Weight-Related Attitudes and Behaviors of Women Who Diet to Lose Weight: A Comparison of Black Dieters and White Dieters

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Abstract


Obesity is a significant health problem among black women in the United States. Black women are two to three times more likely than white women to be obese. The present study sought to examine race differences in attitudes and beliefs about dieting, motivations underlying dieting efforts, and actual dieting strategies and behaviors. To achieve this aim, a subset of female survey respondents (n = 324) was drawn from a pool of more than 20,000 subscribers to Consumer Reports. All survey respondents had made at least one dieting effort within 3 years of the time of the study. For this study, we used all black female respondents (n = 162) and a matched sample (i.e., matched on age, educational attainment, and personal income) of white women (n = 162). Black women did weigh significantly more than Caucasian women, therefore, BMI was used as a covariate in all subsequent analyses.

Black and white women were significantly different in a number of domains. Compared to white women, black women experienced less social pressure about their weight, initiated dieting later in life, and were significantly less likely to diet at each developmental milestone. However, the two groups of women did not differ in reasons for undertaking their most recent dieting efforts, or in the types of weight loss strategies they had employed. Nor were there differences between the black and white women in methods for coping responses with dietary relapse or in rates of disordered eating. These findings are discussed in terms of their implications for both treatment and prevention of obesity in black women.

Key words: obesity, race, weight control, relapse, eating disorders

Introduction

Obesity is a significant health problem among black American women. Several national health surveys in the U.S. have shown that black American women (subsequently referred to as black women) are two to three times more likely than white American women (subsequently referred to as white women) to be obese (1). In a comprehensive review of research of obesity in black women, Kumanyika (2) concluded that race differences in the prevalence of obesity may derive, in part, from culturally determined attitudes about weight and from differences in dieting behaviors. Specifically, Kumanyika and her colleagues have found that black women experience less social pressure to diet than white women and are relatively accepting of their body size even when overweight (3). Black women have been found to exhibit lower levels of dietary restraint (4, 5), and to stay on a diet for shorter time periods than white women (6). Compared to white women, black women have been reported to exercise less frequently and to be...
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less fit physically (7, 8). Considering these race differences, Kumanyika (9) has proposed that insufficient motivation to diet and use of relatively ineffective dieting strategies may be a key determinant of the high prevalence of obesity among black American women. The first aim of the present study was to examine race differences in attitudes and beliefs about dieting, reasons for dieting efforts, actual dieting strategies and behaviors, and ways of coping with dieting relapses in a sample of female dieters.

Studies suggest that among white women dieting may be a risk factor for binge eating (for review, see 10). For example, a majority of white women with bulimia nervosa recall that they engaged in a prolonged period of dieting to lose weight prior to the onset of binge eating (e.g., 11). Also, binge eaters report greater weight fluctuations than non-binge eaters, suggesting more frequent efforts to lose weight (12,13). Lastly, binge eaters are more likely than non-binge eaters to engage in inappropriate weight loss strategies such as purging (12). Research has not yet examined whether dieting black women show patterns of maladaptive weight control behaviors similar to those observed in white women. Thus, the second aim of this study was to compare black and white dieters on prevalence rates of binge eating and purging.

To achieve our study aims, the data of a subset of female respondents was extracted from a survey of more than 20,000 subscribers to Consumer Reports. All survey respondents had made at least one dieting effort within 3 years of the time of the study. Prior research has shown that demographic variables such as age and socioeconomic status (SES) are significantly correlated with attitudes, beliefs, and behaviors concerning weight control (3,4,14). Moreover, researchers have cautioned against race comparisons that do not control for race differences in SES. Therefore, a sample of black and white women matched for age, educational attainment, and personal income was used in this study.

Methods

Subjects
The total sample utilized in this study included 324 adult women (162 black, 162 white). Our study sample represented all those black women who participated in a survey conducted by Consumer Reports (among its members) and who had complete data on the matching variables of age, education, and personal income (162 of 231 black female respondents). A matched sample of white women was generated by randomly selecting women from the 9,651 white female survey respondents.

Procedure
Participants were recruited as part of a two-wave survey conducted by Yale University and Consumer Reports magazine. In wave 1, a series of questions evaluating commercial diet programs was included in the 1992 annual survey Consumer Reports magazine distributed to its subscribers to evaluate various consumer products and services. The results of the initial survey have been published elsewhere (15). At the end of this initial survey, subscribers were asked to indicate whether they would be willing to participate in a second survey. To be eligible, respondents had to have tried to lose weight within 3 years prior to the survey. Over 20,000 individuals returned this second survey.

Instrument
The wave 2 survey consisted of extensive questions about body image, weight, and dieting history, motivations for and beliefs about dieting and weight control, dieting practices, binge eating, and demographic information. Questions were developed based in part on topics covered in existing self-report and interview instruments (16-18). New questions were developed for areas where scales did not exist. The wave 2 questions of interest pertaining to this study are described in detail below.

Demographic Information
Demographic variables were gender, age, total household income (divided into seven categories: less than $30,000; $30-39,999; $40-$49,999; $50-59,999; $60-$74,999; $75-$99,999 and $100,000+), and level of education (junior high school or less; some high school, high school graduate, some college, college graduate, Masters degree, and Doctoral or professional degree).

Body Mass Index (BMI)
Body mass index (weight in kilograms/height\(^2\) in meters) was calculated based on subjects’ self-reported height and weight. Research has shown that self-reports are highly correlated with actual heights and weights and are sufficiently valid to use in epidemiological and survey studies (19, 20).

Social Pressures about Overweight, and Personal Attitudes and Beliefs about Thinness
Five items elicited information about social pressures about being overweight (e.g., Have you felt that others discriminate against you because of your weight?). Three questions provided an assessment of the importance of thinness to the respondent (e.g., Does your weight or shape influence the way you think about/judge yourself as a person?). Respondents rated each item on a five-point scale, ranging from 1 (never) to 5 (always).

1 The complete survey questionnaire is available upon request.
Table 1: Sample description

<table>
<thead>
<tr>
<th>Group</th>
<th>Black Women (N = 162)</th>
<th>White Women (N = 162)</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>SD</td>
<td>X</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>42.88 (10.72)</td>
<td>42.73 (10.52)</td>
<td>1.43</td>
<td>.24</td>
</tr>
<tr>
<td>Education</td>
<td>4.99 (1.16)</td>
<td>5.02 (1.17)</td>
<td>0.04</td>
<td>.85</td>
</tr>
<tr>
<td>Personal income</td>
<td>2.25 (1.37)</td>
<td>2.28 (1.39)</td>
<td>0.03</td>
<td>.87</td>
</tr>
<tr>
<td>Household income</td>
<td>3.57 (1.93)</td>
<td>3.63 (1.95)</td>
<td>0.07</td>
<td>.80</td>
</tr>
<tr>
<td>Height</td>
<td>65.01 (2.93)</td>
<td>64.60 (2.53)</td>
<td>1.79</td>
<td>.18</td>
</tr>
<tr>
<td>Weight</td>
<td>180.90 (47.53)</td>
<td>165.83 (43.54)</td>
<td>9.00</td>
<td>.003</td>
</tr>
<tr>
<td>BMI</td>
<td>30.16 (7.59)</td>
<td>27.92 (6.93)</td>
<td>7.68</td>
<td>.006</td>
</tr>
</tbody>
</table>

Note: Subjects were individually matched on age, education, and personal income. Education was rated on a scale from 1 (junior high school) to 8 (Doctoral or professional degree). A score of 5 indicates completion of college. Income was rated from 1 (less than $30,000) to 7 ($100,000 or more). A score of 2 indicates an income of $30,000 to $39,999. A score of 3 indicates an income of $40,000 to $49,999.

Reasons for Dieting
On a scale ranging from 1 (not at all important) to 5 (extremely important), respondents rated how important each of nine reasons was for undertaking their most recent weight loss program: health concerns, improving one's appearance, social pressure, wanting to feel better about self, an event (e.g., wedding, reunion), improved energy, improved social life, improved work performance, feeling physically uncomfortable.

Dieting History and Current Dieting Behaviors
Respondents reported how old they were when they first dieted, and they rated on a scale from 1 (never) to 5 (always), how often they were currently dieting, and how often they had consciously restricted their food intake to lose weight before puberty, during puberty, during pregnancy, just after pregnancy, and around the time of menopause.

Specific Weight Control Strategies
Respondents rated how consistently they used each of 10 weight-control strategies, on a scale from 1 (not at all) to 5 (a great deal). The specific strategies included the major strategies recommended in cognitive-behavioral weight control programs (e.g., avoiding high-fat foods, counting and reducing calories, exercising) (21).

Coping with Relapse
Seven questions elicited information about how respondents dealt with weight regain (e.g., feel terrible and go off the diet; start watching food intake more carefully; increase exercise). Items were rated on a scale from 1 (not at all likely) to 5 (extremely likely).

Disordered Eating
Several questions elicited information about overeating, binge eating (defined as overeating with a sense of loss of control during the eating episode), and purging (vomiting, laxative abuse, diuretics abuse). Moreover, respondents checked (yes/no) whether they had ever been diagnosed by a physician as having anorexia nervosa or bulimia nervosa.

Data Analyses
Because few studies have examined dieting-related attitudes and beliefs, or actual dieting strategies and behaviors, in black American women, our study was designed to offer detailed information in each of these domains. To test for race differences on continuous variables, multivariate analyses of variance (MANOVAs) were calculated, and significant MANOVA results were explored further by planned univariate comparisons. The variables were grouped into conceptually rated sets for MANOVAs and for each set of variables, significance levels for the planned post-hoc univariate comparison was determined by using the Bonferroni correction (p = .05 divided by the number of variables in a given set). For comparisons involving categorical variables, chi-square analyses were calculated.

Results
Sample Characteristics
By definition, the two samples did not differ significantly. The covariate was significant in all analyses (p < .001). Means reported in all tables are arithmetic means. Adjusted means are available upon request.
Table 2. Comparison of black and white women on social pressure about overweight, adjusted for BMI

<table>
<thead>
<tr>
<th>Group</th>
<th>Black Women (N = 162)</th>
<th>White Women (N = 162)</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>SD</td>
<td>X</td>
<td>SD</td>
</tr>
<tr>
<td>As a child or teenager...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>did other people consider</td>
<td>2.67 (1.63)</td>
<td></td>
<td>2.96 (1.52)</td>
<td></td>
</tr>
<tr>
<td>you overweight?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>were you ridiculed about</td>
<td>2.20 (1.40)</td>
<td></td>
<td>2.50 (1.43)</td>
<td></td>
</tr>
<tr>
<td>being overweight?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>did your mother criticize</td>
<td>1.90 (1.27)</td>
<td></td>
<td>2.23 (1.34)</td>
<td></td>
</tr>
<tr>
<td>your overweight?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>did your father criticize</td>
<td>1.63 (1.03)</td>
<td></td>
<td>1.99 (1.28)</td>
<td></td>
</tr>
<tr>
<td>your overweight?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As an adult...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>have you felt that other</td>
<td>1.65 (1.05)</td>
<td></td>
<td>1.74 (1.05)</td>
<td></td>
</tr>
<tr>
<td>people discriminated against</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>you because of your weight?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Bonferroni correction results in a p value of $p = .05/5 = .01$ for univariate comparisons. Questions were rated on a scale from 1 (Never) to 5 (Always).

Social Pressure and Personal Attitudes about Weight

As shown in Table 2, controlling for current BMI, white women reported significantly greater negative social pressure about their weight than black women (MANCOVA $F(5,306) = 2.41, p < .04$). White women endorsed each of the questions about social pressure during childhood or adolescence with higher ratings than black women; the question about discrimination based on overweight did not yield statistically significant race differences. The MANCOVA testing for race differences on questions tapping personal attitudes about the importance of thinness (see Table 3) was not significant (MANCOVA $F(3,319) = 1.47, p < .22$; data not shown).

Table 3. Comparison of black and white women on dieting history and current dieting

<table>
<thead>
<tr>
<th>Group</th>
<th>Black Women (N = 162)</th>
<th>White Women (N = 162)</th>
<th>F</th>
<th>p²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>SD</td>
<td>X</td>
<td>SD</td>
</tr>
<tr>
<td>Dieted before puberty</td>
<td>1.30 (0.74)</td>
<td></td>
<td>1.72 (1.15)</td>
<td></td>
</tr>
<tr>
<td>Dieted during puberty</td>
<td>1.67 (1.15)</td>
<td></td>
<td>2.39 (1.41)</td>
<td></td>
</tr>
<tr>
<td>Dieted during pregnancy</td>
<td>1.97 (1.46)</td>
<td></td>
<td>2.43 (1.59)</td>
<td></td>
</tr>
<tr>
<td>Dieted after pregnancy</td>
<td>2.53 (1.54)</td>
<td></td>
<td>2.98 (1.56)</td>
<td></td>
</tr>
<tr>
<td>Dieted during menopause</td>
<td>2.18 (1.41)</td>
<td></td>
<td>2.97 (1.48)</td>
<td></td>
</tr>
<tr>
<td>Currently dieting</td>
<td>3.49 (1.34)</td>
<td></td>
<td>3.59 (1.21)</td>
<td></td>
</tr>
</tbody>
</table>

¹Due to the age range observed in our sample, not all women had reached menopause, thus reducing to total sample size to N = 147 for this variable. Not all women had experienced pregnancy, thus recurring total sample to N = 149 for questions about pregnancy. Questions were rated on a scale ranging from 1 (Never) to 5 (Always).
²Using Bonferroni correction, the p value for this set of variables is $p = 0.05/6 = 0.008$. 
Current Weight Loss Program

The results of a MANCOVA testing for race differences on variables related to the use of a variety of specific weight loss strategies commonly recommended as part of a cognitive-behavioral weight control program were significant (MANCOVA $F = 2.04, p < .03$; covariate $F = 9.63, p < .0001$). However, as shown in Table 5, univariate comparisons did not reach the required level of significance once Bonferroni correction was applied. It is interesting to note that both groups of women indicated that the strategies used most consistently involved avoiding high fat foods (e.g., red meat, fried foods) and eating low-fat foods (e.g., low-fat milk, fruits and vegetables).

Coping with Relapse

The MANCOVA comparing black women and white women on their response to relapse was significant ($F(7,304) = 2.01, p < .05$). As shown in Table 6, univariate comparisons did not reach statistical significance. In both groups, the predominant response to dietary relapse was to be more vigilant about one’s food intake.

Disordered Eating

Because of the well-established link between obesity and binge eating (e.g., 12, 13) categorical data based on questions about binge eating, purging, and history of an eating disorder were analyzed separately for non-obese (BMI < 32.3) and obese women (BMI = 32.3 or greater). The comparisons of non-obese black women and white women regarding their prevalence rates of overeating (37.8%, 41.4%; $X^2 = 0.32, p = .57$), binge eating (23.3%, 19.3%; $X^2 = 0.38, p = .54$), and purging

3It is highly likely that the actual lifetime prevalence rates for eating disorders in this sample are underestimated by this survey question. Respondents were asked to indicated whether they had been diagnosed by a physician to suffer from the eating disorder. Recent research has shown that only a subset of individuals with a clinical eating disorder come to the attention of a medical professional (22).
Table 5. Race differences in the consistent use of various weight loss strategies

<table>
<thead>
<tr>
<th>Group</th>
<th>Black Women (N = 162)</th>
<th>White Women (N = 162)</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Avoid high fat foods</td>
<td>3.79 (1.10)</td>
<td>3.99 (1.10)</td>
<td>1.01</td>
</tr>
<tr>
<td>Eat low fat foods</td>
<td>4.15 (0.97)</td>
<td>4.34 (0.87)</td>
<td>1.60</td>
</tr>
<tr>
<td>Count calories</td>
<td>2.70 (1.20)</td>
<td>2.68 (1.18)</td>
<td>0.24</td>
</tr>
<tr>
<td>Eat few high fat foods</td>
<td>3.35 (1.10)</td>
<td>3.23 (1.00)</td>
<td>1.09</td>
</tr>
<tr>
<td>Weigh myself often</td>
<td>3.43 (1.57)</td>
<td>3.75 (1.50)</td>
<td>2.11</td>
</tr>
<tr>
<td>Keep weight within a set range</td>
<td>3.57 (1.43)</td>
<td>3.74 (1.29)</td>
<td>0.07</td>
</tr>
<tr>
<td>Keep a set clothing size</td>
<td>3.82 (1.32)</td>
<td>3.93 (1.21)</td>
<td>0.0</td>
</tr>
<tr>
<td>Exercise</td>
<td>3.37 (1.23)</td>
<td>3.58 (1.22)</td>
<td>0.71</td>
</tr>
<tr>
<td>Solicit social support</td>
<td>2.30 (1.22)</td>
<td>2.54 (1.22)</td>
<td>3.06</td>
</tr>
<tr>
<td>Tell myself how well I am progressing</td>
<td>3.12 (1.32)</td>
<td>2.81 (1.19)</td>
<td>6.64</td>
</tr>
</tbody>
</table>

Note. Questions were rated on a scale from 1 (Not at all) to 5 (A great deal). Using Bonferroni correction, the p value for this set of variables is p = .05/10 = .005. None of the univariate comparisons was statistically significant.

Table 6. Race differences in coping responses to dietary relapse

<table>
<thead>
<tr>
<th>Group</th>
<th>Black Women (N = 162)</th>
<th>White Women (N = 162)</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Treat it as a small mistake, and recover</td>
<td>3.27 (1.18)</td>
<td>3.11 (1.08)</td>
<td>4.35</td>
</tr>
<tr>
<td>Feel terrible, go off diet</td>
<td>2.39 (1.36)</td>
<td>2.29 (1.14)</td>
<td>0.00</td>
</tr>
<tr>
<td>Increase exercise</td>
<td>2.81 (1.27)</td>
<td>2.78 (1.21)</td>
<td>0.56</td>
</tr>
<tr>
<td>Start watching food intake more carefully</td>
<td>3.62 (1.06)</td>
<td>3.56 (1.05)</td>
<td>1.69</td>
</tr>
<tr>
<td>Start skipping meals</td>
<td>2.04 (1.31)</td>
<td>1.66 (1.14)</td>
<td>6.37</td>
</tr>
<tr>
<td>Ask a friend/spouse for help</td>
<td>1.42 (0.89)</td>
<td>1.46 (0.84)</td>
<td>0.11</td>
</tr>
<tr>
<td>Start weight loss program</td>
<td>2.49 (1.41)</td>
<td>2.39 (1.23)</td>
<td>.069</td>
</tr>
</tbody>
</table>

Note. Questions were rated on a scale ranging from 1 (Not at all likely) to 5 (Extremely likely). Using Bonferroni correction, the p value for this set of variables is p = .05/7 = .007. None of the univariate comparisons was statistically significant.

Discussion

A major aim of this study was to examine race differences in attitudes and beliefs about dieting, motivations underlying dieting efforts, actual dieting strategies and behaviors, and ways of coping with relapse in a sample of female dieters. This information is important as there are limited data available about dieting among nonclinical, community samples of adult women. In fact, most of our knowledge about dieting and weight loss treatments stem from generalizations that have been made based on samples of clinic patients (23, 24).

Although our sample was fairly homogeneous on several factors which included socioeconomic status (i.e., most from middle to high income brackets) and (17.1%, 12%; X² = 1.25, p = .26) were non-significant. The race comparisons for obese black women and white women were non-significant regarding overeating (57.5%, 45.5%; X² = 1.12, p = .29), and binge eating (30.6%, 22.7%; X² = 0.42, p = .52). However, a significant race difference was found for history of purging (27.7%, 6.3%; X² = 5.67, p < .02) with more obese black women acknowledging purging than white obese women. A history of anorexia nervosa was reported by only two white women, one currently in the obese weight category. A history of bulimia nervosa was reported by only one white woman in the obese sample, and by three black women and two white women in the non-obese group.3
self-reported dieting status (all study participants had made at least one dieting attempt within the past 3 years), we felt that this would provide an initial conservative test of race differences in dieting behavior and that any race differences would be particularly informative. Black and white women were significantly different in a number of domains.

Compared to white women, black women were less likely to have experienced social pressure about their weight. White women reported being criticized and ridiculed about their weight to a significantly greater degree and were more likely to have been considered overweight than black women. These differences were present even after covarying out the effects of weight status. These data suggest that black and white women receive very different messages about their weight and eating during childhood and adolescence. These differences in social pressures may be one reason why we found that black women initiated dieting at a later age than did white women. Moreover, we found that black women and white women also differed in the degree to which they dieted at each developmental milestone. In particular, white women were significantly more likely to have dieted before puberty, during puberty, after pregnancy, and menopause. Future research is needed to track the changes in weight and dieting behavior across the life span for black and white women.

Although our data suggest a differential time course for the age of onset of dieting and for the tendency to diet at different developmental milestones for black and white women, it appears that once black women become "dieters" they may be more similar to white women than different. We did not find any significant differences between black and white women on their personal attitudes about their weight (such as how important weight was in defining their self-worth) or in the reasons they had for undertaking their most recent dieting effort. For both groups of women, most frequently endorsed reasons for dieting included feeling better about themselves and improving their appearance.

Black and white women also did not differ in the types of weight loss strategies that they had employed. It is interesting to note that the strategies most consistently used were avoiding high fat food and eating low fat foods. In addition, both black and white women reported trying to keep their weight within a particular range and to a particular clothing size. Moreover, black and white women did not differ in the types of coping responses they used when confronted with a dietary relapse. Their predominant response to dietary relapse was to be much more vigilant about their food intake. Unfortunately, we did not obtain measures of dieting; hence, we recommend that future investigators assess the intensity of black and white women's dieting efforts. Previous data have indicated that white women may diet with more fervor than do black women and if this is true, it may, in part, account for the lower rates of obesity seen in white women in comparison to black women.

A subsidiary aim of this study was to examine rates of disordered eating for these two different race groups. Our data suggest that black women and white women are at equal risk for developing recurrent patterns of binge eating. These data are important as they are consistent with other recent data (13, 25, 26) which suggest that many more black women suffer from eating disturbance than previously suspected. Since so little is known about the relationship between ethnicity and eating disturbance, it will be important for future studies to assess the relationship among important factors such as degree of acculturation, dieting, adiposity and recurrent overeating.

Future studies are also needed to assess how various cultural factors such as social and economic status affect dieting behavior. Certainly, it will be important to determine barriers that may be inherent in treating overweight clients from low income backgrounds (e.g., unemployment, violence, and stress) in comparison to those from middle to high income backgrounds. In addition, given that black women are more likely to drop out of weight loss treatments than white women (27), effective recruitment and retention strategies need to be developed.

Acknowledgments
The authors thank Consumer Union and the staff of Consumer Reports magazine for their role in designing the survey and collecting the data. We also thank the Fetzer Institute, which provided support for distributing the survey and data analysis. The interpretation of data reflects the work of the authors and does not necessarily represent positions of Consumer Union or the Fetzer Institute. We gratefully acknowledge Dr. Theresa Claire's assistance in analyzing the data.

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