

## Research and Professional Briefs

## Body Image of Chronic Dieters: Lowered Appearance Evaluation and Body Satisfaction

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## ABSTRACT

This study was conducted to determine the body image of a group of female chronic dieters. Participants were asked to complete a body image questionnaire, and their results were compared with age- and sex-matched reference norms. Chronic dieters possessed significantly lower appearance evaluation, lower body satisfaction, and higher self-classified vs actual body weight compared with reference norms. Body image dissatisfaction may prevent individuals from incorporating beneficial lifestyle behaviors, and thus it is important to address body image dissatisfaction with chronic dieters for the best chance at improving health, regardless of body size.

*J Am Diet Assoc. 2004;104:1589-1592.*

**B**ody image dissatisfaction, especially among women, has become so prevalent that it is commonly termed a normative discontent (1-4). Negative body image may be caused by the individual's internalization of the culture's over-valuing or objectification of a thin body ideal, which in turn may increase feelings of body shame and decrease awareness of internal bodily states, ie, hunger and satiety cues (4-6). In a recent national survey, over half of the women polled held an unfavorable view of their appearance (7). When comparing these results with earlier data from 1972 (8), 1985 (9), and 1995 (10), it is apparent that the body images of both men and women have become increasingly negative (7,11).

There are several theories that attempt to explain the construct of body image and the complex process of body image formation. Each explanation encompasses a vari-

ety of developmental, psychological, and social factors, such as self-esteem, interpersonal confidence, eating and exercise behaviors, and emotional stability (1). Theories of body image dissatisfaction and recommendations for dietetic practice have been described elsewhere (12).

The chronic dieter is defined as an individual who consistently restricts energy intake to maintain an average or below-average body weight (13,14). Chronic dieting syndrome describes individuals who (a) have a persistent overconcern with body shape and weight, (b) restrict their food choices for 2 or more years, and (c) continually diet to achieve weight loss without success or with success but with weight regain (14). The dieting mindset typically includes preoccupation with shape and weight, perceived deprivation, and dysfunctional beliefs about food and exercise (15). Mossavar-Rahmani and colleagues (16) found that the more inaccurate the body size estimation, the greater the likelihood of dieting. Thus, dieting and body image cognitions, affects, and behaviors are fundamentally linked.

The psychological mechanisms involved in the maintenance of dieting behaviors are particularly insidious (17). Chronic dieters disrupt their natural physiological homeostasis and thus induce a variety of associated psychological responses. Before starting a very-low-calorie diet, overweight individuals overestimated their body size, but after treatment the same individuals underestimated their body size (18). This misconception could predispose an individual to future disappointment in terms of relapse and decreased self-worth when cognitions are largely discrepant from actual body sizes (19). Repeated failures to control weight might reduce one's feeling of self-efficacy (6,20,21). Furthermore, reduction in self-efficacy because of weight fluctuation may add to feelings of depression (20-23).

Dieting for weight loss has been termed the outside-to-inside approach to changing body image, and it is one of the most widely practiced body image remedies among North Americans today (24). This assertion most often pertains to women dieting to lose weight who are not obese. Dieting serves to undermine the multidimensional body image construct, perception, cognition, affect, and behavior. Common dieting practices (ie, weighing) can lower self-esteem and raise anxiety (25,26). In addition, a negative body image can potentiate depression, disordered eating, habitual body monitoring, social anxiety, sexual difficulties, and low self-esteem (6,23,27,28).

This study was conducted to compare the body image of a group of female chronic dieters with that of reference norms. Based on research suggesting that body image dissatisfaction can precipitate weight-loss efforts, the in-

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*0002-8223/04/10410-0007\$30.00/0*

*doi: 10.1016/j.jada.2004.07.025*

investigators hypothesized that female chronic dieters would possess lower body image scores than their age- and sex-matched reference norms.

## METHODS

The Multidimensional Body-Self Relations Questionnaire is a 69-item self-report inventory for the assessment of self-attitudinal aspects of the body image construct (29). The instrument was developed to assess cognitive, behavioral, and affective components of body image. The difference between the Multidimensional Body-Self Relations Questionnaire and other body image assessments is that the Multidimensional Body-Self Relations Questionnaire samples three attitudinal dimensions: affect, cognition, and behavior; related to three somatic domains: appearance, fitness, and health/illness (30). This three-by-three conceptual matrix yields nine multi-item subscales. Since its development, the Multidimensional Body-Self Relations Questionnaire has evolved through several empirical studies, and over time, researchers reduced the nine basic subscales to six (appearance, fitness, and health evaluation, and appearance, fitness, and health orientation).

According to Cash and colleagues (9), evaluation scales reflect how good or bad one feels about each of the three somatic domains (appearance, fitness, and health), while orientation scales measure how personally important the various aspects of body image are and how actively a person works to maintain or improve his or her body's appearance, fitness, and health. A final factor subscale was added to the Multidimensional Body-Self Relations Questionnaire (illness orientation) before the instrument was cross-validated in a factor-analytic study of the original database (30).

In addition to its seven-factor subscales, the Multidimensional Body-Self Relations Questionnaire includes three related subscales: (a) The Body-Area Satisfaction Scale approaches body-image evaluation as satisfaction–dissatisfaction with discrete body features. (b) The Overweight Preoccupation Scale assesses fat anxiety, weight vigilance, dieting, and eating restraint. (c) The Self-Classified Weight Scale assesses self-appraisals of weight from underweight to overweight (29).

The Multidimensional Body-Self Relations Questionnaire was used to assess body image in the current study. Dr. Thomas Cash of Old Dominion University, Norfolk, VA, granted permission for its use and the use of the scoring manual (29). Norms for the Multidimensional Body-Self Relations Questionnaire were derived from US national survey data (9), based on 1,064 female respondents.

All of the participants in the present study (n=32) met the criteria for chronic dieting syndrome by indicating their (a) persistent overconcern with body shape and weight, (b) restriction of food choices for at least 2 years or more, and (c) continual dieting to achieve weight loss without success or with success but with weight regain (14). The results presented here are one component of a larger study in which chronic dieters with either normal or low resting energy expenditures (16 women per group) were compared across a variety of measures including body composition, aerobic fitness, physical activity, glucose/insulin response, leptin/thyroid hormone status, dietary intake, dietary restraint, and body image (31). The body image results from this study are the focus of this article.

**Table 1.** Subject characteristics: Chronic dieters vs reference norms

	Chronic dieters <sup>a</sup> (n=32)	REF <sup>b</sup> (n=1,064)	P value
Age (y)	39.4±6.6 <sup>c</sup>	40.6±17.2	.31
Height (cm)	162.1±5.5	161.4±7.0	.50
Weight (kg)	83.2±22.0	61.1±12.5	***
Body mass index	31.5±7.6	23.3±4.7	***
Body fat (%) <sup>d</sup>	42.9±8.7	n/a <sup>e</sup>	n/a

<sup>a</sup>Participants from previously described study (31).  
<sup>b</sup>REF=female reference norms for Multidimensional Body-Self Relations Questionnaire subscales (9).  
<sup>c</sup>Mean±standard deviation.  
<sup>d</sup>Assessed using dual-energy x-ray absorptiometry.  
<sup>e</sup>Percent body fat was not assessed among reference study participants.  
 \*\*\*P<.001.

**Table 2.** Body image scores of chronic dieters compared with reference norms

Variable <sup>a</sup>	REF <sup>b</sup> (n=1,064)	Chronic dieters <sup>c</sup> (n=32)	P value
Appearance evaluation	3.36	2.47±0.96 <sup>d</sup>	***
Appearance orientation	3.91	3.7±0.45	.09
Fitness evaluation	3.48	3.32±0.87	.32
Fitness orientation	3.20	3.30±0.87	.55
Health evaluation	3.86	3.60±0.73	.07
Health orientation	3.75	3.70±0.63	.70
Illness orientation	3.21	3.01±0.76	.17
Body areas satisfaction scale	3.23	2.73±0.62	***
Overweight preoccupation	3.03	3.08±0.65	.71
Self-classified weight	3.57	4.28±0.64	***

<sup>a</sup>All measures were scored on a five-point Likert scale whereby a score of 5 denotes positive body image evaluations and orientations (appearance, fitness, health, and illness), positive body satisfaction, high overweight preoccupation, and high self-classified weight (both of which are negative body image attributes).  
<sup>b</sup>REF=female reference norms for Multidimensional Body-Self Relations Questionnaire subscales (9).  
<sup>c</sup>Combined group of chronic dieters with a high or normal resting energy expenditure from previously described study (31).  
<sup>d</sup>Mean±standard deviation.  
 \*\*\*P<.001.

The study received ethical approval from The University of Alberta, Faculty of Agriculture, Forestry, and Home Economics Human Ethics Review Committee. All participants provided informed consent before participating.

## RESULTS

Participant characteristics from this study are compared with reference norms in Table 1. Chronic dieters were similar to the reference women in all categories except actual body weight and body mass index (BMI), which were significantly higher among chronic dieters. Body image scores of female chronic dieters are presented in Table 2 compared with age- and sex-matched norms. Chronic dieters had significantly lower appearance evaluation, lower body satisfac-

tion, and higher self-classified weight than the reference population. Thus, chronic dieters were more concerned about their appearance, were less satisfied with their bodies, and rated their weight heavier than reference norms.

## DISCUSSION

The motivation to diet usually arises from concerns about shape and weight, especially fears about being or becoming fat (9,32). Similar concerns were expressed by the participants in the present study as determined by their negative appearance evaluations. A majority of the study participants (70%;  $n=22/32$ ) indicated a negative appearance evaluation (scoring in the unfavorable direction relative to a 3.0, the neutral midpoint, on the 5-point response scale). In a 1994 body image survey, Cash and Henry (10) reported 47.9% of American women scored less than three for appearance evaluation. The prevalence of negative body image among women had increased from 30% in the 1985 body image survey (9) to 48% in the 1994 survey (10). It seems that the body images of the participants in the present study are more negative than either of the previously noted population surveys indicated.

Self-classified weight was higher than reported for reference norms, but actual weight was also higher than that for reference norms. Despite the likelihood of increased dieting with overestimation of body size (16), study participants were accurate at assessing their own weight. Reference data were obtained from US national surveys based on 1,064 female subjects (9). Reference participants were divided into weight categories based on self-reported height and weight. Respondents within 20% of their ideal body weight were considered normal weight. Using these criteria, 14% of the reference women were overweight (>20% of ideal body weight). Using the same criteria with the current research participants, 80% ( $n=25/32$ ) were considered overweight as expected given the definition of chronic dieting (lack of success in losing weight).

Self-classified weight correlated positively with actual weight, BMI, body fat, and percent body fat among chronic dieters. Brodie and Slade (33) reported similar results among 100 women aged  $30.8 \pm 9.38$  years,  $164.9 \pm 5.5$  cm in height and  $63.7 \pm 12.3$  kg in weight. Dieting correlated positively with BMI ( $P < .01$ ), suggesting that elevated body weight is positively related to self-reported binge eating, desire to diet, and general body dissatisfaction (22,33,34). Negative feelings toward appearance and high levels of body dissatisfaction noted in the present study were also related to a higher BMI and lower dietary fat intake, but not lower caloric intake. Elevated BMI along with increased percent body fat seem to be motivators to initiate and maintain a weight-loss diet (through restriction of fat intake) regardless of failed attempts at long-term weight loss.

What cannot be discerned given this particular study design is whether chronic dieting leads to weight gain or whether overweight women are more likely to diet for purposes of weight loss. Because of the cross-sectional nature of the study design, we cannot determine whether improvements in body image can be achieved separately from changes in body weight. Given participants' sustained negative body image even after being provided information regarding their positive health status, we

can assume that improvements with body image are strongly connected with external vs internal perceptions of health. This finding indicates the value of combining nutritional approaches with psychological approaches to health, wellness, and body image.

## CONCLUSIONS

Chronic dieters may possess beliefs about their appearance and body size that support weight-loss efforts, regardless of their actual body weight and health status. Practitioners working with chronic dieters need to be aware of the factors that precipitate body image dissatisfaction and to explore with their clients how these issues may affect food choices, ie, dietary fat restriction for weight loss, increase in binge eating, or decrease in awareness of internal bodily states (1,5,12,33). Chronic dieting may prevent individuals from incorporating other healthful behaviors, including balanced approaches to nutrition and activity. Given the correlation between chronic dieting and reduced fat intake without a corresponding reduced caloric intake, attention to how healthful eating messages are interpreted by dieting clients may be warranted.

In this group of chronic dieters, there existed what might be described as body image dissatisfaction and weight-loss inertia or immobility (indisposition to change), ie, persistent overconcern with body shape/weight combined with continual efforts to lose weight without success. Concerns have been raised about the long-term ineffectiveness of weight-loss dieting (35) and possible negative health (physical and psychological) consequences of losing and regaining weight (36,37). Thus, a shift in focus from losing weight to healthful living regardless of size (ie, increased physical activity; increased intake of fruit, vegetables, and complex carbohydrates) may prove beneficial by providing an option to chronic dieting, thus alleviating inertia/immobility and possibly increasing the likelihood for positive behavior change (4,38). As part of a health care team, dietetics professionals may assist in diverting health promotion efforts away from weight loss and toward achieving healthful lifestyle behaviors, which has been shown to decrease morbidity and mortality (39,40) and improve body image (41). Additionally, promotion of body acceptance (positive body image) has been established as enhancing quality of life (6,42).

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The authors acknowledge the financial support received for the completion of this research from the Canadian Fitness and Lifestyle Research Institute.

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