 9.6$; $F(1) = 20.0, p < .001$].

Women scored significantly higher than did men on the Weight as Social Interference Scale ($M_s = 16.5$ vs. 13.3), indicating that women are more likely than men to perceive their weight to interfere with social activities [$F(1) = 40.7, p < .001$]. There was also significant gender \times Degree of Overweight interaction on the Weight as Social Interference Scale [$F(2) = 4.5, p < .02$]. Analyses of individual items on this scale indicated that women were more likely to indicate that their weight had interfered with getting a

Table 1. Mean Scores on Weight-Related Measures by Gender, Nationality, and Degree of Overweight

	University of Vermont			Flinders University		
	Men	Women		Men	Women	
Restraint	Normal weight (N = 45)	Slightly overweight (N = 16)	Somewhat overweight (N = 3)	Normal weight (N = 91)	Slightly overweight (N = 22)	Somewhat overweight (N = 2)
Private Body Consciousness	9.6	11.8	16.3	16.5	17.7	20.5
Public Body Consciousness	10.9	8.6	9.0	10.3	10.8	5.5
Body Competence	15.1	11.4	9.3	16.2	16.2	9.0
Weight as Social Interference	10.7	9.8	6.7	9.2	10.0	5.0
Perceived Etiology of Obesity	12.5	11.4	12.7	16.4	22.0	22.0
	36.8	35.8	38.3	38.8	38.9	39.5
	University of Vermont			Flinders University		
Restraint	Normal weight (N = 34)	Slightly overweight (N = 27)	Somewhat overweight (N = 2)	Normal weight (N = 119)	Slightly overweight (N = 21)	Somewhat overweight (N = 5)
Private Body Consciousness	9.1	14.1	17.2	13.2	18.6	22.2
Public Body Consciousness	10.9	10.9	10.6	10.0	10.0	13.6
Body Competence	13.9	12.3	14.0	14.0	13.8	12.5
Weight as Social Interference	9.8	7.7	10.6	7.9	7.4	3.8
Perceived Etiology of obesity	11.8	16.5	19.4	14.3	22.1	26.0
	36.0	36.7	33.6	36.8	31.2	37.8

job and with being considered sexually attractive than did average-weight women or men. There was a significant gender difference in scores on the Perceived Etiology of Obesity Scale, with women receiving higher scores than did men ($M_s = 38.0$ vs 36.4), indicating that women were more likely than were men to perceive differences between overweight and average weight individuals [$F(1) = 6.7, p < .01$]. Specifically, women were more likely than were men to characterize overweight individuals as consuming more calories and as eating in secret compared with normal weight individuals.

Nationality. There was a significant main effect for nationality on Restraint, with students at the University of Vermont scoring higher than did students at the Flinders University of South Australia [$M_s = 15.2$ vs 13.5 ; $F(1) = 13.6, p < .001$]. Thus students in Vermont were more likely to report dieting and concern with weight than were students in Australia. Vermont students also scored significantly higher than did Australian students on Public Body Consciousness [$M_s = 15.6$ vs 13.7 ; $F(1) = 18.0, p < .001$] and higher on Body Competence [$M_s = 9.4$ vs 8.1 ; $F(1) = 23.4, p < .001$]. Thus, students in Vermont were more likely than Australian students to be concerned about the external appearance of their body but also to have more confidence in their body's performance. Finally, there was a significant main effect for nationality on the Perceived Etiology of Obesity Scale [$F(1) = 9.0, p < .01$]. On his scale, Vermont subjects were more likely ($M = 38.3$) than were Flinders subjects ($M = 36.7$) to view overweight individuals as eating large portions and having overweight parents.

Stereotypes About the Obese

The Stereotypes About the Obese Scale was analyzed with a multivariate analysis of variance consisting of three between-scale factors (gender, nationality, and degree of overweight) with age as a covariate, and two within-subjects or repeated-measures factors (fat target/thin target, and male target/female target). Ten of the 512 subjects did not complete this scale. A significance level of $p < .01$ was adopted in order to compensate for the power of the repeated-measures analysis. Since there were few between-subjects effects, the means of the repeated-measures results only are presented in Table II.

The first four traits were designed to tap the stereotype of the "fat, jolting" person: warmth, friendliness, happiness, and self-confidence. As can be seen from Table II, for warmth and friendliness there were significant main effects for the thin/fat target, such that fat people were rated warmer and friendlier [warmth: thin $M = 3.0$, fat $M = 3.6, F(1) = 133.7, p < .0001$; friendliness: thin $M = 2.7$, fat $M = 3.6, F(1) = 73.5, p < .0001$].

Table II. Mean Ratings for Stereotypes of a Thin or Fat Man or Woman

	Thin		Fat	
	Man	Woman	Man	Woman
Warmth	3.0	3.1	3.6	3.6
Friendliness	3.2	3.2	3.6	3.6
Happiness	3.3	3.5	3.0	2.8
Self-confidence	3.5	3.8	2.4	2.3
Self-indulgence	2.7	2.7	3.6	3.5
Self-discipline	3.7	3.7	2.0	1.9
Laziness	2.3	2.2	3.1	3.1
Attractive appearance	3.5	3.9	2.1	2.0

For happiness there was a significant main effect for the thin/fat target, with the fat being viewed as unhappier [2.9 vs 3.4 ; $F(1) = 88.8, p < .0001$], and a significant interaction between the thin/fat target and gender [$F(1) = 33.6, p < .0001$], such that thin women were rated as the happiest and fat women as the unhappiest. Similarly, on the trait of self-confidence, the fat were rated as substantially less self-confident than the thin [2.3 vs 3.6 ; $F(1) = 525.8, p < .0001$] and there was a significant interaction of the thin/fat target and male/female target, [$F(1) = 71.6, p < .0001$], with thin women viewed as most self-confident and fat women as least self-confident. There was also a significant interaction between gender of raters and thin/fat target, such that women rated the thin as more self-confident (thin $M = 3.7$, fat $M = 2.3$) than did men [thin $M = 3.4$, fat $M = 2.5$; $F(1) = 14.0, p < .001$].

The next three traits are postulated to be associated with a dimension of self-control: self-indulgence, self-discipline, and laziness. The fat targets were rated as more self-indulgent [3.6 vs 2.7 ; $F(1) = 142.2, p < .0001$] and as less self-disciplined than were thin targets [2.0 vs 3.7 ; $F(1) = 625.0, p < .0001$]. A significant interaction of gender of raters and thin/fat target occurred such that the differences between fat and thin were larger for women raters [women: thin $M = 3.8$, fat $M = 1.9$, men: thin $M = 3.5$, fat $M = 2.1$; $F(1) = 9.9, p < .01$]. For laziness there was a main effect of thin/fat target, whereby fat people ($M = 3.1$) were seen as lazier than were thin people [$M = 2.3$; $F(1) = 172.7, p < .0001$]. There was a significant interaction between nationality of rater and thin/fat targets. Vermont students (thin $M = 2.2$, fat $M = 3.2$) perceived a greater difference between the laziness of fat and thin targets than did Flinders students [thin $M = 2.4$, fat $M = 2.9$; $F(1) = 16.0, p < .001$]. Thus, fat targets were generally viewed as less self-controlled.

Finally, ratings were obtained for attractive appearance. There was a significant main effect for thin/fat target, so that the fat were rated as less attractive than the thin [2.0 vs 3.7 ; $F(1) = 761.7, p < .0001$]. There was also

a significant main effect for male/female target on attractive appearance, with women viewed as more attractive than were men [3.0 vs 2.8, $F(1) = 7.10$, $p < .01$]. There was a significant Male/Female Target \times Thin/Fat Target interaction, whereby the thin female was seen as relatively more attractive than the thin male [$F(1) = 73.0$, $p < .0001$]. Thus, thinness was viewed as more important in judgments of attractiveness of women than of men. Finally, there was a significant interaction of nationality of rater and thin/fat target, with Vermont students rating fat and thin targets more discrepantly on attractiveness than did Flinders students [Vermont: thin $M = 3.8$, fat $M = 2.0$; Flinders: thin $M = 3.5$, fat $M = 2.1$; $F(1) = 15.0$, $p < .001$].

Putting all this together, then, fat people were rated as warmer, friendlier, less happy, less self-confident, more self-indulgent, less self-disciplined, lazier, and less attractive.

DISCUSSION

One of the clearest findings of the study was the discrepancy between objective and subjective impression of degree of overweight. While at most 20% of this sample might be considered overweight on objective criteria, more than 50% felt they were overweight. This was particularly true for women.

While a possible criticism of the study is that we did not measure actual weights, but relied on subjects' self-reports to form our "objective" weight index, it is unlikely that this could account for our results. It has been found that people generally report their weights surprisingly accurately (Brownell, 1982). Where errors are made, they tend to be underestimates on the order of 2-3 pounds.

Contrary to our expectations, age of subjects did not affect perceived social consequences of overweight. Teenagers did not differ significantly from adults on any measure, indicating that concerns with weight do not diminish in early adulthood. Thus, although the Australian sample was older than the Vermont sample, age was not significantly related to any dependent measure. More research on older adults will need to be conducted to examine the stability of concerns with weight across the life span.

There were a number of nationality differences, with the Vermont students showing generally more concern with their weight than did the students in Australia. Students in Vermont were more likely to be dieting and scored higher on restraint. Vermont students reported greater public body consciousness but also greater body competence than did Australian students. In such cross-cultural studies, one must be aware that there may be differ-

ence between the samples other than nationality—in fact, one should perhaps conservatively speak of "location" differences.

These nationality differences, however, tended to be eclipsed in magnitude by the gender differences. This can be gauged from the size of the reported effects. As predicted, weight was a much larger and central concern for women than for men. They experienced a greater discrepancy between ideal and actual weight, and consequently dieted much more. Women scored higher on public body consciousness and lower on body competence than did men. Women were more likely than were men to perceive differences between overweight and average-weight individuals, and to report that their own weight had interfered with social activities.

Finally, the results indicate fairly widespread negative stereotyping of the obese. While the notion of the fat jolly person was to some extent confirmed in that fat people were seen as warmer and friendlier, fat people were rated as unhappier and as less self-confident. They were also viewed as more self-indulgent, less self-disciplined, lazier, and less attractive. The negative stereotypes were more prevalent for the fat female target, and women tended to rate thin and fat targets more discrepantly.

Thus there do exist consequences merely of being labeled fat or thin, and as predicted, this is disproportionately important for women. Furthermore, these stereotypes tend to be shared by the overweight themselves—there were no differences on the basis of weight—and generally by men and women alike. While it is clearly a limitation of the study that these are hypothetical people being rated, the effect of the adjectives *fat* or *thin* was too massive, as can be seen from the size of the F ratios, to be so easily discounted. This negative stereotyping rings true to our experience and confirms the social interference to which the overweight said they were subjected.

We believe the concern with weight demonstrated here is excessive, maladaptive, and distressful to a number of people, particularly women. That this occurs in a mostly intelligent adult sample suggests that it must be very pervasive indeed. The more difficult and unanswered question is how we might go about changing this.

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