Ideal Weight and Weight Satisfaction: Association With Health Practices

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Initially submitted January 30, 2009; accepted for publication April 30, 2009.

Evidence suggests that individuals have become more tolerant of higher body weights over time. To investigate this issue further, the authors examined cross-sectional associations among ideal weight, examination year, and obesity as well as the association of ideal weight and body weight satisfaction with health practices among 15,221 men and 4,126 women in the United States. Participants in 1987 reported higher ideal weights than participants in 2001, an effect particularly pronounced from 1987 to 2001 for younger and obese men (85.5 kg to 94.9 kg) and women (62.2 kg to 70.5 kg). For a given body mass index, higher ideal body weights were associated with greater weight satisfaction but lower intentions to lose weight. Body weight satisfaction was subsequently associated with greater walking/jogging, better diet, and lower lifetime weight loss but with less intention to change physical activity and diet or lose weight ($P < 0.01$). Conversely, body mass index was negatively associated with weight satisfaction ($P < 0.01$) and was associated with less walking/jogging, poorer diet, and greater lifetime weight loss but with greater intention to change physical activity and diet or lose weight. Although the health implications of these findings are somewhat unclear, increased weight satisfaction, in conjunction with increases in societal overweight/obesity, may result in decreased motivation to lose weight and/or adopt healthier lifestyle behaviors.

**Abbreviations:** BMI, body mass index; CI, confidence interval; HAES, Health at Every Size; OR, odds ratio.

With the large secular increases in body mass index (BMI) (1, 2), the perception of “normal weight,” “overweight,” and “obesity” may have changed (3). Indeed, more than 65% of the US population is now considered overweight or obese (1). As a result, what had previously been characterized as “normal weight” may no longer be “normal” because it represents a minority of the population. A recent report suggests that, over time, younger individuals may have become more tolerant of higher body weights and less likely to perceive themselves as overweight (3). On the other hand, what the media portrays as an “ideal” or desirable woman has not seemed to change over time, whereas the BMI of *Playboy*-centerfold women remained consistent, and very low, from 1978 through 1998 (4). Because of the unrealistic standards often portrayed, media exposure is associated with increased risk of body dissatisfaction for both men (5) and women (6).

Evidence suggests that obese individuals perceive higher body weights to be both healthy (7) and attractive (8) compared with their leaner counterparts. It is also reported that lean individuals interacting with their obese peers in social networks are more likely to become obese (9). Thus, the widespread secular increase in BMI over recent decades may have changed the perception of obesity and ideal body weight. This change is of concern because it is plausible that acceptance of a higher body weight could impede recognition of obesity as a risk factor (10) and may encourage further weight gain. At the very least, acceptance of higher body weights would delay when individuals perceive their weight problem and seek obesity treatment (10). Thus, the objective of this cross-sectional analysis was to examine how the perception of ideal body weight has evolved over time and how ideal weight relates to weight satisfaction and health practices such as weight cycling, physical activity, and dietary habits.
MATERIALS AND METHODS

Participants

The present study consisted of 15,221 men and 4,126 women (95% white) from the Aerobics Center Longitudinal Study who visited the Cooper Clinic (Dallas, Texas) between 1987 and 2001 for periodic preventive health examinations and for counseling regarding diet, exercise, and other lifestyle factors associated with increased risk of chronic disease. Participants come to the clinic from all 50 US states; many participants were sent by their employers for the examination, while some were self- or physician referred. Participants were predominantly non-Hispanic white, well educated, and of middle and higher socioeconomic status. All study procedures and medical and behavioral questionnaires used in this analysis were consistent between 1987 and 2001. For participants who completed multiple clinical examinations, only the first visit was considered. Inclusion criteria for the current analysis required participants to have answered the question regarding their ideal body weight on the clinical evaluation questionnaire and to have their weight measured.

All study participants gave their informed written consent before participation in the examination. All applicable institutional and governmental regulations concerning the ethical use of human volunteers were followed during this research, and the study protocol was reviewed and approved annually.

Clinical data

Participants completed a comprehensive health evaluation that included self-reported personal and family health histories, a standardized medical examination by a physician, body fat measurement, and a maximal Balke treadmill exercise test (11). BMI (weight (kg)/height (m)^2) was calculated from measured weight and height and was classified as normal weight (18.5–24.9 kg/m^2), overweight (25–29.9 kg/m^2), and obese (≥30 kg/m^2). Body fat percentage was assessed by using hydrostatic weighing or was predicted from the sum of 7 skinfold measurements using an established prediction formula derived from this population (standard error of estimate = 3.78; r = 0.82) (12).

Questionnaires: weight history, diet, and physical activity

Participants completed a comprehensive behavioral and health history assessment that included questions on weight history (the number of 5-, 10-, 20-, 30-, 50-, and 100-pound (2.3-, 4.5-, 9.1-, 13.6-, 22.7-, and 45.4-kg) weight losses over their lifetime), their ideal weight (What do you consider a good weight for yourself?), weight satisfaction (yes/no), and intention to lose weight (yes/no). The total amount of self-reported weight lost was calculated as the product of the number of times weight was lost and the magnitude of each reported weight loss. Weight discrepancy was calculated as the percentage difference between an individual’s ideal weight and actual body weight.

Smoking habits (current smoker/past or never smoker), physical activity (kilometers walked or jogged per week), and dietary habits (number of fruit and vegetable servings per week) were also obtained from a standardized questionnaire. Diet satisfaction (yes/no), satisfaction with current stamina/physical condition (yes/no), and intent to change stamina/physical condition (yes/no) or diet (yes/no) were also queried. To assess eating behaviors, food restraint was categorized into 5 mutually exclusive groups: (1): eat much more than I want; (2): eat somewhat more than I want; (3): eat just what I want; (4): eat somewhat less than I want; and (5): eat much less than I want). Diet frequency was reported on a 5-point Likert scale: (1): never; (2): rarely; (3): sometimes; (4): often; (5): always).

Statistical analysis

Independent sample t tests and chi-square tests were used to determine group differences by sex and body weight satisfaction. The simple associations between dependent (ideal body weight, weight discrepancy, and BMI) and independent (age, examination year, BMI, lifetime weight lost, distance walked/jogged per week, and dietary habits) variables were assessed by using Pearson (continuous variables) and Spearman (categorical or nonnormal variables) correlations in sex-specific analyses.

Self-reported ideal weight was presented separately for each year (from 1987 to 2001) and BMI category; to account for potential confounding, a least-squares adjusted mean that accounted for age, weight, height, ethnicity, and smoking was used. Calendar years with BMI strata with fewer than 15 observations were censored. Change in ideal weight between 1987 and 2001 was calculated as the difference in predicted ideal body weight in 1987 versus 2001 after adjusting for age, height, and BMI category. Multiple linear regression was then used to examine the associations among health behaviors (kilometers walked or run per week, fruit and vegetable consumption, and lifetime weight lost), body weight satisfaction, and BMI. Finally, a series of logistic regression models were used to estimate the odds of 1) current stamina/physical condition satisfaction; 2) diet satisfaction; and 3) intentions to change body weight, stamina/physical condition, or diet (dependent variables: yes/no), with ideal weight, examination year, and BMI as independent variables.

For all regression analyses, relevant interaction terms were examined. If the 2-, 3-, or 4-way interaction terms were significant, further analyses were conducted within each sex and/or BMI category separately. All analyses were adjusted for age, smoking status, and ethnicity (white = 1; nonwhite = 0).

To facilitate graphical representation, the analyses for Figures 1–3 were conducted with BMI as a categorical variable. Figure 2 is also standardized to 25, 45, and 65 years of age; a BMI of 22, 27, and 32 kg/m^2; and the mean height of 165 cm (65 inches) for women and 178 cm (70 inches) for men. Figure 3 is standardized to men and women 45 years of age. Because of small cell sizes in the obese/body weight satisfaction groups, the overweight and obese categories were collapsed in these analyses. All statistical analyses were performed by using SAS v9.1 software (SAS Institute, Inc., Cary, North Carolina), with statistical significance set at alpha < 0.05.
RESULTS

Characteristics of participants are shown in Table 1. Ideal weight and weight discrepancy were positively and strongly correlated with BMI for both men and women (Table 2). Ideal weight, weight discrepancy, and BMI were weakly associated with age (except ideal weight for men), examination year, food restraint, and exercise distance and were moderately associated with cardiorespiratory fitness, lifetime weight lost, and frequency of caloric restriction ($P < 0.001$).

After adjusting for age, weight, height, ethnicity, and smoking, ideal body weight increased by 0.2–3.3 kg between 1987 and 2001 in men and women (Figure 1). In sex-specific models, there were significant main effects for age, BMI, and examination year as well as interactions between age and examination year and BMI and age ($P < 0.01$) on ideal body weight for both men and women (Figure 2). As a result, the slope of the rise in ideal body weight between 1987 and 2001 was greatest in obese and young adults (0.18 kg/year to 0.25 kg/year) and the smallest in older adults (−0.07 kg/year to 0.01 kg/year).

Only 5% of men and 2% of women had an ideal weight more than 5 pounds (2.3 kg) above their current weight. Although these individuals were relatively lean (mean BMI: 21.6 kg/m$^2$ (standard deviation, 2.3); percentage of body fat: 15.0% (standard deviation, 5.8)), this group exhibited a wide range in BMI (15–35 kg/m$^2$) and percentage of body fat (3%–43%) values. Conversely, those who wanted to lose more than 5 pounds (2.3 kg) tended to be overweight (mean BMI: 28.4 kg/m$^2$ (standard deviation, 4.2) and percentage of body fat: 26.5% (standard deviation, 5.7)) and also displayed a wide range in BMI (15–57 kg/m$^2$) and percentage of body fat (3%–55%) values.

Body weight satisfaction

Only 2% of obese men and one obese woman reported being satisfied with their weight. BMI, examination year, and ideal weight were all independent predictors of weight satisfaction. BMI was associated with a lower odds of weight satisfaction (women: odds ratio (OR) = 0.47, 95% confidence interval (CI): 0.44, 0.50; men: OR = 0.49, 95% CI: 0.48, 0.51; $P < 0.001$) and intentions to change weight (women: OR = 2.10, 95% CI: 1.89, 2.34; men: OR = 1.85, 95% CI: 1.76, 1.94; $P < 0.001$) after adjustment for examination year, ideal weight, and other covariates. In the same model, with each passing examination year, weight

![Figure 1](image1.png)

Figure 1. Ideal body weight over 14 years for participants in the Aerobics Center Longitudinal Study, United States, 1987–2001. Censored years for women (1989–1992) are due to the small sample cell sizes within that body mass index category (fewer than 15). White diamond: lean; grey diamond: overweight; black diamond: obese. Values are means adjusted for age, body mass index, smoking, ethnicity, and height.

![Figure 2](image2.png)

Figure 2. Change in ideal body weight between 1987 and 2001, by age and body mass index category, for participants in the Aerobics Center Longitudinal Study, United States, 1987–2001. White bar: lean; grey bar: overweight; black bar: obese. Results are standardized to men and women aged 25, 45, and 65 years, with a mean height of 70 inches (178 cm) for men and 65 inches (165 cm) for women and a body mass index of 22, 27, and 32 kg/m$^2$. 
Figure 3. Association of body satisfaction and obesity with intentions to change physical activity (panels A and B) or diet (panels C and D) for participants in the Aerobics Center Longitudinal Study, United States, 1987–2001. White bar: lean; black bar: overweight/obese. Lean individuals reporting body satisfaction were considered the referent (Ref) group. Panel A: Main effect of body satisfaction (women: OR = 1.09, 95% CI: 1.06, 1.11; men: OR = 1.07, 95% CI: 1.06, 1.07; P < 0.001) and less intention to lose weight (women: OR = 0.94, 95% CI: 0.90, 0.97; men: OR = 0.95, 95% CI: 0.94, 0.97; P < 0.001). Similar inverse observations were observed with weight discrepancy (results not shown).

Higher cardiorespiratory fitness also was independently associated with greater weight satisfaction (men: OR = 1.23, 95% CI: 1.18, 1.29; women: OR = 1.35, 95% CI: 1.23, 1.48) and less intention to lose weight (men: OR = 0.82, 95% CI: 0.76, 0.89; women: OR = 0.82, 95% CI: 0.69, 0.97; P_trend < 0.01 across age-specific quintiles). Additional adjustment for cardiorespiratory fitness attenuated these associations but did not alter the significance of the association of age, BMI, examination year, and ideal weight with body weight satisfaction.

Health behaviors

Individuals satisfied with their body weight were slightly younger (age 44.5 years vs. 45.0 years), had a lower BMI (23.8 kg/m² vs. 27.9 kg/m²), and had a lower percentage of body fat (18.8% vs. 28.8%) compared with men and women dissatisfied with their body weight. Weight satisfaction was also associated with higher levels of walking/jogging per week, higher cardiorespiratory fitness, less restrained eating, consumption of more fruits and vegetables, and higher self-rated health compared with those reporting body weight dissatisfaction (all P ≤ 0.01). Body weight satisfaction was associated with greater distance walked/jogged per week compared with those reporting body weight dissatisfaction, whereas BMI category was negatively associated with distance walked/jogged per week (men—overweight or obese: 18.9 km/week vs. 15.8 km/week; lean: 20.8 km/week vs. 18.6 km/week; women—overweight or obese: 14.4 km/week vs. 14.3 km/week; lean: 18.2 km/week vs. 17.3 km/week, respectively) after adjustment for age, ethnicity, and smoking for both men and women (P < 0.001). For men, there was a significant interaction between BMI category and body satisfaction on fruit and vegetable consumption such that only the overweight or obese men dissatisfied with their body weight consumed significantly fewer fruits and vegetables (overweight or obese: 14.9 vs. 13.6 per week; lean: 15.1 vs. 15.1 per week; P = 0.01). For women, only a positive main effect of body weight satisfaction was observed (overweight or obese: 17.8 vs. 15.7 per week; lean: 17.4 vs. 15.6 per week; P < 0.001).

Ninety-three percent of men and 95% of women who reported being dissatisfied with their weight also reported an intention to change their diet, whereas 95% of men and 94% of women intended to change their stamina or physical...
condition; 53% of men and 63% of women intended to change both. It is interesting to note that individuals satisfied with their weight also reported being less likely to intend to change their diet (OR = 1.9–8.1 across age and BMI

Table 1. Characteristics of Participants in the Aerobics Center Longitudinal Study, United States, 1987–2001

<table>
<thead>
<tr>
<th></th>
<th>Men (N = 15,221)</th>
<th>Women (N = 4,126)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Prevalence, %</td>
</tr>
<tr>
<td>Age, years</td>
<td>45.3 (9.6)</td>
<td>45.0 (10.1)*</td>
</tr>
<tr>
<td>Body mass index, kg/m²</td>
<td>27.1 (3.9)</td>
<td>23.9 (4.4)**</td>
</tr>
<tr>
<td>Body weight, kg</td>
<td>87.1 (14.2)</td>
<td>64.9 (12.6)**</td>
</tr>
<tr>
<td>Ideal body weight, kg</td>
<td>80.8 (9.2)</td>
<td>57.8 (6.6)**</td>
</tr>
<tr>
<td>Weight discrepancy, %</td>
<td>6.4 (7.4)</td>
<td>9.4 (9.1)**</td>
</tr>
<tr>
<td>Weight lost, kg</td>
<td>67.7 (123.3)</td>
<td>74.2 (159.1)</td>
</tr>
<tr>
<td>Food restrainta</td>
<td>2</td>
<td>3**</td>
</tr>
<tr>
<td>Frequency of caloric restrictiona</td>
<td>3</td>
<td>3**</td>
</tr>
<tr>
<td>Exercise distance, km/week</td>
<td>19.8 (23.4)</td>
<td>18.1 (22.7)**</td>
</tr>
<tr>
<td>Cardiorespiratory fitness, mL/kg per minute</td>
<td>41.4 (7.2)</td>
<td>35.4 (6.5)**</td>
</tr>
<tr>
<td>Current dieting</td>
<td>24.9</td>
<td>32.5**</td>
</tr>
<tr>
<td>Current smoker</td>
<td>15.8</td>
<td>8.1**</td>
</tr>
<tr>
<td>Body weight satisfaction</td>
<td>47.3</td>
<td>38.8**</td>
</tr>
<tr>
<td>Intention to change body weight</td>
<td>90.9</td>
<td>89.6**</td>
</tr>
<tr>
<td>Physical activity participation satisfaction</td>
<td>50.3</td>
<td>46.5**</td>
</tr>
<tr>
<td>Intention to change physical activity</td>
<td>91.4</td>
<td>89.9**</td>
</tr>
<tr>
<td>Diet satisfaction</td>
<td>61.7</td>
<td>54.0**</td>
</tr>
<tr>
<td>Intention to change diet</td>
<td>88.6</td>
<td>88.4**</td>
</tr>
</tbody>
</table>

Abbreviation: SD, standard deviation.

* P < 0.05; **P < 0.001: significantly different from men.

a Scale of 1 to 5, modes presented. Food restraint: 2 = eat somewhat more than I want; 3 = eat just what I want. Frequency of caloric restriction: 3 = sometimes.

Table 2. Correlations With Ideal Weight, Weight Discrepancy, and Body Mass Index for Men and Women in the Aerobics Center Longitudinal Study, United States, 1987–2001

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ideal Weight</td>
<td>Weight Discrepancy</td>
</tr>
<tr>
<td>Agea</td>
<td>−0.01</td>
<td>0.06*</td>
</tr>
<tr>
<td>Examination yeara</td>
<td>0.14*</td>
<td>0.05*</td>
</tr>
<tr>
<td>Body mass indexa</td>
<td>0.60*</td>
<td>0.83*</td>
</tr>
<tr>
<td>Weight lostb</td>
<td>0.28*</td>
<td>0.36*</td>
</tr>
<tr>
<td>Food restraintbc</td>
<td>0.03*</td>
<td>0.10*</td>
</tr>
<tr>
<td>Frequency of caloric restrictionbc</td>
<td>0.14*</td>
<td>0.32*</td>
</tr>
<tr>
<td>Exercise distanceb</td>
<td>−0.15*</td>
<td>−0.13*</td>
</tr>
<tr>
<td>Cardiorespiratory fitnessa</td>
<td>−0.26*</td>
<td>−0.46*</td>
</tr>
</tbody>
</table>

* P < 0.001.

a Pearson correlation.
b Spearman correlation.
c Food restraint: scale of 1 to 5—eat much more to much less than wanted; frequency of caloric restriction: scale of 1 to 5—never to always.
DISCUSSION

Lifetime weight lost

The total amount of weight lost over the lifetime was positively correlated with age (men only), examination year, ideal weight, and current BMI. Those who had reported losing more than 100 pounds (45.4 kg) in their lifetime had a higher BMI (28.0 kg/m² vs. 25.6 kg/m²) and ideal weight (78.5 kg vs. 74.6 kg), were more likely to report current dieting (OR = 1.5, 95% CI: 1.4, 1.6), and were less likely to be satisfied with their weight (OR = 0.34, 95% CI: 0.32, 0.37) than those who had lost fewer than 100 pounds in their lifetime (P < 0.001). Although these individuals also had subtly lower levels of cardiorespiratory fitness (38.7 mL/kg per minute vs. 40.4 mL/kg per minute, P < 0.001), there were no differences in self-reported exercise distance (19.0 km/week vs. 18.6 km/week, P > 0.10). In multivariable analysis, ideal weight, current BMI, and weight satisfaction were all independently associated with amount of weight lost over the lifetime for men and women. For men, there was a significant interaction between current BMI and weight satisfaction and a main effect of weight satisfaction (P ≤ 0.01), wherein men dissatisfied with their weight status tended to have lost more weight over their lifetime compared with those satisfied with their weight (lean: 97.8 kg vs. 87.6 kg; overweight: 126.1 kg vs. 104.8 kg; obese: 219.9 kg vs. 123.6 kg). For women, there was a significant main effect of BMI and weight satisfaction with no interaction (lean: 116.6 kg vs. 83.5 kg; overweight: 148.9 kg vs. 117.6 kg; obese: 258.6 kg vs. 127.4 kg; P ≤ 0.01).

RESULTS

Results of this study provide evidence of a cohort effect in which self-reported ideal weight has risen over time, particularly among more obese individuals. More importantly, we demonstrated that the secular increases in self-reported ideal weight are related to higher weight satisfaction for a given BMI. Although weight satisfaction is associated with healthier current lifestyle behaviors, it also is associated with less intention to change physical activity/stamina, diet, or body weight. These findings have important implications for the vast majority of the population who are overweight or obese and/or do not engage in healthy lifestyle behaviors.

In this study, we found that ideal weight is higher in more recent examination years among overweight and obese individuals, particularly younger individuals. This increase in the acceptance of higher weight is in accordance with a recent report that suggests that, over time, younger individuals are less likely to perceive themselves to be overweight, with no secular change observed among older individuals (3). Higher ideal weight in younger, more obese individuals also may reflect social networking of individuals with others of a similar weight classification (9). However, lean individuals are also reported to adopt body shapes similar to those of their obese peers (9), reflective of a secular trend toward greater obesity among younger individuals. Thus, it follows that the increases in ideal weight may well reflect the broader societal increases in average BMI (13). Because secular increases in obesity have occurred in both younger and older individuals, further research is necessary to clarify why greater weight acceptance over time was not observed among older adults.

While the magnitude of the change (0.2–0.3 kg/year) in ideal body weight in this study is smaller than other population-based US estimates over a similar time period (0.8–0.9 kg/year) (14), it should not be ignored. These differences may reflect the inclusion of nonwhite ethnicities in those studies, because increased weight acceptance over time is most evident in ethnic minorities (3). Nevertheless, these findings extend previous observations by demonstrating the potential negative impact of body weight acceptance. Higher ideal weight tended to be associated with lower weight dissatisfaction and several additional negative health behaviors: a higher prevalence of physical inactivity, lower cardiorespiratory fitness, greater food restraint, greater frequency of caloric restriction, lower consumption of fruits and vegetables, and greater lifetime weight lost, which is likely indicative of weight cycling. On the other hand, weight dissatisfaction was also found to be related to greater reported intentions to change those factors, even after adjustment for existing lifestyle differences. Negative health practices, in conjunction with the known consequences of increased obesity, may further compound future health consequences.

Given that a normal, stable weight, along with regular physical activity (15) and good dietary practices (16), is associated with positive health effects, both weight satisfaction and obesity appear to be linked with health behaviors and intentions to change. What is less clear is the potential interrelation between these characteristics and their relative importance in promoting health. Indeed, weight dissatisfaction could be beneficial in that it may lead to opportunities for positive changes in other facets of health behaviors as the individual progresses from precontemplation to contemplation for changing body weight and lifestyle simultaneously (17). A recent report suggests that men are less likely than women to perceive their overweight as a health risk factor and thus do not contemplate losing weight (10). However, without many effective and widely available weight loss maintenance interventions, it remains to be determined whether the negative effects of weight dissatisfaction outweigh the negative health effects of obesity.

It is remarkable that nearly all obese individuals reported being dissatisfied with their weight and that nearly all individuals dissatisfied with their weight, regardless of their BMI, stated an intention to change their diet, with just over half intending to change both diet and physical activity. This finding comes despite the clear evidence that changes in diet alone rarely produce durable effects in terms of weight reduction and may even lead to yo-yo dieting and even further increased health risk (18–20).

“Health at Every Size” (HAES) is an innovative approach that promotes overall health benefits of behavioral changes related to dietary habits and physical activity while
emphasizing self-acceptance and well-being (21). Compared with caloric restriction, HAES is reported to be associated with significant improvements in self-esteem, body image, eating behaviors, physical activity, and metabolic profile (21–23). Current consensus suggests that physical activity should be included in interventions aimed at weight loss or maintenance of weight loss (24); however, more work is necessary to determine whether HAES is superior to weight loss by physical activity/exercise with or without caloric restriction. Similar to HAES, exercise even without weight loss has been shown to be associated with improved eating behaviors (25), increased self-esteem (26, 27), metabolic improvements (28, 29), and improvements in body composition (30). Thus, the singular importance of weight satisfaction in the health-promoting effects of “nondieting” initiatives such as HAES is currently unknown.

Strengths and limitations

This study has several strengths and limitations. First, the Aerobics Center Longitudinal Study sample is a large, predominantly white, middle-to-upper-class cohort that may not be representative of the general US population with respect to perception of ideal weight and weight satisfaction, which limits generalizability of the results of our study, but not the internal validity. Indeed, the homogeneity of our study group regarding socioeconomic factors is a benefit because it reduces the likelihood of confounding by these factors. Whether similar results would be observed in other ethnic or sociodemographic groups, cultures, or countries that hold different values or norms regarding weight is currently unknown. An additional limitation of this study is that weight satisfaction and intentions to change body weight and lifestyle were assessed by using single-item questions as opposed to a standardized questionnaire. Similarly, diet and physical activity were characterized by using only one aspect: fruit and vegetable consumption and walking/jogging distance, respectively. This limitation may have restricted our ability to properly categorize individuals and may have resulted in underestimation of the strength of the present associations. Furthermore, because we did not have objectively measured diet or physical activity data, it is unknown whether there is also a cohort effect regarding the manner in which individuals perceive their diet and physical activity.

Nevertheless, the Aerobics Center Longitudinal Study is a unique data set that provides rich information on several factors related to diet, physical activity, and weight history. This data set also includes measured body composition and fitness information that, to our knowledge, is not available in other large epidemiologic studies. Future prospective analyses with multiple measures of ideal weight and weight satisfaction (using both subjectively and objectively measured lifestyle habits) will aid in further understanding these associations and in establishing their temporal sequence.

Summary

In conclusion, we have provided evidence that, in the Aerobics Center Longitudinal Study group, there have been secular increases in ideal weight perception, which relate to increased body satisfaction for a given BMI. Body weight satisfaction is associated with lower intentions to change weight, physical activity/stamina, or diet. In combination with the known consequences of obesity, failure to change lifestyle factors may further compound future health problems.

ACKNOWLEDGMENTS

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This work was supported by National Institutes of Health grants AG06945 and HL62508.

Conflict of interest: none declared.

REFERENCES


