

# Ethnic Differences in the Prediction of Eating and Body Image Disturbances among Female Adolescent Psychiatric Inpatients

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## ABSTRACT

**Objective:** The current study examined predictors of eating and body image disturbances in psychiatrically hospitalized female adolescents and investigated whether the predictors differ by ethnicity.

**Method:** Participants were 427 (320 Caucasian, 53 Latina, 54 African American) female adolescent psychiatric inpatients. Predictors of eating disorder features (dietary restraint, binge eating, and purging) and body image dissatisfaction (BID) were tested separately for the three ethnic groups. In addition to the eating and BID variables, the following predictor variables were considered: depression, anxiety, impulsivity, negative self-esteem, peer insecurity, and abuse.

**Results:** Caucasians reported significantly higher levels of dietary restraint and BID than Latinas and African Americans, whereas reports of binge eating did not differ by ethnicity. Regression analyses revealed that the predictor variables accounted for significant and

substantial amounts of the variance in the four eating and body image domains. Different psychological and social variables predicted eating disorder symptoms and BID across ethnic groups.

**Discussion:** These findings suggest, for psychiatrically hospitalized adolescent females, that different patterns of factors may contribute to the maintenance of eating and body image disturbances across ethnic groups. Future research testing models of the etiology or maintenance of these disturbances needs to include ethnicity to ascertain whether the hypothesized components operate differently by ethnicity. © 2005 by Wiley Periodicals, Inc.

**Keywords:** body image disturbances; ethnicity; adolescent females; risk factors; binge eating; restraint; purging

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## Introduction

Research has increasingly challenged longstanding views that eating disorders and body image disturbances are culture-bound syndromes, restricted primarily to affluent Caucasian females in westernized societies (Yanovski, 2000). Emerging research across diverse groups and developmental eras has found that eating and body image concerns are not uncommon among men, the nonaffluent, or persons of color (Barry & Grilo, 2002; Jackson & Grilo, 2002). Experts highlight the need to not overlook

potential eating-disordered problems in persons of all ethnicities (Yanovski, 2000), as research documents persisting views among lay persons (Gordon, Perez, & Joiner, 2002) and professionals (Becker, Franko, Speck, & Herzog, 2003) that minorities are less likely to struggle with such problems.

Although the preponderance of research has documented the existence of eating and body image disturbances across ethnic groups, the literature is far from equivocal, suggesting that different aspects or forms of eating and body image disturbances may differ by ethnicity. Thus, although some severe forms of eating disorders and behaviors such as anorexia nervosa and semistarvation may be “culture-bound” and overrepresented in westernized Caucasian females (Keel & Klump, 2003), some problems such as binge eating appear to occur equally across ethnicities (Field, Colditz, & Peterson, 1997; Le Grange, Stone, & Brownell, 1998; Striegel-Moore, Wilfley, Pike, Dohm, & Fairburn, 2000). Other dieting behaviors and body image disturbances appear to be variably distributed across

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ethnicities, although they tend to be more pronounced among Caucasian females (Akan & Grilo, 1995; McKnight Investigators, 2003; Neumark-Sztainer et al., 2002; Perez, Voelz, Pettit, & Joiner, 2002; Striegel-Moore, Wilfley, et al., 2000; White, Kohlmaier, Varnado-Sullivan, & Williamson, 2003).

Research has only recently begun to examine whether the correlates of eating and body image disturbances differ by ethnicity during the developmental era of adolescence (McKnight Investigators, 2003; Striegel-Moore, Schreiber, et al., 2000; White et al., 2003). These studies have generally highlighted dieting behaviors and preoccupation for thinness as risk factors for eating disturbances, but have yielded inconsistent and different patterns of associations across ethnic groups. Thus, the current study aimed to examine predictors of eating and body image disturbances in psychiatrically hospitalized female adolescents with a particular focus on exploration of whether the predictors differ by ethnicity. We selected variables from the prevailing cognitive-behavioral model of the maintenance of eating disorders (Fairburn, Cooper, & Shafran, 2003) that have received general support from research conducted with mostly Caucasian adults (Byrne & McLean, 2002; Fairburn, Stice, et al., 2003; Spangler, 2002). These variables include body image dissatisfaction (BID), dietary restraint, binge eating, and purging. It is curious that although certain eating disorder symptoms (binge eating) are equally observed across ethnic groups, other features (BID and dietary restraint) are not. Such observations call into question the applicability of common theoretic models of eating disturbances to members of ethnic minority groups, and highlight the need for the current study.

In addition, we considered constructs selected from broader cognitive-behavioral models, such as Stice's (2001) "dual pathway" model, that posits that eating disorder symptoms such as binge eating can arise from either or both problems with affective regulation or dietary restraint. This model, which has received support with adolescents (Grilo, 2004; Stice, 2001) and adults (Grilo, Masheb, & Wilson, 2001), highlights the importance of negative affect. Accordingly, we considered depression and anxiety as potential correlates. Finally, we considered four additional variables (impulsivity, self-devaluation or negative self-esteem, peer insecurity, and abuse) selected from the voluminous and mixed literature on risk and maintenance factors for eating pathology based primarily on Caucasians (Stice, 2002; Stice, Presnell, & Spangler, 2002).

## Method

### Subjects

Subjects were a nearly consecutive series of 427 female adolescent inpatients admitted to the evaluation and crisis intervention unit of a private not-for-profit teaching psychiatric hospital. These patients were hospitalized for a variety of serious psychiatric problems (i.e., this was not an eating disorder unit characterized by particular recruitment and selection criteria). Patients were admitted based on the need for inpatient-level intervention and no other selection processes were used. Inclusion criteria for the study included (a) an adequate ability to read and comprehend the psychological evaluations, (b) not actively psychotic, and (c) not so cognitively impaired or agitated as to preclude testing. At the time of admission, all participants and their parents (or legal guardians) provided written informed consent for comprehensive evaluations, which included the assessment procedure described here, and the participants also provided assent for the assessments.

Of the 427 patients, 320 (74.9%) were Caucasian, 53 (12.4%) were Latina American, and 54 (12.6%) were African American. Participants were mostly from lower-middle to middle-class families. The age of the participants ranged from 12 years to 20 years ( $M = 15.7$ ,  $SD = 1.5$ ).

### Procedures

Subjects completed an assessment battery, which included the Millon Adolescent Clinical Inventory (MACI; Millon, Millon, & Davis, 1993), within 4 days of admission. The MACI is a 160-item self-report inventory developed and normed with clinical samples. The MACI comprises 27 clinical scales that tap clinical syndromes, expressed concerns, and personality styles. In addition, the MACI contains three scales of test-taking response styles including basic validity checks. All participants included in the current study passed the validity checks. The MACI, a widely used instrument (McCann, 1999), has demonstrated good internal consistency, adequate test-retest reliability, and has been validated against several measures of psychological functioning by several research groups (Millon & Davis, 1993; Murrie & Cornell, 2002; Pinto & Grilo, 2004; Romm, Bockian, & Harvey, 1999).

Two MACI scales—Eating Dysfunction and Body Disapproval—assess global constructs related to eating disorder psychopathology. Whereas both of these scales have demonstrated good psychometric properties (Millon et al., 1993), they comprise an admixture of behavioral and cognitive items that directly tap eating disorder features (e.g., binge eating, purging, and restraint behaviors) as well as non-eating items reflecting factors associated with eating problems. As we were interested in specific features of eating and body image disturbances, we generated several scales based on the specific item content. The MACI lends

itself well to this approach because it provides a listing of “prototypic” items for each subscale and these are weighted most heavily in the scoring algorithms (Millon et al., 1993). The MACI items identified as prototypic for the Eating Dysfunction and the Body Disapproval scales supported the creation of three specific eating disorder variables (binge eating, dietary restraint, and purging) and one BID variable. Purging was determined by one item tapping vomiting (“I sometimes force myself to vomit after eating a lot”). The three continuous scales showed adequate internal consistency. For example, Cronbach’s alpha coefficients were .66 (binge eating), .83 (dietary restraint), and .88 (BID).

A similar approach was used to arrive at specific scales for the other constructs of interest that were tested as predictors: depression, anxiety, impulsivity, negative self-esteem, peer insecurity, and abuse. This process resulted in homogeneous constructs and eliminated item overlap between the scales (McCann, 1999; Pinto & Grilo, 2004). Reliability analyses conducted for each of the specific scales indicated good internal consistency. Cronbach’s coefficient alphas were .77 (depression), .60 (anxiety), .76 (impulsivity), .80 (self-devaluation or negative self-esteem), .73 (peer insecurity), and .85 (childhood abuse).

## Results

Table 1 shows the descriptive statistics for the eating disorder symptoms as well as the psychosocial predictor variables for each ethnic group. An initial series of regression analyses was conducted to test for differences in the eating and body image variables across the three ethnic groups (shown in Table 1). In these analyses, dummy variables for the ethnic groups were created and entered in a single block. These analyses indicated that the three ethnic groups differed significantly in two of the four eating disorder domains. The Caucasian group reported significantly higher levels of BID and dietary restraint than the other ethnic groups.

Ethnicity, however, accounted for a small portion of the variance in these domains. For the purgative behavior variable (a categorical variable), a chi-square test for independence revealed that overall the groups differed only at a nonsignificant trend level in the proportion of individuals who reported self-induced vomiting,  $\chi^2(df = 2, n = 427) = 5.21$ ,  $p = .07$ . Among Caucasian participants, 19.4% endorsed vomiting to lose weight, compared with 22.6% of the Latina American and 7.4% of the African American participants.

Because ethnicity accounted for a small proportion of the variance in the scale scores, correlation (Table 2) and regression analyses (Tables 3–6) were conducted separately for each of the ethnic groups. Regression analyses were used to determine which variables accounted for the most unique variance for each of the four eating and body image disturbance variables. In these analyses, the predictor variables were entered stepwise in a single block. The hypothesized predictors for BID were depression, anxiety, negative self-esteem, impulsivity, peer influence, and history of abuse. For dietary restraint, the predictor variables were BID, depression, anxiety, negative self-esteem, impulsivity, peer influence, and history of abuse. The hypothesized predictors for binge eating were those listed above, plus dietary restraint. For purgative behavior, the same predictors were included, along with binge eating. Overall, different patterns of significant predictors emerged across ethnic groups.

Table 3 provides the regression models for BID for each of the ethnic groups. The model for Caucasian and Latina American girls was similar, with negative self-esteem emerging as the only significant predictor and accounting for 43.8% (Caucasian) and 47.1% (Latina American) of the variance in BID scores. For African American girls, a different pattern emerged such that negative self-esteem, peer insecurity, and anxiety significantly predicted BID and accounted for 63% of the variance.

**TABLE 1. Descriptive findings for eating disorder symptoms and predictor variables**

Subscale	Caucasian	Latina American	African American	<i>F</i> (2, 424)	<i>p</i>	<i>R</i> <sup>2</sup>
Eating disorder variables	<i>M</i> (sd)	<i>M</i> (sd)	<i>M</i> (sd)			
Body image dissatisfaction	3.30 (1.92)	2.19 (1.93)	2.26 (2.02)	12.31	<.001	.055
Restraint	2.37 (1.87)	1.43 (1.74)	1.56 (1.67)	9.31	<.001	.042
Binge eating	.67 (.97)	.62 (.84)	.69 (1.07)	.07	.933	.000
Predictor variables						
Negative self-esteem	2.73 (1.8)	1.96 (1.43)	2.33 (1.59)	6.92	.001	.032
Peer insecurity	1.12 (1.36)	1.28 (1.28)	1.26 (1.28)	.48	.618	.002
Depression	2.36 (1.68)	2.49 (1.84)	2.50 (1.73)	.27	.767	.001
Anxiety	2.08 (1.50)	1.94 (1.32)	1.96 (1.45)	.31	.737	.001
Impulsivity	3.00 (1.79)	2.72 (1.71)	2.48 (1.48)	2.34	.098	.011
Abuse history	1.33 (1.77)	2.11 (1.86)	1.78 (1.78)	5.23	.006	.024

**TABLE 2. Correlations among eating disorder symptoms and psychological variables**

	1	2	3	4	5	6	7	8	9
Caucasian									
1 BID									
2 Restraint	.535**								
3 Binge	.367**	.408**							
4 Purge/vomit <sup>a</sup>	.184**	.435**	.330**						
5 Negative self-esteem	.716**	.492**	.356**	.211**					
6 Peer insecurity	.287**	.113*	.215**	.083	.357**				
7 Depression	.482**	.431**	.307**	.211**	.667**	.378**			
8 Anxiety	.310**	.282**	.315**	.222**	.473**	.340**	.407**		
9 Impulsivity	.136*	.170**	.182**	.094	.226**	-.046	.270**	.112*	
10 Abuse history	.148**	.217**	.145**	.177**	.206**	.177**	.247**	.255**	.117*
Latina American									
1 BID									
2 Restraint	.496**								
3 Binge	.199	.273*							
4 Purge/vomit	.512**	.649**	.246						
5 Negative self-esteem	.737**	.458**	.323*	.449**					
6 Peer insecurity	.274*	.273*	.318*	.271*	.504**				
7 Depression	.391**	.312*	.260	.300*	.675**	.604**			
8 Anxiety	.253	.212	.415**	.127	.441**	.511**	.463**		
9 Impulsivity	.301*	.423**	.219	.409**	.554**	.336*	.693**	.264	
10 Abuse history	-.017	.199	.214	.163	.165	.173	.215	.277*	.228
African American									
1 BID									
2 Restraint	.545**								
3 Binge	.506**	.403**							
4 Purge/vomit	.387**	.461**	.282*						
5 Negative self-esteem	.783**	.448**	.289*	.262					
6 Peer insecurity	.690**	.357**	.540**	.110	.699**				
7 Depression	.624**	.287*	.388**	.206	.676**	.503**			
8 Anxiety	.408**	.211	.209	.302*	.430**	.127	.254		
9 Impulsivity	.134	.150	.204	.052	.245	.253	.280*	.088	
10 Abuse history	.142	.062	.140	.116	.171	.059	.324*	.121	-.131

Note: BID = body image dissatisfaction. Purge/vomit was a single item, dichotomous variable. Correlations are point biserial values.

<sup>a</sup>Purge/vomit was a single item, dichotomous variable. Correlations are point biserial values.

\*Correlation is significant at the .05 level (2-tailed).

\*\*Correlation is significant at the .01 level (2-tailed).

**TABLE 3. Regression models for body image dissatisfaction**

Body Image Dissatisfaction	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	Partial	Semipartial	<i>R</i> <sup>2</sup>
Caucasian								
Negative self-esteem	.863	.944	.662	15.749	<.000	.662	.662	.438
Latina American								
Negative self-esteem	.929	.138	.686	6.734	<.000	.686	.686	.471
African American								
Negative self-esteem	.445	.172	.351	2.587	<.013	.344	.222	.533
Peer insecurity	.662	.197	.418	3.361	<.001	.429	.289	.596
Anxiety	.292	.136	.210	2.152	<.036	.291	.185	.630

Table 4 provides the regression models for dietary restraint for each of the ethnic groups. For Caucasians, dietary restraint was predicted by BID, depression, peer insecurity, and history of abuse. These variables accounted for 34.8% of the variance in dietary restraint scores. For Latina American girls, BID and impulsivity together accounted for 32.9% of the variance in dietary restraint, whereas for African American girls, only BID significantly contributed to the model and accounted for 29.7% of the variance.

Table 5 contains the regression models for binge eating for each of the ethnic groups. Among Caucasian girls, binge eating was predicted by dietary restraint, anxiety, and BID (together accounting for 22.9% of the variance). The model for Latina American girls indicated that only anxiety significantly predicted binge eating (17.2% of the variance), whereas for African American girls, only peer insecurity predicted binge eating (29.2% of the variance).

Table 6 summarizes the logistic regression analysis conducted to predict the occurrence of purgative

**TABLE 4. Regression models for dietary restraint**

Dietary Restraint	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	Partial	Semipartial	<i>R</i> <sup>2</sup>
Caucasian								
Body image dissatisfaction	.427	.051	.439	8.377	<.000	.427	.381	.286
Depression	.263	.061	.237	4.314	<.000	.236	.196	.325
Peer insecurity	-.169	.069	-.122	-2.461	<.014	-.137	-.112	.336
Abuse history	.123	.050	.116	2.453	<.015	.137	.112	.348
Latina American								
Body image dissatisfaction	.365	.109	.406	3.340	<.002	.427	.387	.246
Impulsivity	.305	.123	.301	2.476	<.017	.330	.287	.329
African American								
Body image dissatisfaction	.449	.096	.545	4.682	<.000	.545	.545	.297

**TABLE 5. Regression models for binge eating**

Binge Eating	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	Partial	Semipartial	<i>R</i> <sup>2</sup>
Caucasian								
Restraint	.137	.031	.265	4.485	<.000	.245	.222	.166
Anxiety	.121	.034	.188	3.582	<.000	.198	.177	.210
Body image dissatisfaction	.084	.030	.167	2.805	<.005	.156	.139	.229
Latina								
Anxiety	.263	.081	.415	3.256	<.002	.415	.415	.172
African American								
Peer insecurity	.456	.099	.540	4.627	<.000	.540	.540	.292

**TABLE 6. Logistic regression models for purging**

Step	Model $\chi^2$	<i>df</i>	<i>B</i>	<i>SE</i>	<i>df</i>	<i>p</i>	Exp(B)	95.0%CI for EXP(B)	
								Lower	Upper
Caucasian									
1 Restraint	67.61	1	.757	.113	1	.000	2.131	1.709	2.658
2 Binge	76.38	2	.456	.155	1	.003	1.577	1.164	2.137
Restraint			.682	.117	1	.000	1.978	1.573	2.489
Latina									
1 Restraint	21.68	1	.979	.262	1	.000	2.663	1.593	4.452
2 BID	25.93	2	.568	.302	1	.060	1.764	.977	3.187
Restraint			.783	.273	1	.004	2.187	1.280	3.738
African American									
1 Restraint	10.36	1	1.080	.438	1	.014	2.944	1.248	6.946

Note: BID = body image dissatisfaction; CI = confidence interval.

behaviors for each of the ethnic groups. For Caucasian girls, purging was predicted by dietary restraint and binge eating. For Latina American girls, purging was predicted by dietary restraint and the addition of BID improved the overall fit of the model. Among African American girls, only dietary restraint predicted purgative behavior.

## Discussion

Overall, Caucasian, Latina American, and African American female adolescent psychiatric inpatients differed significantly in their levels of BID and dietary restraint but did not differ significantly in their reports of binge eating. In terms of purging, 19.4% of Caucasian

participants endorsed vomiting to lose weight, compared with 22.6% of the Latina American and 7.4% of the African American participants. Our primary finding is that different patterns of predictors were found for the eating and body image disturbances across the three ethnic groups. Collectively, these findings suggest that features of eating disorders and body image disturbance manifest differently and are potentially maintained by different psychological and behavioral factors across ethnic groups.

In the cognitive-behavioral therapy (CBT) model of eating disorders, dietary restraint is assumed to be a risk factor for the development of disturbed eating, and research has identified several risk factors that contribute to unhealthy levels of restraint. The current study found that the ethnic groups differed in levels of dietary restraint, with the Caucasian participants

reporting higher levels of dietary restraint than the other groups. In addition, the predictors of dietary restraint differed across the race groups. For Caucasians, dietary restraint was predicted by BID, depression, peer insecurity, and history of abuse. For Latina American girls, BID and impulsivity predicted dietary restraint. For African American girls, only BID significantly predicted dietary restraint. Whereas the significant predictive model for Caucasian girls in the current study is consistent with the CBT model of eating disorders, this model seems less applicable for the Latina American and African American females.

The groups also differed with regard to BID, with Caucasian girls reporting more severe levels of body image disturbance than Latina American and African American girls. This finding is consistent with some research reporting that Caucasian women and female adolescents report greater dissatisfaction with body shape/weight than do their African American peers (e.g., Neumark-Sztainer et al., 2002). The current findings suggest that a variety of psychological and demographic factors exert influence on body image, and that the relative influence of these factors differs as a function of ethnicity. For Caucasian and Latina American girls in this study, BID was predicted by negative self-esteem only, whereas for African American girls, negative self-esteem, peer insecurity, and anxiety contributed to BID. This finding suggests that for African American girls, the emergence of BID is contingent on a complex interaction of psychological and social difficulties.

The current study also found that the ethnic groups did not differ in reports of binge eating. This is consistent with research indicating that African American women are as likely as Caucasian women to report binge eating (Striegel-Moore, Wilfley, et al., 2000). Factors that predicted binge eating, however, differed across the groups. Among Caucasian girls, binge eating was predicted by dietary restraint, anxiety, and BID. For Latina American girls, only anxiety significantly predicted binge eating. For African American girls, only peer insecurity predicted binge eating. Again, this finding indicates that the CBT model for binge eating was supported only within the Caucasian group, and was less applicable to the Latina American and African American groups.

Purging via vomiting was more common in the Caucasian (19.4%) and Latina American (22.6%) groups than in the African American (7.4%) group. Again, the factors predicting vomiting differed across the groups. For Caucasian girls, the results supported the CBT model in that purging was predicted by dietary restraint and binge eating. For Latina American girls, purging was predicted by dietary restraint and, to a lesser degree, BID.

Among African American girls, only dietary restraint predicted purgative behavior. That binge eating did not predict purgative behaviors among the Latina American and African American groups is particularly noteworthy, and raises questions about clinical models of the binge-purge cycle among ethnic minority adolescents. It is worth noting that, unfortunately, we did not assess purging behaviors via other methods such as laxative abuse. Some data suggest that laxative abuse for weight control is more prominent among African American females (Striegel-Moore, Wilfley, et al., 2000).

Several limitations should be noted. Participants' body mass index (BMI) data were not available. Although BMI has been found to predict eating and body concerns, these concerns are found across the entire weight spectrum. We assessed adolescents who were hospitalized at a university hospital in a general psychiatric inpatient service. The generalization of our findings to settings that specialize solely in eating disorders or to outpatient clinical facilities with less acuity is uncertain. The cross-sectional design precludes statements regarding causality. Prospective longitudinal studies (e.g., Stice et al., 2002) are needed to determine risk factors and natural course of eating and body image problems in adolescents from different backgrounds. Given the multidimensional nature of culture, the ethnicity variable may be limited. Future research should include measures of acculturation (e.g., Perez et al., 2002) and/or ethnic identification in seeking to investigate the influence of culture on body and weight concerns, and should employ structural modeling techniques to generate more refined predictive models within each ethnic group.

In general, these findings may offer some explanation of the discrepancies in the literature. Although minority adolescents endorse some eating disorder symptoms at similar rates as Caucasian girls, the complex social and psychological mechanisms contributing to the development of these behaviors appear to be quite different across ethnic groups. These findings might reflect different risk factors for these disturbances in different ethnic groups and, if replicated, they may have implication for theory as well as for applied prevention and intervention efforts. Clinically, these findings suggest that practitioners seeking to prevent and/or recognize risk factors for eating disorders among adolescents must not overlook the potential presence of such problems (Becker et al., 2003; Yanovski, 2000). Moreover, clinicians must consider the complex interactions of ethnicity and psychological factors that contribute to eating disturbances.

## References

- Akan, G.E., & Grilo, C.M. (1995). Sociocultural influences on eating attitudes and behaviors, body image, and psychological functioning: A comparison of African-American, Asian-American, and Caucasian college women. *International Journal of Eating Disorders*, 18, 181–187.
- Barry, D.T., & Grilo, C.M. (2002). Eating and body image disturbances in adolescent psychiatric inpatients: Gender and ethnicity patterns. *International Journal of Eating Disorders*, 32, 335–343.
- Becker, A.E., Franko, D.L., Speck, A., & Herzog, D.B. (2003). Ethnicity and differential access to care for eating disorder symptoms. *International Journal of Eating Disorders*, 33, 205–212.
- Byrne, S.M., & McLean, N.J. (2002). The cognitive-behavioral model of bulimia nervosa: A direct evaluation. *International Journal of Eating Disorders*, 31, 17–31.
- Fairburn, C.G., Cooper, Z., & Shafran, R. (2003). Cognitive behaviour therapy for eating disorders: A “transdiagnostic” theory and treatment. *Behaviour Research and Therapy*, 41, 509–528.
- Fairburn, C.G., Stice, E., Cooper, Z., Doll, H.A., Norman, P.A., & O’Connor, M.E. (2003). Understanding persistence in bulimia nervosa: A 5-year naturalistic study. *Journal of Consulting and Clinical Psychology*, 71, 103–109.
- Field, A.E., Colditz, G.A., & Peterson, K.E. (1997). Racial/ethnic and gender differences in concern with weight and in bulimic behaviors among adolescents. *Obesity Research*, 5, 447–454.
- Gordon, K.H., Perez, M., & Joiner, T.E., Jr. (2002). The impact of racial stereotypes on eating disorder recognition. *International Journal of Eating Disorders*, 32, 219–224.
- Grilo, C.M. (2004). Subtyping female adolescent psychiatric inpatients with features of eating disorders along dietary restraint and negative affect dimensions. *Behaviour Research and Therapy*, 42, 67–78.
- Grilo, C.M., Masheb, R.M., & Wilson, G.T. (2001). Subtyping binge eating disorder. *Journal of Consulting and Clinical Psychology*, 69, 1066–1072.
- Jackson, T.D., & Grilo, C.M. (2002). Weight and eating concerns in outpatient men and women being treated for substance abuse. *Eating and Weight Disorders*, 7, 276–283.
- Keel, P.K., & Klump, K.L. (2003). Are eating disorders culture-bound syndromes? Implications for conceptualizing their etiology. *Psychological Bulletin*, 129, 747–769.
- Le Grange, D., Stone, A.A., & Brownell, K.D. (1998). Eating disturbances in white and minority female dieters. *International Journal of Eating Disorders*, 24, 395–403.
- McCann, J.T. (1999). *Assessing adolescents with the MACI*. New York: Wiley.
- McKnight Investigators. (2003). Risk factors for the onset of eating disorders in adolescent girls: Results of the McKnight longitudinal risk factor study. *American Journal of Psychiatry*, 160, 248–254.
- Millon, T., & Davis, R.D. (1993). The Millon Adolescent Personality Inventory and the Millon Adolescent Clinical Inventory. *Journal of Counseling and Development*, 71, 570–574.
- Millon, T., Millon, C., & Davis, R.D. (1993). *Millon Adolescent Clinical Inventory*. Minneapolis, MN: NCS Pearson Inc.
- Murrie, D.C., & Cornell, D.G. (2002). Psychopathy screening of incarcerated juveniles: A comparison of measures. *Psychological Assessment*, 14, 390–396.
- Neumark-Sztainer, D., Croll, J., Story, M., Hannan, P.J., French, S.A., & Perry, C. (2002). Ethnic/racial differences in weight-related concerns and behaviors among adolescent girls and boys. Findings from project EAT. *Journal of Psychosomatic Research*, 53, 963–974.
- Perez, M., Voelz, Z.R., Pettit, J.W., & Joiner, T.E., Jr. (2002). The role of acculturative stress and body dissatisfaction in predicting bulimic symptomatology across ethnic groups. *International Journal of Eating Disorders*, 31, 442–454.
- Pinto, M., & Grilo, C.M. (2004). Reliability, diagnostic efficiency, and validity of the Millon Adolescent Clinical Inventory: Examination of selected scales in psychiatrically hospitalized adolescents. *Behaviour Research and Therapy*, 42, 1505–1519.
- Romm, S., Bockian, N., & Harvey, M. (1999). Factor-based prototypes of the Millon Adolescent Clinical Inventory in adolescents referred for residential treatment. *Journal of Personality Assessment*, 72, 125–143.
- Spangler, D.L. (2002). Testing the cognitive model of eating disorders: The role of dysfunctional beliefs about appearance. *Behavior Therapy*, 33, 87–105.
- Stice, E. (2001). A prospective test of the dual-pathway model of bulimic pathology: Mediating effects of dieting and negative affect. *Journal of Abnormal Psychology*, 110, 124–135.
- Stice, E. (2002). Risk and maintenance factors for eating pathology: A meta-analytic review. *Psychological Bulletin*, 128, 825–848.
- Stice, E., Presnell, K., & Spangler, D. (2002). Risk factors for binge eating onset in adolescent girls: A 2-year prospective investigation. *Health Psychology*, 21, 131–138.
- Striegel-Moore, R.H., Schreiber, G.B., Lo, A., Crawford, P., Obarzanek, E., & Rodin, J. (2000). Eating disorder symptoms in a cohort of 11 to 16-year-old black and white girls: The NHLBI growth and health study. *International Journal of Eating Disorders*, 27, 49–66.
- Striegel-Moore, R.H., Wilfley, D.E., Pike, K.M., Dohm, F., & Fairburn, C.G. (2000). Recurrent binge eating in black American women. *Archives of Family Medicine*, 9, 83–87.
- White, M.A., Kohlmaier, J.R., Varnado-Sullivan, P., & Williamson, D.A. (2003). Racial/ethnic differences in weight concerns: Protective and risk factors for the development of eating disorders and obesity among adolescent females. *Eating and Weight Disorders*, 8, 20–25.
- Yanovski, S.Z. (2000). Eating disorders, race, and mythology. *Archives of Family Medicine*, 9, 88.