

GENDER DIFFERENCES IN INTERNAL BELIEFS ABOUT WEIGHT AND NEGATIVE ATTITUDES TOWARDS SELF AND OTHERS

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Previous research has found that people with an internal weight locus of control (beliefs in self-control over weight) are more likely to join and stay in weight-loss programs and have higher self-esteem than those who have an external locus of control (e.g., belief that weight is due to luck, genes). There has been no research on how weight locus of control affects the self-esteem of people who are not average weight or not satisfied with their weight. The present study predicted that for people who are overweight, weight locus of control would be *negatively* related to self-esteem. The results confirmed this interaction between weight locus of control and weight on self-esteem for women, but not for men. The second prediction was that internal weight locus of control would have negative social consequences in terms of greater negative stereotyping of obese people, and this was also confirmed for women. Because weight loss is rarely permanent, it would seem important to change people's attitudes about the *lack* of control that they (and others) have over body weight.

Since Rotter (1966) first proposed the notion of locus of control as a personality variable, there has been much research interest in the consequences of where people locate the cause of events. People with an internal locus of control (internals) believe that they themselves determine what happens to them, whereas those with an external locus of control believe that fate, chance, or significant others determine

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their lives. Locus of control has been found to predict behavior in a number of different domains, such as health, sports, and academic achievement (see Lefcourt, 1992, for a review).

Over time, however, researchers have recognized the need for domain-specific measures as opposed to general measures of locus of control. For example, the Multidimensional Health Locus of Control Scale (Wallston, Wallston, & DeVellis, 1978) measures health locus of control, or the degree of control that research participants feel they have over their general health. This scale differentiates beliefs of internal control, chance, and powerful others.

General locus of control is not consistently related to weight loss. Saltzer (1982) developed a four-item specific measure of weight locus of control. She found that internals beginning a weight-loss program were more likely to complete it than externals, and that internals (with high values) were more likely to lose weight than externals. Stotland and Zuroff (1990) developed a longer 16-item measure of weight locus of control (Dieting Beliefs Scale). As they predicted, internal locus of control correlated positively with dieting (current and lifetime), success at previous diets, and confidence in reaching goal weight. They also found a positive correlation between Saltzer's (1982) Weight Locus of Control Scale and self-esteem.

All of this evidence suggests that having an internal weight locus of control is a positive asset to be encouraged. It makes people confidently engage in weight-loss programs and sometimes predicts success. On the other hand, evidence is clearly mounting that diets simply do not work in the longer term (Cogan & Rothblum, 1993; Dubbert & Wilson, 1983; Foreyt, Goodrick & Gotto, 1981; Leon, 1976; Rothblum, 1989). Further, they may actually be counterproductive. Restraint theory (Herman & Polivy, 1980; Polivy & Herman, 1983) predicts that restrained eaters (dieters) will actually eat more if they violate their diets (i.e., binge). Stotland and Zuroff's (1990) positive correlation between internal weight locus of control and lifetime dieting is illustrative of this. If diets actually worked, people would not have to keep going on them. Further, the lack of success of weight loss over time (and thus repeated dieting) may produce a cycle leading to a sense of failure, shame, and eventual loss of self-esteem.

The reformulated helplessness theory (Abramson, Seligman, & Teasdale, 1978; Alloy, Abramson, Metalsky, & Hartlage, 1988) argues that when people hold themselves responsible for uncontrollable events they will suffer loss of self-esteem. That is, an internal locus of control may actually be maladaptive if body weight is stable and diets do not result in permanent weight loss. In that case, an external weight locus of control would be psychologically healthier. According to this argument, Stotland and Zuroff's (1990) positive correlation between weight locus of control and self-esteem can be explained because individuals in their sample as a whole were very thin, with only 3 out of 100 young women being even slightly overweight.

There has been little research that has examined the psychological consequences of failure to lose weight, despite the widespread knowledge that most diets do not lead to permanent weight loss. The present study predicts that for people who are overweight, weight locus of control will in fact be *negatively* related to self-esteem, that is, there will be an interaction between weight locus of control and weight on self-esteem.

The preceding argument suggests that having an internal locus of control with respect to weight may be detrimental to the self. It also may be detrimental to others who are overweight. Individuals' belief that they themselves determine what happens to them (internal locus of control) may be related to the belief that people in general are responsible for their actions. Thus, an internal locus of control may not only be related to negative self-esteem about one's own overweight, but also to negative attitudes about overweight in others.

Weiner, Perry, and Magnusson (1988) provide an attributional analysis of stigmas, whereby people are more stigmatized by others when their condition is viewed as under their control. There is no doubt that being fat is a stigmatized condition in our society (see Rothblum, 1992a, for a review). Maddox, Back, and Liederman (1968) asked participants about the degree to which groups of people were responsible for their condition. Only 2% of participants thought that blind people were responsible for their lack of sight, whereas over three quarters felt that the obese were responsible for their weight. High-school girls rated photographs of obese girls more positively when the girls were either described as having lost weight recently or when the reason for their weight was attributed to a thyroid condition, than when no reason was given for their weight (DeJong, 1980). Crandall (1994; Crandall & Biernat, 1990) has recently argued that antipathy toward fat people is part of an "ideology of blame." To the extent that individuals are held responsible for their fatness, they will suffer more negative stereotyping.

The second aim of the present study was to investigate the relationship between weight locus of control and negative stereotyping of the obese. In fact, all the items of the Dieting Beliefs Scale (Stotland & Zuroff, 1990) and some of the items of the Weight Locus of Control scale (Saltzer, 1982) are phrased in general terms (e.g., "Most people can only diet successfully when other people push them to do it"), implying that those who hold beliefs about their own internal control are also more likely to believe that others have internal control as well. Hence it was predicted that internal weight locus of control would have negative societal consequences in terms of greater negative stereotyping of obese people relative to nonobese people.

The study was conducted in the United States and Australia. Our earlier study (Tiggemann & Rothblum, 1988) indicated that U.S. students are more influenced by weight, dieting, and concern with weight than are students in Australia, even though gender was more salient than nationality. Given the greater pressure for U.S. students, and women in particular, to diet and be thin, we also predicted that weight locus of control would tend to be more internal for women and for U.S. students.

METHOD

Participants

Participants were undergraduate students enrolled in psychology classes at University of Vermont and at the Flinders University of South Australia. There were 193

students (71 men and 122 women) from the Flinders University, with a mean age of 24.99 years. There were 220 students (89 men and 131 women) from the University of Vermont, who had a mean age of 18.93 years. The two universities are comparable in size and both are situated in the largest city of a rural state.

Measures

Weight and Dieting

A comprehensive questionnaire was developed that consisted of four components. First, participants were asked to report their height and weight. From these the Body Mass Index (BMI) could be calculated, as the ratio of weight (in kgs) to height (in ms) squared. This is acknowledged as the best measure of degree of weight (Garrow & Webster, 1985). Participants also rated their perceived degree of overweight or underweight (1 = *extremely underweight* to 7 = *extremely overweight*) and satisfaction with their current weight (1 = *extremely dissatisfied* to 7 = *extremely satisfied*) on 7-point Likert scales. They also indicated their ideal weight, whether or not they had ever been on a diet for at least 2 weeks to lose weight, and whether they were currently dieting.

Weight Locus of Control

The second component of the questionnaire included two measures of weight locus of control. Saltzer's (1982) original four-item Weight Locus of Control Scale (WLOC) contains two items worded internally (e.g., "Whether I gain, lose, or maintain my weight is entirely up to me") and two worded externally (e.g., "Being the right weight is largely a matter of good fortune"). The items are scored on 6-point Likert scales and reverse-scored for internally worded items. The WLOC Scale results in a range of scores from 4 (highly internal locus of control) to 24 (highly external). The WLOC is not correlated with social desirability, and prior research has found students low on WLOC (i.e., those who have an internal locus of control) to be more likely to choose weight-loss programs and to stay in them (Saltzer, 1982). In the present study, for ease of interpretation, the WLOC scale was reverse-scored, so that high scores represent an internal locus of control.

Stotland and Zuroff's (1990) Dieting Beliefs Scale (DBS) was also used. This 16-item scale is scored on 6-point Likert scales. In contrast to the WLOC, a high score on the DBS indicates a more internal locus of control, with a possible range from 16 to 96. Stotland and Zuroff (1990) report a correlation of .62 with the WLOC.

Self-Esteem

Self-esteem was assessed by the Bachman and O'Malley (1977) version of Rosenberg's (1965) Self-Esteem Scale. This consists of 10 items (e.g., "I think that I am no good at all") scored on 5-point Likert scales (1 = *almost always true*; 5 = *never true*).

Stereotyping Weight of Others

Finally, participants were given Tiggemann and Rothblum's (1988) Stereotypes About the Obese Scale. This scale asks respondents to rate the extent (on 5-point Likert scales) to which eight characteristics (e.g., warmth, laziness) are typical of

a thin man, thin woman, fat man, and fat woman. To gain a measure of the extent of overall stereotyping, the absolute value of the difference between the fat and thin ratings for each particular dimension were summed. The rationale was to get an overall measure of the extent to which fatness/thinness made a difference in ratings. This produced two measures, the extent of Stereotyping of Men (STEREOM) and the extent of Stereotyping of Women (STEREOW). The resulting internal reliabilities were quite high, $\alpha = .75$ for Stereotyping of Men and $\alpha = .80$ for Stereotyping of Women. This scale has been used to compare U.S. students to students in Australia (Tiggemann & Rothblum, 1988) and Ghana (Cogan, Bhalla, Sefaddeh, & Rothblum, 1996).

Procedure

Questionnaires that asked participants their views and attitudes about weight and body appearance were distributed in undergraduate psychology classes. Questionnaires were completed anonymously and students were assured of the confidentiality of their responses. Students did not receive course credit for their participation and they were not told about the purpose of the study.

RESULTS

Weight and Dieting

Mean reported height was 1.65 m for women and 1.84 m for men; mean reported weight was 58.13 kgs (127.89 lbs) for women and 75.02 kgs (165.04 lbs) for men. The resulting mean Body Mass Index was in the normal range (20–25), 21.4 for women and 23.3 for men. Only 43 men and 25 women could be considered overweight (BMI > 25), and of these, only 6 men and 6 women could be classified as obese (BMI > 30).

The mean reported ideal weight was 53.68 kgs (118.10 lbs) for women, or 4 kgs lighter on average than their weight. On average women rated themselves as "slightly overweight" ($M = 4.6$), and were somewhat dissatisfied with their current weight ($M = 3.5$). In contrast, on average men wanted to be 75.28 kgs (165.62 lbs) or 0.2 kg heavier and thought they were average weight ($M = 4.0$). There was a significant gender difference on both perceived overweight, $F(1, 411) = 4.44, p < .0001$, and satisfaction with weight, $F(1, 411) = 2.88, p < .01$. Many more women (52.6%) had ever dieted than men (17.5%), $\chi^2 = 50.68, p < .00001$, and many more women than men were currently dieting (22.9 vs. 5.0%), $\chi^2 = 23.45, p < .00001$.

Analyses of variance for gender and nationality on the weight variables yielded no main effects of nationality or interactions of nationality and gender on height, weight, BMI, ideal weight, perceived weight, or weight satisfaction. Thus, any subsequent effects for nationality or nationality with gender are not attributable to differences on weight measures.

Table 1

Mean Scores (and Standard Deviations) for Weight Locus of Control, Self-Esteem, and Stereotyping by Gender and Nationality

Scale	United States		Australia	
	Men	Women	Men	Women
WLOC	18.3 (3.0)	19.1 (2.9)	18.8 (3.7)	19.1 (3.1)
DBS	62.8 (8.2)	64.1 (8.5)	66.5 (9.4)	65.6 (8.9)
Self-esteem	42.4 (5.1)	40.7 (6.6)	41.9 (6.2)	40.9 (5.7)
STEREOM	9.9 (5.3)	10.8 (5.3)	8.5 (5.0)	9.3 (5.0)
STEREOW	11.4 (5.8)	12.8 (5.8)	9.2 (5.5)	10.4 (5.6)

Note: WLOC = Weight Locus of Control Scale; DBS = Dieting Beliefs Scale; StereoM = Stereotyping of Men Scale; StereoW = Stereotyping of Women Scale.

Weight Locus of Control

Table 1 presents the means and standard deviations by gender and nationality on both measures of locus of control. Controlling for age, there was a significant gender difference on the WLOC, $F(1, 401) = 4.50, p < .05$, but not on the DBS. For the WLOC, men scored lower ($M = 18.5$) than women ($M = 19.1$), indicating that women had a more internal belief system. There were no nationality differences on the weight locus-of-control measures.

Self-Esteem

Table 1 also shows the means for self-esteem. There was a significant main effect for gender on self-esteem, with men having higher self-esteem than women, $F(1, 386) = 4.74, p < .05$. The main effect for nationality was not significant.

Stereotyping Weight of Others

Table 1 also presents the means (total score of the eight characteristics) of the Stereotyping About the Obese Scale by gender and nationality. The results indicate that the female target received more extreme stereotypes than the male target, $t(391) = 8.08, p < .001$. Analysis of variance with age as a covariate of the two overall stereotyping measures showed no effect of gender or nationality for the stereotyping of men. For the stereotyping of women, however, there was a significant effect of nationality, with U.S. students more likely to stereotype women, $F(1, 385) = 7.44, p < .01$, than were Australian students. There was also a significant main effect for

Table 2
Mean Ratings (and Standard Deviations) for Stereotypes
of Thin and Fat Men and Women

Rating	Thin		Fat	
	Men	Women	Men	Women
Warmth	2.9 (0.8)	3.0 (0.8)	3.6 (1.0)	3.7 (1.0)
Friendliness	3.2 (0.9)	3.2 (0.9)	3.7 (1.0)	3.7 (0.9)
Happiness	3.4 (0.8)	3.6 (0.9)	3.1 (0.9)	2.7 (1.0)
Self-confidence	3.6 (1.0)	3.8 (1.0)	2.5 (0.9)	2.2 (0.9)
Self-indulgence	2.8 (1.1)	2.6 (1.1)	3.5 (1.1)	3.4 (1.1)
Self-discipline	3.5 (0.9)	3.7 (1.0)	2.2 (0.9)	2.2 (0.9)
Laziness	2.2 (1.0)	2.2 (1.0)	3.1 (1.1)	3.0 (1.1)
Attractive appearance	3.5 (0.9)	3.9 (1.0)	2.1 (1.0)	2.0 (1.0)

gender, $F(1, 385) = 3.94, p < .05$, whereby women stereotyped women more than did men. There was no significant interaction of gender and nationality on stereotyping.

Table 2 provides the means and standard deviations for ratings for each of the eight items of the Stereotypes of the Obese Scale. Repeated measures analyses of variance of target gender and size (fat versus thin) yielded main effects of male/female target on happiness, $F(1, 378) = 9.08, p < .01$; self-indulgence, $F(1, 377) = 21.50, p < .001$; self-discipline, $F(1, 377) = 10.21, p < .01$; laziness, $F(1, 377) = 71.15, p < .001$; and attractiveness, $F(1, 376) = 26.30, p < .001$; whereby women were seen as less happy, less self-indulgent, more self-disciplined, less lazy and more attractive, but all these were relatively small effect sizes. There were much larger effects of fat/thin target size on happiness, $F(1, 378) = 56.81, p < .001$; self-confidence, $F(1, 377) = 222.11, p < .001$; self-indulgence, $F(1, 377) = 47.29, p < .001$; self-discipline, $F(1, 377) = 240.46, p < .001$; laziness, $F(1, 377) = 42.37, p < .001$; and attractiveness, $F(1, 376) = 361.12, p < .001$. Fat people were seen as substantially less happy, self-confident, and attractive, and more self-indulgent and lazy (that is, ratings were in the negative direction in all cases) than their thin counterparts. These ratings were modified by significant interactions between male/female target gender and fat/thin target size for happiness, $F(1, 378) = 20.67, p < .001$; self-confidence, $F(1, 377) = 25.67, p < .001$; self-discipline, $F(1, 377) = 6.04, p < .05$; laziness, $F(1, 377) = 65.74, p < .001$; and attractiveness, $F(1, 376) = 48.60, p < .001$; whereby the impact of fat/thin size was greater for women than men.

Table 3
Correlations Among Weight Locus of Control, Weight,
Self-Esteem and Stereotyping of Fat Men and Women

Parameters	Men		Women	
	WLOC	DBS	WLOC	DBS
BMI	-0.02	0.09	0.12	0.08
Perceived weight	0.13	0.22**	0.13*	0.18*
Satisfaction	-0.04	-0.19*	0.14*	-0.12
Ideal weight difference	0.07	0.21**	0.17*	0.17*
Ever dieted	0.02	-0.11	-0.09	-0.18**
Dieting now	0.12	-0.03	0.01	-0.08
Self-esteem	0.03	0.04	0.16*	0.08
Stereotyping of men	-0.02	0.06	0.16*	0.11
Stereotyping of women	-0.01	-0.03	0.09	0.14*

Note: BMI = Body Mass Index.
* $p < .05$, ** $p < .01$.

Weight Locus of Control and Weight

Because there were so few nationality differences, all subsequent analyses combined the U.S. and Australian student samples to increase statistical power. Table 3 presents the correlations among WLOC, DBS, and the various weight variables separately for men and women. Weight locus of control was not significantly correlated with actual weight (BMI). Instead, weight locus of control was correlated with the perception of being overweight and with a large difference between ideal and actual weight. Those who had ever dieted had a significantly higher Dieting Beliefs score ($M = 66.4$) than those who had not ($M = 63.6$), $t(409) = 3.17$, $p < .01$. This difference was not significant for current dieters.

Weight Locus of Control and Self-Esteem

Table 3 also presents correlations among WLOC, DBS, and self-esteem. For women, but not men, there was a positive correlation between WLOC and self-esteem.

The prediction that the relationship between weight locus of control and self-esteem would be moderated by weight (BMI) was tested by a series of hierarchical multiple regressions conducted separately for men and women. WLOC and BMI were entered first, followed by the product term. It was found that for women, the interaction between WLOC and weight (BMI) did offer significant unique prediction (change $R^2 = .017$, change $F = 4.10$, $p < .05$). This was also the case for the interaction between DBS and weight, change $R^2 = .022$, change $F = 5.20$, $p < .05$. For men, the interaction terms offered no unique prediction of self-esteem. As shown in Table 4, which presents the results of the multiple regression analyses, regression coefficients for women were statistically significant for both WLOC

Table 4

Beta (β) and Change R^2 Values for Multiple Regressions for Women Predicting Self-Esteem and for Men and Women Predicting the Stereotyping of Women

Scale	Self-Esteem		Stereotyping of Women			
	Women		Men		Women	
	β	Change R^2	β	Change R^2	β	Change R^2
WLOC	.95°		-.25		.19	
BMI	.65	.028°	-.25	.002	.13	.011
WLOC \times BMI	-1.13°	.017°	.36	.002	-.14	.000
DBS	1.05°		-.49		.65	
BMI	.98°	.010	-.61	.002	.60	.025
DBS \times BMI	-1.49°	.022°	.83	.007	-.80	.006
WLOC	.01		-.38		-.15	
WSat	-.13	.081°	-1.03°	.015	-1.06°	.028°
WLOC \times WSat	.41	.003	1.01°	.038°	1.01°	.017°
DBS	-.12		-.36		-.16	
WSat	-.51	.081°	-1.15°	.015	-1.10°	.034°
DBS \times WSat	.80	.012	1.02	.025	1.01°	.018°

Note: WLOC = Weight Locus of Control Scale, DBS = Dieting Beliefs Scale, BMI = Body Mass Index, WSat = Satisfaction With Weight.

* $p < .05$.

($\beta = -1.13$, $t = 2.02$, $p < .05$) and DBS interactions ($\beta = -1.49$, $t = 2.28$, $p < .05$), indicating that the simple slopes of the regression lines differ as a function of the value of BMI (Aiken & West, 1991).

To illustrate this differently, the correlations for three weight categories were calculated. For women who were underweight (BMI < 20, $N = 83$), the correlations between weight locus of control and self-esteem were positive but nonsignificant, $r_s = .05$ and $.12$ for WLOC and DBS, respectively, as was the case for average-weight women (BMI = 20–25, $N = 142$), $r_s = .29$ and $.10$, respectively. For overweight women (BMI > 25, $N = 25$), however, correlations were negative, $r_s = -.28$, for both the WLOC and the DBS.

In order to investigate whether the relationship between weight locus of control and self-esteem might be moderated by weight satisfaction in addition to actual weight, the above hierarchical multiple regressions were repeated for weight satisfaction. The interaction term did not offer further unique prediction for either weight locus of control measure for either gender, however.

Weight Locus of Control and Stereotyping

Table 3 indicates the correlations among the WLOC, DBS, and total scores for stereotyping of women and stereotyping of men. For women, the DBS was significantly correlated with the stereotyping of women and WLOC with the stereotyping of men. These correlations were close to zero for men.

In order to examine whether stereotyping of women and men was affected by participants' own weight, or weight satisfaction, a series of hierarchical multiple regressions was carried out. In contrast to the results for self-esteem, there was no significant interaction effect for actual weight (BMI), but there was for satisfaction with weight on the stereotyping of women, but not men.

For both genders it was found that the WLOC by weight dissatisfaction interaction did offer a significant unique prediction of stereotyping of women (STEREOW): for men, change $R^2 = .038$, change $F = 5.42$, $p < .05$; and for women, change $R^2 = .017$, change $F = 3.94$, $p < .05$. This was also the case for DBS for women (change $R^2 = .018$, change $F = 4.22$, $p < .05$), and approached significance for men (change $R^2 = .023$, change $F = 3.34$, $p < .07$). The correlations between weight locus of control and the stereotyping of women for men who were dissatisfied with their weight ($N = 75$) were negative, $r_s = -0.14$ for both WLOC and DBS, whereas those men who were satisfied with their weight ($N = 45$) evidenced more positive correlations, $r_s = 0.25$ and 0.06 for WLOC and DBS, respectively. A similar pattern emerged for the women. Women dissatisfied with their weight ($N = 151$) had much lower positive correlations between weight locus of control and the stereotyping of women ($r_s = .07$ for both WLOC and DBS) than women who were satisfied with their weight ($N = 57$, $r_s = .30$ and $.33$ for WLOC and DBS, respectively). This indicates that it was the participants who were satisfied with their weight who evidenced the strongest relationship between internal weight locus of control and relatively negative stereotyping of fat women.

DISCUSSION

Weight Locus of Control and Self-Esteem

The major prediction of this study was that there would be an interaction between weight locus of control and weight in the prediction of self-esteem, and this hypothesis was confirmed for women. The relationship between weight locus of control and self-esteem was positive for underweight women and average-weight women. For overweight women, there was a negative correlation.

Thus, having an internal weight locus of control is only positive for women who are average weight. Strong beliefs that weight was under one's control, coupled with being overweight, was associated with lower self-esteem. Nevertheless, it should be pointed out that this effect size, though significant, is small.

The predicted interaction between weight locus of control and self-esteem was not confirmed for men. Concern with weight is less salient for men in the United States and Australia than it is for women (see Rothblum, 1992a, for a review), and thus self-esteem is not as linked to weight beliefs for men.

Weight Locus of Control and Stereotyping the Weight of Others

The second hypothesis predicted that internal weight locus of control would be associated with greater negative stereotyping of obese relative to nonobese people, and this was confirmed. For women, regardless of their weight, internal weight

locus of control was correlated with negative stereotyping of fat women and fat men. Thus, women who believed that weight was under personal control rated fat women (on the DBS) and fat men (on the WLOC) more negatively than women who believed that weight was due to external factors such as luck or genes.

Interestingly, it was satisfaction with one's own weight, rather than actual weight, that played a role in this analysis. When satisfaction with weight was added to the regression equation along with weight locus of control, both men and women who were *satisfied* with their weight stereotyped fat women more negatively. Perhaps those who were dissatisfied with their weight felt some empathy for heavier others, and were less willing to stereotype this group.

Thus, internal beliefs about weight are not only associated with one's own self-esteem but with negative stereotyping of other people who deviate from the ideal weight. Again, this effect was moderated by gender. Women rated the obese more negatively relative to thin people whether or not they themselves were overweight. Being female in our society means being told how to look (Rothblum, 1993) and so women, regardless of their own weight, are extremely sensitive to other people's weight. For men, it was men who were satisfied with their own weight who negatively stereotyped women (but not men).

Gender and Nationality Effects

In our earlier research (Tiggemann & Rothblum, 1988), we found differences between U.S. and Australian students in weight, dieting, and preoccupation with weight. That was not the case in the present study. There were no significant differences between students in the two nations on any weight measure or on the WLOC or DBS (when age differences were statistically controlled). It is possible that in the years since our previous study, there has been increasing focus on weight and dieting in the Australian media. Whereas extreme preoccupation with weight was once true only in the United States, such attitudes are beginning to permeate other Western nations and even developing countries (see Rothblum, 1992b, for a review).

There were highly significant gender differences on perceived overweight, satisfaction with weight, dieting, and the WLOC measure. Further, these beliefs about weight affect women's self-esteem more than that of men, and also affect attitudes held about fat women.

In sum, an internal locus of control of weight is associated with low self-esteem in women who are not the ideal shape. This internal locus of control also affects beliefs that people hold about others, particularly by women and about women. Further, this study indicates that it is often not so much actual weight that moderates these beliefs as perceived weight or satisfaction with weight.

It is interesting that the two measures of locus of control (WLOC and DBS) did not always provide the same results. The shifting nature of the results using these two measures may be caused by the specific items that constitute these scales. Additionally, all the items of the DBS are phrased so that they refer to people in general, whereas two of the four items of the WLOC are phrased in individual terms (e.g., "Whether I gain, lose, or maintain my weight is entirely up to me").

This study has a number of implications for attitudes that people, particularly women, hold about weight. It is important that psychologists educate students, and the general public, about the ineffectiveness of weight-loss diets, given the fact that weight loss is rarely permanent. Mental health professionals and educators should emphasize the *lack* of control that individuals (and thus others around them) have over body weight, and that weight is likely an enduring quality, much like race or gender.

At the same time, there need to be large-scale prevention efforts to eliminate or reduce the overwhelming focus by the media and the economy on thinness among women. When media models are so underweight that even average-weight college students appear "fat" in comparison, it is not surprising that most college women feel overweight and dissatisfied with their bodies. Given that billions of dollars are spent annually on diets, diet foods, and weight-loss surgery, there would be a considerable economic impact (and backlash against women) should women cease to be focused on thinness. The economy has much to gain to keep women blaming themselves (and other women) for their weight.

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