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A Comparison of Weight-Control Behaviors in African American and Caucasian Women

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Objectives: The purpose of the present study was to examine whether there are overall differences in help-seeking, in specific weight control behaviors used, and in predictors of seeking professional help for weight loss between African American and Caucasian women.

Design: Cross-sectional study

Setting: Participants were recruited from community sources in Philadelphia.

Participants: One hundred twenty female participants were studied. Of these, 58% were African American.

Main Outcome Measures: Participants completed a packet of measures assessing weight-control behaviors, body mass index, co-morbid medical conditions, socioeconomic status, disordered eating behavior, and body image.

Results: Caucasian women were significantly more likely to be classified as high help-seekers than were African American women, $\chi^2=4.27$, $P=.04$. Caucasian women were more likely to use commercial weight loss programs, $\chi^2=4.25$, $P=.04$, while African American women were more likely to try herbal supplements for weight control, $\chi^2=6.21$, $P=.01$. Higher scores on a measure of body image, responsiveness to the food environment, and the disinhibition and hunger subscales of the Three-Factor Eating Questionnaire (TFEQ) predicted seeking professional help for Caucasian women only.

Conclusions: The results indicate that African American and Caucasian women differ in overall weight-control efforts as well as in specific behaviors used. Furthermore, interactions were found between some factors associated with help-seeking and ethnicity. A better understanding of how available programs could be augmented to address the needs of African American and other minority groups is necessary. (*Ethn Dis*. 2007;17:262–267)

Key Words: Dieting, Ethnicity, Help-Seeking, Obesity, Treatment-Seeking

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Introduction

Obesity is a risk factor for a number of adverse medical outcomes, including diabetes, hypertension, hyperlipidemia, cardiovascular disease, stroke, and certain cancers.[1] In the United States alone, 66% of all adults are overweight or obese.[2] Obesity rates climb above these overall US prevalence estimates in some ethnic groups, including Hispanic Americans, Native Americans, and African American women.[3,4]

Most obese individuals do not seek professional help to control their weight.[5,6] In one study, among women who reported that they were attempting to lose weight, 50.9% of those who were overweight and 48.2% of those who were obese reported that they were doing so without outside assistance.[7] Therefore, although a significant proportion of overweight and obese women are trying to lose weight, we have little understanding of what may differentiate those who do and do not seek more formal assistance. We found in a community sample predominantly composed of African American and Caucasian participants that seeking ongoing external assistance for weight control was associated with psychosocial aspects of obesity, including obesity-related knowledge, distress associated with psychiatric symptoms, and concern about body shape and weight, rather than obesity's physical or medical burden.[8] The results indicated no differences in help-seeking as a function of socioeconomic status (SES).

A review of the relationship between ethnicity and eating behavior noted that by collapsing across subgroups, we may be missing important ethnic distinctions and life circumstances that could be especially relevant to weight control.[9] Therefore some studies have focused on examining weight loss behaviors used by specific ethnic groups. For example, data have shown that African Americans engage in high levels of dieting behaviors.[10] However, the strategies chosen (eg, counting calories, starting an exercise plan, avoiding certain foods/food groups) are more likely to be tried on one's own rather than by seeking outside assistance.[11,12]

The purpose of the present study was to examine overall differences in help-seeking between African American and Caucasian women. Secondly, the present study investigated differences in specific help-seeking behaviors used by African American and Caucasian women. Finally, we examined differences between African American and Caucasian women on potential predictors of help-seeking behavior in order to understand what factors are associated with the decision of individuals from two different ethnic backgrounds to seek assistance for weight control. Because help-seeking for weight control is much more common in women than in men,[13,14] only women were studied.

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Methods

Participants

One hundred twenty female participants were recruited. Inclusion criteria were having a body mass index (BMI) >25 kg/m^2 and being between the ages

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of 21 and 65 years. There was no upper limit exclusion criterion for BMI. Demographic characteristics of the sample are displayed in Table 1. The mean SES level of the sample was 38.69 (on a scale of 9–66) on the Four Factor Index of Social Status,[15] which indicated that the average participant was from the middle socioeconomic class. Most participants were in the fourth Hollingshead category (of five, with five being the highest SES category), with all categories represented. The five categories correspond to low, lower middle, middle, upper middle, and upper socioeconomic class. The mean BMI of participants was 34.66 ± 7.05 kg/m^2 (range=25.01–63.64). Sixty-five percent of the sample was obese, and 16% had a BMI ≥40 kg/m^2. Overall, these data suggest that the sample recruited was diverse in terms of educational background, SES, and body mass.

Participants were recruited from community settings and offered either monetary compensation or attendance at a seminar on weight control and nutrition as an incentive for participation. Participants were drawn from two sources. We invited individuals who expressed interest in a workplace-based intervention for the prevention of weight gain but had not enrolled in this project. Potential participants were contacted via telephone or email and were provided information about the present study. Fifty-two of the 88 individuals contacted met criteria and agreed to participate in the present study. Of these, 34 (65%) completed the questionnaire packet. The second recruitment source was an ad placed in the *Metro* (a newspaper offered free of charge on all South Eastern Pennsylvania Transportation Association [SEPTA] vehicles and stations). Three hundred people responded to the ad, and the first 113 were sent a questionnaire packet. Of these, 86 (76%) completed the questionnaire packet. The combined 120 participants overwhelmingly selected monetary compensation over the seminar as remuneration (112 selected payments, while 8 selected the seminar).

Procedures

Participants were asked to fill out a packet of questionnaires, which were completed at home and returned via mail. Task completion took approximately one hour. Participants who agreed to these requirements signed an informed consent form.

Measures

Measures included as possible predictors of help-seeking were selected on the basis of their relationship with help-seeking as demonstrated in previous studies.

Help-Seeking

Previous studies have used a categorical approach to ask whether or not participants have sought outside assistance for weight control to classify their efforts as indicative of high vs low help-seeking.[16] In the present study, partic-

Table 1. Demographic characteristics of the sample

	African Americans (*n*=70)	Caucasians (*n*=42)
Mean age (years)	39.77 (11.00)	39.31 (12.67)
Mean BMI (kg/m^2)	36.45 (7.66)	29.64 (5.14)
Mean SES level	38.03 (13.59)	40.00 (13.04)
Marital status		
Single	41 (59%)	19 (45%)
Married	18 (26%)	12 (29%)
Divorced	6 (9%)	4 (10%)
Partnered	1 (1%)	3 (7%)
Widowed	1 (1%)	2 (5%)
Separated	2 (3%)	2 (5%)
Unknown	1 (1%)	0 (0%)
Education level		
Less than 7th grade	1 (1%)	0 (0%)
Partial high school	4 (6%)	1 (2%)
High school graduate	8 (12%)	8 (19%)
Partial college/specialized training	35 (51%)	10 (24%)
Standard college	17 (25%)	14 (33%)
Graduate/professional degree	4 (6%)	9 (21%)
Unknown	1 (1%)	0 (0%)

Results are given as mean (SD) (age, BMI, SES) or *n* (%).
BMI=body mass index; SES=socioeconomic status.

Table 2. Help-seeking category and percentage of participants who used each behavior

Weight Loss Behavior	% African American Women Who Used	% Caucasian Women Who Used
Cut back on eating certain types of foods (eg, fats, carbohydrates)	96	95
Used my own willpower	86	71
Cut calories on my own	74	88
Started my own exercise plan	73	83
Joined a gym to start my own exercise program	64	67
Used meal replacements (eg, Slim Fast, protein bars)	58	57
Diet pills (eg, Dexatrim)	55	43
Joined an exercise class	48	55
Sought the advice of a physician, nutritionist, or other health professional	44	36
Purchased and followed a self-help book (eg, Atkins Diet, Zone Diet)	33	45
Commercial weight-loss program (eg, Weight Watchers, Jenny Craig, LA Weight Loss)	30	50
Took herbal supplements	42	19
Sought advice from a personal trainer or other exercise expert	28	29
Internet diet plan	12	12
Hired a personal trainer	7	14
Hospital- or university-based weight-loss program	6	5
Went to a hypnotist	4	12
Psychotherapy	3	2

ipants were asked to indicate first if they had ever tried to lose weight; those who said "yes" were asked to indicate what behaviors they had tried to control their weight. French and Jeffrey[17] used a similar approach to measure the construct "dieting practices." The list used in the present study was adapted from this study,[17] with additions. Table 2 depicts the help-seeking behaviors surveyed and the percentage of participants by ethnicity who tried them.

On the basis of their responses, participants were grouped into one of two categories, low help-seeking or high help-seeking. The low help-seeking category consisted of those individuals who had never taken the step of enrolling in a weight control program. This also included those who answered "no" to "have you ever tried to lose weight," those who had dieted without relying on any structured program (eg, following a diet book, cutting calories, using medications), and those who had sought advice from a professional but without ongoing assistance. The high help-seeking category consisted of individuals who had sought ongoing help from a professional (eg, hiring a personal trainer, psychotherapy) or an organization (eg, Weight Watchers, Overeaters Anonymous).

Ethnicity

Participants were asked to indicate what ethnicity they considered themselves from a list of choices, including a space to denote "other."

Body Mass Index

Participants were asked their current weight and height in order to calculate BMI. The use of self-reported weights has been widely studied. A meta-analysis of studies that used self-reported weight suggested that they are sufficiently accurate.[18] Other studies have indicated that self-reported weight and measured weight are highly correlated.[19,20] In one study,[20] the mean difference between self-report and actual weight was 2.0 kg higher for actual weight. In another study conducted by the National Center for Health Statistics, Centers for Disease Control and Prevention,[19] which included a large number of Caucasian and African American participants, a similar degree of underreporting self-reported weight, -0.62 km/m^2, was detected. This study further reported high sensitivity in classifying overweight or obesity from self-reported weights for both Caucasian and African American women.

Medical Risks

The Weight and Lifestyle Inventory (WALI)[21] assesses weight and dieting history, eating and exercise habits, medical history, and relationships with family and friends. The WALI includes a one-page checklist that assesses the presence of medical conditions associated with obesity. This was used in the present study, with the addition of "high cholesterol." The total number of conditions indicated was the instrument's score.

Eating Behavior

The 65-item version of the Three-Factor Eating Questionnaire (TFEQ),[22] which is the expanded version of the original,[23] assesses cognitive restraint, disinhibition, and hunger. Restraint measures the tendency to control food intake in order to prevent weight gain or achieve weight loss. Disinhibition assesses tendencies toward overeating evoked by various situations. Hunger measures the susceptibility to feelings of hunger, as well as the tendency to eat when feeling hungry. The TFEQ disinhibition (α=.91) and TFEQ hunger (α=.85) subscales have

adequate internal consistency.[23] Their ability to predict various aspects of eating behavior (eg, binge severity) has been demonstrated.[22] Items are either true/false or multiple choice response format. Sample items include "Sometimes when I start eating I just can't seem to stop" (from the disinhibition subscale) and "I am always hungry so it is hard for me to stop eating before I finish the food on my plate" (from the hunger subscale). The 18-item Power of Food Scale (PFS) scale, designed to assess the perceived psychological influence of food in the environment, was also administered. It separately measures the perceived influence of food when it is available but not present, present but not tasted, and tasted. Research from Lowe et al[24] supports the reliability and validity of the PFS. In a sample of 563 respondents, the PFS was internally consistent, α=.93, and temporally stable, r=.80. It is highly correlated with measures of hunger, disinhibited, emotional, and external (ie, eating that occurs in response to food-related stimuli) eating. These findings indicate that the PFS reflects global level of appetitive responsiveness to the food environment. Sample items on the PFS include "I often think about what foods I might eat later in the day" and "I get more pleasure from eating than I do from almost anything else."

Quality of Life

Quality of life was assessed by using the Impact of Weight on Quality of Life-Lite (IWQOL-Lite),[25] a 31-item self-report instrument used to measure the impact of obesity and weight reduction on quality of life. This scale consists of five subscales (physical function, self-esteem, sexual life, public distress, and work), which have demonstrated construct validity and excellent reliability in a large ethnically diverse sample, with an overall Cronbach α of .96.[25] Confirmatory factor analysis has provided support for the five-factor structure, and changes over time in scoring on the IWQOL-Lite correlate significantly with changes in weight. Sample items include: "Because of my weight I have trouble with mobility" (from the physical function subscale) and "Because of my weight I am less productive than I could be" (from the work subscale).

Body Image

The 34-item Body Shape Questionnaire (BSQ)[26] measures concern about body weight and shape. Rosen et al conducted extensive psychometric studies on the BSQ and demonstrated strong test-retest reliability, r=.88, as well as concurrent and criterion-related validity (eg, it is highly correlated with other measures of body image not specifically focused on weight).[26] Items assess dissatisfaction, preoccupation with and embarrassment about shape and weight, and avoidance of activity because of perceptions about shape and weight. Sample items include: "Have you felt so bad about your shape that you have cried?" and "Have you not gone out to social occasions (eg, parties) because you have felt bad about your shape?"

Socioeconomic Status

Socioeconomic status (SES) was measured by using Hollingshead's Four-Factor Index of Social Status.[15] This method uses the head(s) of the household's occupation and income to measure SES and is the most widely used method for assessing SES. Scores on this measure are distributed across five categories corresponding to low, lower middle, middle, upper middle, and upper socioeconomic class.

Statistical Analysis

Analyses used the SPSS 12.0 statistical package. Statistical tests are two-tailed, and a P value (α level) of .05 or less was chosen as the level of statistical significance. The eight subjects who did not identify themselves as African American or Caucasian were omitted from the following analyses. Chi-square tests were used to examine differences on dichotomous measures. To compare scores on the predictor variables between high and low help-seekers, 2×2 Multivariate Analyses of Covariance (MANCOVA) were used, with ethnicity as one level (eg, African American or Caucasian) by help-seeking (eg, high or low). Socioeconomic status (SES) was entered as a covariate. To reduce the number of comparisons, measures were analyzed together in a MANCOVA if they were highly correlated (the TFEQ subscales and the PFS) or were subscales of the same overall measure (the subscales of the IWQOL). Significant MANCOVAs were followed up by univariate ANCOVAs. The ANCOVA models were used on those measures that could not be logically grouped into MANCOVAs.

RESULTS

Preliminary Analysis

No difference was seen between African American and Caucasian participants in age or SES level. The association between SES and help-seeking level was significant, r=.24, P=.01; therefore SES was entered as a covariate in the primary analyses. African American women had a significantly higher mean BMI, 36.45 vs 29.64 kg/m^2, df=109, t=5.10, P=.00, 95% confidence interval (CI) 4.16–9.46. Given this finding, we compared the two groups on measures of obesity's medical burden. We detected no difference between African American and Caucasian on a number of co-morbid medical conditions. African American women had significantly higher scores on the IWQOL physical function subscale, t=2.77, df=109, P=.01, 95% CI=1.41–8.47.

Primary Analyses

Caucasian women were significantly more likely to be in the high help-seeking group than were African Amer-

Table 3. Means and standard deviations of significant interactions between predictors of help-seeking and ethnicity

	African Americans (n=70)		Caucasians (n=42)				
	High Help-Seeking	Low Help-Seeking	High Help-Seeking	Low Help-Seeking	F	*df*	*P* value
BSQ	93.80 (21.82)	104.71 (34.31)	112.24 (30.58)	89.55 (27.30)	7.00	1,99	.01
TFEQ-D	7.88 (3.77)	8.27 (5.32)	11.63 (4.34)	7.22 (3.35)	5.39	1,89	.02
TFEQ-H	4.38 (2.90)	5.59 (2.94)	8.26 (3.65)	5.50 (3.35)	7.63	1,89	.01
PFS	48.49 (15.16)	51.03 (18.60)	66.37 (18.61)	48.72 (17.07)	6.19	1,89	.02

BSQ=Body Shape Questionnaire; TFEQ-D=Three Factor Eating Questionnaire disinhibition subscale; TFEQ-H=Three Factor Eating Questionnaire hunger subscale; PFS=Power of Food Scale.

ican women, χ^2=4.27, P=.04, likelihood ratio (LI)=4.26. A comparison of the specific weight control behaviors tried was also conducted. Caucasian women were significantly more likely to join a commercial weight-loss program, χ^2=4.25, P=.04, LI=4.22, and Caucasian women tended to be more likely to try cutting calories, χ^2=3.20, P=.07, LI=3.40. African American women were more likely to take herbal supplements, χ^2=6.21, P=.01, LI=6.51 and and they tended to be more likely to use their own willpower, χ^2=3.26, P=.07, LI=3.17, for weight control. No other differences were detected across the other weight-control methods assessed.

Analyses examining the interaction between ethnicity and predictors of help-seeking were examined. Table 3 depicts the results of these analyses. Ethnicity interacted with scores on the BSQ, the PFS and the disinhibition and hunger subscales of the TFEQ to predict help-seeking in Caucasian women only. Follow-up univariate ANOVAs with Bonferroni's correction demonstrated that the TFEQ hunger subscale and the PFS displayed the same significant relationships, while the TFEQ disinhibition subscale yielded a marginally significant result (P=.06).

DISCUSSION

Our results suggest that African American and Caucasian women generally differ in their choice of weight control methods. African American women were more likely than Caucasian women to be grouped in the low vs high help-seeking category, but no difference was seen between the two groups on SES level. The distinction between low and high help-seeking was meant to capture seeking ongoing assistance from external sources versus seeking no assistance or assistance not involving others. In our sample, African American and Caucasian women did not differ in regard to SES, which eliminates financial barriers as a reason for less help-seeking from external sources among African American women.

Further examination of the specific strategies surveyed in the present study revealed that in some instances African American and Caucasian women employ different types of weight control approaches. Consistent with previous research, Caucasian women were more likely to use commercial weight loss programs than African Americans.[27] The comparatively greater use of herbal supplements by African Americans was also demonstrated in our sample. Two large-scale reviews have come to contradictory conclusions about the safety of herbal supplements for weight control.[28,29] Given the potential risks associated with herbal supplements, their differential use should be further investigated.

Interactions between ethnicity and predictors of help-seeking from external sources were examined. For Caucasian women, scores on measures of concern about shape and weight, perceived psychological influence of food in the environment, hunger, and disinhibited eating predicted external help-seeking. None of the variables examined predicted African Americans' classification in this group. Caucasian women's greater concern, relative to African American women's, over body shape and weight has been well-documented.[4,30,31] Caucasian women were also more likely to seek outside assistance because of their response to the food environment and aspects of eating behavior.

The present study had limitations. The weight and height data used to calculate BMI were based on participant report rather than direct measurement. Despite research suggesting that self-report and measured weights are highly correlated,[19,20] if this discrepancy did vary with high-seeking level, our analyses of BMI as a predictor could have been biased. Similarly, the measure of co-morbid medical conditions was based on participant report of such conditions. Physician ratings evaluating the severity of these conditions as well as an overall assessment regarding participants' health would have been desirable. Certainly the gold-standard would be the measurement of accompanying biological indictors (eg, blood pressure, cholesterol levels).

Bias could have been introduced by recruiting participants who had initially expressed interest in a workplace-based intervention to prevent weight gain. However, preliminary analyses showed that by drawing participants from these two community bases, variability across participants actually increased, which strengthens the generalizability of these findings. At the same time, the fact that

The present study suggests that African American women do not seek professional assistance for weight control as frequently and for the same reasons as Caucasian women.

there were no group differences in help-seeking suggests that combining the two groups did not bias the results.

The present study suggests that African American women do not seek professional assistance for weight control as frequently and for the same reasons as Caucasian women. Therefore we need to continue learning how to make available programs more attractive to a wider range of individuals and to continue developing culturally sensitive weight-loss programs, as has been reviewed.[32] Finally, African American men have been grossly understudied. We must begin to explore weight control behaviors and barriers to weight control among other underrepresented groups.

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AUTHOR CONTRIBUTIONS

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