DENIAL OF LOSS OF CONTROL EATING IN OVERWEIGHT AFRICAN-AMERICAN AND CAUCASIAN WOMEN

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ABSTRACT 

This study examined whether admittance of loss of control over eating distinguished African-American women who were binge eaters from overeaters. Participants were 86 African-American and 31 Caucasian women (mean age=41.49) seeking services in an independent weight management study. Participants were divided into 1 of 3 groups based on scores on the Eating Disorder Examination and the Binge Scale Questionnaire. African-American women who denied loss of control, but endorsed behavioral indicators of loss of control eating, did not differ in eating pathology from those who admitted loss of control or consistently denied loss of control. Caucasian women who denied loss of control, but endorsed behavior indicators of loss of control eating, did not differ in eating pathology from those who consistently denied loss of control, but did differ from those who admitted loss of control. Self-reported eating pathology is not sufficient to distinguish African-American overeaters and binge eaters.
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INTRODUCTION

Overweight and obesity have become significant health problems in the United States (US). The National Heart, Lung, and Blood Institute (NHLBI; 1998) has reported that approximately 97 million adults in the US are overweight or obese. In a report on the state of overweight and obesity in the US, the NHLBI (1998) defined overweight as a body mass index (BMI) between 25 and 29.9 kg/m² and obesity as a BMI of or greater than 30 kg/m²; while overweight and obesity refer to different BMI categories, people who are obese are also considered to be overweight. Overweight and obesity are both health risks associated with hypertension, high blood cholesterol, type 2 diabetes, coronary heart disease, and increased morbidity; and as one’s weight increases, so does the risk of developing a co-morbid disease (NHLBI, 1998).

The NHLBI (1998) has also reported that overweight and obesity disproportionately affect minorities in the United States. Results of the Third National Health and Nutrition Examination Survey (NHANES III; 1988-1994) indicated that 59.4% of men and 50.7% of women in the US are overweight or obese. However, prevalence rates among minorities are much higher with 66% of African-American women, 65.9% of Mexican-American women, and 63.9% of Mexican-American men being diagnosed as overweight or obese. Furthermore, while 25% of the women in the United States are obese, 36.7% and 33.3% of African-American women and Mexican-American women respectively are obese. This ethnic disparity in prevalence of

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overweight and obesity prompts the need for greater research of overweight and obesity among minority groups. This need is especially important for African-American women since they exceed all other groups in terms of prevalence of overweight and obesity.

Overweight and Obesity in African-American Women

Researchers have attempted to determine the cause of maintained overweight and obesity in African-American women. Previously, researchers had suggested that African-American women are satisfied at higher weights than Caucasian women (Caldwell et al., 1997). However, a recent report by Davis et al. (2005) cited evidence that African-American women are in fact dissatisfied with being overweight. Davis et al. (2005) suggested that African-American women are motivated to lose weight and thus, participate in weight-loss programs. However, these researchers found that African-Americans are less likely to exhibit weight-loss success in current weight-loss programs than Caucasian women because these programs are not tailored to meet the needs of an African-American population.

A study conducted by Kumanyika, Obarzanek, Stevens, Hebert, and Whelton (1991) provides additional support for Davis et al.'s assertion. Kumanyika et al. (1991) examined race-specific weight-loss results from participants involved in two randomized, multi-center trials: the Hypertension Prevention Trial (HPT) and the Trials of Hypertension Prevention. The results of this study indicated that White males and females have greater success in weight loss programs than Black males and females. Additionally, the racial difference in weight-loss success among White and Black women
was evident at initial follow-up and long-term follow-up with Black women re-gaining any weight lost within 18 months of treatment. Kumanyika et al. (1991) hypothesized that the limited success of Black women in weight-loss programs may be due to cultural factors including perceptions of obesity, food preferences and exercise practices. In conclusion, Kumanyika et al. (1991) suggested that “to the extent that Blacks ascribe to the general societal dissatisfaction with being overweight but do not succeed in losing weight, a relatively tolerant social climate for obesity may weaken the motivation for repeated weight-loss attempts and permit self-acceptance as an overweight person.” In other words, obesity may remain a significant problem for African-Americans because although they are dissatisfied with being overweight and seek weight-loss treatment, they often do not succeed in losing weight and eventually lose the motivation to lose weight.

**Obesity and Binge Eating Disorder**

There is evidence that many overweight and obese individuals also suffer from Binge Eating Disorder (BED). BED is an eating disorder introduced in the fourth edition of the DSM (APA, 1994) as a “criteria set provided for further study.” The essential feature of BED is recurrent binge eating episodes that are associated with impaired control over and significant distress about eating and which occur in the absence of the regular use of inappropriate compensatory behaviors characteristic of Bulimia Nervosa (APA, 1994). The requirement listed in the DSM-IV (APA, 1994) to define an episode of eating as a binge consists of two components: “eating in a discrete period of time an amount of food that is definitely larger than most individuals would eat under similar
circumstances” (this generally refers to a time period of approximately 2 hours and can include more than one setting) and feeling a “sense of lack of control” over eating.

Several behaviors associated with binge eating are listed as criteria in the DSM-IV (APA, 1994). First, binge eaters often eat in secret due to embarrassment about the amount of food eaten, eat rapidly during binge episodes, and eat large amounts of food though not physically hungry. Once begun, binges often continue until the individual is uncomfortably full. Binges are usually triggered by dysphoric mood or interpersonal stressors and are often followed by feelings of self-criticism, guilt, and depression. While any number of the above behaviors may be present in a patient with BED, only three must be present to qualify for a diagnosis of BED.

One theory of the etiology of BED is that obesity and binging are linked pathophysiologically (Fitzgibbon et al., 1998). The premise of this theory is that since BED has been associated with severe obesity, a high degree of obesity must either predispose toward or result from binge eating (Fitzgibbon et al., 1998). This theory is supported by research that shows that those suffering from overweight or obesity also suffer from BED. Varnado et al. (1997) conducted a study investigating the prevalence of BED in 468 obese individuals who were seeking weight loss treatment. They found that 1.3% to 7.3% (using an interview and self-report questionnaire respectively) of those tested met the criteria for BED and 9.4%-13.2% (using an interview and self-report questionnaire respectively) reported binge eating. In a study to investigate the frequency of BED in an outpatient weight loss clinic, Kalman et al. (2002) reported a higher incidence of BED with 22% of the 36 people sampled meeting the criteria for BED.
These varied results reflect the prevalence rates stated in the DSM-IV, which indicate that the overall prevalence of BED in samples from weight-control programs varies from 15%-50% (mean = 30%; APA, 1994).

Research concerning obesity and BED has shown that obese individuals with BED differ significantly from obese individuals without BED in psychiatric and medical co-morbidity and in eating behaviors (Yanovski et al., 1993; Cargill et al., 1999; Mussell et al., 1996; Bulik et al., 2002; Striegel-Moore et al., 1998). A study conducted by Mussell et al. (1996) to investigate the clinical characteristics associated with binge eating in obese females found that when compared with non-BED individuals, those with BED reported more frequent binge eating episodes, greater discomfort associated with binge eating, earlier onset of binge eating behavior, experiencing food cravings when not hungry, greater fear of gaining weight, and increased body perception disturbance. Individuals diagnosed with BED are also at greater risk for developing additional medical and psychiatric illnesses (Yanovski et al., 1993; Bulik et al., 2002), which may include major depression, panic disorder, any phobia, and alcohol dependence (Bulik et al., 2002). Obese individuals with BED are also distinguishable from those without BED due to increased incidence of poor body image and low self-esteem (Striegel-Moore et al., 1998; Cargill et al., 1999) and because they attach greater importance to their weight, express more weight dissatisfaction, and report a greater difference between current and ideal weight (Cargill et al., 1999). Overall, those with BED report an increased impairment of quality of life when compared with individuals without BED, citing
greater impairment in the areas of work, public distress, sexual life, and self-esteem (Reiger, 2005).

**Criticism of the BED Diagnostic Category**

The BED diagnostic category and its associated diagnostic criteria have been the subject of a substantial amount of criticism. Researchers have often questioned whether BED is a distinct disorder that should be accepted as a new diagnosis (Fairburn, Welch, and Hay, 1993) and have proposed that BED could be conceptualized in four ways: “a distinct disorder in its own right, as a variant of bulimia nervosa, as a useful behavioral subtype of obesity, or as a behavior that reflects psychopathology among the obese” (Devlin, Goldfein, and Dobrow, 2003). Others have questioned the “large amount of food” criterion, stating that binge episodes exist that do not meet the large amount of food criteria but which are experienced as binges in every other way (Rosen, Leitenberg, Fisher, & Khazam, 1986 and Rossiter & Agras, 1990) and that the severity of binge eating is not directly related to the amount of food eaten during the binge (Niego, Pratt, & Agras, 1997). Still others have questioned the “loss of control” criterion stating that it is a subjective feeling and therefore, difficult to measure and subject to error when reported retrospectively (Cooper and Fairburn, 2003; King et al.). The criticism surrounding BED highlights the need for additional research concerning this potential diagnostic criterion.

**BED in African-American Women**

Since overweight and obesity disproportionately affect African-American women and may be maintained by BED, it is also important to further consider the effect of BED
in African-American women. Streigal-Moore, Wilfley, Pike, Dohm, and Fairburn (2000) investigated recurrent binge eating in Black American women by administering the Eating Disorder Examination (EDE) and the General Health Questionnaire (GHQ) to 1,628 Black women and 5,741 White women in an attempt to determine the incidence of behavioral symptoms of eating pathology and psychiatric distress in these populations. Striegal-Moore et al. (2000) found that recurrent binge eating was a significant problem among Black women, both in terms of how many women are affected and the potential associated physical and mental health risks. They also found that twice as many Black women than White women were symptomatic of eating pathology. The latter finding conflicts with previous research findings that indicated that the rates of BED are comparable among White and Black women (Marcus, 1992).

In 2001, Pike, Dohm, Striegel-Moore, Wilfley, and Fairburn published a study that investigated BED in Black women by comparing 52 Black women and 98 White women with BED to 150 healthy women. They found that White and Black women suffering from BED differed significantly on all associated eating disorder features (i.e., binge frequency and restraint) and in terms of history of other eating disorders and seeking treatment for eating disturbances. Pike et al. (2001) suggested that the clinical BED picture for Black women differs significantly from that of White women with Black women reporting less concern about body weight, shape, and eating; higher weight; and more frequent binge eating. They also found that Black and White women differed in seeking and receiving treatment for disordered eating. Although Black and White women suffering from BED may be equally likely to receive treatment for weight problems, the
Black women were less likely to receive treatment for disordered eating (Pike et al., 2001).

The findings from Pike et al.'s (2001) study may provide useful information for further understanding the high rates of obesity and failed weight loss treatment in African-American women that were discussed earlier. Research has shown that BED treatment reduces binge eating and that abstinence from binge eating predicts a modest but stable degree of weight loss (Wonderlich et al., 2003). However, if African-American women with BED are not being treated for eating pathology, they may be at a disadvantage in weight loss programs since effective treatment of BED influences effective treatment of obesity.

**Loss of Control Over Eating**

In addition to the BED diagnostic category, the loss of control criteria of BED has also been highly criticized. The definition of loss of control, as listed in the DSM-IV (APA, 1994), is “a feeling that one cannot stop eating or control what or how much one is eating” and includes several behavioral indicators of loss of control as mentioned previously. This criterion was initially added to the definition of a binge episode due to early concern that the symptom of binge eating did not distinguish between those with disordered eating and those who overindulge from time to time (Devlin et al., 2003). As a result, Devlin et al. (2003) have suggested that the criterion is arbitrary and reflects older, not current, diagnostic concepts of eating disorders.

In addition to proposing that the “lack of control” criterion is outdated and arbitrary, researchers have found fault with the criterion for several other reasons. Cooper
and Fairburn (2003) proposed that it is difficult to assess loss of control because it is a subjective experience. They suggested that individuals are often unclear about whether they have experienced a sense of loss of control; and as a result, some might report feeling out of control due to their desire to not eat excessively, rather than because they could not control their eating. Cooper and Fairburn’s (2003) assertion reflects findings by Fairburn & Cooper (1993) that “retrospective inferring of lack of control based on the amount of food eaten is very different from the notion of loss of control required for episodes of overeating to be classed as a “binge”.” The assertion that the loss of control criterion is difficult to assess is further supported by Walsh and Boudreau (2003) who proposed that it is difficult to assess loss of control because the perception of loss of control is subjective and therefore, the determination rests fundamentally on a patient’s report and cannot be objectively verified. In summary, the loss of control literature suggests that this criterion reflects a subjective experience that is difficult to measure.

No studies have been conducted to specifically investigate the reporting of loss of control over eating during binge episodes in African-American women. However, it has been suggested that there is a discrepancy with African-American women denying loss of control during pre-treatment interviews and later describing feelings of loss of control during treatment groups whereas Caucasian women are more likely to admit to loss of control during the initial interview (Sbrocco, personal conversation, May 19, 2005). This initial denial of loss of control over eating by African-American women may be due to the conflict of the idea of loss of control with cultural standards, such as the “Myth of the Superwoman.”
Culture and Loss of Control

Wallace reviewed the “Myth of the Superwoman” in the book *Black Macho and the Myth of the Superwoman* (1979). The Myth of the Superwoman refers to the idea that Black women are invulnerable, unalteringly strong, and always in control. Wallace (1979) provides the following description of the superwoman (pg. 107):

“From the intricate web of mythology which surrounds the black woman, a fundamental image emerges. It is of a woman of inordinate strength, with an ability for tolerating an unusual amount of misery and heavy, distasteful work. This woman does not have the same fears, weaknesses, and insecurities as other women, but believes herself to be and is, in fact stronger emotionally than most men. Less of a woman in that she is less “feminine” and helpless, she is really more of a woman in that she is the embodiment of Mother Earth, the quintessential mother with infinite sexual, life-giving, and nurturing reserves. In other words she is a superwoman.”

According to Wallace (1979), the idea of the superwoman developed as a necessary defense during slavery and has been passed down among generations ever since. She proposed that although Black women desire to reject this ideal, they recognize a necessity for preserving these Superwoman qualities in order to survive.

The Myth of the Superwoman is a cultural idea still accepted by Black women. According to authors Jones and Shorter-Gooden (2003) the same ideal exists today, but under a new title of “The Myth of Unshakability.” This myth is that “Black girls don’t cry. They shake and bend and explode, but they never break.” Jones and Shorter-Gooden (2003) noted that the Myth of Unshakability has become embedded in the collective Black community psyche restricting Black women from expressing vulnerability, even among other Black women. The psychological implication of this myth is that the need to be strong and in control may contribute to the underuse of psychological services by Black women. This implication is supported by current literature on help-seeking.
behavior. For example, Ayalon and Young (2005) conducted a study of racial group differences in help-seeking behaviors and found that Black men and women were less likely to utilize outpatient mental health services than Whites, even after controlling for level of education, level of distress, and access barriers. Instead of using psychological and social services, Blacks are more likely to use religious services when in distress.

The myths of the superwoman and unshakability are complex ideals that may contribute to the need of African-American women to deny feeling a sense of loss of control over eating, even if this feeling is present. The idea of not being in control would be a stark contrast to the collective idea that African-American women are always in control and can conquer any problem alone. Thus, the denial of loss of control over eating by Black women who are chronic overeaters may be the result of acceptance of the myths of the superwomen and unshakability.

As discussed earlier, African-American women may conceptualize the feeling of loss of control differently than women of other racial groups. If African-American women internalize the cultural importance of being strong and in control, they may not report loss of control when queried on assessment measures, such as the Eating Disorder Examination (EDE), because they either do not contribute their feelings/behaviors to a loss of control or they may believe that any sense of loss of control they do feel is not distressing enough to warrant mentioning. There is evidence in the test construction literature that suggests that response dimensions and options on a test communicate to responders what information the test is attempting to obtain (Kaplan & Saccuzzo, 2005) and that the range of response options influences whether responders interpret the
question as asking for minor or major symptoms. Thus, how African-Americans experience and how they interpret a measure’s “loss of control” item may influence their answer and interfere with the ability of the measure to assess loss of control eating in this population.

**The Eating Disorder Examination**

The Eating Disorder Examination (EDE) has often been used to assess BED and loss of control eating. The EDE has been heralded as the gold standard of eating disorder assessment (Grilo, 1988). It is an investigator-based, semi-structured clinical interview constructed to provide a comprehensive evaluation of specific psychopathology in eating disordered patients (Cooper and Fairburn, 1987).

In addition to the EDE, several other common measures exist to assess symptoms of BED: the Binge Eating Scale (Gormally et al., 1982), the Questionnaire for Eating and Weight Patterns-Revised (Spitzer et al., 1993), and the Binge Scale Questionnaire (Hawkins & Clement, 1980). However, these additional measures are all self-report questionnaires and the use of self-report measures to assess eating pathology has been highly criticized. Rosen et al. (1990) have reported that self-report measures are often ambiguous and inaccurate due to rating scales with vague verbal descriptors of severity, absence of a time frame for reports of symptoms, lack of objective definitions for behavioral symptoms of binge eating or dieting, and inability to discriminate pathological eating attitudes and behaviors from ones that are not clinically significant. Thus, the interview-based EDE is viewed as superior to self-report measures in breadth, depth, and objectivity (Rosen et al., 1990) and is the most commonly used measure of eating.
pathology (Wilfley et al., 2002). Despite the popularity of the EDE, though, Rosen et al. (1990) have still advised that this measure be used in addition to eating records in order to obtain more extensive behavioral information.

Although the EDE is a widely used measure, there are still concerns about using this measure with African-American women and other minority populations. While several studies have been conducted to assess the psychometric properties of the EDE (Grilo et al., 2004; Rosen et al., 1990; Cooper & Fairburn, 1987), in many of these studies, the researchers have reported small samples of African-American participants or failed to report any information on the ethnic background of their participants. In their initial study introducing the EDE, Cooper & Fairburn (1987) did not report any ethnicity information about the 12 participants on whom the questionnaire was normed. Rosen et al. (1989) also did not report ethnicity information about the 106 women included in their validity studies of the EDE. However, both Cooper & Fairburn’s (1987) and Rosen et al.’s (1989) studies occurred more than 15 years ago and more recent reports have included the ethnic composition of the participating sample. For example, Wilfley et al. published a report in 2000 in which they evaluated the use of the EDE to identify BED. This study included a sample that was 93% Caucasian, 4% African-American, 2% Hispanic, and 1% Native American. Similar rates of minority participation were included in Celio et al.’s 2004 study comparing the use of the Binge Eating Scale, Questionnaire for Eating and Weight Patterns Revised, and EDE Questionnaire with Instructions, and EDE to assess BED. Celio et al. reported that their sample included 70.3% Caucasians, 11.0% Hispanics, 6.5% Blacks, 4.5% Asians, and 7.6% individuals of other ethnicity.
The studies evaluated in which either ethnicity information is missing or is incomplete highlights the need for further research on the validity of the EDE with African-American patients.

**Differentiating Binge Eating from Overeating**

The EDE can also be used to differentiate between binge eaters (those who eat a large amount of food while feeling a sense of loss of control over their eating) and overeaters (those who eat a large amount of food without feeling a sense of loss of control). Researchers opposed to the inclusion of BED as a diagnostic category question whether BED differs from overeating or non-purging Bulimia Nervosa (Devlin et al., 2003; Wilfley et al., 2003). Cooper and Fairburn (2003) proposed that there are two difficulties in distinguishing BED from overeating. First, there is a conceptual difficulty in distinguishing disordered eating from normal overeating or indulgence. Second, there is difficulty in assessing and clarifying various forms of disordered eating. These researchers went on to propose that identifying individual episodes of overeating and demarcating them from background overeating may be problematic and also that many episodes of apparent overeating differ very little from everyday overindulgence.

Antoniou, Tasca, Wood, and Bissada (2003) conducted a study to determine whether obese women with BED represent a group that is distinct from obese women who overeat. Antoniou et al. (2003) recruited 130 obese women who were seeking treatment for eating disorders and whose BMI > 30 kg/m². The participants completed the Eating Disorder Examination Questionnaire, the Eating Disorder Inventory-2, the Diagnostic Survey of Eating Disorders, and the Personality Assessment Inventory.
Eighty-three of the women were diagnosed with BED and 47 were classified as overeaters. Then, multivariate analyses of variance were conducted to compare the two groups. Antoniou et al. (2003) found that the two groups only differed in that the BED group reported higher scores on the bulimia scale of the EDI-2 than the overeaters group. Based on these findings, Antoniou et al. (2003) questioned whether obese women who binge eat and those who overeat can be differentiated based on whether they experience a loss of control over eating.

In contrast to Antoniou et al., Wilfley et al. (2000) have suggested that those who suffer from BED can be distinguished from those who suffer from other eating disorders or who are normal eaters. These researchers compared the EDE subscale and individual item scores of 262 women who were assigned to one of five groups: women with BED, women with Anorexia Nervosa, women with Bulimia Nervosa, normal-weight controls, or overweight controls. The results of the study indicated that individuals with BED are similar to those with Anorexia Nervosa (AN) and Bulimia Nervosa (BN) in terms of eating psychopathology, but significantly different from overweight and normal weight controls in terms of eating psychopathology.

Wilfley et al.’s (2000) primary analysis compared the subscale scores of the 5 groups and they found several significant differences. First, in terms of Restraint, BED patients had significantly lower levels of Restraint than AN or BN patients, comparable levels to overweight controls, and significantly higher levels than normal weight controls. Second, in terms of Eating Concern, the BED group had scores comparable to the AN group, significantly lower than the BN group, and significantly higher than both the
normal weight and overweight controls. Finally, in terms of Weight and Shape Concern, the BED group had scores comparable to the BN group, significantly higher than the AN group, and significantly higher than both control groups.

In their second analysis, Wilfley et al. (2000) compared the 5 groups on subscale item scores and again found significant differences. First, The BED sample scored significantly higher than the combined AN/BN sample on: eating in secret, dissatisfaction with weight, desire to lose weight, importance of shape, dissatisfaction with shape, discomfort seeing body, avoidance of exposure, and feelings of fatness. Second, the BED sample scored similarly to the combined AN/BN sample, but significantly greater than the control samples on: food avoidance, fear of losing control, overeating, social eating, importance of weight, preoccupation with weight or shape, and fear of weight gain. Third, the BED sample scored significantly lower than the AN/BN sample, but significantly higher than the control samples on: restraint over eating, dietary rules, preoccupation with food, and reaction to prescribed weighing. Finally, the BED sample scored significantly lower than the combined AN/BN group but similar to the controls on empty stomach, avoidance of eating, guilt about eating, and flat stomach.

In addition to significant findings on differences in the groups on EDE subscale and subscale item scores, Wilfley et al. (2000) found that the BED sample exhibited higher levels of eating concern than the overweight control sample, thus, suggesting that the Eating Concern subscale may be useful in discriminating eating-disordered behaviors from normative behaviors. In summary, Wilfley et al.'s (2000) research provides
evidence that EDE scores can be used to distinguish binge eaters from non-binge eating obese women.

The Current Study

The current study was conducted to investigate the denial of loss of control eating in African-American women in order to provide information useful in the understanding of eating pathology in this population. The purpose of the study was to discern whether the “loss of control” criterion as measured by the EDE distinguishes binge eaters from overeaters by examining data collected from African-American and Caucasian women participating in an independent behavioral weight management program.

Based upon prior literature, it was expected that some African-American women who experience loss of control would deny that feeling and as a result be misclassified as overeaters rather than binge eaters. It was also expected that these women would exhibit levels of eating pathology more similar to binge eaters than to correctly classified overeaters.

In order to test this hypothesis, comparisons were made of the pathological eating attitudes and behaviors of three groups of obese and overweight women: binge eaters (BE), overeaters who are considered to have been properly classified as so (OE1), and overeaters who are considered to have been misclassified (OE2). Eating pathology was measured using item and subscale scores on the EDE.

The primary objective of this study was to investigate the denial of loss of control eating in African-American women. However, data from Caucasian women was also analyzed in order to provide information useful in understanding whether the potential
misclassification of binge eaters due to loss of control assessment may be related to culture. Since it was expected that Caucasian women are less likely to deny loss of control if they experience it, it was also expected that Caucasian women would be less likely to be misclassified as overeaters rather than binge eaters.

The following hypotheses were examined:

1. Eating pathology will vary among the three study groups of African-American women. Specifically the OE2 group will report more eating pathology than African-American women in the OE1 group.

2. Caucasian women will be more likely to report loss of control using the EDE than African-American Women.

3. The difference in eating pathology between the OE1 and OE2 groups for African-American women will be greater than the difference between the OE1 and OE2 groups of Caucasian women.

4. The difference in eating pathology between the OE2 and BE groups of Caucasian women will be greater than the difference between the OE2 and BE groups of African-American women.
METHODS

Participants

This study included data from 86 African-American women and 31 Caucasian women who were part of a larger sample recruited to participate in an already established obesity treatment study. All participants were overweight or obese females between the ages of 18 and 60 years old. Overweight and obese status was determined by Body Mass Index (BMI) and all participants had a BMI greater than 27 m/kg$^2$ and less than 40m/kg$^2$. BMI was initially determined using a self-report health screen and later verified by measurements taken during orientation.

Participants were recruited through churches to participate in the weight management study. Advertisements for the study were placed in church bulletins and the study was announced during church services.

Women who self-reported that they were currently experiencing emotional or substance abuse problems were excluded from participation. These women were provided with appropriate referrals.

Measures

Demographic Questionnaire (Appendix A) was designed to gather demographic information about participants, including age, race/ethnicity, height, weight, education level, and income.
*Eating Disorder Examination* (EDE 12.0; Fairburn & Cooper, 1993; Appendix B) is a semi-structured, investigator-based clinical interview. The purpose of the EDE is to generate operational eating disorder diagnoses based on the criteria outlined in the DSM-IV. Questions on the EDE focus on the previous 28 days. However, diagnostic items may include additional duration stipulations.

The EDE is comprised of four subscales: Dietary Restraint, Eating Concern, Weight Concern, and Shape Concern. The Dietary Restraint subscale assesses attempts to restrict food intake in order to influence weight and shape. The Eating Concern subscale assesses one degree of concern about eating. The Weight Concern Scale assesses one concern about weight and the degree that this concern unduly influences self-evaluation. The Shape Concern subscale assesses one concern about shape and the degree that this concern unduly influences self-evaluation.

Items on the EDE are rated on a 6-point scale with 0 being never or not severe and 6 being always or severe.

Validity and reliability have been established for the EDE. The inter-rater reliability of the EDE is uniformly high, ranging from .9 to 1.00 for most items, but dropping below .9 for “social eating” (Cooper & Fairburn, 1987). The EDE is internally consistent and the alpha coefficients for the subscales range from .68 to .90 (Cooper et al., 1989). It has also been demonstrated that the EDE can discriminate between patients with eating disorders and those with no eating pathology (Cooper & Fairburn, 1987).

*Binge Scale Questionnaire* (Hawkins & Clement, 1980; Appendix C)
was designed to assess the behavioral and attitudinal parameters of binge eating and vomiting. The questionnaire consists of nine items which are summed to provide a total score. The total score is a measure of global severity of bulimic symptomology. A score of 10 or less on the Binge Scale Questionnaire reflects normal eating and a score of 15 or greater suggests disordered eating.

The Binge Scale Questionnaire is both reliable and valid. The internal consistency of the scale is .68. The test-retest reliability is .88. The Binge Scale correlates .93 with the BULIT (Smith & Thelin, 1984).

Procedure

The current study was conducted using data from a larger treatment study that was conducted to investigate the effectiveness of a weight management program for overweight and obese African-American women. Women interested in participating in the weight management study completed a two-page screening form at the participating churches. These women were then phone screened and those women who met the initial criteria were mailed a Medical Information form to be completed and signed by their physician and scheduled for a program orientation. Next, the women attended orientation, a 2 hour meeting to provide study overview, obtain informed consent, weigh subjects, determine weight eligibility, schedule clinical interview and physiological assessments, and complete several self-report measures. Participants were not financially compensated for their participation in the current study.

The participants in this study were divided into two groups based on their answers to the “loss of control” and “large amount of food” items on the EDE: binge eaters and
overeaters. Binge eaters (BE) are those participants who endorse both the loss of control and large amount of food criteria. Overeaters (OE) are those participants who endorse eating a large amount of food, but not feeling a sense of loss of control.

The overeaters group was further divided into two groups determined by scores on the Binge Scale Questionnaire (BSQ). Three items were selected from the BSQ because they measure behavioral indictors of loss of control: an item that assesses at what point an individual stops eating, an item that assesses an individual’s eating behaviors when bingeing, and an item that assesses how an individual feels after binging. Those participants who denied loss of control eating on the EDE and did not endorse any of the selected items on the BSQ were assigned to the OE1 group. These participants were considered to have been properly classified as overeaters using the EDE. Those participants who denied loss of control on the EDE, however endorsed behavioral indicators of loss of control eating on the BSQ, were assigned to the OE2 group. These participants were considered to have been misclassified as overeaters using the EDE.

The three groups were compared on their mean EDE Global Score, scores on each of the four subscales, and scores on the items associated with each subscale. The Global Score is calculated by averaging the four subscale (Restraint, Eating Concern, Weight Concern, and Shape Concern) scores. The Restraint subscale is calculated using the restraint over eating, avoidance of eating, food avoidance, dietary rules, and empty stomach items. The Eating Concern subscale is calculated using the preoccupation with food, eating, or calories, fear of losing control over eating, social eating, eating in secret, and guilt about eating items. The Weight Concern subscale is calculated using the
importance of weight, reaction to prescribed weighing, preoccupation with shape or
weight, dissatisfaction with weight, and desire to lose weight items. The Shape Concern
subscale is calculated using the flat stomach, importance of shape, preoccupation with
shape or weight, dissatisfaction with shape, fear of weight gain, discomfort seeing body,
avoidance of exposure, and feelings of fatness subscales. In the current study, the flat
stomach and feelings of fatness items were not evaluated since these questions were not
asked to participants by raters. The EDE item and subscale scores used as indicators of
eating pathology did not include the “loss of control” and “large amount of food” items,
which were used to separating the women into the study groups. The “loss of control”
and “large amount of food” items are not calculated in the EDE subscale or global scores.

Statistical Analyses

Data was analyzed using a personal computer based version of a statistical
package, SPSS version 11.0. Descriptive statistics were computed for demographic
variables. Group differences on continuous measures were calculated using analysis of
variance (ANOVA) and multiple analysis of variance (MANOVA) tests. Group
differences on categorical measures were calculated using chi-square tests. All analyses
were calculated using an alpha of .05 and 95% confidence intervals.
RESULTS

Descriptive Data

Descriptive data on demographic variables are summarized in Table 1. Not all of the participants reported all requested demographic information. For the 114 women who reported age, ages ranged from 21 to 57 years old (M=41.49, SD=9.08). BMI could not be calculated for 18 participants because either their height or weight was not recorded at orientation. Of the remaining participants, the majority (70.7%) were categorized as obese I (30 kg/m² < BMI ≤ 34.9 kg/m²).

Of the 113 women who reported marital status, the majority was married (40.7%) or single (31.0%). Of the 110 women who reported educational level, the majority had completed some college (29.1%) or graduated from college (31.8%). Thirty-five participants did not indicate an annual income level. Of the remaining participants, 4.8% earned below $20,000, 7.3% earned between $20,000-$30,000, 22.0% earned between $30,000-$40,000, 22.0% earned between $40,000-$50,000, 14.6% earned between $50,000-$60,000, 7.3% earned between $60,000-$70,000, and 22.0% earned above $70,000.

Based on their scores on the EDE and BSQ, the participants were then divided into three groups determined by their eating behavior: binge eaters (BE; participants who endorsed both the loss of control and large amount of food criterion on the EDE);
overeaters I (OE1; participants who denied loss of control eating on the EDE and did not endorse any of the behavioral indicators of loss of control eating on the BSQ); and overeaters II (OE2; participants who denied loss of control on the EDE, but who endorsed behavioral indicators of loss of control eating on the BSQ).

The proportion of African-American women in each study group was not significantly different from the proportion of Caucasian women in each study group ($X^2 (2) = .892, p = .640$). There was no interaction between race (African-American and Caucasian) and the three study groups (BE, OE1, and OE2) on BMI [$F(2,93) = .117, p = .890$], age [$F(2,108) = 3.04, p = .052$], or income [$F(2,77) = .489, p = .615$]. There was an interaction between race and the three study groups on marital status [$F(2,107) = 3.65, p = .029$].

The mean scores of the African-American and Caucasian women on the EDE subscales were compared to published norms for overweight women (Fairburn & Cooper, 1993; See Table 2). Although the African-American and Caucasian women in this study scored higher than the normed sample in scores on the Eating Concern Subscale, Weight Concern Subscale, and Shape Concern Subscale, these differences were not statistically significant. These results indicate that the women in this study did experience higher levels of eating pathology than the overweight women on which the EDE was normed.

Test of Hypotheses

Hypothesis 1

The first hypothesis, that eating pathology would vary among the three study groups of African-American women, was supported (See each group’s mean scores in...
### Table 1. Sample Demographics

<table>
<thead>
<tr>
<th>Race</th>
<th>N</th>
<th>Percentage</th>
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<tr>
<td>African-American</td>
<td>86</td>
<td>73.5</td>
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<tr>
<td>Caucasian</td>
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<td>26.5</td>
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<table>
<thead>
<tr>
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<th>Standard Deviation</th>
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<td>BMI</td>
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<table>
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<tr>
<td>Cohabitating</td>
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<td>Married</td>
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<td>Separated</td>
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<td>Divorced</td>
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<tr>
<td>Completed High School/ GED</td>
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<tr>
<td>Some College</td>
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<tr>
<td>Completed College</td>
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<tr>
<td>Partial Graduate/Professional School</td>
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<td>Completed Graduate/Professional School</td>
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<table>
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<th>Obesity Status</th>
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<tr>
<td>Obese I</td>
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<td>Obesity II</td>
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<table>
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<th>Percentage</th>
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<tr>
<td>$20,000-$30,000</td>
<td>7.3</td>
</tr>
<tr>
<td>$30,000-$40,000</td>
<td>22.0</td>
</tr>
<tr>
<td>$40,000-$50,000</td>
<td>22.0</td>
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<td>14.6</td>
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<tr>
<td>$60,000-$70,000</td>
<td>7.3</td>
</tr>
<tr>
<td>Above $70,000</td>
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Table 2. Descriptive Statistics the Eating Disorder Examination and Published Norms

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<th>Study Sample:</th>
<th>Published Norms:</th>
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<td>Caucasian</td>
<td></td>
</tr>
<tr>
<td></td>
<td>American</td>
<td>Women</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Women (M, SD)</td>
<td>(M, SD)</td>
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<tr>
<td>Restraint Subscale</td>
<td>.837 (.984)</td>
<td>1.12 (1.13)</td>
<td>1.69 (1.35)</td>
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<tr>
<td>Eating Concern Subscale</td>
<td>1.90 (1.10)</td>
<td>2.09 (1.42)</td>
<td>0.64 (0.86)</td>
</tr>
<tr>
<td>Weight Concern Subscale</td>
<td>3.94 (1.49)</td>
<td>3.74 (1.63)</td>
<td>1.92 (1.24)</td>
</tr>
<tr>
<td>Shape Concern Subscale</td>
<td>2.90 (1.17)</td>
<td>3.16 (1.26)</td>
<td>1.97 (1.33)</td>
</tr>
</tbody>
</table>

Table 3). The three study groups differed significantly in mean EDE global score 
\[ F(2,83) = 3.79, \ p = .004 \], mean scores on the Shape Concern Subscale 
\[ F(2,83) = 6.77, \ p = .002 \], and mean scores on the Weight Concern Subscale 
\[ F(2,83) = 4.19, \ p = .019 \]. Therefore, the endorsement or denial of loss of control over eating and eating a large amount of food are related to participants’ reported eating pathology.

Results of univariate and multivariate ANOVAS indicated that the African-American women in the BE and OE1 groups differed significantly in the eating pathology that they reported (See Table 4). African-American women in the BE and OE1 groups were significantly different in their scores on the EDE global measure, Shape Concern Subscale, Weight Concern Subscale, fear of losing control item, social eating item, eating in secret item, guilt about eating item, dissatisfaction with weight item, dissatisfaction with shape item, preoccupation with weight/shape item, importance of shape item, fear of weight gain item, discomfort seeing body item, and avoidance of exposure item. In other words, African-American women who endorsed loss of control...
over eating and those who denied loss of control over eating both on a clinical interview and a self-report questionnaire reported different pathological eating behaviors.

African-American women in the BE and OE2 groups differed in scores on the Shape Concern Subscale, social eating item, guilt about eating item, dissatisfaction with shape item, fear of weight gain item, and discomfort seeing body item (See Table 4). Therefore, African-American women who endorsed loss of control over eating also differed in pathological eating behaviors from those who were suspected to lose control over their eating, although they denied doing so.

It was also expected that African-American women in the OE2 group would report more eating pathology than African-American women in the OE1 group. This expectation was not supported. Results of univariate and multivariate ANOVAs indicated that the mean EDE global, subscale, and individual item scores of African-American women in the OE1 group did not differ from those of women in the OE2 group (See Table 4). In other words, African-American women who denied loss of control during a clinical interview reported similar eating pathology whether or not they endorsed behavioral indicators of loss of control eating on a self-report questionnaire.

Hypothesis 2

The hypothesis that Caucasian women would be more likely to report loss of control when queried on the EDE than African-American women was not supported \[ F(1, 115) = .836, p = .362 \].

Hypothesis 3
The third hypothesis was that the difference in mean scores of pathological eating behavior between the OE1 and OE2 groups of African-American women (See Table 4) would be greater than that between the OE1 and OE2 groups of Caucasian women (See Table 6). This hypothesis was not supported.

The differences in the interaction of race (African-American and Caucasian) and study group (OE1 and OE2) on the following items were statistically significant: avoidance of eating \[F(2,104) = 3.87, p = .024\]; preoccupation with food \[F(2,104) = 4.80, p = .010\]; dissatisfaction with weight \[F(2,104) = 3.19, p = .045\]. However, there were no statistically significant differences between the OE1 and OE2 groups of African-American and Caucasian women on global score, any subscale scores, or any of the other items.

Contrary to what was expected, the African-American women in the OE1 and OE2 groups did not have scores that were significantly different on any of the EDE global, subscale, or item scores. Additionally, instead of having comparable scores on the EDE global, subscale, and item scores, the Caucasian women in the OE1 and OE2 groups did show several statistically significant differences. Caucasian women in the OE2 group scored significantly higher than Caucasian women in the OE1 group on the weight concern subscale, avoidance of eating item, and dissatisfaction with weight item.

These results indicate that in general, once women of either race denied loss of control in a clinical interview, those who endorsed behavioral indicators of loss of control were not significantly different from those who did not endorse behavioral indicators. However, Caucasian women who were expected to be binge eaters reported higher levels
of weight concern, avoidance of eating, and dissatisfaction with weight than Caucasian women who were expected to be properly classified as overeaters.

Hypothesis 4

The final hypothesis was that the difference in eating pathology between the OE2 and BE groups of Caucasian women would be greater than the difference between the


<table>
<thead>
<tr>
<th></th>
<th>BE Group X (SD)</th>
<th>OE1 Group X (SD)</th>
<th>OE2 Group X (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Score</td>
<td>2.83 (.895)</td>
<td>2.09 (.701)</td>
<td>2.43 (.860)</td>
</tr>
<tr>
<td>Restraint Subscale</td>
<td>.991 (1.14)</td>
<td>.733 (.965)</td>
<td>.844 (.885)</td>
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<tr>
<td>Eating Concern Subscale</td>
<td>2.16 (1.30)</td>
<td>1.64 (1.09)</td>
<td>2.02 (.883)</td>
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<tr>
<td>Shape Concern Subscale</td>
<td>3.59 (1.21)</td>
<td>2.53 (.927)</td>
<td>2.80 (1.20)</td>
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<tr>
<td>Weight Concern Subscale</td>
<td>4.57 (1.49)</td>
<td>3.47 (1.35)</td>
<td>4.04 (1.51)</td>
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<tr>
<td>Restraint Item</td>
<td>1.48 (1.97)</td>
<td>1.55 (2.09)</td>
<td>1.50 (2.19)</td>
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<tr>
<td>Avoidance of Eating Item</td>
<td>.304 (.765)</td>
<td>.394 (1.03)</td>
<td>.167 (.565)</td>
</tr>
<tr>
<td>Empty Stomach Item</td>
<td>.261 (1.25)</td>
<td>.182 (.727)</td>
<td>.708 (1.92)</td>
</tr>
<tr>
<td>Food Avoidance Item</td>
<td>1.61 (2.13)</td>
<td>.636 (1.19)</td>
<td>1.29 (1.99)</td>
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<tr>
<td>Dietary Rules Item</td>
<td>1.30 (1.72)</td>
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<td>.750 (1.33)</td>
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<tr>
<td>Preoccupation with Food Item</td>
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<td>Fear of Losing Control Item</td>
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<td>.875 (1.57)</td>
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<tr>
<td>Social Eating Item</td>
<td>1.17 (1.92)</td>
<td>.061 (.348)</td>
<td>.083 (4.08)</td>
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<tr>
<td>Eating in Secret Item</td>
<td>1.22 (1.76)</td>
<td>.091 (.384)</td>
<td>.458 (1.10)</td>
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<tr>
<td>Guilt about eating Item</td>
<td>2.83 (2.17)</td>
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<td>.833 (1.17)</td>
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<tr>
<td>Dissatisfaction with Weight Item</td>
<td>4.74 (1.48)</td>
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<td>3.58 (1.64)</td>
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<td>Prescribed Weighing Item</td>
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<tr>
<td>Dissatisfaction with Shape Item</td>
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<tr>
<td>Preoccupation with Weight/Shape Item</td>
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<td>Fear of Weight Gain Item</td>
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<td>.697 (1.45)</td>
<td>.875 (1.54)</td>
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<tr>
<td>Discomfort Seeing Body Item</td>
<td>3.13 (2.62)</td>
<td>1.36 (1.82)</td>
<td>1.54 (2.08)</td>
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<tr>
<td>Avoidance of Exposure Item</td>
<td>2.52 (2.43)</td>
<td>.970 (1.83)</td>
<td>1.75 (2.31)</td>
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</table>

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<table>
<thead>
<tr>
<th>Item</th>
<th>BE and OE1 Groups</th>
<th>BE and OE2 Groups</th>
<th>OE1 and OE2 Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>p</td>
<td>p</td>
<td>p</td>
</tr>
<tr>
<td>Global Score</td>
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</tr>
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<td>Avoidance of Exposure Item</td>
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<td>.673</td>
<td>.546</td>
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*p < .05

OE2 and BE groups of African-American women. This hypothesis was partially supported.

The hypothesis was supported for the preoccupation with food item and the eating in secret item (See Tables 4 and 6). On these items, the African-American women in the OE2 and BE groups had comparable scores; however, the Caucasian women in the BE
group had statistically higher scores than the OE2 group on the preoccupation with food and eating in secret items. For Caucasian women, but not African-American women,

TABLE 5. Mean Eating Disorder Examination Scores for Caucasian Women in the BE, OE1, and OE2 Groups.

<table>
<thead>
<tr>
<th></th>
<th>BE Group X (SD)</th>
<th>OE1 Group X (SD)</th>
<th>OE2 Group X (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Score</td>
<td>3.16 (.11)</td>
<td>1.86 (.841)</td>
<td>2.67 (.383)</td>
</tr>
<tr>
<td>Restraint Subscale</td>
<td>1.51 (.142)</td>
<td>.967 (.109)</td>
<td>.825 (.618)</td>
</tr>
<tr>
<td>Eating Concern Subscale</td>
<td>3.00 (.25)</td>
<td>1.40 (.54)</td>
<td>1.88 (.725)</td>
</tr>
<tr>
<td>Shape Concern Subscale</td>
<td>3.86 (.34)</td>
<td>2.34 (.793)</td>
<td>3.42 (.113)</td>
</tr>
<tr>
<td>Weight Concern Subscale</td>
<td>4.26 (.33)</td>
<td>2.71 (.78)</td>
<td>4.55 (.933)</td>
</tr>
<tr>
<td>Restraint Item</td>
<td>2.64 (.269)</td>
<td>1.82 (.240)</td>
<td>.500 (.107)</td>
</tr>
<tr>
<td>Avoidance of Eating Item</td>
<td>.727 (.11)</td>
<td>.000 (.000)</td>
<td>1.00 (.20)</td>
</tr>
<tr>
<td>Empty Stomach Item</td>
<td>.636 (.29)</td>
<td>.182 (.603)</td>
<td>.250 (.463)</td>
</tr>
<tr>
<td>Food Avoidance Item</td>
<td>2.09 (.187)</td>
<td>1.45 (.16)</td>
<td>.875 (.164)</td>
</tr>
<tr>
<td>Dietary Rules Item</td>
<td>1.45 (.207)</td>
<td>1.82 (.18)</td>
<td>1.50 (.115)</td>
</tr>
<tr>
<td>Preoccupation with Food Item</td>
<td>2.09 (.187)</td>
<td>.000 (.000)</td>
<td>.000 (.000)</td>
</tr>
<tr>
<td>Fear of Losing Control Item</td>
<td>2.00 (.16)</td>
<td>.000 (.000)</td>
<td>.625 (.19)</td>
</tr>
<tr>
<td>Social Eating Item</td>
<td>1.82 (.194)</td>
<td>1.18 (.94)</td>
<td>1.00 (.151)</td>
</tr>
<tr>
<td>Eating in Secret Item</td>
<td>2.09 (.226)</td>
<td>.273 (.647)</td>
<td>.625 (.119)</td>
</tr>
<tr>
<td>Guilt about eating Item</td>
<td>2.91 (.164)</td>
<td>1.00 (.894)</td>
<td>1.63 (.41)</td>
</tr>
<tr>
<td>Dissatisfaction with Weight Item</td>
<td>4.09 (.51)</td>
<td>2.45 (.44)</td>
<td>5.00 (.756)</td>
</tr>
<tr>
<td>Desire to Lose Weight Item</td>
<td>4.55 (.13)</td>
<td>2.73 (.185)</td>
<td>4.63 (.106)</td>
</tr>
<tr>
<td>Prescribed Weighing Item</td>
<td>.727 (.35)</td>
<td>.455 (.315)</td>
<td>.750 (.149)</td>
</tr>
<tr>
<td>Dissatisfaction with Shape Item</td>
<td>3.18 (.18)</td>
<td>2.00 (.241)</td>
<td>3.13 (.223)</td>
</tr>
<tr>
<td>Preoccupation with Weight/Shape Item</td>
<td>2.64 (.23)</td>
<td>.000 (.000)</td>
<td>2.00 (.16)</td>
</tr>
<tr>
<td>Importance of Shape Item</td>
<td>2.45 (.23)</td>
<td>1.36 (.43)</td>
<td>2.75 (.128)</td>
</tr>
<tr>
<td>Importance of Weight Item</td>
<td>3.09 (.20)</td>
<td>1.36 (.43)</td>
<td>3.00 (.141)</td>
</tr>
<tr>
<td>Fear of Weight Gain Item</td>
<td>3.09 (.25)</td>
<td>.091 (.302)</td>
<td>1.88 (.64)</td>
</tr>
<tr>
<td>Discomfort Seeing Body Item</td>
<td>3.82 (.66)</td>
<td>1.45 (.202)</td>
<td>2.13 (.210)</td>
</tr>
<tr>
<td>Avoidance of Exposure Item</td>
<td>3.91 (.243)</td>
<td>2.18 (.323)</td>
<td>3.00 (.185)</td>
</tr>
</tbody>
</table>

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participants who denied loss of control in a clinical interview but endorsed behavioral indicators of loss of control on a self-report questionnaire did report less eating pathology than women who admitted loss of control over eating.

TABLE 6. Differences in the Mean Eating Disorder Examination Scores for Caucasian Women in the BE, OE1, and OE2 Groups.

<table>
<thead>
<tr>
<th>Item</th>
<th>BE and OE1 Groups</th>
<th>BE and OE2 Groups</th>
<th>OE1 and OE2 Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>p</td>
<td>p</td>
<td>p</td>
</tr>
<tr>
<td>Global Score</td>
<td>.001*</td>
<td>.613</td>
<td>.098</td>
</tr>
<tr>
<td>Restraint Subscale</td>
<td>.626</td>
<td>.464</td>
<td>1.00</td>
</tr>
<tr>
<td>Eating Concern Subscale</td>
<td>.003*</td>
<td>.107</td>
<td>1.00</td>
</tr>
<tr>
<td>Shape Concern Subscale</td>
<td>.004*</td>
<td>1.00</td>
<td>.101</td>
</tr>
<tr>
<td>Weight Concern Subscale</td>
<td>.034*</td>
<td>1.00</td>
<td>.018*</td>
</tr>
<tr>
<td>Restraint Item</td>
<td>1.00</td>
<td>.101</td>
<td>.561</td>
</tr>
<tr>
<td>Avoidance of Eating Item</td>
<td>.147</td>
<td>1.00</td>
<td>.040*</td>
</tr>
<tr>
<td>Empty Stomach Item</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Food Avoidance Item</td>
<td>1.00</td>
<td>.446</td>
<td>1.00</td>
</tr>
<tr>
<td>Dietary Rules Item</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Preoccupation with Food Item</td>
<td>.000*</td>
<td>.001*</td>
<td>1.00</td>
</tr>
<tr>
<td>Fear of Losing Control Item</td>
<td>.003*</td>
<td>.100</td>
<td>.987</td>
</tr>
<tr>
<td>Social Eating Item</td>
<td>.005*</td>
<td>.422</td>
<td>.422</td>
</tr>
<tr>
<td>Eating in Secret Item</td>
<td>.003*</td>
<td>.042*</td>
<td>1.00</td>
</tr>
<tr>
<td>Guilt about eating Item</td>
<td>.008*</td>
<td>.185</td>
<td>1.00</td>
</tr>
<tr>
<td>Dissatisfaction with Weight Item</td>
<td>.054</td>
<td>.669</td>
<td>.003*</td>
</tr>
<tr>
<td>Desire to Lose Weight Item</td>
<td>.046*</td>
<td>1.00</td>
<td>.061</td>
</tr>
<tr>
<td>Prescribed Weighing Item</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Dissatisfaction with Shape Item</td>
<td>.542</td>
<td>1.00</td>
<td>.725</td>
</tr>
<tr>
<td>Preoccupation with Weight/Shape Item</td>
<td>.003*</td>
<td>1.00</td>
<td>.059</td>
</tr>
<tr>
<td>Importance of Shape Item</td>
<td>.476</td>
<td>1.00</td>
<td>.302</td>
</tr>
<tr>
<td>Importance of Weight Item</td>
<td>.079</td>
<td>1.00</td>
<td>.158</td>
</tr>
<tr>
<td>Fear of Weight Gain Item</td>
<td>.000*</td>
<td>.429</td>
<td>.098</td>
</tr>
<tr>
<td>Discomfort Seeing Body Item</td>
<td>.028*</td>
<td>.254</td>
<td>1.00</td>
</tr>
<tr>
<td>Avoidance of Exposure Item</td>
<td>.199</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*p < .05

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DISCUSSION

The purpose of this study was to examine whether African-American women can be correctly classified as binge eaters or overeaters based on their self-report of loss of control eating. Previously, researchers had suggested that loss of control is not a reliable indicator of pathological eating because this criterion is a subjective experience that is difficult to measure and subject to error when reported retrospectively (Cooper & Fairburn, 2003; King et al.). Additionally, literature concerning the personality characteristics of African-American women has suggested that African-American women may be especially unlikely to admit loss of control over eating because of the importance of appearing strong and in control in this population (Wallace, 1979; Jones & Shorter-Gooden, 2003). The results of this study support these assertions.

The results indicated that, as expected, African-American women who were classified as overeaters using the EDE, but who seemed better classified as binge eaters based on their endorsement of behavioral indicators on the BSQ (these women were classified as OE2) reported similar levels of pathological eating as African-American women who were classified as binge eaters based on the eating pathology that they reported on the EDE and BSQ (these women were classified as BE). This was a key finding of the study and suggests that eating pathology may not distinguish African-American women who admit loss of control eating from those who deny loss of control.
in a clinical interview but endorse behavioral indicators of loss of control on a self-report questionnaire. This finding also supports the idea that loss of control cannot be adequately measured because it is a subjective feeling that is subject to error when reported retrospectively (Cooper & Fairburn, 2003; King et al.). When the women in the OE2 group were asked whether they experienced loss of control eating during a clinical interview, they denied doing so; however, when asked to indicate behavior indicators of loss of control eating that they experience the women did endorse these. The women’s contrasting reposes to the EDE and BSQ suggest that their self-report of loss of control eating as a feeling they do or do not experience is unreliable.

It was also expected that African-American women in the OE2 group would report higher levels of pathological eating symptoms than African-American women in the OE1 group (women who denied loss of control eating on the EDE and did not endorse any behavioral indicators of loss of control eating on the BSQ). However, the results indicated that African-American women in the OE2 and OE1 groups were not significantly different in the levels of eating pathology that they reported. This result suggests that once an African-American woman has denied loss of control eating, those women who deny behavioral indicators of loss of control eating may not be different in terms of pathological eating from those women who endorse behavioral indicators of loss of control eating. In summary, African-American women in the OE2 group did not differ significantly from African-American women in the BE or OE1 groups in terms of the eating pathology that they reported experiencing. This finding supports Walsh and Boudreau’s (2003) assertion that loss of control ultimately relies on the patients self-report and is difficult to objectively verify. The insignificant difference in eating
pathology reported by women in the OE1 and OE2 groups indicates that the method used in an attempt to verify the women’s report of loss of control may be unreliable. However, it is important to consider that this particular method of verifying loss of control may have been unreliable because it also depended on women’s self-report of their behavior and that other methods that are independent of self-report may yield different results.

Another goal of this study was to examine the effect of race on the types of eating pathology reported by women in each of the study groups by comparing African-American women with Caucasian women. The results indicated that race does modify the relationship between eating behavior (defined as classification into one of the study groups) and eating pathology. In other words, race does affect the types of eating pathology reported by women in each of the study groups. It was expected that Caucasian women in the OE2 group would report less eating pathology than Caucasian women in the BE group, while African-American women in the OE2 group would report similar levels of pathological eating as African-American women in the BE group. This hypothesis was supported for the preoccupation with food and eating in secret items, indicating that there is a racial difference in the reporting of preoccupation with food and eating in secret between the OE2 and BE groups. It is difficult to determine why there may have been a racial difference in the report of preoccupation with food and eating in secret as opposed to any of the other items. However, this difference could be due to there being less stigma against obesity in the African-American community versus the Caucasian community. As a result of this stigma in Caucasian communities, Caucasian women may be more concerned with other’s perceptions of their eating, which in turn could cause them to spend more time thinking about their eating habits.
Although there was a racial difference in the report of eating pathology by African-American and Caucasian women in the OE2 and BE groups, other hypotheses about the effect of race on the report of eating pathology were not supported. Contrary to what was expected, African-American women in the study were not less likely to report loss of control eating than Caucasian women. There was no significant difference between these two groups of participants. Also, it was expected that while African-American women in the OE2 group would report more eating pathology than African-American women in the OE1 group, Caucasian women in the OE2 group would report similar levels of eating pathology as Caucasian women in the OE1 group. However, the results indicated that for both African-American women and Caucasian women in the OE1 groups and OE2 groups were not significantly different in the levels of pathological eating that they reported. These findings suggest that despite Pike et al.'s (2001) assertion that Black and White women present very different clinical pictures of binge eating disorder, Caucasian and African-American women may not be very different in the eating pathology that they report experiencing. Although historically it was expected that African-American women had very different experiences of eating pathology than Caucasian women, as African-American women have acculturated, the levels of eating pathology in this population may have began to match the levels of eating pathology among Caucasian women.

In summary, in terms of the levels of eating pathology that they reported, African-American women in the OE2 group were not significantly different from African-American women in the OE1 and BE groups and Caucasian women in the OE2 group were not significantly different from Caucasian women in the OE1 group, but did report
less preoccupation with eating and eating in secret than Caucasian women in the BE group. Overall, these results suggest that for both African-American and Caucasian women, those women who deny loss of control eating are not significantly different from those women who do endorse loss of control eating in terms of the eating pathology that they report experiencing. This overall finding further indicates that loss of control, as currently assessed, is not an effective criterion for distinguishing binge eaters and overeaters because based on this distinction alone, these two groups do not differ in terms of their reported eating pathology.

The results of the present study support the results of a study conducted by Antoniou et al. (2003) in which the researchers sought to examine whether obese women with BED represented a distinct group from obese women who overeat. They found few differences in pathological eating behavior among women with BED and those who overeat. This finding caused Antoniou et al. (2003) to question whether obese women with BED and those who overeat can be differentiated by whether they report loss of control over eating. As Antoniou et al. (2003) suggested in their study, the results of the present study indicate that the report of loss of control over eating does not distinguish groups of women who report different levels of eating pathology.

Implications of Findings

The results of this study partially support the Superwoman and Myth of Unshakability theories regarding African-American women. These theories suggest that due to the importance of appearing strong and in control among African-American women, these women may be unwilling to admit loss of control eating. The results

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indicated that admittance of loss of control did not distinguish between the groups of African-American women in terms of eating pathology. The elevated level of eating pathology reported by women who deny loss of control eating suggests that some women who deny loss of control may actually be experiencing loss of control.

However, contrary to the theories of the Superwoman and Unshakability, African-American women were not less likely than Caucasian women to admit loss of control over eating. However, African-American women in this study may have been as willing as the Caucasian women sampled to admit loss of control because of the characteristics of the sample. The majority of the African-American women in this study were well educated and well employed; therefore they are also likely to be highly acculturated. Due to acculturation, these women may have adopted some characteristics of the majority culture and lost some characteristics of the African-American culture. The African-American women in this sample may not exhibit characteristics typical of the Superwoman personality because they are acculturated and as a result, have lost aspects of this personality type.

The findings of this study also imply that researchers and clinicians need to be cautious in their assessment of loss of control over eating. As the current “gold standard” of eating disorder assessment, the EDE is often used to assess pathological eating behavior. In order to measure loss of control over eating with this measure, interviewees are asked if they experience loss of control over eating. This question is vague and can be interpreted by an interviewee in many ways. Therefore, this type of assessment of loss of control over eating may not allow researchers and clinicians to gather valid information about the eating behaviors of the interviewee. In the future, this problem may be avoided
by measuring loss of control over eating by assessing the behavioral indicators of loss of control, which are less vague than the EDE interview question.

The results of this study also indicate that despite what previous researchers have suggested, the clinical picture of BED may not be that different for African-American and Caucasian women. Therefore, clinicians should not assume this difference without careful questioning of all patients. Additionally, it is important to carefully question patients before diagnosing them with BED because as of yet loss of control eating has not been found to distinguish between binge eaters and overeaters.

Most importantly, the results of this study indicate that there is an overall significant amount of eating pathology among obese women. Obesity has become epidemic in the United States and BED has been linked to obesity causing some researchers to suggest that by treating BED, it may be possible to effectively treat obesity (Yanovski, 2003). Therefore, it is important that clinicians continue to screen for and treat BED in their obese patients in order to assist these patients in their weight loss efforts.

Strengths and Limitations

There are several strengths and limitations that may have affected the outcome of this study. A primary strength of this study is that it includes a unique participant sample: a community sample of treatment-seeking obese African-American and Caucasian women. As a result, this study contributes to the literature concerning eating pathology in racially diverse women who do not belong to a patient population. In addition to this strength, there are also several limitations that may have affected the study results. First,
because a very specific population was studied, the results of this study cannot be
generalized to groups beyond African-American and Caucasian women who are obese
and seeking treatment for their weight. Another limitation of this study is that the
research was conducted using self-report measures and self-report data has been found to
be ambiguous and sometimes unreliable. Additionally, the unequal sample sizes of
African-American and Caucasian women could have affected the comparisons of eating
pathology between these two groups. Finally, the information that the participants
reported may have been influenced by social desirability. The EDE was given in
interview format and the women may have tempered their statements in order to present
information that they believed would be acceptable to the interviewer.

**Future Directions**

Future research should continue to examine whether overeaters are a distinct
group from binge eaters and whether there is a racial difference in the experience of
eating pathology. Design improvements may include including equal samples of women
from different racial/ethnic groups and using methods other than retrospective reporting,
such as in-lab meal observation or food diaries, to determine loss of control eating. Binge
eating and overeating have been linked to obesity, a prevalent disorder in the United
States. Therefore, increased careful research that increases patient and clinician
understanding of eating pathology can be a useful weapon in the fight against obesity.
### APPENDIX A

#### DEMOGRAPHIC INFORMATION

<table>
<thead>
<tr>
<th>Subject ID</th>
<th>Date (DD/MM/YY)</th>
<th>Name (First, Last)</th>
<th>Height: Feet Inches</th>
<th>Employment Status:</th>
<th>Occupation:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Ethnicity:** You may check more than one.
- American Indian and Alaska Native
- Asian
- Black or African American
- African
- Hispanic or Latino
- Native Hawaiian or other Pacific Islander
- White
- West Indian or Caribbean
- Other

**Employment Status:**
- Retired
- Disabled
- Full-time
- Unemployed
- Part-time
- Student
- Homemaker

**Education: Highest Degree earned**
- Middle School
- High School
- GED
- JD
- BA / BS
- M.A / MS
- Ph.D.
- MBA
- Other

**Annual Income**

<table>
<thead>
<tr>
<th>Individual Income</th>
<th>Household Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below $30,000</td>
<td>Below $30,000</td>
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<tr>
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<td>$220,000 - $240,000</td>
<td>$220,000 - $240,000</td>
</tr>
<tr>
<td>Above $250,000</td>
<td>Above $250,000</td>
</tr>
</tbody>
</table>

**Please fill in the highest grade completed:** (Fill in both)

- Some high school
- Completed High School/GED
- Some College
- Completed College
- Partial Graduate/Professional School
- Completed Graduate School/Professional School
APPENDIX B

Sbrocco Study EDE Intake Form

Date_________________________  On Time/Late

Name_________________________  Blood Pressure/Heart Rate__________________

Weight_________________________  Age_________________________

Occupation_______________________  Resistance_________________________

Ethnicity_________________________  Reactance_________________________

Medications_________________________

Why are you overweight?

________________________________________________________________________

________________________________________________________________________

Why are you here?

________________________________________________________________________

________________________________________________________________________

History of Weight Loss

________________________________________________________________________

________________________________________________________________________

Describe your recent mood

________________________________________________________________________

________________________________________________________________________

Behavioral
Observations:______________________________________________________________
### EDE SCORESHEET

**Dr. Sbrocco**

1. **Pattern of Eating**
   1. Breakfast __________
   2. Mid-Morning Snack ______
   3. Lunch ______
   4. Mid-Afternoon Snack ______
   5. Evening Meal ______
   6. Nocturnal Snack ______

7. **Restraint Over Eating** ________

8. **Avoidance of Eating** ________

9. **Empty Stomach** ________

10. **Food Avoidance** ________

11. **Dietary Rules** ________

12. **Preoccupation with Food, Eating, Calories** ________

13. **Fear of Losing Control Over Eating** ________

14. **Bulimic Episodes and Other Episodes of Overeating:**
    14a. **Loss of Control** ( ) Yes ( ) No
    14b. **Large Amount of Food** ( ) Yes ( ) No

14c. **Category:**
   1. Objective Overeating
   2. Subjective Overeating
   3. Objective Bulimic Episodes
   4. Subjective Bulimic Episodes

14d. **Number of days for all Bulimic Episodes & Objective Overeating** ______
14e. **Number of episodes for all Bulimic Episodes & Objective Overeating** ______

---

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14f. Number of Days for Objective Bulimic Episodes
   14g. Days: Month 2 _____
        Month 3 _____

   14h. Episodes: Month 2 _____
        Month 3 _____

14j. Number of weeks free of Objective Bulimic Episodes
     over the last three months _____

15. Dietary Restriction Outside Bulimic Episodes
   a. Month 1 _____
   b. Month 2 _____
   c. Month 3 _____

16. Social Eating _____

17. Eating In Secret _____

18. Guilt About Eating _____

19. Self-Induced Vomiting
   a. Number of Days _____
   b. Number of Episodes _____
   c. Month 2: Number of Episodes _____
   d. Month 3: Number of Episodes _____

20. Laxative Misuse
   a. Number of Days _____
   b. Number of Episodes _____
   c. Average Number of Laxatives Taken _____
   d. Month 2: Number of Episodes _____
   e. Month 3: Number of Episodes _____
   f. Type of Laxative Taken: ______________

21. Diuretic Misuse
   a. Number of Days _____
   b. Number of Episodes _____
   c. Average Number of Diuretics Taken _____
   d. Month 2: Number of Episodes _____
   e. Month 3: Number of Episodes _____
   f. Type of Diuretic Taken: ______________

22. Intense Exercising to Control Weight or Shape
a. Number of Days ______
b. Number of Minutes ______
c. Month 2: Number of Days ______
d. Month 3: Number of Days ______

23. Abstinence from Extreme Weight-Control Behavior ______

24. Dissatisfaction with Weight ______

25. Desire to Lose Weight ______

26. Desired Weight
   _____ Lbs
   _____ Kilos

27. Reaction to Prescribed Weighing ______

28. Dissatisfaction with Shape ______

29. Preoccupation with Shape or Weight ______

30. Importance of Shape
    Month 1 ______
    Month 2 ______
    Month 3 ______

31. Importance of Weight
    Month 1 ______
    Month 2 ______
    Month 3 ______

32. Fear of Weight Gain
    Month 1 ______
    Month 2 ______
    Month 3 ______

33. Discomfort Seeing Body ______

34. Avoidance of Exposure ______
35. Feelings of Fatness  N/A
36. Flat Stomach  N/A
37. Maintained Low  N/A
38. Menstruation
   Date of last period _______
   History of missed periods _______
   Oral contraceptive? ( ) Yes ( ) No
   Number of missed periods over past three expected menstrual cycles
APPENDIX D

Binge Questionnaire

Please fill in the answer that best describes your eating behavior.

1. How often do you binge eat?
   - 1. Never
   - 2. Seldom
   - 3. Once or twice a month
   - 4. Once a week
   - 5. Almost every day

2. What is the average length of a binge eating episode?
   - 1. I never binge
   - 2. Less than 15 minutes
   - 3. 15 minutes to an hour
   - 4. One hour to 4-hours
   - 5. More than 4-hours

3. Which of the following statements best applies to your binge eating?
   - 1. I never binge
   - 2. I eat until I have had enough to satisfy me
   - 3. I eat until my stomach feels full
   - 4. I eat until my stomach is painfully full
   - 5. I eat until I can't eat any more

4. Do you ever vomit after a binge?
   - 1. I do not binge or vomit
   - 2. Never
   - 3. Sometimes
   - 4. Usually
   - 5. Always

5. Which of the following best applies to your eating behavior when binge eating?
   - 1. I never binge eat
   - 2. I eat more slowly than usual
   - 3. I eat about the same as I usually do
   - 4. I eat very rapidly

6. How much are you concerned about your binge eating?
   - 1. I do not binge eat
   - 2. Not bothered at all
   - 3. It bothers me a little
   - 4. Moderately concerned
   - 5. A major concern

7. Which best describes your feelings during a binge?
   - 1. I do not binge eat
   - 2. I feel that I could control the eating if I chose
   - 3. I feel that I have at least some control
   - 4. I feel completely out of control

8. Which of the following describes your feelings after a binge?
   - 1. I do not binge eat
   - 2. I feel fairly neutral, not too concerned
   - 3. I am moderately upset
   - 4. I hate myself

9. Which most accurately describes your feelings after a binge?
   - 1. I do not binge eat
   - 2. Not depressed at all
   - 3. Mildly depressed
   - 4. Moderately depressed
   - 5. Very depressed

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REFERENCES


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