Perfectionism and Bulimic Symptoms in African American College Women: Dimensions of Perfectionism and Their Interactions With Perceived Weight Status

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This study had 2 primary aims: (a) to examine the unique relations between maladaptive and adaptive dimensions of perfectionism and bulimic symptoms and (b) to test an interactive model of perfectionism and perceived weight status for bulimic symptoms in a sample of African American female undergraduates. The sample consisted of 97 women at Time 1 and 70 women at Time 2 about 5 months later, with bulimic symptoms assessed at both time points. Results showed that maladaptive perfectionism, but not adaptive perfectionism, was uniquely related to bulimic symptoms in cross-sectional analyses. Tests of interaction effects indicated that maladaptive perfectionism interacted with perceived weight status to identify elevated bulimic symptoms such that women with high levels of maladaptive perfectionism who felt overweight exhibited the highest levels of bulimic symptoms, both concurrently and prospectively after controlling for Time 1 levels of bulimic symptoms. This study highlights the relevance of maladaptive perfectionism to bulimic symptoms in African American college women.

 Keywords: perfectionism, perceived weight status, African American, bulimic symptoms

African American women, long viewed as being protected from eating disorders (Root, 1990), appear to be at consistently lower risk only for eating disorders involving extreme restriction, such as anorexia nervosa (Taylor, Caldwell, Baser, Faison, & Jackson, 2007). African American women demonstrate only slightly lower rates of bulimia nervosa and similar rates of binge eating disorder compared with Caucasian women (Mulholland & Mintz, 2001; Smith, Marcus, Lewis, Fitzgibbon, & Schreiner, 1998). Furthermore, African American women exhibit rates of binge eating comparable to or higher than those of Caucasian women (Franko, Becker, Thomas, & Herzog, 2007; Regan & Cachelin, 2006; Striegel-Moore, Wilfley, Pike, Dohm, & Fairburn, 2000).

Despite increased interest in eating disorder symptomatology among African American women, limited work has tested potential correlates or more complex models. There is growing evidence that some factors associated with bulimic symptoms in Caucasian female samples, such as negative affect and stress, are also associated with bulimic symptoms among African American women (French et al., 1997; Mitchell & Mazzeo, 2004). Factors such as body dissatisfaction, dietary restraint, and thin-ideal internalization, which have been associated with bulimic symptoms in primarily Caucasian samples (Stice, 2002), and which are generally less endorsed by African American women (Arugue, DeBord, Yates, & Edman, 2005; Grabe & Hyde, 2006), have either not been examined as correlates of bulimic symptoms in African American women or have not demonstrated the same consistent relations with bulimic symptoms as for Caucasian women. In studying eating pathology in African American women, Harrington, Crowther, Payne Henrickson, and Mickelson (2006) have argued that the focus of research should shift away from models emphasizing pursuit of thinness to models inclusive of other explanations for eating pathology.

Perfectionism has been identified as a risk and maintenance factor for bulimic pathology in meta-analytic work reporting on primarily Caucasian samples (Stice, 2002), and it warrants examination in other racial groups. The only study to date examining perfectionism’s role in eating pathology in a sample of African American and Caucasian women found that race did not moderate the relation between perfectionism and binge eating disorder diagnosis (Striegel-Moore et al., 2005). In the current study, we examine both cross-sectional and prospective relations between dimensions of perfectionism and bulimic symptoms in a sample of African American college women. We also examine a model of perfectionism and perceived weight status, testing the interaction of perfectionism with feeling overweight in the prediction of bulimic symptoms.

Perfectionism as a Correlate of Bulimic Pathology

Why is perfectionism linked with bulimic pathology? In a sociocultural context in which thinness is highly valued and portrayed in the media as an ideal, it has been proposed that perfectionism may contribute to negative body image and disordered eating because the “perfect” body is difficult or impossible to attain (Striegel-Moore, McAvay, & Rodin, 1986). Individuals striving for perceived bodily perfection (i.e., slimness) may engage...
in highly restrictive eating, which, for some women, increases susceptibility to binge eating (Striegel-Moore, Silberstein, & Rodin, 1986). However, this same pressure to conform to a limited view of perfect beauty is not present in the African American community (Evans & McConnell, 2003; Powell & Kahn, 1995), and dieting rates are also much lower among African American women than among Caucasian women (Aruguete et al., 2005; Wing, Adams-Campbell, Marcus, & Janney, 1993). These findings cast doubt on whether perfectionism would have links with disordered eating for African American women. On the other hand, it has also been argued that being highly perfectionistic is associated with distress in general (Enns & Cox, 2002), perhaps because high levels of perfectionism provide many opportunities to fail to meet extreme standards. Given this, perfectionism may be linked to bulimic pathology similarly for African American and Caucasian women via a pathway whereby perfectionism, in conjunction with failing to meet a standard, generates distress that can motivate binge eating to provide a means of affect regulation or temporary escape from distress (Fairburn, Cooper, & Shafran, 2003; Heatherton & Baumeister, 1991).

Two dimensions of perfectionism with theoretical and empirical support are examined in the current study. Adaptive perfectionism has been described as the positive aspects of perfectionism, such as striving for high standards, whereas maladaptive perfectionism has been described as the negative aspects of perfectionism, including being motivated by fear of failure. Another way that researchers have conceptualized this distinction is with adaptive perfectionism reflecting “positive achievement strivings” (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993) and “normal perfectionism”: “those who derive a very real sense of pleasure from the labors of a painstaking effort and who feel free to be less than precise as the situation permits. . .” (Hamachek, 1978, p. 27). In contrast, maladaptive perfectionism has been labeled “maladaptive evaluative concerns” (Frost et al., 1993) and “neurotic perfectionism” (“[those] whose efforts—even their best ones—never seem quite good enough. . .”; Hamachek, 1978, p. 27) and tends to capture self-critical components. Factor analyses of the most well-established multidimensional measures of perfectionism have consistently supported two underlying dimensions reflective of these two aspects of perfectionism, with certain subscales loading reliably on each dimension (Bieling, Israeli, & Antony, 2004; Frost et al., 1993). Research comparing levels of maladaptive and adaptive perfectionism in African American and Caucasian samples has found similar levels of maladaptive perfectionism (Castro & Rice, 2003; Chang, Watkins, & Banks, 2004; van Hanswijck de Jonge & Waller, 2003) but mixed findings for adaptive perfectionism, with evidence for African American individuals having higher (van Hanswijck de Jonge & Waller, 2003), lower (Chang et al., 2004), and comparable (Castro & Rice, 2003) levels compared with Caucasian individuals.

The eating disorder field has lagged behind other disciplines in the consideration of multidimensional perfectionism (Bardone-Cone et al., 2007), and thus, most of the literature on perfectionism and bulimic symptoms has focused on unidimensional perfectionism in which perfectionism is assessed as a unitary construct and potential maladaptive and adaptive aspects are not separated for study. The limited work on multidimensional perfectionism and bulimic symptoms has supported primarily maladaptive, but not adaptive, perfectionism as associated with bulimic symptoms in nonclinical samples (Hewitt, Flett, & Ediger, 1995; Pearson & Gleaves, 2006). However, there is also evidence for elevations of maladaptive and adaptive perfectionism in a clinical sample with bulimia nervosa and in a nonclinical sample with elevated bulimic symptoms compared with controls (Bardone-Cone, 2007; Lilienfeld et al., 2000). Both dimensions deserve attention in a first examination of perfectionism and bulimic pathology in African American young women.

A Perfectionism × Perceived Weight Status Moderator Model

Perfectionism is thought to interact with other risk factors to predict eating pathology (Stice, 2002). Work by Joiner, Heatherton, Rudd, and Schmidt (1997) using two separate samples found that an interaction between unidimensional perfectionism and perceived weight status was associated with bulimic symptoms. In particular, women who were highly perfectionistic and felt overweight exhibited the highest levels of bulimic symptoms. They also found that it was perceived weight status, not body mass index (BMI), that impinged on perfectionism to identify those with elevated bulimic symptoms. However, the two samples in Joiner et al. were primarily composed of Caucasian women, and there was no differentiation between maladaptive and adaptive aspects of perfectionism: Would perception of weight status moderate the relation between different dimensions of perfectionism and bulimic symptoms for African American women?

Despite African American women having a more positive body image compared with Caucasian women (Grabe & Hyde, 2006), they are not immune to feeling body dissatisfied, so the examination of feeling of overweight is relevant in African American women. Although some researchers have found that body dissatisfaction, assessed via discrepancies between current and ideal body image using figure drawings, is associated with bulimic symptoms in African American women (Perez & Joiner, 2003), others have not found such links between body dissatisfaction, assessed via questionnaire, and disordered eating attitudes and behaviors (Vander Wal, 2004). Researchers examining the objective measure of BMI have similarly found mixed results, with data supporting BMI being positively related to bulimic symptoms (Lester & Petrie, 1998) and unrelated to bulimic symptoms (Fitzgibbon et al., 1998) in African American female samples. It is interesting that whereas African American women who report feeling heavier/bigger than their ideal tend to be objectively overweight using BMI measures, Caucasian women tend to report this discrepancy when they are of average weight or even underweight (Fitzgibbon, Blackman, & Avellone, 2000). More work is clearly needed in understanding the relation between bulimic symptoms and both subjective body image (e.g., feeling overweight) and objective measures (e.g., BMI).

The Current Study

The current longitudinal study explores the relations between multidimensional perfectionism and bulimic symptoms in African American women. To our knowledge, this is the first study examining multidimensional perfectionism in relation to bulimic symptoms in an African American female sample and the first study to examine predictors of change in bulimic symptoms in African
American women. Thus, this work responds to calls for research examining how maladaptive and adaptive perfectionism are associated with indices of psychological functioning in racial/ethnic minority populations (Chang et al., 2004), as well as whether correlates of disordered eating found in predominantly Caucasian samples apply to racial/ethnic minority samples (Striegel-Moore et al., 2005). On the basis of our review of existing cross-sectional research, we hypothesized that maladaptive perfectionism would be more strongly associated with bulimic symptoms than would adaptive perfectionism. We also hypothesized that maladaptive perfectionism would interact with feeling overweight to identify elevations in bulimic symptoms, such that African American women who were high on maladaptive perfectionism and felt overweight would exhibit the most bulimic symptoms. Although we also examined prospective relations between perfectionism and bulimic symptoms, we made no specific hypotheses for these analyses because of the limited literature on multidimensional perfectionism and change in bulimic symptoms.

Method

Participants

Participants were 97 women attending a Midwestern university who self-identified as African American. Participants were recruited from introductory psychology classes and via campus-wide recruitment strategies, such as posted fliers and e-mail distribution lists (e.g., to minority students at the university who were recipients of any level of scholarship). Participants were, on average, 19.04 years old (range = 18–28; SD = 1.59), most (n = 68; 70.1%) were in their first 2 years of college, and, as an index of socioeconomic status, the average highest parental education was 15.8 years (range = 12–21; SD = 2.81), or about 4 years of college.

Procedures

At two time points, separated by about 5 months, participants completed the same set of questionnaires as part of a study presented as an investigation of personality and eating patterns.\(^1\) Questionnaires, presented in a fixed order, assessed personality traits of perfectionism and impulsivity, as well as health behaviors related to disordered eating and substance use. Questionnaires were administered to groups of participants (typically from 5 to 25 per group) after obtaining written consent. Questionnaire completion took 45 min to 1 hr, and participants received course credit or remuneration (e.g., $10 gift certificate to a local shopping mall) for their involvement. Of the 97 participants who completed the Time 1 (T1) data collection, 70 (72.2%) also completed the Time 2 (T2) data collection. Data from the full sample (N = 97) were used in the cross-sectional analyses to identify concurrent levels of bulimic symptoms, and data from the 70 completers were used in the prospective analyses to predict change in bulimic symptoms. This study was reviewed and approved by the university’s Institutional Review Board.

Measures

Psychometrics presented below refer to findings from largely Caucasian samples unless otherwise noted, because most questionnaires of perfectionism and eating disorder-related constructs have been validated on predominantly Caucasian samples. All coefficient alphas reported from the current study were computed using the full sample (N = 97).

Demographics. Demographic data for age, parents’ highest levels of education attained, and race/ethnicity were collected via a set of questions created for this study. Regarding race/ethnicity, participants were provided a list including Caucasian, African American, Hispanic, Asian, Native American, and other and instructed to check as many as applied in terms of their racial/ethnic background. Women who selected only “African American” were included in these analyses.

Maladaptive and adaptive perfectionism. Perfectionism was assessed at T1 with two measures. The Multidimensional Perfectionism Scale of Frost and colleagues (Frost MPS; Frost, Marten, Lahart, & Rosenblate, 1990) is a 35-item questionnaire composed of six subscales with items rated on a 5-point scale. The subscales used in this study are Concern Over Mistakes for maladaptive perfectionism (nine items; e.g., “I should be upset if I make a mistake”) and Personal Standards for adaptive perfectionism (seven items; e.g., “I have extremely high goals”).\(^2\) The Frost MPS has been established as a reliable and valid perfectionism measure, demonstrating good reliability (in an undergraduate sample, \(\alpha = .91\) for Concern Over Mistakes and \(\alpha = .81\) for Personal Standards) and high correlations with other perfectionism measures (Frost et al., 1990). In a sample of primarily African American female undergraduates, Castro and Rice (2003) reported \(\alpha = .84\) for Concern Over Mistakes and \(\alpha = .81\) for Personal Standards. Furthermore, the operationalization of maladaptive and adaptive perfectionism derived from the Frost MPS appears valid for African American and Caucasian women (Chang et al., 2004). In the current study, \(\alpha = .91\) for Concern Over Mistakes and \(\alpha = .76\) for Personal Standards at T1.

The Multidimensional Perfectionism Scale of Hewitt and Flett (Hewitt & Flett MPS; Hewitt & Flett, 1991) is a 45-item questionnaire containing three subscales, each with 15 items rated on a 7-point scale. The subscales used in this study are Socially Prescribed Perfectionism for maladaptive perfectionism (reflecting...
the sense that others expect perfection from oneself) and Self-Oriented Perfectionism for adaptive perfectionism (reflecting striving for perfection). Reliability (in an undergraduate sample, \( \alpha = .86 \) for Socially Prescribed Perfectionism and \( \alpha = .89 \) for Self-Oriented Perfectionism) and validity of the Hewitt & Flett MPS have been adequately demonstrated (Hewitt & Flett, 1991). Furthermore, in an adolescent sample of mixed ethnicities (107 of the 387 being African American adolescent girls), van Hanswijck de Jonge and Waller (2003) reported \( \alpha = .71 \) for Socially Prescribed Perfectionism and \( \alpha = .82 \) for Self-Oriented Perfectionism. In the current study, \( \alpha = .85 \) for Socially Prescribed Perfectionism and \( \alpha = .89 \) for Self-Oriented Perfectionism at T1.

Supported by factor analytic work on the MPS scales (Bieling et al., 2004; Frost et al., 1993) and by a review of assessments of perfectionism (Eans & Cox, 2002), Socially Prescribed Perfectionism and Concern Over Mistakes emerge as the strongest MPS subscales of maladaptive perfectionism and Self-Oriented Perfectionism and Personal Standards as the clearest adaptive perfectionism indices of the MPS subscales. Thus, we aggregated scores from Socially Prescribed Perfectionism and Concern Over Mistakes for maladaptive perfectionism and aggregated scores from Self-Oriented Perfectionism and Personal Standards for adaptive perfectionism. Subscales were summed together after being transformed into standardized scores (i.e., \( z \) scores). Other researchers have similarly standardized and aggregated subscales from the MPSs to create maladaptive and adaptive perfectionism scores (Bieling et al., 2004; Chang et al., 2004).

The current study yields preliminary support for the expected convergent and discriminant validity of the key subscales of interest in both MPS measures for African American women. In the full sample (N = 97), evidence of convergent validity is provided by significant and high correlations between pairs of subscales contributing to each composite, in particular, \( r = .71 \) for Socially Prescribed Perfectionism and Concern Over Mistakes and \( r = .78 \) for Self-Oriented Perfectionism and Personal Standards. Evidence of discriminant validity is provided by lower correlations between pairs of subscales cutting across composites, in particular, \( r = .35 \) for Socially Prescribed Perfectionism and Personal Standards and \( r = .43 \) for Self-Oriented Perfectionism and Concern Over Mistakes.

**Perceived weight status.** At T1, participants were asked to categorize their current weight via the prompt “Would you say your weight is mainly...” and the response options of very underweight, underweight, average, overweight, or very overweight. Given our interest in the experience of feeling overweight or not, rather than the perceived degree of over/underweight, we collapsed the categories of very underweight, underweight, and average into a do not feel overweight group (coded as 0) and the categories of overweight and very overweight into a feel overweight group (coded as 1). Perceived weight status was operationalized in this dichotomous manner in the prior work by Joiner et al. (1997).

**BMI.** Participants reported on their current weight and height at T1, and we used this information to compute BMI by dividing weight in kilograms by height in meters squared. This index controls for weight variations due to height, yielding a measure of relative weight. There is evidence that individuals are generally accurate with their self-reported weights (Shapiro & Anderson, 2003).

**Bulimic symptoms.** Bulimic symptoms were assessed at T1 and T2 using the Bulimia Test—Revised (BULIT–R; Thelen, Farmer, Wonderlich, & Smith, 1991), which is a 36-item questionnaire (28 items contributing to the BULIT–R score) with a five-option multiple choice format. Construct coverage is broad, with items on binge eating, purging, and negative attitudes related to weight and shape. The BULIT–R has well-established psychometric properties and has been successfully used to aid in the diagnosis of bulimia nervosa and in the measurement of bulimic symptom severity in clinical and nonclinical populations (Thelen et al., 1991; Williamson, Anderson, Jackman, & Jackson, 1995). Reliability (\( \alpha = .90-.92 \)) and validity of the BULIT–R in African American undergraduates has been reported, including evidence of structural equivalence across African American and Caucasian college women (Atlas, Smith, Hohlstein, McCarthy, & Kroll, 2002; Fernandez, Malcarne, Wilfley, & McQuaid, 2006; Lester & Petrie, 1998). In the current study, T1 BULIT–R had \( \alpha = .93 \).

**Results**

**Descriptive Statistics and Attrition Analyses**

Table 1 contains means and standard deviations for the full sample for the study variables at T1, as well as their correlations. It is of note that, although the perfectionism dimensions were moderately correlated with each other (\( r = .47 \)), maladaptive perfectionism had the stronger bivariate relation with bulimic symptoms. Feeling overweight was associated with bulimic symptoms but not with perfectionism. Feeling overweight was also associated with actual size, and those who reported feeling overweight (\( n = 36 \); 37%) had a significantly higher BMI (\( M = 28.11 \) kg/m\(^2\), \( SD = 4.74 \)) than did those who reported not feeling overweight (\( n = 61 \); 63%; \( M = 21.86 \) kg/m\(^2\), \( SD = 2.62 \), \( t(95) = -8.38, p < .001 \)).

Study sample means for the Hewitt & Flett MPS and Frost MPS subscales were similar to those of a separate sample of African American college women (Nilsson, Paul, Lupini, & Tatem, 1999), in which norms were reported as \( M = 67.22 \) (SD = 11.55) for Socially Prescribed Perfectionism, \( M = 49.21 \) (SD = 10.58) for Socially Prescribed Perfectionism, \( M = 18.20 \) (SD = 6.43) for Concern Over Mistakes, and \( M = 25.16 \) (SD = 4.58) for Personal Standards. Scores for the current sample (see Table 1) were equivalent to these norms: \( Z = .28 \) (\( p = .390 \)) for Self-Oriented Perfectionism, \( Z = -.07 \) (\( p = .472 \)) for Socially Prescribed Perfectionism, \( Z = .31 \) (\( p = .378 \)) for Concern Over Mistakes, and \( Z = -.12 \) (\( p = .452 \)) for Personal Standards.

A wide range of bulimic symptoms were reported in this sample, with BULIT–R scores ranging from 28 to 106, along with substantial stability across time (\( r = .87 \) for T1 and T2 BULIT–R). The current sample’s mean score on the BULIT–R was similar to mean scores found in other samples of African American college women. For example, Lester and Petrie (1998) reported \( M = 45.95 \) and \( SD = 14.45 \) (\( Z = -.18, p = .429 \)) and Fernandez et al. (2006) reported \( M = 50.08 \) and \( SD = 17.72 \) (\( Z = -.40, p = .345 \)). The BULIT–R uses a cutoff of 104 for a likely diagnosis of bulimia.

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The Hewitt & Flett MPS subscale excluded from these analyses is Other-Oriented Perfectionism, which reflects having extremely high expectations for others (Hewitt & Flett, 1991). This subscale was excluded because conceptually and empirically, there is no evidence for its association with disordered eating (Hewitt et al., 1995).
Predicting Bulimic Symptoms

Perfectionism Dimensions Explaining Unique Variance in Bulimic Symptoms

To examine our first hypothesis regarding the relative strength of maladaptive and adaptive perfectionism, we entered the perfectionism dimensions as a set into a multiple regression equation of maladaptive and adaptive perfectionism, we entered the perfectionism dimension and T1 perceived weight status; Step 2, two-way interaction of T1 Perfectionism Dimension × T1 Perceived Weight Status. Interaction terms were created by multiplying together the dichotomous perceived weight status variable and the centered, continuous perfectionism dimension, as recommended by Frazier, Tix, and Barron (2004).

In total, four hierarchical multiple regressions were performed, the results of which are displayed in Table 2. For the cross-sectional analyses, two separate regressions were performed, one for maladaptive perfectionism and one for adaptive perfectionism. The Maladaptive Perfectionism × Perceived Weight Status interaction was significant in predicting T1 BULIT–R scores, $t(93) = 3.95, p < .001$. Simple slope analyses, performed as directed by Aiken and West (1991), indicated that maladaptive perfectionism was significantly associated with bulimic symptoms for feeling overweight (perceived weight status variable coded so that 0 = does not feel overweight, 1 = feels overweight). As depicted in Figure 1, African American women who were high in maladaptive perfectionism and felt overweight exhibited the highest levels of bulimic symptoms. (High and low levels were determined by one standard deviation above and below the mean, respectively, in creating all figures.) In contrast, the Adaptive Perfectionism × Perceived Weight Status interaction was not significant.

For the prospective analyses, two separate regressions were performed (see Table 2). The Maladaptive Perfectionism × Perceived Weight Status interaction was significant in predicting T2 BULIT–R scores after controlling for T1 levels, $t(65) = 3.50, p = .001$. Simple slope analyses indicated that maladaptive perfectionism was significantly associated prospectively with bulimic symptoms for feeling overweight, $\beta = .35, t(65) = 3.99, p < .001$, but not for not feeling overweight, $\beta = -.05, t(65) = -.66, p = .512$. Thus, the same

table 1

correlations among and means and standard deviations of time 1 measures in the full sample ($N = 97$)

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<td>71.29</td>
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<td>2. Adaptive perfectionism</td>
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<td>4. BMI</td>
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<td>.65***</td>
<td>43.22</td>
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<td>5. BULIT–R</td>
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Note. SPP = Socially Prescribed Perfectionism; CM = Concern Over Mistakes; SOP = Self-Oriented Perfectionism; PS = Personal Standards; BMI = body mass index; BULIT–R = Bulimia Test—Revised (Thelen, Farmer, Wonderlich, & Smith, 1991). Variables are continuous, with higher values reflecting higher levels of the construct, except for perceived weight status (0 = does not feel overweight, 1 = feels overweight). For the dichotomous variable, the percentage endorsing feeling overweight is reported instead of the mean and standard deviation. Because maladaptive and adaptive perfectionism were created by standardizing and summing the appropriate subscales (SPP and CM for maladaptive perfectionism, and SOP and PS for adaptive perfectionism), means and standard deviations of these composite perfectionism measures are not very illuminating. Instead, we report the means and standard deviations of the component perfectionism subscales: SPP, CM, SOP, and PS. Possible ranges for the perfectionism and bulimic symptom measures are as follows: SPP (15–105), CM (9–45), SOP (15–105), PS (7–35), BULIT–R (28–140).

*p < .05. ***p < .001.

nervosa (Thelen, Mintz, & Vander Wal, 1996); in the current study, 1% ($n = 1$) exceeded this clinical cutoff at T1, and 2.8% ($n = 2$; the same individual as in T1 plus an individual whose bulimic symptom levels had increased beyond the cutoff) exceeded this cutoff at T2, with these prevalence rates being in the expected range for diagnoses of bulimia nervosa among young women (American Psychiatric Association, 1994).

The completers ($n = 70$) did not differ significantly from the noncompleters ($n = 27$) on the perfectionism measures, perceived weight status, BMI, bulimic symptoms, or the demographic variables of age or highest parental education. In addition, neither age nor highest parental education was significantly related to bulimic symptoms at either T1 or T2.

Perfectionism Dimensions Explaining Unique Variance in Bulimic Symptoms

To examine our first hypothesis regarding the relative strength of maladaptive and adaptive perfectionism, we entered the perfectionism dimensions as a set into a multiple regression equation with the dependent variable of the BULIT–R. In the cross-sectional analyses, this set of T1 perfectionism dimensions accounted for a significant amount of the variance in T1 BULIT–R scores ($R^2 = .35, p < .001$), with maladaptive perfectionism, $r(94) = 6.56, p < .001$, but not adaptive perfectionism, $r(94) = -.74, p = .464$, accounting for unique variance. However, in the prospective analyses, after controlling for T1 BULIT–R scores, the set of perfectionism dimensions did not predict T2 BULIT–R scores ($\Delta R^2 = .01, p = .167$).

Perfectionism × Perceived Weight Status Interaction Predicting Bulimic Symptoms

For the hypothesis related to the interaction of perfectionism and perceived weight status, we performed hierarchical multiple regressions with the following order of entry of variables: Step 1, T1 perfectionism dimension and T1 perceived weight status; Step 2, two-way interaction of T1 Perfectionism Dimension × T1 Perceived Weight Status. Interaction terms were created by multiplying together the dichotomous perceived weight status variable and the centered, continuous perfectionism dimension, as recommended by Frazier, Tix, and Barron (2004).

In total, four hierarchical multiple regressions were performed, the results of which are displayed in Table 2. For the cross-sectional analyses, two separate regressions were performed, one for maladaptive perfectionism and one for adaptive perfectionism. The Maladaptive Perfectionism × Perceived Weight Status interaction was significant in predicting T1 BULIT–R scores, $t(93) = 3.95, p < .001$. Simple slope analyses, performed as directed by Aiken and West (1991), indicated that maladaptive perfectionism was significantly associated with bulimic symptoms for feeling overweight (perceived weight status variable coded so that 0 = felt overweight), $\beta = .74, t(93) = 8.47, p < .001$, but not for not feeling overweight (perceived weight status variable coded so that 0 = did not feel overweight), $\beta = .17, t(93) = -1.49, p = .139$. As depicted in Figure 1, African American women who were high in maladaptive perfectionism and felt overweight exhibited the highest levels of bulimic symptoms. (High and low levels were determined by one standard deviation above and below the mean, respectively, in creating all figures.) In contrast, the Adaptive Perfectionism × Perceived Weight Status interaction was not significant.

For the prospective analyses, two separate regressions were performed (see Table 2). The Maladaptive Perfectionism × Perceived Weight Status interaction was significant in predicting T2 BULIT–R scores after controlling for T1 levels, $t(65) = 3.50, p = .001$. Simple slope analyses indicated that maladaptive perfectionism was significantly associated prospectively with bulimic symptoms for feeling overweight, $\beta = .35, t(65) = 3.99, p < .001$, but not for not feeling overweight, $\beta = -.05, t(65) = -.66, p = .512$. Thus, the same
pattern emerged as in the cross-sectional analyses, with the nature of the interaction mirroring Figure 1; those with high maladaptive perfectionism who felt overweight exhibited the highest levels of T2 BULIT–R even after controlling for T1 levels. The Adaptive Perfectionism × Perceived Weight Status interaction did not predict T2 BULIT–R after controlling for T1 BULIT–R.

Interactive Analyses with BMI

To examine whether, as found by Joiner et al. (1997), perceived weight status was more important than actual body size (i.e., BMI), we ran the hierarchical regression analyses in two additional ways using the analytic approaches reported by Joiner et al. These

Table 2
Hierarchical Multiple Regression Analyses of the Interaction of Perfectionism and Perceived Weight Status Predicting Bulimic Symptoms Cross-Sectionally and Longitudinally

<table>
<thead>
<tr>
<th>Step and predictors</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>t (dfs)</th>
<th>ΔR²</th>
</tr>
</thead>
</table>

Step 1 (DV = T1 BULIT–R)
- Maladaptive perfectionism: 4.50, 0.63, .53***
- Perceived weight status: 12.28, 2.41, .38***

Step 2
- Maladaptive Perfectionism × Perceived Weight Status: 4.82, 1.22, .45***

Step 1 (DV = T1 BULIT–R)
- Adaptive perfectionism: 2.02, 0.73, .24**
- Perceived weight status: 15.14, 2.85, .47***

Step 2
- Adaptive Perfectionism × Perceived Weight Status: 2.46, 1.47, .19

Step 1 (DV = T1 BULIT–R)
- T1 BULIT–R: 0.88, 0.06, .87***

Step 2
- Maladaptive perfectionism: 1.03, 0.53, .13
- Perceived weight status: 3.27, 1.93, .11

Step 3
- Maladaptive Perfectionism × Perceived Weight Status: 3.20, 0.92, .30**

Step 1 (DV = T2 BULIT–R)
- T1 BULIT–R: 0.88, 0.06, .87***

Step 2
- Adaptive perfectionism: 0.07, 0.48, .01
- Perceived weight status: 2.85, 2.00, .10

Step 3
- Adaptive Perfectionism × Perceived Weight Status: 0.67, 1.02, .05

** p < .01. *** p < .001.

Figure 1. The interaction of maladaptive perfectionism and perceived weight status with Time 1 Bulimia Test—Revised (BULIT–R; Thelen, Farmer, Wonderlich, & Smith, 1991) as the dependent variable.
additional analyses were important as part of attempting to replicate the Joiner et al. work, especially because the relation between feeling overweight and actually being overweight appears to differ for African American and Caucasian women (e.g., Fitzgibbon et al., 2000).

First, we ran the same interactive tests of perfectionism and perceived weight status with the covariate of BMI to control for actual weight. The pattern of cross-sectional and prospective interactive findings described above remained the same when BMI was included as a covariate, which is consistent with Joiner et al. (1997). In other words, all interactions that were significant without BMI in the model were also significant after controlling for BMI, and all interactions that were not significant without BMI remained nonsignificant with BMI in the model.

Second, we used BMI as a predictor in place of perceived weight status, to see if actual body size interacted with perfectionism in the same way as perceived weight status. In the cross-sectional analyses, the same general pattern of findings emerged as when perceived weight status was in the model. The Maladaptive Perfectionism × BMI interaction significantly predicted T1 BULIT–R, β = .25, t(93) = 3.28, ΔR² = .05, p = .001. Simple slope analyses indicated that maladaptive perfectionism was significantly associated with bulimic symptoms at high BMI (one standard deviation above the mean), β = .61, t(93) = 8.35, p < .001, as well as at low BMI (one standard deviation below the mean), albeit not as strongly, β = .26, t(93) = 2.33, p = .022. As seen in Figure 2, women with high maladaptive perfectionism and high BMI exhibited the highest levels of bulimic symptoms. The Adaptive Perfectionism × BMI interaction did not predict T1 bulimic symptoms, t(93) = .45, ΔR² = .002, p = .655. The findings with maladaptive perfectionism are in contrast to those of Joiner et al. (1997), where BMI did not interact with perfectionism to predict presence of bulimic symptoms.

In the prospective analyses, after controlling for T1 bulimic symptoms, BMI did not interact significantly with maladaptive perfectionism, t(65) = 1.51, ΔR² = .007, p = .137, or adaptive perfectionism, t(65) = −1.05, ΔR² = .004, p = .300, in the prediction of T2 BULIT–R.

Discussion

This study highlights the relevance of maladaptive perfectionism to bulimic symptoms in African American college women. In contrast to adaptive perfectionism, maladaptive perfectionism accounted for unique variance in bulimic symptoms, although neither perfectionism dimension uniquely predicted change in bulimic symptoms. Maladaptive perfectionism was also the dimension of perfectionism that interacted with perceived weight status to predict presence of elevated bulimic symptom scores. Furthermore, this interaction also predicted increases in bulimic symptom scores. This study’s results are consistent with findings from some research involving nonclinical samples (Hewitt et al., 1995; Pearson & Gleave, 2006) in which only maladaptive perfectionism was associated with bulimic symptoms, but are inconsistent with other findings in which both adaptive and maladaptive dimensions of perfectionism were associated with bulimic symptoms (Bardone-Cone, 2007). In general, the findings echo the larger literature between maladaptive perfectionism and psychological distress (Enns & Cox, 2002).

This study also provides support for a vulnerability-stress model of perfectionism and perceived weight status that has predicted concurrent bulimic symptoms in Caucasian college women (Joiner et al., 1997), similarly operating for African American college women. Thus, even in a culture in which larger bodies may be considered acceptable and attractive (Freedman, Carter, Sbrocco, & Gray, 2004), it appears that feeling overweight or actually being heavier is associated with bulimic symptoms for African American women, especially among those with high perfectionism characterized by self-criticism and perceived high expectations of others. In the cross-sectional analyses, the interaction of maladaptive perfectionism and perceived weight status accounted for an additional 7% of the variance above and beyond main effects, which is notably more than most interactive effects (1–3% of unique variance, per McClelland & Judd, 1993). It is interesting that the interactive effect appears to be stronger for African American college women than for Caucasian college women, with a squared partial correlation of .01 for the Perfectionism × Perceived Weight

![Figure 2](image-url)
Status interaction in Joiner et al. (1997) but a squared partial correlation of .14 for this two-way interaction with maladaptive perfectionism in the current African American sample.

This vulnerability-stress model also prospectively predicted bulimic symptoms after we controlled for initial levels (T1) of bulimic symptoms. Thus, the combination of high maladaptive perfectionism and feeling overweight may predispose African American college women to increases in bulimic behaviors and attitudes. Theoretically, in the context of feeling that others have exceedingly high expectations for oneself and being self-critical about one’s failures, feeling overweight may be perceived as an example of not meeting expectations and outwardly displaying one’s failure, which could generate negative affect and disappointment in oneself. These negative feelings and thoughts about the self could, in turn, motivate binge eating (and, perhaps, compensatory behaviors) as affect regulation, distraction, comfort, or self-punishment (Fairburn et al., 2003; Heatherton & Baumeister, 1991; Jackson, Cooper, Mintz, & Alhino, 2003).

The current research extends our knowledge in several ways. First, a model of perfectionism and perceived weight status identifying elevations of bulimic symptoms applies to African American college women. Second, it was maladaptive perfectionism, not adaptive perfectionism, that interacted with perceived weight status to predict bulimic symptoms. Third, this study provides evidence that high levels of maladaptive perfectionism, combined with feeling overweight, may predict increases in bulimic symptoms. Fourth, unlike the findings of Joiner et al. (1997), both BMI and perceived weight status interacted with maladaptive perfectionism to predict concurrent bulimic symptoms. This is likely because there was a closer correspondence between feeling overweight and actually being overweight for African American women than for Caucasian women. For example, Fitzgibbon et al. (2000) found that Caucasian women reported body dissatisfaction at lower BMI levels, in contrast to African American women, who tended not to report body dissatisfaction until they were objectively overweight. Of note, in the current study, 81% of those who felt they were overweight had BMIs of at least 25, which is the cutoff for being classified as “overweight” by the World Health Organization (Valdez & Williamson, 2002), whereas in a sample of Caucasian women, only 40% of those who felt overweight had BMIs of at least 25 (Bardone-Cone, Abramson, Vohs, Heatherton, & Joiner, 2006). However, despite this close correspondence, it appears that there is something about the perception of feeling overweight that is uniquely important in interaction with perfectionism, because the significant interactive finding with perceived weight status remained significant, even after we controlled for BMI.

Counselors working with African American college women with bulimic symptomatology could use these findings to guide assessment and intervention. By assessing perfectionism, in particular maladaptive aspects reflected by high self-criticism and perceived high expectations from others, and examining the role of perfectionism in relation to disordered eating, useful information could be gained. The interactive findings suggest that intervening by decreasing maladaptive perfectionism or by changing one’s perception of being overweight would contribute to decreases in bulimic symptoms. As can be seen in Figure 1, a change in these directions in either of these two components of the interactive model was associated with dramatically lower bulimic symptom levels. Of note, perfectionism has been implicated as a maintenance factor in disordered eating in research largely based on Caucasian women (Fairburn et al., 2003); the current study supports perfectionism as a reasonable target of intervention for African American women, as well.

The current study has several strengths, including the focus on African American women and bulimic symptoms, the assessment of multidimensional perfectionism, and the use of a bulimic symptom measure with evidence for good psychometrics among African American women. Also, the longitudinal design permitted both cross-sectional analyses and analyses prospectively predicting bulimic symptoms after controlling for initial levels. The focus on perfectionism in relation to bulimic symptoms among African American women is novel and adds to the much-needed understanding of possible pathways to bulimic symptoms for African American women (Franko, 2007). The use of multidimensional perfectionism adds to the eating disorder literature that has largely assessed perfectionism unidimensionally (Bardone-Cone et al., 2007).

Some limitations include generalizability, the small sample size, and the absence of extensive psychometric data for African American women for the perfectionism measures. Although the use of an undergraduate sample is appropriate because bulimic symptoms are heightened and associated with distress in this population (D. L. Cohen & Petrie, 2005), the generalizability of these findings to other groups is unclear. It will be necessary to examine perfectionism and disordered eating in community samples of African American women representing a greater range of ages and socio-economic statuses, as well as among college women at historically Black colleges. It is important to note that the African American female participants of this study were students at a predominantly Caucasian university (about 82% Caucasian and 6% African American). This is relevant because group norms and sociocultural factors play an important role in promulgating the thin ideal, negative body image, and disordered eating. It could be that different relations between perfectionism and bulimic symptoms may be found for African American college women at a historically Black college. We also note that the small sample size for the prospective analyses, combined with the relative stability of bulimic symptoms, may have made it difficult to detect change. A power analysis indicated that power for this study ranged from .17 to .56, on the basis of the effect sizes found and the sample sizes for the cross-sectional and prospective analyses (J. Cohen, 1988). Frazier et al. (2004) noted that interaction effect sizes are often small and that, in most published studies, the power to detect these sorts of effects is typically .20 to .34. An implication of the small sample size is that there may not have been enough power to detect truly existing interactive effects. However, we note that the significant effects that were found included ones that were hypothesized and that the nonsignificant effects (i.e., interactions with adaptive perfectionism) were not theoretically expected to be significant on the basis of the limited existing research on dimensions of perfectionism and bulimic symptoms in nonclinical samples (where maladaptive, rather than adaptive, perfectionism appears to be more important).

In sum, this study provides support for maladaptive perfectionism playing an important role in relation to bulimic symptoms in African American college women, both on its own and in combination with feeling overweight. Future work examining bulimic
symptoms in African American women should continue to test more complex models of moderation and mediation. For example, theoretically, the link between the interaction of maladaptive perfectionism and feeling overweight and bulimic symptoms may be mediated by negative affect generated by the discrepancy between having high standards and perceiving unmet standards, but this requires empirical testing. Also, more complex moderator models, including the interaction of perfectionism, perceived weight status, and self-efficacy, that have been found to predict bulimic symptoms in Caucasian samples (Bardone-Cone et al., 2006) warrant testing in African American women. It would also be useful to “unpack” bulimic symptoms to see if the findings related to perfectionism and bulimic symptoms apply similarly to binge eating and to purging behaviors. Future work should also include assessments of racial identity and acculturation (Wang & Sue, 2005). Those data would permit testing whether the relation between perfectionism and bulimic symptoms varies depending on level of association with the dominant White culture. The inclusion of other factors that may be more specific to African American women is encouraged in following with suggestions that eating pathology may be a form of internalized oppression (Harris & Kuba, 1997), as well as a response to discriminatory stress (Harrington et al., 2006). Researchers interested in understanding eating pathology among African American women would be well served to test models that include factors that may be shared with Caucasian women (e.g., perfectionism) and factors that may be unique to African American women (Harrington et al., 2006).

References


