PSYCHOLOGICAL CORRELATES OF EATING DISORDERS:

EXPLORING THE CONTINUUM PERSPECTIVE

Diane L. Cohen, B.A.

Thesis Prepared for the Degree of

MASTER OF SCIENCE

UNIVERSITY OF NORTH TEXAS

August 2002

APPROVED:

Trent A. Petrie, Major Professor
Kenneth Sewell, Committee Member
Trish Kaminski, Committee Member
Ernest H. Harrell, Chair of the Department of Psychology
C. Neal Tate, Dean of the Robert B. Toulouse School of Graduate Studies

Cohen, Diane L, Psychological correlates of eating disorders: Exploring the continuum perspective. Master of Science (Psychology), August 2002, 135 pp., 9 tables, references, 110 titles.

Psychological and behavioral characteristics of female undergraduates with varying levels of disordered eating, as measured by the Questionnaire for Eating Disorder Diagnoses (Q-EDD; Mintz, O'Halloran, Mulholland, & Schneider, 1997), were investigated. Results suggest that the Q-EDD is an appropriate instrument for measuring eating disorder symptomatology. Greater disordered eating was associated with more bulimic, dieting, and weight fluctuation symptoms, higher impression management and approval-seeking needs, more dichotomous thinking, self control, and rigid weight regulation, and increased concern with body shape and dissatisfaction with facial features. Eating-disordered and symptomatic women evidenced more severe eating disorder behaviors and psychological distress than asymptomatic women. Findings are congruent with a redefined discontinuity perspective of eating disorder symptomatology. Treatment implications and campus-wide preventions are suggested.

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INTRODUCTION

Sociocultural Perspective

By the early 21st century, eating disorders have established themselves as serious threats, plaguing women of all ages. In contrast to the 17th century, when the fleshy, curvaceous, and fertile forms of Peter Paul Reubens were considered the feminine ideal, contemporary fashion models and actresses, who appear to have no fat on their bodies and zero imperfections, define the Western view of beauty. Especially for young girls in the midst of puberty, juggling this social pressure to be thin and the awkwardness of a maturing body can be both confusing and distressing. For many girls whose bodies are preparing to one day bear children, society is telling them that in order to be beautiful, they need to resemble their pre-pubescent state.

Researchers have argued that thinness has come to symbolize certain Western values (Nasser, 1988; Polivy & Herman, 1987). Slenderness has become synonymous with many of the ideals women strive towards, such as beauty, health, confidence, and self-control (Polivy & Herman, 1987). In addition, women who are thin are viewed by society as being more assertive, competitive, and sexually liberated. Thinness has also come to be associated with higher socioeconomic classes. This change in society's values along with the traditional values of fashionability and attractiveness has lead to the widespread preoccupation with dieting in the Western world (Nasser, 1988).

This obsession with losing weight and aspiring towards this feminine ideal is reflected in the media's presentation of women and their interests. For instance, women's magazines include many more advertisements and articles about diet foods, body enhancing products, and body shape and size, than those in men's magazines (Silberstein, Perdue, Peterson, & Kelly, 1986a). At the same time, beauty magazines bombard the female consumer with pictures of flawless models, airbrushed to perfection. Although these models are used to display current fashion trends and make-up tips, their pervasive presence throughout the magazine pages encourages feelings of inadequacy in the female reader. In fact, women who were asked to look at magazine pictures of ultra-thin female models for only three minutes reported elevated levels of insecurity, depression, shame, guilt, stress, and body dissatisfaction (Stice & Shaw, 1994). The ideal of beauty presented in magazines is slimmer for women than men, and more noncurvaceous now than it has been since the 1930s (Silberstein et al., 1986a).

Ironically, amidst the blurbs on exercising, dieting, and beauty enhancers, articles about cooking and advertisements for food co-exist. In fact, in a study of gender-specific magazines, 1,179 advertisements about food were found in women's magazines compared to only 10 similar advertisements in men's magazines (Silberstein et al., 1986a). Thus, for the female reader, the messages she receives from the magazines are conflicting. On one page, she is tempted with delicious dishes and encouraged to bake fattening desserts for herself and her family, while on the next page, she is told how to diet, lose weight, and maintain her feminine figure. It is no wonder why many women evidence disordered eating behaviors and attitudes.

The impact of this thin, unattainable, ideal appears to be further magnified by television and movies, where the majority of female actors are thinner and more beautiful than the average woman (Silberstein et al., 1986a). Not surprisingly, this is not the case for male actors. In an examination of popular television shows, 69.1% of the female characters were rated as thin, whereas 17.5% of the male characters were given the same rating. Likewise, only 5% of the female actors were rated as heavy, compared to 25.5% of the male actors. Although the physical perfection captured on the screen is not generalizable to the majority of female viewers, many women still aspire to these idealized facades created by the entertainment industry.

The mass media, therefore, appears to be very influential in the promotion of the thin body as the feminine ideal. Silberstein, Peterson, and Perdue (1986b) further suggest a relationship between the media's presentation of the thin ideal and the occurrence of eating disorders. In their review of magazines, journal articles, and newspapers from the 1920's, the only time period when models were as slim and noncurvaceous as they were during the late 20th century, Silberstein et al. (1986b) reported a marked increase in disordered eating and body concerns among young women. In fact, Stice, Schupak-Neuberg, Shaw, and Stein (1994) and Stice and Shaw (1994) demonstrated a positive relationship between media exposure to ideal body images and eating disorder symptomatology. In these studies, women who looked at more magazines in the health, beauty, and entertainment genre and/or watched more hours of drama, comedy, and game shows on television reported greater frequencies of behaviors, cognitions, and emotions associated with bulimia and anorexia. With the pervasive image of the slender, attractive,

and successful woman throughout the mass media, and the numerous advertisements and articles about losing weight, it is not surprising that many women undertake unhealthy eating behaviors as they strive to obtain the thin-ideal.

Biological Explanation

Eating behaviors, however, are not solely affected by the media and society. Along with the environment, genetics play an additional part in the development of eating disorders. Stein, Lilenfeld, Plotnicov, Pollice, Rao, Strober, and Kaye (1999) reported that 43% of sisters and 26% of mothers of bulimic individuals, compared to 5% of sisters and 5% of mothers of controls, had a lifetime eating disorder diagnosis (i.e., usually Eating Disorder Not Otherwise Specified (EDNOS)). In addition, first-degree female relatives of anorexic individuals have demonstrated higher rates of anorexia and bulimia compared to non-eating-disordered individuals (Strober, Morrell, Burroughs, Salkin, & Jacobs, 1985).

In twin studies, it has been found that anorexia is significantly more concordant among monozygotic twins than dizygotic twins (Garfinkel & Garner, 1982). However, Kendler, MacLean, Neale, Kessler, Heath, and Eaves (1991) found no differences in the concordance rates of bulimic symptoms between monozygotic and dizygotic twins. Interestingly, what appears to be genetically transmitted is not bulimia itself but a predisposition to obesity, which Schmidt, Tiller, Hodes, and Treasure (1995) discovered in 30% of their bulimia sample.

Family Contribution

Additionally, the familial environment contributes to the development of eating disorders. Mothers who restrain their food intake and are overly concerned with being thin place their adolescent children at a higher risk of dieting themselves (Attie, 1987 as cited in Attie & Brooks-Gunn, 1992). In bulimic cases, the families are likely to emphasize appearance and to place special meaning on food and eating (Schwartz, Barrett, & Saba, 1985). These families also have a tendency to lack conflict resolution and to be enmeshed, overprotective, and rigid (Minuchin, Rosman, & Baker, 1978). Lacey, Coker, and Birtchnell (1986) reported that 60% of their bulimic sample had poor relationships with their parents, and 44% of their parents' relationships were marked by long-standing marital conflict.

The families of anoretics seem to be also more enmeshed and cohesive than the families of controls (Wallin & Hansson, 1999). In comparison to controls, anorexic families exhibited more conflict avoidance. It was significantly more difficult for families with an anorexic member to choose, adhere to, develop, and explore a topic of discussion, as well as to reach solutions to problems (Latzer & Gaber, 1998).

Physical Factors & Gender

Certain physical characteristics, such as early maturation, also seem to place an individual at a higher risk for developing disordered eating behaviors and attitudes. Although girls who develop earlier than their peers report greater popularity among boys, they report being less popular among other girls. In addition, girls who mature early tend to see themselves as less attractive, to have more negative self-concepts, and to

experience greater emotional distress (Peskin, 1973; Simmons, Blyth, & McKinney, 1983). Bruch (1978) theorizes that a child may attempt to lose weight in order to arrest her body from maturing and to remain a child.

Obesity is another factor that may place an individual at a higher risk for dieting, as well as for eating disorders. Simmons et al. (1983) found that girls who tended to weigh more than their peers both during and after puberty were more dissatisfied with their bodies. Considering the strong link between premorbid obesity and subsequent bulimia, girls of a higher weight appear to be at a higher risk for bulimia (Fairburn & Cooper, 1983).

Lastly, being female inherently places an individual at a higher risk for developing an eating disorder. Steiner-Adair (1986) proposes that many of the problems that adolescent girls experience, in terms of how they feel about their body and how they eat, may be related to difficulties in separating from others and in becoming an individual. While females' identities are formed by the quality of their relationship with others (Gilligan, 1982), males' identities are developed through individuation and a sense of agency (Erikson, 1968; Gilligan, 1982). Thus, girls have to develop a unique sense of self while still being attached to others (Gilligan, 1977), a process that may result in strong dependency needs and vulnerabilities to external approval. By being more oriented to the external world for their sense of identity and self-worth, females, especially adolescents and young adults who have yet to form a stable sense of self, are highly influenced by societal pressures. As these girls are dealing with the maturation of their bodies and are searching for an identity, society is encouraging them to be thin (Steiner-

Adair, 1986). This may explain why thinner girls in the fourth, fifth, and sixth grades have demonstrated higher self-esteem than their female peers (Guyot, Fairchild, & Hill, 1981).

In summary, eating disorders appear to be multidetermined. The emphasis on thinness in Western society and the communication of this message from parents to children increase the likelihood that eating disorders will develop. In addition, enmeshed families, as well as those where obesity and/or eating disorders are found, place an individual at a higher risk for engaging in disordered eating and becoming dissatisfied with her body. Most importantly, being female and struggling with a developing body and/or identity, as well as with the onslaught of sociocultural messages about attractiveness, seem to be related to the much higher prevalence of eating disorders among women, in comparison to men (DSM-IV; American Psychiatric Association, 1994).

Group Affiliation and Environment

In a sense, disordered eating practices and attitudes have become normative among women (Polivy & Herman, 1987; Rodin, Silberstein, & Striegel-Moore, 1984). Normal eating habits have been reported in only a minority of female college students (Kurth, Krahn, Nairn, & Drewnowski, 1995; Mintz & Betz, 1988), whereas feeling fat, dieting, and body dissatisfaction has been found to be highly prevalent among female adolescents (Field, Cheung, Wolf, Herzog, Gortmaker, & Colditz, 1999; Grigg, Bowman, & Redman, 1996; Neumark-Sztainer, Rock, Thornquist, Cheskin, Neuhouser, & Barnett, 2000). Dieting, exercising, and a preoccupation and dissatisfaction with body shape were

viewed even by the general public as being characteristic of the majority of women (Huon, Brown, & Morris, 1988). Thus, what appears to be a normal relationship with food and weight for many women is, in fact, disordered (Polivy & Herman, 1987).

However, it appears that specific subpopulations of women may be at a greater risk of developing eating disorders. For instance, Banner (1983) found that women of higher socioeconomic status evidenced a higher preoccupation with their weight. Since these women are more likely to imitate the current fashion and beauty trends, it is possible that these women have higher aspirations to achieve the look of runway models.

In terms of sports, studies have consistently reported a higher prevalence of bulimic and anorexic symptomatology among female athletes, in comparison to nonathletic women (Hausenblas & Carron, 1999). A meta-analysis of 92 studies suggested that levels of disordered eating are not equal across sports, and certain types of sports are more likely to harbor eating disorder symptomatology. For instance, women who participate in aesthetic-sports, such as gymnastics, dance, and figure skating, report more anorexic symptoms than ball-game athletes (e.g., volleyball, basketball, and tennis) and endurance-sport athletes (e.g., running, swimming, and cycling). Female athletes in aesthetic-sports also evidence a stronger drive for thinness than female athletes in ball-game sports. However, no consistent differences were found on a drive for thinness between female athletes and control women. Although a desire to be thin appears to generalize across the majority of women, these studies suggest that the eating behaviors of female athletes, when compared with the eating behaviors of the general female population, are more likely to be disordered.

Additionally, college campuses have become common arenas for disordered eating and body dissatisfaction. Even among women of similar socioeconomic status, women who went to college have been found to gain more weight (i.e., "the freshman 15" or the common gaining of weight upon entering college) than women who did not go to college (Hovell, Mewborn, Randle, & Fowler-Johnson, 1985). As was discussed earlier, obesity has been found to be a risk factor for the development of bulimia (Fairburn & Cooper, 1983). Thus, a woman who gains weight at the same time as she is trying to adjust to college may turn to extreme forms of dieting restraint or purging as ways of dealing with both her weight and additional stress.

Another important factor in the development of eating disorders on campuses is the pressure involving dating. In addition to women's physical appearances being of greater importance when dating is an issue (Janda, O'Grady, & Barnhart, 1981), bulimia also may be more prevalent on campuses where dating is emphasized (Rodin, Striegel-Moore, & Silberstein, 1985 as cited in Streigel-Moore, Silberstein, and Rodin, 1986).

In sororities, where women tend to be highly concerned with body shape, weight, and physical appearance (Rose, 1985), it has been suggested that binging and purging behaviors are more common than in the general female college population (Crandall, 1988; Meilman, von Hippel, & Gaylor, 1991). In the Meilman et al. study (1991), 72.2% of the college women who purged after eating were in sororities. This is a high percentage, even considering that 55% of the female student body belonged to a sorority.

At least in certain sororities, there appear to be norms for what constitutes acceptable amounts and frequencies of binge eating (Crandall, 1988). In fact, Crandall

(1988) found that the closer a sorority member's binging behavior was to the norm, the more popular she was within her sorority. In one of the sororities studied, binging and popularity had a positive relationship, whereas in the other sorority, a moderate amount of binging was associated with greater popularity.

In contrast to female students who do not binge, women who do engage in this eating disorder behavior often know other female students who binge as well (Boskind-White & White, 1983). Interestingly, Crandall (1988) found that by the end of the academic year, a sorority member's binge eating could be predicted from the binge eating level of her friends. This prediction was not possible at the beginning of the year and may indicate that the degree of cohesiveness in a friendship group and the time spent together is related to the degree of influence this group has on its members. Over time, as opportunities for social pressures increases, a sorority members' binging may become more similar to her friends. Another possibility for these findings is that women desire friendships with others who evidence similar levels of eating pathology. Therefore, these findings may be explained by the influence of peer pressure on eating behavior or the appeal of being friends with similar others.

Although disordered eating attitudes and behaviors have become quite common in the general population, higher prevalence rates have been found in certain subcultures of women. College campuses seem to harbor unhealthy eating behaviors and low body self-esteem among females, with the emphasis on dating, alcohol use, and the common sharing of weight-loss ideas. Women in sororities may be at a higher risk for disordered eating, given the elevation in body concerns and the association between popularity and

binging behavior. In addition, women of higher socioeconomic status and female athletes in general have been found to evidence a high preoccupation with weight and to report more eating disorder symptomatology.

Spectrum of Eating Disturbances

The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV, 1994) reports that of late adolescent and young adult females, .5%-1.0% exhibit anorexia and 1%-3% develop bulimia. Whereas subclinical eating disorders, or eating disorder symptomatology that fails in frequency or severity to meet clinical criteria, appear to occur in about 3% (Kendler et al., 1991) to 61% (Mintz & Betz, 1988) of the population. Although full syndromes of anorexia and bulimia have been the subjects of much of the eating disorder research, the subclinical group appears to include the larger proportion of individuals evidencing eating disorder symptoms. Herzog, Hopkins, and Burns (1993) found that over 40% of all women who came to their eating disorder clinic over a 2 ½ year period suffered from subclinical eating disorders. Thus, an understanding of this group is clinically and empirically important.

One focus of the subclinical eating disorder research has been on its relationship with full case eating disorders. Certain theorists, such as Bruch (1973), argued that individuals with eating disorders experienced disturbances that were not present in dieters or non-eating-disordered individuals. This came to be known as the discontinuity perspective, which essentially said that the etiology, associated features, and presentation of eating disorders were qualitatively, and not just quantitatively, different from that of subclinical eating disorders. On the other hand, similarities between normal women with

symptoms of eating disorders, and women with anorexia or bulimia led Fries (1974) to propose a continuum view of eating disorders. This continuum model represents the whole spectrum of eating disturbances, with anorexia and bulimia representing the extreme end, normal eating and no concern with weight at the opposite end, and disordered eating, including chronic dieting, in the middle (Polivy & Herman, 1987; Rodin et al., 1984). This theory assumes that individuals with varying levels of eating disorder symptomatology will differ only in degree on associated features.

Numerous studies have been conducted to empirically test the continuum model. On measures of dietary restraint, binge eating, and a history of obesity, bulimics tend to score higher than subthreshold bulimics, who in turn score higher than non-eating-disordered controls (Dancyger & Garfinkel, 1995; Katzman & Wolchik, 1984; Stice, Killen, Hayward, & Taylor, 1998a). A continuum hypothesis has also been supported for drive for thinness, as well as for concerns about body shape and weight with the eating-disordered group evidencing the most concerns, and the non-eating-disordered group evidencing the least concerns (Laessle, Tuschl, Waadt, & Pirke, 1989; Thompson, Berg & Shatford, 1987).

A linear relationship appears to exist between non-eating-disordered, symptomatic, and full syndrome eating-disordered individuals on certain cognitive factors, as well. In terms of dysfunctional cognitions, bulimics tend to exhibit higher levels of dichotomous thinking, exaggeration, personalization, and superstitious thinking than bulimic-like individuals, who tend to display higher levels than non-eating-disordered individuals (Thompson et al., 1987). In addition, bulimics appear to have

poorer interoceptive awareness, or to be confused and apprehensive of emotional and bodily processes, as well as to experience greater emotionality, anxiety, and worry than the bulimic-like and non-eating-disordered group (Stice et al., 1998a; Thompson et al., 1987). The bulimic-like group was found to score significantly higher on these variables than the non-eating-disordered group.

However, not all theorists and researchers agree with the continuum perspective. Bruch (1973) asserts that what distinguishes eating disorders from normal dieting is the presence of ego deficits. The anoretic or bulimic appears to misperceive or misinterpret bodily processes such as hunger, emotions, or thoughts, to have a high demand for approval, and to feel severely ineffective, whereas dieters do not. According to the discontinuity perspective, dieters and nondieters should be more alike than dieters and individuals with eating disorders. More specifically, the factors that differentiate anorexics and bulimics from dieters should be different from the factors that differentiate dieters from nondieters.

The discontinuity perspective of eating disorders has received empirical support. Ruderman and Besbeas (1992) found that bulimics demonstrated greater disturbances than dieters on 16 of 24 measures. This included the Taylor Manifest Anxiety Scale (Taylor, 1952), The Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), The Symptom Distress Checklist-90 (SCL-90; Derogatis, Lipman, & Covi, 1973) except for the Anxiety subscale, and the Tennessee Self Concept Scale (TSCS; Fitts, 1964) except for the Defensive Positive, Psychosis, Physical Self, Family Self, and Social Self subscales. On the other hand, dieters evidenced greater disturbance

than nondieters on only 1 of 24 measures. This measure, the Marlowe-Crown Social Desirability Scale (Crowne & Marlowe, 1960), found that dieters evidenced a greater willingness to describe themselves in socially undesirable terms than nondieters. On these 24 measures, Ruderman and Besbeas discovered that the differences between bulimics and dieters, and between dieters and nondieters were not only in number, but also in pattern and size of differences.

Although the endorsement of sociocultural beliefs about thinness and attractiveness and a higher need for approval by others appear to be more common in bulimics than healthy eaters, these beliefs do not differ between subclinical bulimics and non-bulimic controls (Katzman & Wolchik, 1984; Mintz & Betz, 1988). In addition, individuals with eating disorders appear to evidence more affective disorders, personality disorders, and ego deficits than symptomatic and asymptomatic individuals (Johnson & Wonderlich, 1992; Polivy & Herman, 1987). Also, levels of interpersonal distrust have been found to be higher among anoretics, but to be similar between symptomatic and non-eating-disordered individuals (Garner, Olmsted, & Garfinkel, 1983a; Garner, Olmsted, Polivy, & Garfinkel, 1984).

However, other findings have been conflicting as to whether certain factors are indeed continuous or discontinuous in nature. For instance, Stice et al. (1998a) reported no differences in depression levels between bulimic and bulimic-like individuals, although there were significant differences between these groups and controls. Katzman and Wolchik (1984), on the other hand, found that bulimics were more depressed than both bulimic-like individuals and controls. Whereas Dancyger and Garfinkel (1995)

reported a linear pattern of depression levels from high to low between a full syndrome, partial syndrome, and control group. In terms of anxiety, studies have found support for both the continuity and discontinuity perspectives, as well as for no differences between eating-disordered, symptomatic, and control groups (Ruderman & Besbeas, 1992; Stice et al., 1998a).

Likewise, research on body image has been contradictory, with both linear (Mintz & Betz, 1988) and discontinuous (Katzman & Wolchik, 1984) patterns being reported. In addition, the placement of self-esteem levels for bulimics, subclinical bulimics, and controls have been found to be both continuous (Mintz & Betz, 1988) and discontinuous (Katzman & Wolchik, 1984). A possible explanation for these discrepancies is that the continuity studies tended to have larger sample sizes within each group than the discontinuity studies, and thus greater power to detect effects. Surprisingly, the use of different types of subclinical groups (e.g., dieters vs. subthreshold bulimics) and populations (e.g., clinical vs. community) did not seem to have an effect on the results of these studies (Stice et al., 1998a).

In addition, there is support for the idea that a continuum applies to certain symptomatic eating disorder women, but not to all. Garner et al. (1983a/1984) found two distinct groups of women within a weight-preoccupied group with different clinical pictures. Weight-preoccupied women in the first group exhibited levels of psychopathology, as well as weight and dieting preoccupations that mirrored that of women with anorexia. These women who resembled anoretics scored high on most of the subscales of the Eating Disorder Inventory (EDI; Garner, Olmstead, & Polivy, 1983b).

Weight-preoccupied women in the second group, however, evidenced high levels of body dissatisfaction, perfectionism, and drive for thinness, but normal levels of the remaining psychological subscales of the EDI. Garner et al. (1983a/1984) concluded that this latter group superficially resembled anorexic patients, with their extreme body concerns, but did not exhibit similar psychological disturbances, such as ineffectiveness and poor interoceptive awareness.

Although it has been established that a large proportion of women evidencing eating disorder behaviors fall into the subclinical range, the relationship between this group and the clinical eating-disordered group is not fully understood. It appears that certain factors, such as a concern with body shape and weight, anxiety, and dichotomous thinking, occur on a continuum, whereas others, such as personality disorders and ego deficits, are more discontinuous in nature. However, conflicting findings have been demonstrated for other personality and affective factors, such as self-esteem and depression. Further research that more adequately measures subclinical disorders while incorporating greater power is needed to resolve this dispute over the eating disorder continuum.

Assessment of Disordered Eating

Although much research has been conducted on the prevalence of subclinical cases, as well as associated psychopathology, the self-report measures most commonly used to assess symptomatic eating disorders are categorically problematic. The Eating Attitudes Test (EAT; Garner & Garfinkel, 1979) and the revised Bulimia Test (BULIT-R; Thelen, Farmer, Wonderlich, & Smith, 1991) are usually the self-reports of choice for

identifying groups of symptomatic anorexic and bulimic individuals. However, these measures do not differentiate between non-eating-disordered and symptomatic individuals (Mintz, O'Halloran, Mulholland, & Schneider, 1997). Both groups are collapsed into a single, nonpathological group. Likewise, individuals with subclinical eating disorders but with different presentations are not distinguished from each other. Thus on the EAT and BULIT-R, little information, if any, can be obtained about people falling into the nonpathological range.

In contrast, the Questionnaire for Eating Disorder Diagnoses (Q-EDD; Mintz et al., 1997) distinguishes individuals with subclinical eating disorders from those without. The Q-EDD also provides adequate subgroups within the symptomatic range and discriminates among eating disorders not otherwise specified (EDNOS). In addition, the Q-EDD is the only self-report measure based on DSM-IV (American Psychiatric Association, 1994) diagnostic categories that is available to make these distinctions among the eating-disordered and subclinical groups.

On the EAT and BULIT-R, cutoff scores are employed to distinguish between those with and without eating disorders. Thus, by the nature of cutoff scores, people directly above or below the cutoff may be misdiagnosed. In fact, the EAT has been found to have a low positive predictive value, with only 19% of individuals within the anorexic range actually evidencing anorexia (Garner & Garfinkel, 1980). Instead, high scorers consisted of anoretics, subclinical anoretics, and normal dieters (Button & Whitehouse, 1981; Garner & Garfinkel, 1980). Also, low scorers have been found to include not only non-eating-disordered individuals, but full syndrome anoretics, as well. A false negative

rate of 28.6% has been reported (Button & Whitehouse, 1981). These findings led Button and Whitehouse (1981) to suggest that the EAT should be "more accurately viewed as a measure of concern about weight and food intake, rather than exclusively a measure of the symptoms of anorexia nervosa (p. 514)."

On the other hand, the Q-EDD has demonstrated a high positive predictive value, with 94% of those scoring within the eating disorder range actually having an eating disorder. In addition, the classification of those into the non-eating-disordered range was found to be 99% accurate. The Q-EDD demonstrates high sensitivity with 97% of individuals diagnosed with an eating disorder by a clinical interview being identified by the Q-EDD as having an eating disorder (Mintz et al., 1997). It is also highly specific, by ruling out eating disorders in 98% of non-eating-disordered individuals (Mintz et al., 1997). The Q-EDD has good convergent validity, high interscorer agreement, excellent criterion validity, and test-retest reliabilities within the expected range for eating disorders (Mintz et al., 1997).

Thus, there are several drawbacks to using the EAT and BULIT-R for identifying subclinical cases of eating disorders. These measures do not make differentiations within the non-eating-disordered group and often misdiagnose individuals around the cut-off scores. On the other hand, the Q-EDD distinguishes between individuals with subclinical eating disorders and normal eaters, and is excellent at accurately classifying individuals as having or not having clinical eating disorders.

Exploring the Q-EDD Categories

Tylka and Subich (1999) provided information on the psychological and behavioral characteristics of the eating-disordered, symptomatic, and asymptomatic groups. Using the Eating Disorder Inventory-2 (EDI-2; Garner, 1991), they found that eight of the nine subscales varied by continuum placement. This included Ineffectiveness, Interoceptive Awareness, Asceticism, Social Inhibition, Impulse Regulation, Body Dissatisfaction, Maturity Fears, and Interpersonal Distrust. On Interoceptive Awareness and Impulse Regulation, the groups differed from each other in a linear fashion; the eating-disordered group scored higher than the symptomatic group, who in turn scored higher than the asymptomatic group. Whereas for Ineffectiveness, Social Inhibition, Body Dissatisfaction, and Maturity Fears, the eating-disordered and symptomatic groups did not differ, but both groups scored higher than the asymptomatic group. No differences between the groups were found on the Perfectionism or Interpersonal Distrust scales. The significance of the group differences on Asceticism was not reported.

Although this study took a necessary first step towards assessing the meaningfulness of the groupings used by the Q-EDD, a complete understanding of these groups is far from being established. For instance, it is not known how these groups differ on negative affect, a factor that has consistently been shown to be related to eating disorders. Depressive symptoms (Eckert, Halmi, Marchi, & Cohen, 1987; Fairburn & Cooper, 1982; Laessle et al., 1989; Lindholm & Wilson, 1988; Mizes, 1988; Russell, 1979; Smith, Hillard, & Roll, 1991; Strauss & Ryan, 1988; Williamson, Kelley, Davis, Ruggiero, & Blouin, 1985), anxiety (Kirkley, Burge, & Ammerman, 1988; Lehoux,

Steiger, & Jabalpurlawa, 2000; Mizes, 1988), guilt (Kirkley et al., 1988), and stress (Lingswiler, Crowther, & Stephens, 1989) are often found to be associated with eating disorders.

In addition, the cognitive style of individuals within each group has not been adequately explored. It is not known whether dysfunctional cognitions, irrational beliefs, or self-esteem predict continuum placement. Individuals with anorexia and bulimia have often been found to exhibit both body and food specific, as well as more global dysfunctional cognitions and irrational beliefs (Garner & Bemis, 1982; Lingswiler et al., 1989; Mizes, 1988; Ruderman, 1986; Smith et al., 1991; Thompson et al., 1987; Williamson et al., 1985). Low self-esteem is also commonly associated with eating disorders (Mintz & Betz, 1988).

The degree to which these groups also differ on their internalization of sociocultural beliefs about thinness and attractiveness has yet to be assessed. It has been frequently argued that in the Western world, the thin-ideal, enhanced by the media, family, and peers, has contributed to the increase in eating disorders over the past couple of decades (Stice, 1994). Thus, consistent with past research, it would be assumed that individuals with eating disorders would endorse these sociocultural beliefs more so than non-eating-disordered individuals (Mintz & Betz, 1988). It is important to determine if a similar trend is found among the groupings of the Q-EDD.

Although Tylka and Subich (1999) evaluated levels of body dissatisfaction using the Q-EDD, their findings conflict with those of other studies. Whereas Tylka and Subich (1999) found that body dissatisfaction levels did not differ between the eating-disordered

and symptomatic groups, but were significantly higher than the asymptomatic group, Stice et al. (1998a) and Laessle et al. (1989) found significant and linear differences in the expected direction between the non-eating-disordered, symptomatic, and eating-disordered groups. Thus, it is worthwhile to reevaluate the relationship between body concerns and Q-EDD group placement.

In the current study, therefore, the eating disorder continuum will be examined in relation to negative affect, global and body-specific cognitions, internalization of sociocultural beliefs, and body image concerns. In line with previous studies, which found higher negative affect to be associated with increasing levels of disordered eating, it is predicted that negative emotional states, with the exception of depression and anxiety, will vary linearly according to continuum placement (Stice & Shaw, 1994; Stice, Shaw & Nemeroff, 1998b; Stice, Ziemba, Margolis, & Flick, 1996). The eating-disordered group is expected to exhibit greater depression and anxiety than the asymptomatic group; however, due to conflicting findings, predictions will not be proposed about the placement of the symptomatic group (Dancyger & Garfinkel, 1995; Katzman & Wolchik, 1984; Ruderman & Besbeas, 1992; Stice et al., 1998a; Stice et al., 1996).

Following Thompson et al. (1987), it is hypothesized that dysfunctional cognitions will vary according to continuum placement. Similarly, self-esteem is expected to differentiate between groups and to occur in a linear fashion, with a negative correlation between self-esteem and degree of disturbed eating being predicted (Mintz & Betz, 1988). Due to the seemingly strong relationship between the internalization of

sociocultural beliefs about thinness and eating disorder symptoms, endorsement of the thin-ideal is expected to be the greatest among eating-disordered and symptomatic women and to be the lowest among healthy eaters (Mintz & Betz, 1988; Stice et al., 1998a). Additionally, it is hypothesized that the eating-disordered group will be more dissatisfied with their bodies than the asymptomatic group; a prediction supported by Stice et al. (1998a) and Tylka and Subich (1999). However, conflicting findings precludes the statement of a specific hypothesis concerning the symptomatic group (Stice et al., 1998a; Tylka & Subich, 1999). See Table 1 for a visual representation of these hypotheses.

The validity of the Q-EDD will also be evaluated through comparisons with the BULIT-R binging and compensatory frequency items. It is predicted that responses from the eating-disordered, symptomatic, and asymptomatic groups will be distinctive in severity with the eating-disordered group exhibiting the most eating disorder behaviors, the asymptomatic group demonstrating the healthiest eating behaviors, and the symptomatic group presenting with symptoms that are intermediate in severity.

CHAPTER 2

METHOD

Participants

A sample of 334 female students at the University of North Texas was recruited to participate in a project on the psychological characteristics of women's health. Ages ranged from 18 to 56 years, with the mean age being 20.8 years (*SD* = 4.1). In terms of racial/ethnic status, the sample was predominantly Caucasian (66%), but also consisted of African-Americans (17%), Latinas (10%), Asian Americans/Pacific Islanders (4%), and Native Americans (0.3%); 2% indicated "Other".

Actual and ideal body mass indexes (BMI; kg/m^2) for the three groups were: 22.89 kg/m^2 (*SD* = 4.95; actual) and 20.73 kg/m^2 (*SD* = 2.99; ideal) for asymptomatic group (*n* = 172), 24.62 kg/m^2 (*SD* = 5.73; actual) and 21.09 kg/m^2 (*SD* = 2.58; ideal) for the symptomatic group (*n* = 130), and 24.28 kg/m^2 (*SD* = 5.18; actual) and 20.78 kg/m^2 (*SD* = 2.12; ideal) for the eating-disordered group (*n* = 32). Within the symptomatic category, the actual and ideal BMIs for the subclasses were: 24.37 kg/m^2 (*SD* = 4.75; actual) and 21.15 kg/m^2 (*SD* = 2.72; ideal) for subthreshold nonbinging bulimics (*n* = 38), 31.04 kg/m^2 (*SD* = 8.23; actual) and 22.35 kg/m^2 (*SD* = 3.41; ideal) for subthreshold binge-eaters (*n* = 10), 22.66 kg/m^2 (*SD* = 5.02; actual) and 20.25 kg/m^2 (*SD* = 2.52; ideal) for subthreshold behavioral bulimics (*n* = 11), and 24.59 kg/m^2 (*SD* = 5.07; actual) and 21.08 kg/m^2 (*SD* = 2.22; ideal) for chronic dieters (*n* = 41).

Thirty-seven percent of participants were currently in their first year of college, 14% in their second year, 16% in their third year, 12% in their fourth year, 9% in their fifth year, and 12% in their sixth year or more. Most of the participants had never married (91%); seven percent were currently married and 2% were divorced. In terms of annual income, which was determined either for the student if she was financially independent or for the student's family if she was not: 25% were under $10,000, 17% earned $10,001-$25,000, 16% earned $25,001-$50,000, 15% earned $50,001-$75,000, 13% earned $75,001-$100,000, and 14% earned more than $100,001.

Forty-three percent of the participants had been seen previously for counseling and 17% of the participants had been previously diagnosed with a psychological disorder: 9% with a mood disorder, 4% with an anxiety disorder, 1% with attention deficit disorder, 1% with an eating disorder, 2% with dual diagnoses of a mood and an anxiety, personality, or attention deficit disorder, and less than 1% with a psychotic disorder.

Measures

Demographics and Weight. A demographic questionnaire was used to obtain information regarding a participant's age, race, current weight, ideal weight, height, marital status, annual income, and grade level. Self-reported weight and height were used to determine a BMI for each subject. The BMI is an accepted measure of physical size (Keys, Fidanza, Karvonen, Kimura, & Taylor, 1972). The validity of self-reports of height and weight has been shown, with females understating weight by only 1.6% and overstating height by only 1.3% (Palta, Prineas, Berman, & Hannan, 1982). In addition, participants were asked about previous diagnoses and past therapy.

Social Desirability. The 12-item Marlowe-Crowne Social Desirability Scale Form B (SDS; Reynolds, 1982) assesses participants' tendencies to respond in a socially desirable manner. Using a true-false format, individuals indicate whether or not each item applies to them. Scores are obtained by tallying those items that have socially desirable responses and can range from 0, low social desirability, to 12, high social desirability.

Reynolds (1982) reported adequate reliability for the SDS Form B (KR-20 = .75). For the current study, KR-20 was .66. In addition, Reynolds evaluated the validity of the SDS Form B. The SDS Form B was significantly correlated with the Edwards Social Desirability Scale (r = .38). Although this correlation is low, Reynolds indicated that this correlation was consistent with the correlation previously observed between the Marlowe-Crowne Standard SDS (33 items) and the Edwards Social Desirability Scale (Crowne & Marlowe, 1960). As expected, the SDS was not significantly related to the eating disorder measures in the current study.

Disordered Eating. The 50-item Questionnaire for Eating Disorders Diagnoses (Q-EDD; Mintz et al., 1997) measures eating disorder symptomatology by operationalizing DSM-IV criteria into a self-report questionnaire format. Items are presented in a yes/no format and are scored based on participants' endorsement of symptoms meeting DSM-IV criteria. Individual criteria are analyzed based on decision rules presented in the Q-EDD manual in order to determine each participant's diagnostic category. The eating disorder category includes six diagnostic groups: anorexia, bulimia, and four EDNOS (subthreshold bulimia, menstruating anorexia, non-binging bulimia, and binge-eating disorder). The two non-eating-disordered categories include symptomatic

(low-weight anorexia, nonnormal-weight nonbinging bulimia, subthreshold nonbinging bulimia, subthreshold binge-eating disorder, binge dieter, behavioral bulimia, subthreshold behavioral bulimia, chronic dieter, other (see Appendix B for a Description of the Symptomatic Subtypes)) and asymptomatic individuals. The participant must meet full DSM-IV diagnostic criteria in order to be classified into any of the six eating-disordered categories.

Mintz et al. (1997) have demonstrated satisfactory convergent validity through comparison of BULIT-R and EAT scores with Q-EDD categories of bulimic, non-binging bulimic, menstruating anorexic, and non-eating-disordered college women. These authors report accuracy rates of 78% and 90% for differentiating between eating-disordered, symptomatic, and asymptomatic individuals when compared with clinical interviews. Adequate test-retest reliabilities between two administrations one to three months apart were demonstrated; kappa = .54 for eating-disordered, symptomatic, and asymptomatic participants. Further, test-retest reliabilities between two administrations two weeks apart were satisfactory for eating-disordered, symptomatic, and asymptomatic participants (k = .85). Inter-rater reliabilities were superior (k = 1.00) for comparisons between eating-disordered and non-eating-disordered individuals and for discriminations between eating-disordered, symptomatic, and asymptomatic individuals.

The 36-item Bulimia Test Revised (BULIT-R; Thelen, Mintz, & Vander Wal, 1996; Thelen et al., 1991) assesses bulimic symptoms based on the DSM-IV (American Psychiatric Association, 1994) criteria. The items are presented in multiple choice format and the individual is asked to select which response best describes what she believes to

be true of herself. Each item is scored on a 5-point Likert scale with the most extreme bulimic responses always being assigned a 5. Although all items are administered, the total score is obtained by summing across 28 of the items. Scores for the BULIT-R range from 28, no bulimic symptoms, to 140, highest level of bulimic symptoms. The recommended cut-off score for bulimia is 104 or greater.

Thelen et al. (1996) reported that the BULIT-R has high internal consistency (CA = .98). For the current sample, CA was .94. Using a clinical interview for comparison, the BULIT-R demonstrated high sensitivity, specificity, negative predictive values (i.e., greater than .90), and positive predictive values (.81). The BULIT-R was highly correlated with a clinical interview (r = .73), which suggests that the BULIT-R is a valid measure for assessing bulimia.

The 10-item Revised Restraint Scale (RRS; Herman & Polivy, 1980) assesses participants' behavioral and attitudinal concerns about dieting and maintaining specific weight goals. The RRS consists of two subscales: Weight Fluctuation (WF) and Concern for Dieting (CD). The WF subscale consists of 4 items and is scored based on the number of points assigned to the specified number of pounds reported by the respondents for 3 items and on the perceived level of significance of weight fluctuation for the final item. Scores on this subscale range from 4 to 20 and were used as a basis for measurement of overeating and weight gain. The CD subscale consists of 6 items and is scored based on the number of points assigned to the frequency of behaviors indicated by respondents. Scores on this subscale range from 6 to 25 and were used as a basis for measuring restrained eating.

Klem, Klesges, Bene, and Mellon (1990) reported alpha levels for total RRS, CD and WF of .78, .72, and .68, respectively. Cronbach's alphas for the current sample were .83 (CD) and .76 (WF). Previous studies suggest that restraint scores are less reliable in obese samples and therefore, Green and Saenz (1995) noted the importance of considering height and weight characteristics when analyzing resulting restraint scores. Significant correlations between the CD and WF subscales and the Body Shape Questionnaire (BSQ; r = .73, r = .50), Body Parts Satisfaction Scale Revised (BPSS-R; r = -.57, r = -.42), and the Binge Scale (BS; r = .59, r = .42) have been documented, demonstrating the validity of the RRS (Tripp & Petrie, 2001).

Dysfunctional Cognitions. The Dysfunctional Attitude Scale (DAS; Weissman & Beck, 1978, as cited in Phillips, Tiggemann, & Wade, 1997) measures the maladaptive beliefs and assumptions that Beck (1967) identified as underlying his cognitive theory of depression. A 56-item form of the DAS (Dyck, 1992) that has demonstrated high reliability (CA = .95) and moderate to high reliabilities for the individual subscales (CA = .70-.99) was used (Phillips et al., 1997). The shortened length of the 56-item DAS and the acceptable psychometric properties warranted use of this form for the current study. The validity of the DAS has been implicated in its' high correlation with the Beck Depression Inventory (Weissman & Beck, 1978; r = .65) and the Measure of Distorted and Depressed Cognitions (Krantz & Hammen, 1979; r = .62).

The DAS assesses levels of dysfunctional thinking in eight areas: Impression Management (need to impress others with one's wit, intelligence, or charm), Approval by Others (need for others' approval in order to feel happy), Imperatives (expectations that

are perfectionistic or absolutistic in nature), Need to Succeed (attitudes concerning success and failure), Vulnerability (sense of being vulnerable to the uncertainty of life), Catastrophizing (tendency to explain situations in extreme terms), Dichotomous Thinking (explanation of events using mutually exclusive categories), and Pleasing Others (tendency to sacrifice one's interests to please or appease others) (Dyck & Agar-Wilson, 1997). CAs in the current sample were .78, .85, .73, .82, .79, .74, .82, and .52, respectively. Given the low internal consistency for the Pleasing Others subscale, this scale was eliminated from further analyses.

Dyck (1992) conceptualized these subscales as measuring vulnerabilities to negative affect. Concurrent validity has been demonstrated for most of the DAS subscales through significant correlations with the Beck Depression Inventory (BDI) (Impression Management, $r = .28$; Approval by Others, $r = .22$; Need to Succeed, $r = .18$; Vulnerability, $r = .19$; Catastrophizing, $r = .22$; Dichotomous Thinking, $r = .34$); however, both the Imperatives ($r = .06$) and Pleasing Others ($r = .12$) subscales were not significantly correlated with the BDI (Dyck, 1992). Items on the DAS are rated on a 7-point Likert-type scale anchored at 1, "totally agree" to 7, "totally disagree." Subscale scores are computed by reverse scoring particular items and summing the specified items on each subscale. Higher scores indicate greater endorsement of maladaptive thoughts with a range of total scores from 56 to 392.

The 24-item Mizes Anorectic Cognitions Questionnaire-Revised (MAC-R; Mizes, Christiano, Madison, Post, Seime, & Varnado, 2000) assesses cognitive distortions related to eating disorders. The three factors of the MAC-R include acceptance based on

eating patterns and weight (Weight and Approval; 8 items), self-esteem based on controlling eating, weight gain, and daily experiences (Self-Control and Self-Esteem; 8 items), and strict weight monitoring in order to maintain or decrease weight (Rigid Weight Regulation and Fear of Weight Gain; 8 items). On a 5-point Likert-type scale ranging from 1, "strongly disagree" to 5, "strongly agree," participants are asked to rate their reaction to each item. Subscale and total scores are computed by reversing the scores of the reverse scored items and summing items together. Total scores range from 24 to 120 with higher scores indicating more dysfunctional cognitions.

Mizes et al. (2000) found that both the total score (CA = .90) and the Weight and Approval (CA = .85), Self-Control (CA = .84), and Rigid Weight Regulation (CA = .82) subscales are highly consistent. CAs for the current sample are: Weight and Approval (CA = .73), Self-Control (CA = .86), and Rigid Weight Regulation (CA = .76). Concurrent validity for the MAC-R total score is indicated by its significant correlation with the Eating Disorder Inventory total score (r = .69) and the Restraint Scale (r = .62). Regarding the criterion-related validity, significant differences between anorexic, bulimic, anorexic binge-purge subtype, and eating-disordered not otherwise specified (ED-NOS) individuals on the total MAC-R score, the Weight and Approval subscale, and the Self Control subscale were reported. Bulimics were found to score higher than anoretics on these three MAC-R scales.

Negative Affect. Participants' affective states were assessed using a 7-item visual-analogue mood scale that included depression, happiness, shame, guilt, confidence,

anxiety, and stress (Stice & Shaw, 1994). Using a 5-point Likert-type scale ranging from 0, "not at all", to 4, "extremely," participants are asked to rate their current affective state.

Stice and Shaw (1994) did not provide reliability information. However, scores on the Depression, Shame, Guilt, and Stress items were significantly correlated with the Beck Depression Inventory (r = .35, r = .37, r = .29, r = .32, respectively) providing evidence for each item's convergent validity. In addition, scores on the Happiness and Confidence items were negatively correlated with the Beck Depression Inventory (r = -.35, r = -.36, respectively), providing evidence of discriminant validity for these items.

Endorsement of Sociocultural Beliefs. The 19-item Beliefs About Attractiveness Scale-Revised (BAA-R; Petrie, Rogers, Johnson, & Diehl, 1996) measures women's endorsement of U.S. societal values concerning attractiveness and beauty. The BAA-R consists of two factors: Importance of Being Physically Fit and Inshape (9 items) and Importance of Being Attractive and Thin (10 items). Participants are asked to rate their agreement with scale items on a 7-point Likert-type scale ranging from 1,"strongly disagree" to 7, "strongly agree." Subscale scores are obtained by summing across the specified items on each factor and dividing by the number of items. Scores range from 1 to 7, with higher scores indicating greater endorsement of the importance of being physically fit and inshape or attractive in a woman's life.

Petrie et al. (1996) reported satisfactory internal consistency for the BAA-R (Importance of Being Physically Fit Factor, CA = .85 and Importance of Being Attractive and Thin Factor, CA = .85). For the current sample, CAs were .84 (Importance of Being

Physically Fit and Inshape) and .88 (Importance of Being Attractive and Thin). Regarding the scale's construct validity, greater internalization of societal values concerning attractiveness (both factors) was significantly associated with more bulimic symptoms (r = .40, r = .46), lower self-esteem (r = -.29, r = -.32), more concern with body size and shape (r = .44, r = .42), higher levels of depression (r = .16, r = .28), less satisfaction with their general appearance (r = -.25, r = -.26), and greater behavioral investment in how one looks (r = .24, r = .19). The two factors were unrelated to measures of social desirability and body mass.

Self-Esteem. The 10-item Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) measures a self-acceptance dimension of self-esteem. Participants are asked to respond to each item on a 4-point Likert-type scale, ranging from 1, "strongly disagree," to 4 "strongly agree." Total self-esteem scores are obtained by Guttman scoring (Mintz & Betz, 1988). Self-esteem scores can range from 0 (low self-esteem) to 6 (high self-esteem).

Robinson and Shaver (1973) reported that the RSES has a two-week test-retest reliability of .85. In the current study, CA was .73. In support of the scale's validity, it correlated moderately with the Coopersmith Self-Esteem Inventory (r = .59) and the California Psychological Inventory Self-Acceptance Scale (r = .66).

Body Dissatisfaction. The 10-item Body Parts Satisfaction Scale-Revised (BPSSR; Tripp & Petrie, 2000) is based on the work of Petrie and Austin (1997) and Berscheid, Walster, and Bohrnstedt (1973). The BPSS-R measures individuals' satisfaction with their bodies and focuses on the specific body parts such as stomach,

buttocks, and upper thighs, typically associated with dissatisfaction in women. Tripp and Petrie (2000) report two factors for the BPSS-R: Satisfaction with Body (7 items) and Satisfaction with Face (3 items). Participants were asked to rate satisfaction with individual body parts on a 6-point Likert-type scale ranging from 1, "extremely dissatisfied" to 6, "extremely satisfied." A total body satisfaction score is obtained by adding individual item ratings within each factor and then dividing by the total number of items for that factor. Scores range from 1 to 6, with higher scores representing greater satisfaction with body and facial features.

Tripp and Petrie (2000) indicated both factors of the BPSS-R are internally consistent: Satisfaction with Body (CA = .90) and Satisfaction with Face (CA = .78). CAs for the current sample were .92 (Satisfaction with Body) and .69 (Satisfaction with Face). The construct validity of the two factors was determined by examining their relationships to several existing measures of body satisfaction and disparagement. The Satisfaction with Body and Satisfaction with Face factors were related to the Appearance Evaluation factor of the Multidimensional Body-Self Relations Questionnaire (r = .72; .41, respectively; Cash, 1994) and to the Body Shape Questionnaire (r = -.72; -.28, respectively; Cooper, Taylor, Cooper, & Fairburn, 1987).

The 10-item Body Shape Questionnaire-Revised-Short (BSQ-R-10; Mazzeo, 1999) measures body image preoccupation. Participants are asked to rate how often the statements are true for them on a 6-point Likert-type scale ranging from 1, "never," to 6 "always." Total scores are obtained by summing the rating level for all items, ranging from 10 to 60 with higher scores indicating greater body image preoccupation.

The internal consistency of the BSQ-R-10 was reported to be high (CA = .96). For the current sample, CA is .98. Mazzeo (1999) demonstrated support for the construct validity of the BSQ-R-10, with all 10 items loading highly on the Preoccupation factor (.80-.90). The BSQ-R-10 has acceptable criterion validity, as demonstrated through strong relationships with other disordered eating measures, such as the BULIT-R (r = .77) and EAT-26 (r = .74).

Procedure

The investigator went to undergraduate psychology classes and briefly described her study to the students. Participation was limited to women 18 years and older. Most of the participants completed the questionnaires at the end of their classes. Other participants signed up for testing sessions and came to a specified room at a scheduled time in order to fill out the questionnaires. These participants were administered the questionnaires in small groups.

Each questionnaire packet had an identifying number at the bottom of the first page, which was used to identify the participant. The test administrator instructed the participants to read and sign the consent form, and to complete the questionnaires in the order in which they were given. Participants responded to questions concerning demographic information, social desirability, eating behaviors, negative affect, dysfunctional cognitions, endorsement of sociocultural beliefs, self-esteem, and body image concerns, in order to further analyze the relationship between cognitions, affect, and the development of disordered eating. Upon completion of the questionnaire packet, participants received an extra credit card from the test administrator that could be applied

to their undergraduate psychology courses. Questionnaires were counterbalanced in order to control for ordering effects.

Design and Statistical Analysis

The data were examined using SPSS (1999) programs. First, demographic and descriptive information were determined, including means, standard deviations, and simple correlations among the variables to be studied (See Tables 2-5).

Second, separate multivariate analyses of variance (MANOVAs) were conducted to compare the asymptomatic, symptomatic, and eating-disordered group on the following sets of variables: eating disorder symptoms (i.e., Bulimia, Concern for Dieting, Weight Fluctuation), dysfunctional cognitions (i.e., Impression Management, Approval by Others, Imperatives, Need to Succeed, Vulnerability, Catastrophizing, Dichotomous Thinking, Self Control, Rigid Weight Regulation, Weight and Approval), mood and esteem (i.e., Sadness/Depression, Anxiety, Guilt, Shame, Stress, Happiness, Confidence, Self-Esteem) and body attitudes (i.e., Importance of Physical Fitness, Importance of Being Attractive and Thin, Concern with Body Shape, Satisfaction with Body, Satisfaction with Face). Given the large number of comparisons, $p < .005$ was used for all analyses to reduce inflation of the family-wise error rate. If MANOVAs were significant, univariate analyses of variance (ANOVAs) were computed to determine on which variables, within a given set, groups were significantly different. In order to evaluate differences between asymptomatic, symptomatic, and eating-disordered individuals on particular variables, post-hoc comparisons, using the Tukey procedures ($p = .05$), were employed. The effect size measure used was Cohen's *d*.

The observed power for all of the multivariate analyses was 1.00. For the univariate analyses, observed power estimates were greater than .82 for all dependent variables except for Imperatives where the power was .61.

In the first set of analyses, the Q-EDD categories of asymptomatic, symptomatic, and eating-disordered were compared on the dependent variables (see Table 6 for Means and Standard Deviations). Due to the similar behavioral and psychological findings for the eating-disordered and symptomatic groups (see Results), a combined group of symptomatic and eating-disordered subjects were compared with the asymptomatic group on the dependent variables (see Table 7 for Means and Standard Deviations). Next, symptomatic subgroups consisting of at least 10 subjects (i.e., subthreshold nonbinging bulimia, subthreshold binge-eating disorder, subthreshold behavioral bulimia, and chronic dieter) were compared and mean differences on the dependent variables were determined; the "other" group was omitted from these analyses due to the heterogeneous nature of the group (see Table 8 for Means and Standard Deviations).

In order to further evaluate the validity of the asymptomatic, symptomatic, and eating-disordered groups, six items from the BULIT-R that assess temporal frequencies of binging and compensatory behaviors were selected and compared across the three groups. Numerical and percentage frequencies are reported by item and group in Table 9.

CHAPTER 3

RESULTS

Group Composition

Based on Q-EDD responses, 172 women were categorized as asymptomatic, 130 as symptomatic (1 was classified with low-weight anorexia, 5 with nonnormal-weight nonbinging bulimia, 1 with both low-weight anorexia and nonnormal-weight nonbinging bulimia, 38 with subthreshold nonbinging bulimia, 10 with subthreshold binge-eating disorder, 4 as binge dieter, 1 with behavioral bulimia, 11 with subthreshold behavioral bulimia, 41 as chronic dieter, and 18 as other; see Appendix B for a Description of the Symptomatic Subtypes) and 32 as eating-disordered (1 was classified with anorexia, 1 with menstruating anorexia, 2 with bulimia, 17 with subthreshold bulimia, 6 with non-binging bulimia, and 5 with binge-eating disorder).

Asymptomatic vs. Symptomatic vs. Eating-Disordered

The MANOVA for the eating disorder variables (i.e., Bulimia, Concern for Dieting, and Weight Fluctuation) reached significance, Wilk's Lambda = .484, $F[6, 658] = 47.918$, $p = .001$ ($d = .52$). Follow-up ANOVAs revealed significant differences on Bulimia, $F[2, 331] = 142.610$, $p = .001$, Concern for Dieting, $F[2, 331] = 105.103$, $p = .001$, and Weight Fluctuation, $F[2, 331] = 40.227$, $p = .001$. The eating-disordered group evidenced more bulimic symptoms ($M = 82.22$, $ES = 1.49$), a higher concern for dieting ($M = 18.4$, $ES = .88$), and greater weight fluctuation

(*M* = 12.66, *ES* = .60) than the symptomatic group who, in turn, demonstrated more bulimic, restrictive, and weight fluctuation symptoms (*M* = 58.70, *ES* = 1.21; *M* = 15.39, *ES* = 1.31; *M* = 10.86, *ES* = .81; respectively) than the asymptomatic group. A complete set of mean scores and standard deviations are presented in Table 6.

The MANOVA for the cognitive variables (i.e., Impression Management, Approval by Others, Imperatives, Need to Succeed, Vulnerability, Catastrophizing, Dichotomous Thinking, Self Control, Rigid Weight Regulation, and Weight and Approval) reached significance, Wilk's Lambda = .651, $F[20, 644] = 7.699$, $p = .001$ ($d = .35$). Follow-up ANOVAs revealed differences for: Impression Management, $F[2, 331] = 11.064$, $p = .001$, Approval by Others, $F[2, 331] = 16.227$, $p = .001$, Vulnerability, $F[2, 331] = 5.492$, $p = .005$, Catastrophizing, $F[2, 331] = 9.060$, $p = .001$, Dichotomous Thinking, $F[2, 331] = 12.996$, $p = .001$, Self Control, $F[2, 331] = 75.022$, $p = .001$, Rigid Weight Regulation, $F[2, 331] = 42.816$, $p = .001$, and Weight and Approval, $F[2, 331] = 24.407$, $p = .001$. Significant differences were not found for Imperatives, $F[2, 331] = 3.174$, $p = .043$ and Need to Succeed, $F[2, 331] = 5.154$, $p = .006$.

Consistent with the continuum perspective of eating disorders, post-hoc tests indicated that eating-disordered, symptomatic, and asymptomatic individuals differed from each other in a linear direction on a majority of the cognitive variables. The eating-disordered group scored higher on Impression Management, (*M* = 39.59, *ES* = .50), Approval by Others, (*M* = 28.56, *ES* = .47), Dichotomous Thinking, (*M* = 22.41, *ES* = .42), Self Control, (*M* = 32.91, *ES* = .86), Rigid Weight Regulation, (*M* = 24.44,

ES = .57), and Weight and Approval, (*M* = 21.69, *ES* = .41) than the symptomatic group. Symptomatic individuals endorsed statements regarding Impression Management, Approval by Others, Dichotomous Thinking, Self Control, Rigid Weight Regulation, and Weight and Approval more (*M* = 35.32, *ES* = .34; *M* = 24.62, *ES* = .47; *M* = 19.02, *ES* = .41; *M* = 28.65, *ES* = 1.11; *M* = 21.01, *ES* = .83; *M* = 19.35, *ES* = .64; respectively) than asymptomatic individuals.

Additionally, individuals who fell into the eating-disordered and symptomatic groups, who did not differ significantly from one another, were found to feel more vulnerable to the precariousness of life (*M* = 26.13, *ES* = .50; *M* = 24.09, *ES* = .29; respectively), and to explain situations in more extreme terms (*M* = 32.72, *ES* = .66; *M* = 31.77, *ES* = .42; respectively) than individuals with normal eating behaviors. See Table 6 for a complete set of mean scores and standard deviations.

For the mood variables (i.e., Sad/Depressed, Anxious, Guilty, Shameful, Stressed, Happy, Confident, and Self-Esteem), the MANOVA reached significance, Wilk's Lambda = .827, $F[16, 648] = 4.026$, $p = .001$ ($d = .17$). Follow-up ANOVAs revealed significant differences for: Sad/Depressed, $F[2, 331] = 15.284$, $p = .001$, Anxious, $F[2, 331] = 5.598$, $p = .005$, Guilty, $F[2, 331] = 13.712$, $p = .001$, Shameful, $F[2, 331] = 15.929$, $p = .001$, Stress, $F[2, 331] = 6.002$, $p = .005$, Happy, $F[2, 331] = 7.436$, $p = .001$, Confident, $F[2, 331] = 6.961$, $p = .001$, and Self-Esteem, $F[2, 331] = 20.110$, $p = .001$.

The eating-disordered and symptomatic groups, who did not differ significantly from one another, evidenced higher levels of Sadness/Depression, (*M* = 3.25, *ES* = .91; *M*

= 2.79, *ES* = .47; respectively), Anxiety, (*M* = 3.53, *ES* = .57; *M* = 3.19, *ES* = .27, respectively), Guilt, (*M* = 2.41, *ES* = .81; *M* = 2.06, *ES* = .47; respectively), Shame, (*M* = 2.25, *ES* = .87; *M* = 1.89, *ES* = .50; respectively) and Stress, (*M* = 4.09, *ES* = .52; *M* = 3.91, *ES* = .33; respectively) than the asymptomatic group. The eating-disordered and symptomatic individuals reported lower levels of Happiness, (*M* = 3.56, *ES* = .47; *M* = 3.62, *ES* = .41; respectively), Confidence, (*M* = 2.94, *ES* = .65; *M* = 3.27, *ES* = .30; respectively) and Self-Esteem (*M* = 4.00, *ES* = .95; *M* = 4.54, *ES* = .57; respectively) than the asymptomatic group. A complete set of mean scores and standard deviations are in Table 6.

For the body variables (i.e., Importance of Physical Fitness, Importance of Attractiveness and Thinness, Concern with Body Shape, Satisfaction with Body, and Satisfaction with Face), the MANOVA achieved significance, Wilk's Lambda = .693, $F[10, 654] = 13.152$, $p = .001$ ($d = .31$). Follow-up ANOVAs revealed significant differences on: Importance of Being Physically Fit and Inshape, $F[2, 331] = 14.138$, $p = .001$, Importance of Being Attractive and Thin, $F[2, 331] = 12.558$, $p = .001$, Concern with Body Shape, $F[2, 331] = 65.126$, $p = .001$, Satisfaction with One's Body, $F[2, 331] = 28.788$, $p = .001$, and Satisfaction with One's Face, $F[2, 331] = 15.019$, $p = .001$.

The eating-disordered group was found to be more preoccupied with their body shape (*M* = 48.33, *ES* = .70) and less satisfied with their facial features (*M* = 3.59, *ES* = .70) than the symptomatic group which, in turn, demonstrated more body concern and dissatisfaction with their face (*M* = 39.73, *ES* = 1.03; *M* = 4.32, *ES* = .27;

respectively) than the asymptomatic group. Individuals who fell into the eating-disordered and symptomatic groups, who did not differ significantly from one another, more strongly internalized sociocultural attitudes about the importance of physical fitness (M = 5.25, ES = .90; M = 4.79, ES = .44; respectively) and attractiveness and thinness (M = 3.00, ES = .68; M = 2.69, ES = .48 ; respectively) than the non-eating-disordered group. Compared to eating-disordered and symptomatic women, asymptomatic women were the most satisfied with their bodies (M = 3.65, ES = 1.22; ES = .59); the former two groups of women did not differ significantly on this variable. See Table 6 for a complete set of mean scores and standard deviations.

Asymptomatic vs. Symptomatic & Eating-Disordered

The MANOVA for the eating disorder measures (i.e., Bulimia, Concern for Dieting, and Weight Fluctuation) reached significance, Wilk's Lambda = .596, F[3, 330] = 74.562, p = .001 (d = .40). Significant differences were found in follow-up ANOVAs on: Bulimia, F[1, 332] = 170.804, p = .001, Concern for Dieting, F[1, 332] = 178.851, p = .001 and Weight Fluctuation, F[1, 332] = 70.882, p = .001. The combined symptomatic and eating-disordered group reported higher scores on Bulimia, (M = 63.35, ES = 1.42), Concern for Dieting, (M = 15.98, ES = 1.46), and Weight Fluctuation, (M = 11.22, ES = .92) than the asymptomatic group. Mean scores and standard deviations are presented in Table 7.

For the cognitive variables (i.e., Impression Management, Approval by Others, Imperatives, Need to Succeed, Vulnerability, Catastrophizing, Dichotomous Thinking, Self Control, Rigid Weight Regulation, and Weight and Approval), the MANOVA

reached significance, Wilk's Lambda = .697, F[10, 323] = 14.064, p = .001 (d = .30). Follow-up ANOVAs were conducted and significant differences were found for: Impression Management, F[1, 332] = 15.728, p = .001, Approval by Others, F[1, 332] = 26.579, p = .001, Need to Succeed, F[1, 332] = 9.027, p = .005, Vulnerability, F[1, 332] = 9.202, p = .005, Catastrophizing, F[1, 332] = 17.665, p = .001, Dichotomous Thinking, F[1, 332] = 19.656, p = .001, Self Control, F[1, 332] = 132.562, p = .001, Rigid Weight Regulation, F[1, 332] = 72.106, p = .001, and Weight and Approval, F[1, 332] = 42.450, p = .001. The one exception was for Imperatives, F[1, 332] = 5.614, p = .018, on which the two groups of women did not differ significantly.

Women with subclinical and clinical eating disorders reported higher scores on Impression Management, (M = 36.16, ES = .43), Approval by Others, (M = 25.40, ES = .56), Need to Succeed, (M = 15.69, ES = .33), Vulnerability, (M = 24.49, ES = .33), Catastrophizing, (M = 31.96, ES = .46), Dichotomous Thinking, (M = 19.69, ES = .48), Self Control, (M = 29.49, ES = 1.26), Rigid Weight Regulation, (M = 21.69, ES = .93), and Weight and Approval, (M = 19.81, ES = .71) than women with normal eating behaviors. See Table 7 for mean scores and standard deviations.

The MANOVA achieved significance for the mood variables (i.e., Sad/Depressed, Anxious, Guilty, Shameful, Stressed, Happy, Confident, and Self-Esteem), Wilk's Lambda = .856, F[8, 325] = 6.827, p = .001 (d = .14). Follow-up ANOVAs yielded significant differences for: Sad/Depressed, F[1, 332] = 25.530, p = .001, Anxious, F[1, 332] = 9.081, p = .005, Guilty, F[1, 332] = 24.050, p = .001, Shameful,

F[1, 332] = 27.397, *p* = .001, Stressed, *F*[1, 332] = 11.296, *p* = .001, Happy, *F*[1, 332] = 14.787, *p* = .001, Confident, *F*[1, 332] = 11.125, *p* = .001, and Self-Esteem, *F*[1, 332] = 35.026, *p* = .001. The combined symptomatic and eating-disordered group reported greater Sadness/Depression, (*M* = 2.88, *ES* = .55), Anxiety, (*M* = 3.26, *ES* = .33), Guilt, (*M* = 2.13, *ES* = .53), Shame, (*M* = 1.96, *ES* = .57), and Stress, (*M* = 3.94, *ES* = .37) and lower Happiness, (*M* = 3.61, *ES* = .42), Confidence, (*M* = 3.20, *ES* = .37), and Self-Esteem, (*M* = 4.43, *ES* = .65) than the asymptomatic group. Mean scores and standard deviations appear in Table 7.

A significant MANOVA was found for the body variables (i.e., Importance of Physical Fitness, Importance of Attractiveness and Thinness, Concern with Body Shape, Satisfaction with Body, and Satisfaction with Face), Wilk's Lambda = .740, *F*[5, 328] = 23.052, *p* = .001 (*d* = .26). Significant differences were found in follow-up ANOVAs on: Importance of Being Physically Fit and In-Shape, *F*[1, 332] = 23.120, *p* = .001, Importance of Being Attractive and Thin, *F*[1, 332] = 22.639, *p* = .001, Concern with Body Shape, *F*[1, 332] = 114.569, *p* = .001, Satisfaction with One's Body, *F*[1, 332] = 51.835, *p* = .001, and Satisfaction with One's Face, *F*[1, 332] = 14.571, *p* = .001. Eating-disordered and symptomatic women evidenced higher internalizations of sociocultural messages about physical fitness, (*M* = 4.88, *ES* = .53) and attractiveness and thinness, (*M* = 2.76, *ES* = .52) more concern with body shape, (*M* = 41.43, *ES* = 1.17), and less satisfaction with their body, (*M* = 2.74, *ES* = .79) and face, (*M* = 4.18, *ES* = .42) than asymptomatic women. Mean scores and standard deviations are presented in Table 7.

Symptomatic Subcategories

Although there were 18 participants in the "other" category, the heterogeneity of the group invalidated the pursuit of further statistical analyses. However, a qualitative analysis was conducted in order to obtain descriptive information about these participants. Nine experienced binge eating episodes that were not characterized by a lack of control. Similar to chronic dieters, three participants did not binge and used strict dieting and/or appetite control pills; however, they additionally engaged in excessive exercise. The use of appetite control pills and binge eating that is accompanied by a sense of control was experienced by two participants. Two participants exhibited the binge dieting behaviors of binging and compensating by strict-dieting, but unlike binge dieters these participants engaged in excessive exercise. One participant experienced binge eating episodes in which she felt in control and exercised excessively. Another participant met the criteria for subthreshold binge-eating disorder; however, her exercising sometimes interfered significantly with important activities.

To determine if the symptomatic groups differed on the dependent variables, the subthreshold nonbinging bulimia (n = 38), subthreshold binge-eating disorder (n = 10), subthreshold behavioral bulimia (n = 11), and chronic dieter (n = 41) groups were compared. For the eating disorder variables (i.e., Bulimia, Concern for Dieting, and Weight Fluctuation), the MANOVA reached significance, Wilk's Lambda = .658, F[9, 229] = 4.782, p = .001 (d = .34). Follow-up ANOVAs revealed significant differences for Bulimia, F[3, 96] = 11.891, p = .001. Subthreshold binge-eaters and subthreshold behavioral bulimics, who did not differ significantly from one another,

demonstrated more bulimic symptoms (*M* = 76.10, *ES* = 1.32; *M* = 70.27, *ES* = 1.03; respectively) than subthreshold nonbinging bulimics and higher bulimic scores (*ES* = 1.85; *ES* = 1.63; respectively) than chronic dieters; the latter two groups did not differ significantly from one another. No significant differences were found for Concern for Dieting, $F[3, 96] = 1.191$, $p = .317$, and Weight Fluctuation, $F[3, 96] = 1.078$, $p = .362$. Means and standard deviations are presented in Table 8.

The MANOVAs for the cognitive variables (i.e., Impression Management, Approval by Others, Imperatives, Need to Succeed, Vulnerability, Catastrophizing, Dichotomous Thinking, Self Control, Rigid Weight Regulation, and Weight and Approval), Wilk's Lambda = .645, $F[30, 256] = 1.262$, $p = .099$ ($d = .36$), for the mood variables, (i.e., Sad/Depressed, Anxious, Guilty, Shameful, Stressed, Happy, Confident, and Self-Esteem), Wilk's Lambda = .670, $F[24, 259] = 1.596$, $p = .042$ ($d = .33$), and for the body variables (i.e., Importance of Physical Fitness, Importance of Attractiveness and Thinness, Concern with Body Shape, Satisfaction with Body, and Satisfaction with Face), Wilk's Lambda = .842, $F[15, 254] = 1.092$, $p = .364$ ($d = .16$) did not achieve significance. See Table 8 for mean scores and standard deviations.

Frequencies of BULIT-R Responses by Q-EDD Group

As hypothesized, the severity of responses on the 6 BULIT-R temporal frequency items followed group placement on the Q-EDD in a linear fashion, with the asymptomatic group demonstrating the least eating disorder symptoms, the eating-disordered group exhibiting the most symptoms, and the symptomatic group falling

within the middle. Frequencies of responses on these BULIT-R binging and compensatory behavioral items are presented in Table 9.

CHAPTER 4

DISCUSSION

Purpose

Using the Q-EDD to group individuals into eating categories, this study evaluated the continuity and discontinuity perspectives of eating pathology by examining different behavioral and psychological variables in college women. An additional aim of the current project was to obtain validity information for the Q-EDD by comparing it to commonly used eating disorder measures.

Prevalence of Eating Disorders

The first goal of this study was to determine the prevalence of women in the asymptomatic, symptomatic, and eating-disordered categories. In the current sample, the majority of women were asymptomatic (52%), with the symptomatic group being the next largest in size (39%). This finding is comparable to past studies that used the Q-EDD to evaluate disordered eating among college women (Mintz et al., 1997; Petersen, 2001). On the other hand, the frequency of disordered eating in the current study differs from that reported by Tylka and Subich (1999). In two separate studies, Tylka and Subich found that a larger percentage of women fell into the symptomatic (45%, 51%) versus asymptomatic (34%, 23%) category. Tylka and Subich's sample may be biased, however, as sorority women in addition to the general college population were targeted as participants. The deliberate inclusion of sorority women may have resulted in a higher prevalence of disordered eating, as higher frequencies of purging after eating has

been reported among sorority members in comparison to the general undergraduate population (Meilman et al., 1991).

Similar to Mintz et al. (1997), the eating-disordered group consisted of individuals with anorexia, menstruating anorexia, bulimia, subthreshold bulimia, nonbinging bulimia, and binge-eating disorder; no exercise bulimics or chew-spitters were reported in either sample. Only one other study has described the behavioral presentations of the symptomatic group through placement into the Q-EDD subcategories. Although Mulholland (2001) exclusively studied African American women and found only a 2% prevalence of eating disorder symptoms in the subclinical range (compared to 39% in the current study), it is informative to compare the symptomatic presentations of women in both samples as a preliminary investigation of the symptomatic group. In both studies, women were described as nonnormal-weight nonbinging bulimic, subthreshold behavioral bulimic, chronic dieter, subthreshold nonbinging bulimic, and other. Additionally in the current sample, women with low-weight anorexia, subthreshold binge-eating disorder, binge dieting, and behavioral bulimia were found.

Asymptomatic vs. Symptomatic vs. Eating-Disordered

The second goal of this study was to compare the asymptomatic, symptomatic, and eating-disordered groups along various psychological and behavioral factors that have been found to be associated with disordered eating. On all of the eating measures, eating-disordered women evidenced more severe levels of disordered eating than both

symptomatic and asymptomatic women; symptomatic women, in turn, evidenced higher levels of symptom endorsement than asymptomatic women. Thus, the continuity perspective, which postulates that a linear relationship exists between the severity of disordered eating and related eating behaviors, attitudes, and cognitions, was supported for bulimia, dietary restraint, and weight fluctuation. Multiple studies have reported similar findings for binging, dietary restraint and bulimia (Katzman & Wolchik, 1984; Stice et al., 1996; Stice et al., 1998a; Thompson et al., 1987). In comparing the results from the Q-EDD to those from the BULIT-R, the Q-EDD's ability to distinguish individuals based on eating behaviors was further supported.

Based on past research, dysfunctional cognitions that are global or eating-specific were predicted to fall along a continuum of eating disorder severity (Bonifazi, Crowther, & Mizes, 2000; Thompson et al., 1987). This hypothesis was supported for 6 of 10 cognitive distortions. The eating-disordered group reported a greater need to obtain others' approval (e.g., for their weight) in order to be happy and to impress new acquaintances with their personality and intellect than both the symptomatic and asymptomatic groups; women with symptoms of eating disorders additionally reported higher impression management and approval needs than healthy eaters. Cognitive and behavioral rigidity, as through dichotomous thinking, self control, and extreme weight regulation, also fell on a continuum of disordered eating.

On several cognitive variables, symptomatic and eating-disordered women were found to be more similar to each other than to asymptomatic women. The exhibition of eating disorder symptoms was positively associated with a tendency to explain situations

in extreme terms and with the belief that one is prone to negative life events. On the other hand, the three groups of women did not differ on the amount of success they desired in their educational, occupational, and social lives nor in the extent to which their expectations are perfectionistic and absolutistic in nature. Similarly, Tylka and Subich (1999) found that perfectionism was the only EDI-2 subscale to not differentiate asymptomatic, symptomatic, and eating-disordered high school and college women. The fact that the participants in the current study were all students in a college setting may have also accounted for the similar desires for achievement and perfection.

On the affect and esteem variables, women with subclinical and clinical levels of disordered eating evidenced more negative affect and lower self-esteem than women with normal eating habits. Specifically, symptomatic and eating-disordered women reported more sadness, anxiety, guilt, shame, and stress and less happiness and confidence than asymptomatic women. Past studies have reported a similar pattern of symptoms among women of varying levels of disordered eating for anxiety, depression, and hostility (Stice et al, 1996; Stice et al., 1998a).

Overall, asymptomatic women reported healthier attitudes towards their bodies than both symptomatic and eating-disordered women. Following past findings, symptomatic and eating-disordered women were more dissatisfied with their bodies and placed a higher importance on the societal values of physical fitness, attractiveness, and thinness than asymptomatic women (Dancyger & Garfinkel, 1995; Stice et al., 1996; Stice et al., 1998a; Thompson et al., 1987; Tylka & Subich, 1999). Regarding levels of

concern with body shape and satisfaction with facial features, the continuity hypothesis was supported. Eating-disordered women were more preoccupied with the size of their bodies and less pleased with their facial features than subclinical women who, in turn, reported more distress than normal eaters.

Taken together, eating-disordered women were found to exhibit a number of behaviors and cognitions that were more severe than the symptomatic group who, in turn, reported more of these symptoms than the asymptomatic group. Bulimic and restrictive behaviors, as would be expected by the DSM-IV definitional criteria of the Q-EDD groups, increased in severity across the three groups. Higher levels of all-or-none thinking with more severe eating pathology is demonstrative of the inherent rigidity of restriction and the binge-purge cycle.

Garner and Bemis (1982) argue that distorted cognitions are fundamental to eating disorders. In the current study, the higher levels of eating, weight, and body-specific dysfunctional cognitions among individuals with increased severity of eating disorder symptoms support Garner and Bemis' contention. It also appears that disordered eating is related to attempts to meet others' standards, as two of the distorted cognitions that were continuous across the asymptomatic, symptomatic, and eating-disordered groups involved making a good impression and seeking approval from others. In Western society, a woman's worth is largely determined by her level of attractiveness (Polivy & Herman, 1987). Thus, the greater importance a woman places on the acceptance from others, the more concerned she will likely be with her appearance and the more involved she may become in restrictive and purging practices.

Similar to Stice et. al (1998a) and Tylka and Subich (1999), the discontinuity hypothesis of disordered eating, which argues that those with no or few eating disorder symptoms are qualitatively different from those with eating disorders, was not supported for any of the dependent variables. Rather, women with eating disorder symptoms in the subclinical or clinical range evidenced multiple cognitions, affect, and body attitudes that were similar, yet more severe than those of healthy eaters.

The current findings suggest that the internalization of sociocultural messages about physical fitness, attractiveness, and thinness is widespread among women. Women with pervasive negative feelings may be more susceptible to the social pressures to be thin, as they have less confidence in their abilities and lower self-esteem. As women aspire to the thin-ideal, their short-comings become salient and negative affect, low self-esteem, and body dissatisfaction likely results.

The higher levels of vulnerability and catastrophizing among women with symptoms of eating disorders compared to healthy eaters is consistent with past research that has found eating-disordered individuals to feel less in control of their environment (Dalgleish, Tchanturia, Serpell, Hems, de Silva, & Treasure, 2001). The engagement in restricting and purging may subsequently provide women, who perceive their environments as uncertain or disastrous, with a sense of empowerment or control over their food intake and weight.

Asymptomatic vs. Symptomatic & Eating-Disordered

Given the similar presentations of symptoms on 13 of the 26 dependent variables, the eating-disordered and symptomatic groups were combined and compared to the

asymptomatic group. In taking this approach, we redefined the discontinuity hypothesis. Instead of thinking about individuals with eating disorders as being qualitatively different from those without eating disorders, these results suggest that women who evidence subclinical or clinical levels of eating disorder symptoms are behaviorally, cognitively, and affectively distinct from individuals with healthy eating behaviors. For instance, Stice et al. (1998) and Tylka and Subich (1999) found that BMI, depression, thin-deal internalization, body dissatisfaction, ineffectiveness, maturity fears, and social inhibition were similar among eating-disordered and symptomatic women, but more severe than that of asymptomatic women. In the current study, the differences between a combined group of symptomatic and eating-disordered women and a separate asymptomatic group were significant on all but one of the dependent variables evaluated. Similar to Tylka and Subich (1999), the only variable to not vary according to continuum placement was perfectionistic and absolutistic expectations.

Symptomatic Subgroups

In order to gain a better understanding of the symptomatic group, the symptomatic subcategories were examined and compared on the dependent variables. Due to small sample sizes of several of the groups and the heterogeneous nature of the "other" group, only four of the nine groups were used in subsequent analyses. Overall, the subthreshold nonbinging bulimia, subthreshold binge-eating disorder, subthreshold behavioral bulimia, and chronic dieter groups were found to be indistinguishable on the eating, cognitive, affect, and body measures. The only difference that appeared between these four groups was on bulimia; subthreshold binge-eaters and subthreshold behavioral

bulimics evidenced more bulimic symptoms than both subthreshold nonbinging bulimics and chronic dieters. These results suggest that although on a descriptive level it may be interesting to categorize women based on eating disorder symptoms, the subgroups appear to be practically indistinguishable on key psychological variables.

Limitations

There are several limitations to the current study. First, undergraduate women were used exclusively in the current study, because a higher prevalence of eating disorder symptomatology has been reported among young women in comparison to other age groups (DSM-IV, 1994). Although this population provided a broad range of disordered eating, the generalizability of these findings to other populations is restricted. Greater external validity would result from the assessment of a random community sample, instead of an undergraduate university sample. Second, self-report data was relied upon in the current study. Despite the nonsignificant correlations of social desirability with the eating measures, the use of natural observations, journal writing, or clinical interviews would have further minimized the effects of social desirability. Third, several of the symptomatic subgroups (i.e., low-weight anorexia, nonnormal-weight nonbinging bulimia, binge dieting, behavioral bulimia) could not be used in the current study, because of small sample sizes. A larger symptomatic group would likely increase the number of participants in each subgroup, thus warranting the use of these subgroups in further analyses.

Implications for Prevention

Counselors need to be aware of their clients' eating behaviors and closely monitor these symptoms, even when they fall within the subclinical range. Considering that symptomatic women have many affective, cognitive, and attitudinal similarities with eating-disordered women, they pose a high risk for developing clinically severe eating disorders. It is important that therapy focuses on ameliorating the client's preoccupation with her body, as well as on helping the client to exercise flexibility in her beliefs and eating behaviors; these symptoms appear to differentiate symptomatic from eating-disordered women and thus need to be paid immediate clinical attention in order to prevent the development of full syndrome anorexia, bulimia, or EDNOS. At the same time, negative affect, body dissatisfaction, self-esteem, and internalizations of sociocultural beliefs about thinness need to be treated in symptomatic women, as they are likely at similar levels to those of women with eating disorders.

In the current study, nearly half of the female college sample presented with subclinical or clinical levels of eating disorders. This wide prevalence of disordered eating is troubling, given the psychological problems that accompany these behavioral presentations. Widespread education is therefore needed, especially at the university level, about the severity of eating disorder behaviors and the availability of services. Women with eating disorder symptoms will likely underuse support groups and clinical services, as many are fearful about disclosing their symptoms to others and tend to minimize the severity of their eating disorder behaviors (Meyer, 2001). Thus, persistent

and pervasive eating disorder education for the college community, through posters, presentations, pamphlets, and organizations is necessary.

Regarding the assessment of disordered eating, the Q-EDD appears to be an appropriate measure to evaluate severity levels of eating symptoms. From a qualitative standpoint, the Q-EDD provides detailed information regarding specific eating disorder behaviors and body-related attitudes. However, this study suggests that describing individuals by their specific eating behaviors provides minimal additional information about their psychological states. It appears that women who present with varying constellations of eating disorder symptoms would benefit from similar counseling services, as they appear to be cognitively and affectively similar.

Directions for Future Research

Subsequent studies should focus on the appropriateness of the Q-EDD for use in other non-university female populations. Women of different educational levels, socioeconomic statuses, races, and ages, as well as men, should be administered the Q-EDD and results should be compared to other commonly used eating disorder measures in order to assess the validity of the Q-EDD for use with those populations. The applicability of the Q-EDD to other cultures also needs to be determined.

The only published study to explore the utility of the Q-EDD with a minority population was conducted by Mulholland and Mintz (2001). They assessed an African American sample of college women and found high levels of agreement between the Q-EDD and a clinical interview. Although Mulholland and Mintz's sample of eating-disordered women was very small (n = 8), a high accuracy rate of 95% for classifying

women as eating-disordered versus non-eating-disordered was reported. Their findings suggest that the Q-EDD is an appropriate eating measure to use with African American college women.

In order to gain a more thorough understanding of the symptomatic group, the Q-EDD, along with other cognitive, affective, behavioral, and attitudinal measures, should be tested on a large representative sample that would allow for meaningful comparisons between the symptomatic subgroups. In addition, a longitudinal study utilizing the Q-EDD would provide information on the development and maintenance of eating disorder behaviors over time. Mintz et al. (1997) examined the test-retest reliability of the Q-EDD over a 1 to 2 month period; a longer intermediate period between testing would provide useful information about both the temporal consistency of the Q-EDD and the clinical trajectory of eating disorder symptomatology.

APPENDIX A

QUESTIONNAIRES

Demographics Questionnaire

Please answer the following questions honestly. Some of the questions may feel repetitive to you, but it's very important that you answer each question.

Age: _____

Years In School:
_____ 1) 1st
_____ 2) 2nd
_____ 3) 3rd
_____ 4) 4th
_____ 5) 5th
_____ 6) 6th and beyond

Race/Ethnicity:
_____ 1) Caucasian/White
_____ 2) African-American/Black
_____ 3) Latina
_____ 4) Native American
_____ 5) Asian American/Pacific Islander
_____ 6) Other: (specify) _____

Present Height: _____ feet _____ inches
Present Weight: _____ pounds

I would like to weigh _____ pounds.

Current Marital Status:
____ 1) single/never been married
____ 2) married
____ 3) divorced
____ 4) widowed

Annual Income (if supported by parents, report for parents/ if independently supported, report for sel
____ 1) under $10,000
____ 2) $10,001-$25,000
____ 3) $25,001-$50,000
____ 4) $50,001-$75,000
____ 5) $75,001-$100,000
____ 6) $100,001 and beyond

Demographics Questionnaire (continued)

Have you ever been seen for counseling by a psychologist, counselor, or mental health professional?

1) YES 2) NO

If yes, describe reason for treatment._____

If yes, how long ago did you receive counseling? (if multiple treatment periods, circle most recent)

1) currently in treatment
2) 0-2 years ago
3) 3-5 years ago
4) 6-8 years ago
5) 9-11 years ago
6) more than 12 years ago

Have you ever been diagnosed with a psychological disorder by a psychologist, counselor, or mental health professional?

1) YES 2) NO

If yes, what disorder? _____

Marlowe-Crowne Social Desirability Scale (SDS)

Please indicate whether the following statements describe you by answering true or false.

	TRUE	FALSE
1. Is it sometimes hard for me to go on with my work if I am not encouraged.	0	1
2. I sometimes feel resentful when I don't get my way.	0	1
3. There have been times when I felt like rebelling against people in authority even though I knew they were right.	0	1
4. No matter who I'm talking to, I'm always a good listener.	0	1
5. There have been occasions when I took advantage of someone.	0	1
6. I'm always willing to admit it when I make a mistake.	0	1
7. Sometimes I try to get even rather than forgive and forget.	0	1
8. I am always courteous, even to people who are disagreeable.	0	1
9. I have never been irked when people expressed ideas very different from my own.	0	1
10. There have been times when I was quite jealous of the good fortune of others.	0	1
11. I am sometimes irritated by people who ask favors of me.	0	1
12. I have never deliberately said something that hurt someone's feelings.	0	1

Questionnaire for Eating Disorder Diagnoses (Q-EDD)

1. Do you experience recurrent episodes of binge eating, meaning eating in a discrete period of time (e.g., within any 2-hour period) an amount of food that is definitely larger than most people would ea during a similar time period?

1) YES 2) NO

If **YES**: Continue to answer the following questions.
If **NO**: Skip to Question #4 (on the next page).

2. Do you have a sense of lack of control during the binge eating episodes (i.e., the feeling that you cannot stop eating or control what or how much you are eating)?

1) YES 2) NO

3. Circle the answers within the two sets of parentheses below that best fit for you:

On the average, I have had **(1, 2, 3, 4, 5, 6 or more)** binge eating episodes a **WEEK** for at least **(1 month, 2 months, 3 months, 4 months, 5 months, 6-12 months, more than one year)**.

4. Please circle the appropriate responses below concerning things you may do to prevent weight ga If you circle **YES** to any question, please indicate how often on average you do this and how long you have been doing this.

a) **Do you make yourself vomit?** 1) YES 2) NO
How often do you do this?
1) Daily 2) Twice/ Week 3) Once/ Week 4) Once/ Month
How long have you been doing this?
1) 1 month 2) 2 months 3) 3 months 4) 4 months 5) 5-11 months 6) more than one year

b) **Do you take laxatives?** 1) YES 2) NO
How often do you do this?
1) Daily 2) Twice/ Week 3) Once/ Week 4) Once/ Month
How long have you been doing this?
1) 1 month 2) 2 months 3) 3 months 4) 4 months 5) 5-11 months 6) more than one year

c) **Do you take diuretics (water pills)?** 1) YES 2) NO
How often do you do this?
1) Daily 2) Twice/ Week 3) Once/ Week 4) Once/ Month
How long have you been doing this?
1) 1 month 2) 2 months 3) 3 months 4) 4 months 5) 5-11 months 6) more than one year

Questionnaire for Eating Disorder Diagnoses (Q-EDD) (continued)

d) **Do you fast (skip food for 24 hours)?** 1) YES 2) NO
How often do you do this?
1) Daily 2) Twice/ Week 3) Once/ Week 4) Once/ Month
How long have you been doing this?
1) 1 month 2) 2 months 3) 3 months 4) 4 months 5) 5-11 months 6) more than one year

e) **Do you chew food but spit it out?** 1) YES 2) NO
How often do you do this?
1) Daily 2) Twice/ Week 3) Once/ Week 4) Once/ Month
How long have you been doing this?
1) 1 month 2) 2 months 3) 3 months 4) 4 months 5) 5-11 months 6) more than one year

f) **Do you give yourself an enema?** 1) YES 2) NO
How often do you do this?
1) Daily 2) Twice/ Week 3) Once/ Week 4) Once/ Month
How long have you been doing this?
1) 1 month 2) 2 months 3) 3 months 4) 4 months 5) 5-11 months 6) more than one year

g) **Do you take appetite control pills?** 1) YES 2) NO
How often do you do this?
1) Daily 2) Twice/ Week 3) Once/ Week 4) Once/ Month
How long have you been doing this?
1) 1 month 2) 2 months 3) 3 months 4) 4 months 5) 5-11 months 6) more than one year

h) **Do you diet strictly?** 1) YES 2) NO
How often do you do this?
1) Daily 2) Twice/ Week 3) Once/ Week 4) Once/ Month
How long have you been doing this?
1) 1 month 2) 2 months 3) 3 months 4) 4 months 5) 5-11 months 6) more than one year

i) **Do you exercise a lot?** 1) YES 2) NO
How often do you do this?
1) Daily 2) Twice/ Week 3) Once/ Week 4) Once/ Month
How long have you been doing this?
1) 1 month 2) 2 months 3) 3 months 4) 4 months 5) 5-11 months 6) more than one year

If you answered **YES** to "exercise a lot," please answer Questions #5a, 5b, and 5c.
If you answered **NO** to "exercise a lot," skip to Question #6.

Questionnaire for Eating Disorder Diagnoses (Q-EDD) (continued)

5 a. Fill in the blanks below:

I _____ (types of exercise, e.g., jog, swim) for an average of _____ hours at a time.

5 b. My exercise sometimes significantly interferes with important activities.
1) YES 2) NO

5 c. I exercise despite injury and/ or medical complications.
1) YES 2) NO

For the following questions, circle the response that best reflects your answer:

6. Does you weight and/ or body shape influence how you feel about yourself?

1	2	3	4	5
Not at all	A Little	A Moderate Amount	Very Much	Extremely or Completely

7. How afraid are you of becoming fat?

1	2	3	4	5
Not at all Afraid	A Little Afraid	Moderately Afraid	Very Much Afraid	Intensely Afraid

8. How afraid are you of gaining weight?

1	2	3	4	5
Not at all Afraid	A Little Afraid	Moderately Afraid	Very Much Afraid	Intensely Afraid

9. Do you consider yourself to be:

1	2	3	4	5	6
Grossly Obese	Moderately Obese	Overweight	Normal Weight	Low Weight	Severely Underweight

10. Certain parts of my body (e.g., my abdomen, buttocks, thighs) are too fat.
1) YES 2) NO

11. I feel fat all over.
    1) YES 2) NO

12. I believe that how little I weigh is a serious problem.
    1) YES 2) NO

13. I have missed at least 3 consecutive menstrual cycles (not including those missed during a pregnancy).
    1) YES 2) NO

Dysfunctional Attitude Scale (DAS)

Below is a list of different attitudes or beliefs that people sometimes hold. Read each statement carefully and decide how much you agree or disagree with the statement. To decide whether a given attitude is typical of your way of looking at things, keep in mind what you are like MOST OF THE TIME.

1	2	3	4	5	6	7
Totally Disagree	**Disagree Very Much**	**Disagree Slightly**	**Neutral**	**Agree Slightly**	**Agree Very Much**	**Totally Agree**

	TD	DVM	DS	N	AS	AVM	TA
1. People will probably think less of me if I make a mistake.	1	2	3	4	5	6	7
2. People who have the marks of success (good looks, fame, wealth) are bound to be happier than people who do not.	1	2	3	4	5	6	7
3. It is best to give up your own interests in order to please other people.	1	2	3	4	5	6	7
4. I can find greater enjoyment if I do things because I want to, rather than to please other people.	1	2	3	4	5	6	7
5. I should be happy all the time.	1	2	3	4	5	6	7
6. Turning to someone else for advice or help is an admission of weakness.	1	2	3	4	5	6	7
7. If someone performs a selfish act, this means s/he is a selfish person.	1	2	3	4	5	6	7
8. What other people think about me is very important.	1	2	3	4	5	6	7
9. If I ask a question, it makes me look inferior.	1	2	3	4	5	6	7
10. I should be able to please everybody.	1	2	3	4	5	6	7
11. You can be a happy person without going out of your way to please other people.	1	2	3	4	5	6	7
12. It is shameful for a person to display her/his weakness.	1	2	3	4	5	6	7
13. It is not necessary to stop myself from doing something for my own welfare simply because it might displease another person.	1	2	3	4	5	6	7
14. If a person has to be alone for a long period of time, it follows that s/he has to feel lonely.	1	2	3	4	5	6	7
15. A person should try to be the best at everything s/he undertakes.	1	2	3	4	5	6	7
16. People who have good ideas are more worthy than those who do not.	1	2	3	4	5	6	7
17. If a person is not a success, then her/his life is meaningless.	1	2	3	4	5	6	7

Dysfunctional Attitude Scale (DAS) (continued)

1	2	3	4	5	6	7
Totally Disagree	**Disagree Very Much**	**Disagree Slightly**	**Neutral**	**Agree Slightly**	**Agree Very Much**	**Totally Agree**

	TD	DVM	DS	N	AS	AVM	TA
18. If others dislike you, you cannot be happy.	1	2	3	4	5	6	7
19. Taking even a small risk is foolish because the loss is likely to be a disaster.	1	2	3	4	5	6	7
20. If I do not do as well as other people, it means I am an inferior human being.	1	2	3	4	5	6	7
21. I should always have complete control over my feelings.	1	2	3	4	5	6	7
22. My life is wasted unless I am a success.	1	2	3	4	5	6	7
23. If people whom I care about do not care for me, it is awful..	1	2	3	4	5	6	7
24. If I fail at my work, then I am a failure as a person.	1	2	3	4	5	6	7
25. I can enjoy myself even when others do not like me	1	2	3	4	5	6	7
26. If I don't set the highest standards for myself, I am likely to end up a second-rate person.	1	2	3	4	5	6	7
27. I do not need other people's approval for me to be happy.	1	2	3	4	5	6	7
28. My value as a person depends greatly on what others think of me.	1	2	3	4	5	6	7
29. A person should do well at everything s/he undertakes.	1	2	3	4	5	6	7
30. If someone disagrees with me, it probably indicates that s/he does not like me.	1	2	3	4	5	6	7
31. The way to get people to like you is to impress them with your personality.	1	2	3	4	5	6	7
32. I cannot be happy unless most people I know admire me.	1	2	3	4	5	6	7
33. My own opinions of myself are more important than others' opinions of me.	1	2	3	4	5	6	7
34. If I do not treat people kindly, fairly, and considerately, I am a rotten person.	1	2	3	4	5	6	7
35. If I try hard enough I should be able to excel at anything I attempt.	1	2	3	4	5	6	7
36. It is difficult to be happy unless one is good looking, intelligent, rich, and creative.	1	2	3	4	5	6	7

Dysfunctional Attitude Scale (DAS) (continued)

1	2	3	4	5	6	7
Totally Disagree	**Disagree Very Much**	**Disagree Slightly**	**Neutral**	**Agree Slightly**	**Agree Very Much**	**Totally Agree**

	TD	DVM	DS	N	AS	AVM	TA
37. I cannot trust other people because they might be cruel to me.	1	2	3	4	5	6	7
38. I do not need the approval of other people in order to be happy.	1	2	3	4	5	6	7
39. It is awful to be disapproved of by people important to you.	1	2	3	4	5	6	7
40. If you don't have other people to lean on, you are bound to be sad.	1	2	3	4	5	6	7
41. A person cannot survive without the help of other people.	1	2	3	4	5	6	7
42. If I put other people's needs before my own, they should help me when I want them to do something for me.	1	2	3	4	5	6	7
43. Whenever I take a chance or risk I am only looking for trouble.	1	2	3	4	5	6	7
44. I have to impress new acquaintances with my charm, intelligence, or wit or they won't like me.	1	2	3	4	5	6	7
45. I should try to impress other people if I want them to like me.	1	2	3	4	5	6	7
46. If I fail partly, it is as bad as being a complete failure.	1	2	3	4	5	6	7
47. I am nothing if a person I love doesn't love me.	1	2	3	4	5	6	7
48. People will reject you if they know your weaknesses.	1	2	3	4	5	6	7
49. A person should be able to control what happens to her/him.	1	2	3	4	5	6	7
50. My happiness depends on other people more than it does on me.	1	2	3	4	5	6	7
51. A person doesn't need to be well liked in order to be happy.	1	2	3	4	5	6	7
52. If a person I love does not love me, it means I am unlovable.	1	2	3	4	5	6	7
53. If a person asks for help, it is a sign of weakness.	1	2	3	4	5	6	7
54. If I am to be a worthwhile person, I must be truly outstanding in at least one major respect.	1	2	3	4	5	6	7
55. I ought to be able to solve my problems quickly and without a great deal of effort.	1	2	3	4	5	6	7
56. To be a good, moral, worthwhile person, I must help everyone who needs it..	1	2	3	4	5	6	7

Revised Restraint Scale (RRS)

1. How often are you dieting?
    a. never
    b. rarely
    c. sometimes
    d. often
    e. always
2. What is the maximum amount of weight (in pounds) that you have ever lost within one month?
    a. 0-4
    b. 5-9
    c. 10-14
    d. 15-19
    e. 20+
3. What is your maximum weight gain within a week?
    a. 0-1
    b. 1.1-2
    c. 2.1-3
    d. 3.1-5
    e. 5.1+
4. In a typical week, how much does your weight fluctuate?
    a. 0-1
    b. 1.1-2
    c. 2.1-3
    d. 3.1-5
    e. 5.1+
5. Would a weight fluctuation of 5 pounds affect the way you live your life?
    a. not at all
    b. slightly
    c. moderately
    d. very much
6. Do you eat sensibly in front of others and splurge alone?
    a. never
    b. rarely
    c. often
    d. always
7. Do you give too much time and thought to food?
    a. never
    b. rarely
    c. often
    d. always

Revised Restraint Scale (RRS) (continued)

8. Do you have feelings of guilt after overeating?
   a. never
   b. rarely
   c. often
   d. always

9. How conscious are you of what you are eating?
   a. not at all
   b. slightly
   c. moderately
   d. extremely

10. How many pounds over your desired weight were you at your maximum?
   a. 0-1
   b. 2-5
   c. 6-10
   d. 11-20
   e. 21+

Rosenberg Self-Esteem Scale (RSES)

Below is a series of statements concerning how people feel about themselves. Please indicate the degree to which you agree with each of these statements.

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
1. I feel that I am a person of worth, at least on an equal plane with others.	1	2	3	4
2. I feel that I have a number of good qualities.	1	2	3	4
3. All in all, I am inclined to feel that I am a failure.	1	2	3	4
4. I am able to do things as well as most other people.	1	2	3	4
5. I feel I do not have much to be proud of.	1	2	3	4
6. I take a positive attitude toward myself.	1	2	3	4
7. On the whole, I am satisfied with myself.	1	2	3	4
8. I wish I could have more respect for myself.	1	2	3	4
9. I certainly feel useless at times.	1	2	3	4
10. At times I think I am no good at all.	1	2	3	4

Body Shape Questionnaire- Revised- 10 Item Version (BSQ-R-10)

How do you feel about your appearance? Indicate how you have been feeling during the PAST MONTH.

	Never	**Rarely**	**Some-times**	**Often**	**Very Often**	**Always**
1. Have you been so worried about your shape that you have been feeling that you ought to diet?	1	2	3	4	5	6
2. Have you noticed the shape of other women and felt that your own shape compared unfavorably?	1	2	3	4	5	6
3. Has being naked, such as when taking a bath, made you feel fat?	1	2	3	4	5	6
4. Has eating sweets, cakes, or other high calorie food made you feel fat?	1	2	3	4	5	6
5. Have you felt excessively large and rounded?	1	2	3	4	5	6
6 Have you felt ashamed of your body?	1	2	3	4	5	6
7. Has seeing your reflection (e.g., in a mirror or a shop window) made you feel bad about your shape?	1	2	3	4	5	6
8. Have you been particularly self-conscious about your shape when in the company of other people?	1	2	3	4	5	6
9. Have you found yourself brooding about your shape?	1	2	3	4	5	6
10. Has seeing thin women made you feel badly about your own shape?	1	2	3	4	5	6

Mizes Anorectic Cognitio ns Questionnaire- Revised (MAC-R)

The following is a list of beliefs and attitudes about eating and weight. Be sure to mark how you actually feel about the statement, NOT how you think you SHOULD feel. Try to avoid the neutral or "3" response as much as possible. Select this answer only if you really cannot decide whether you tend to agree or disagree with a statement.

1	2	3	4	5
Strongly Disagree	**Moderately Disagree**	**Neither Agree Nor Disagree**	**Moderately Agree**	**Strongly Agree**

	SD	**MD**	**NA ND**	**MA**	**SA**
1. I feel victorious over my hunger when I am able to refuse sweets.	1	2	3	4	5
2. No matter how much I weigh, fats, sweets, breads, and cereals are bad food because they always turn into fat.	1	2	3	4	5
3. No one likes fat people; therefore, I must remain thin to be liked by others.	1	2	3	4	5
4. I am proud of myself when I control my urge to eat.	1	2	3	4	5
5. When I eat desserts, I get fat. Therefore, I must never eat desserts so I won't be fat.	1	2	3	4	5
6 How much I weigh has little to do with how popular I am.	1	2	3	4	5
7. If I don't establish a daily routine, everything will be chaotic and I won't accomplish anything.	1	2	3	4	5
8. My friends will like me regardless of how much I weigh.	1	2	3	4	5
9. When I am overweight, I am not happy with my appearance. Gaining weight will take away the happiness I have with myself.	1	2	3	4	5
10. People like you because of your personality, not whether you are overweight or not.	1	2	3	4	5
11. When I eat something fattening, it doesn't bother me that I have temporarily let myself eat something I'm not supposed to.	1	2	3	4	5
12. If I eat a sweet, it will be converted instantly into stomach fat.	1	2	3	4	5
13. If my weight goes up, my self-esteem goes down.	1	2	3	4	5
14. I can't enjoy anything because it will be taken away.	1	2	3	4	5
15. It is more important to be a good person than it is to be thin.	1	2	3	4	5
16. When I see someone who is overweight, I worry that I will be like her/him.	1	2	3	4	5
17. All members of the opposite sex want a mate who has a perfect, thin body.	1	2	3	4	5
18. Having a second serving of a high calorie food I really like doesn't make me feel guilty.	1	2	3	4	5
19. If I can cut out all carbohydrates, I will never be fat.	1	2	3	4	5
20. When I overeat, it has no effect on whether or not I feel like a strong person.	1	2	3	4	5
21. Members of the opposite sex are more interested in "who" you are rather than whether or not you are thin.	1	2	3	4	5

Mizes Anorectic Cognitions Questionnaire- Revised (MAC-R) (continued)

1	2	3	4	5
Strongly Disagree	**Moderately Disagree**	**Neither Agree Nor Disagree**	**Moderately Agree**	**Strongly Agree**

	SD	**MD**	**NA ND**	**MA**	**SA**
22. If I gain one pound, I'll go on and gain a hundred pounds, so I must keep precise control of my weight, food, and exercise.	1	2	3	4	5
23. I rarely criticize myself if I have let my weight go up a few pounds.	1	2	3	4	5
24. I try to attract members of the opposite sex through my personality rather than by being thin.	1	2	3	4	5

Visual-Analogue Mood Scale (VAMS)

Please circle the number for each item that best describes how you have been feeling in the PAST MONTH.

	Not at All	**A Little**	**Moderately**	**Quite A bit**	**Extremely**
1. Sad or Depressed	0	1	2	3	4
2. Happy	0	1	2	3	4
3. Shameful	0	1	2	3	4
4. Guilty	0	1	2	3	4
5. Confidence	0	1	2	3	4
6. Anxiety	0	1	2	3	4
7. Stressed	0	1	2	3	4

Body Parts Satisfaction Scale-Revised (BPSSR)

Using the scale provided, please rate how satisfied you have been with each body part during the PAST MONTH.

Extremely Dissatisfied	1	2	3	4	5	6	**Extremely Satisfied**
1. Weight	1	2	3	4	5	6	
2. Hair	1	2	3	4	5	6	
3. Complexion	1	2	3	4	5	6	
4. Overall Face	1	2	3	4	5	6	
5. Arms	1	2	3	4	5	6	
6. Stomach	1	2	3	4	5	6	
7. Buttocks	1	2	3	4	5	6	
8. Hips	1	2	3	4	5	6	
9. Upper Thighs	1	2	3	4	5	6	
10. General Muscle Tone	1	2	3	4	5	6	

Beliefs About Attractiveness Scale-Revised (BAA-R)

Listed below are statements about the importance of attractiveness and fitness in our society. For each item, please circle the response that best describes what you believe is true. It is important that you respond to all items and that you answer them honestly as they apply to you.

1	2	3	4	5	6	7
Strongly Disagree	**Disagree**	**Somewhat Disagree**	**Uncertain**	**Somewhat Agree**	**Agree**	**Strongly Agree**

1. People would prefer to date thin rather than overweight women.	1	2	3	4	5	6	7
2. It is not that important for overweight women to spend money on cbthes since they will look unattractive no matter what they wear.	1	2	3	4	5	6	7
3. A woman with an attractive face will not get very far in life without a thin body.	1	2	3	4	5	6	7
4. Overweight women lack self-control and discipline.	1	2	3	4	5	6	7
5. The heavier a woman is, the less attractive she is.	1	2	3	4	5	6	7
6. Being physically fit and in-shape is directly related to attractiveness.	1	2	3	4	5	6	7
7. Physically fit and in-shape women have a greater sense of well-being.	1	2	3	4	5	6	7
8. Thinness represents the current beauty ideal for women.	1	2	3	4	5	6	7
9. Attractive women are smarter than unattractive women.	1	2	3	4	5	6	7
10. The more physically fit and in-shape a women is, the more likely it is she will have a romantic partner.	1	2	3	4	5	6	7
11. Attractive women are more interesting and outgoing than unattractive women.	1	2	3	4	5	6	7
12. It is important for women to be physically fit and in-shape.	1	2	3	4	5	6	7
13. Overweight women should be embarrassed by how they look.	1	2	3	4	5	6	7
14. Attractive women lead more fulfilling lives than unattractive women.	1	2	3	4	5	6	7
15. The thinner a women is the more attractive she is.	1	2	3	4	5	6	7
16. Attractiveness increases the likelihood of professional success.	1	2	3	4	5	6	7
17. A physically fit and in-shape body reflects the beauty ideal for women.	1	2	3	4	5	6	7
18. Physically fit and in-shape women have more self-confidence.	1	2	3	4	5	6	7
19. Women who are physically fit and in-shape have more fun than those who are not.	1	2	3	4	5	6	7

Bulimia Test Revised (BULIT-R)

Please answer each question below by circling the response that best describes what you believe to be true about yourself.

1. I am satisfied with my eating patterns.
    a. agree
    b. neutral
    c. disagree a little
    d. disagree
    e. disagree strongly
2. Would you presently call yourself a “binge eater?”
    a. yes, absolutely
    b. yes
    c. yes, probably
    d. yes, possibly
    e. no, probably not
3. Do you feel you have control over the amount of food you consume?
    a. most or all of the time
    b. a lot of the time
    c. occasionally
    d. rarely
    e. never
4. I am satisfied with the shape and size of my body.
    a. frequently or always
    b. sometimes
    c. occasionally
    d. rarely
    e. seldom or ever
5. When I feel that my eating behavior is out of control, I try to take rather extreme measures to get back on course (strict dieting, fasting, laxatives, diuretics, self-induced vomiting or vigorous exercise)
    a. always
    b. almost always
    c. frequently
    d. sometimes
    e. never or my eating behavior is never out of control
6. I use laxatives or suppositories to help control my weight.
    a. once a day or more
    b. 3-6 times a week
    c. 1-2 times a week
    d. 2-3 times a month
    e. once a month or less (or never)

Bulimia Test Revised (BULIT-R) (continued)

7. I am obsessed about the size and shape of my body.
    a. always
    b. almost always
    c. frequently
    d. sometimes
    e. seldom or ever
8. There are times when I rapidly eat a very large amount of food.
    a. more than twice a week
    b. twice a week
    c. once a week
    d. 2-3 times a month
    e. once a month or less (or never)
9. How long have you been binge eating (eating uncontrollably to the point of stuffing yourself)?
    a. I don't binge eat
    b. less than 3 months
    c. 3 months – 1 year
    d. 1-3 years
    e. 3 or more years
10. Most people I know would be amazed if they knew how much food I can consume at one sitting.
    a. without a doubt
    b. very probably
    c. probably
    d. possibly
    e. no
11. I exercise in order to burn calories.
    a. more than 2 hours a day
    b. about 2 hours a day
    c. more than 1 hour a day
    d. one hour or less a day
    e. I exercise but not to burn calories (or I don't exercise)
12. Compared with women your age, how preoccupied are you about your weight and body shape?
    a. a great deal more than average
    b. much more than average
    c. more than average
    d. a little more than average
    e. average or less than average
13. I am afraid to eat anything for fear that I won't be able to stop.
    a. always
    b. almost always
    c. frequently
    d. sometimes
    e. seldom or never

Bulimia Test Revised (BULIT-R) (continued)

14. I feel tormented by the idea that I am fat or might gain weight.
    a. always
    b. almost always
    c. frequently
    d. sometimes
    e. seldom or never

15. How often do you intentionally vomit after eating?
    a. 2 or more times a week
    b. once a week
    c. 2-3 times a month
    d. once a month
    e. less than once a month (or never)

16. I eat a lot of food even when I'm not hungry.
    a. very frequently
    b. frequently
    c. occasionally
    d. sometimes
    e. seldom or never

17. My eating patterns are different from the eating patterns of most people.
    a. always
    b. almost always
    c. frequently
    d. sometimes
    e. seldom or never

18. After I binge eat I turn to one of several strict methods to try to keep from gaining weight (vigoro
exercise, strict dieting, fasting, self-induced vomiting, laxatives, or diuretics).
    a. never (or I don't binge eat)
    b. rarely
    c. occasionally
    d. a lot of the time
    e. most or all of the time

19. I have tried to lose weight by fasting or going on strict diets.
    a. never or not in the past year
    b. once in the past year
    c. 2-3 times in the past year
    d. 4-5 times in the past year
    e. most or all of the time

Bulimia Test Revised (BULIT-R) (continued)

20. I exercise vigorously and for long periods of time in order to burn calories.
    a. average or less than average
    b. a little more than average
    c. more than average
    d. much more than average
    e. great deal more than average

21. When engaged in an eating binge, I tend to eat foods that are high in carbohydrates (sweets and st
    a. always
    b. almost always
    c. frequently
    d. sometimes
    e. seldom (or I don't binge)

22. Compared to most people, my ability to control my eating behavior seems to be:
    a. greater than others' ability
    b. about the same
    c. less
    d. much less
    e. I have absolutely no control

23. I would presently label myself a "compulsive eater" (one who engages in episodes of uncontrolle
    a. absolutely
    b. yes
    c. yes, probably
    d. yes, possibly
    e. no, probably, not

24. I hate the way my body looks after I eat too much.
    a. seldom or never
    b. sometimes
    c. occasionally
    d. a lot of the time
    e. most or all of the time

25. When I am trying to keep from gaining weight, I feel that I have to resort to vigorous exercise, str dieting, fasting, self-induced vomiting, laxatives, or diuretics.
    a. never
    b. rarely
    c. occasionally
    d. a lot of the time
    e. most or all of the time

Bulimia Test Revised (BULIT-R) (continued)

26. Do you believe that it is easier for you to vomit than it is for most people?
    a. yes, it's no problem at all for me
    b. yes, it's easier
    c. yes, it's a little easier
    d. about the same
    e. no, it's less easy
27. I use diuretics (water pills) to help control my weight.
    a. never
    b. seldom
    c. sometimes
    d. frequently
    e. very frequently
28. I feel that food controls my life.
    a. always
    b. almost always
    c. frequently
    d. sometimes
    e. seldom or never
29. I try to control my weight by eating little or no food for a day or longer.
    a. never
    b. seldom
    c. sometimes
    d. frequently
    e. very frequently
30. When consuming a large quantity of food, at what rate of speed do you usually eat?
    a. more rapidly than most people have ever eaten in their lives
    b. a lot more rapidly than most people
    c. a little more rapidly than most people
    d. about the same rate as most people
    e. more slowly than most people (or not applicable)
31. I use laxatives or suppositories to help control my weight.
    a. never
    b. seldom
    c. sometimes
    d. frequently
    e. very frequently
32. Right after I binge eat I feel:
    a. so fat and bloated I can't stand it
    b. extremely fat
    c. fat
    d. a little fat
    e. okay about how my body looks (or I never binge eat)

Bulimia Test Revised (BULIT-R) (continued)

33. Compared to other people of my sex, my ability to always feel in control of how much I eat is:
    a. about the same or greater
    b. a little less
    c. less
    d. much less
    e. a great deal less

34. In the last 3 months, on average how often did you binge eat (eat uncontrollably to the point of stuffing yourself)?
    a. once a month or less (or never)
    b. 2-3 times a month
    c. once a week
    d. twice a week
    e. more than twice a week

35. Most people I know would be surprised at how fat I look after I eat a lot of food.
    a. yes, definitely
    b. yes
    c. yes, probably
    d. yes, possibly
    e. no, probably not (or I never eat a lot of food)

36. I use diuretics (water pills) to help control my weight.
    a. 3 times a week or more
    b. once or twice a week
    c. 2-3 times a month
    d. once a month
    e. never

APPENDIX B

SYMPTOMATIC SUBTYPES

Description of the Symptomatic Subtypes

Examples: Check all boxes that apply. In most cases you will only check one box. However, the following two may overlap: Low weight anorexic and Low weight Non-binging bulimic.

- **Low-weight anorexia:** BMI = 17.6 – 19.0 and meets all other criteria for anorexia.

- **Nonnormal-weight nonbinging bulimia:** Meets all criteria for non-binging bulimia except is in a weight category other than normal.

  Circle weight category: **Severe Underweight**
  Low Weight
  Overweight
  Moderately Obese
  Grossly Obese

- **Subthreshold nonbinging bulimia:** Any weight category, no binges, compensates (i.e., fast, vomit) but not at a high enough frequency to be classified as a non-binging bulimic.

  Circle weight category: **Severe Underweight**
  Low Weight
  Normal
  Overweight
  Moderately Obese
  Grossly Obese

- **Subthreshold binge-eating disorder:** All criteria for binge-eat disorder but not at a high enough frequency.

- **Binge dieter:** Binges and compensates by strict-dieting (no other compensatory behaviors such as fast, vomit, etc.)

- **Behavioral bulimia:** Meets <u>all</u> criteria for bulimia including frequency, except reports feeling in control during a binge and/or that self-esteem is not unduly influenced by weight or body shape.

- **Subthreshold behavioral bulimia:** Meets all criteria for bulimia except frequency <u>and</u> reports feeling in control during a binge and/or that self-esteem is not unduly influenced by weight or body shape.

Description of the Symptomatic Subtypes (continued)

- **Chronic dieter:** Does not binge, uses strict dieting and/or appetite control pills but no inappropriate compensatory behavior (i.e., fast, vomit, excessive exercise, laxatives).

- **Other:** Does not fall into any categories listed above. Give descriptive label and describe behavior.

APPENDIX C

HYPOTHESES & DATA

Table 1

Hypotheses

	Asymptomatic	Symptomatic	Eating-disordered
Negative Affect (not including depression and anxiety)	a	b	c
Depression & Anxiety	a	---	c
Dysfunctional Cognitions	a	b	c
Self-Esteem	a	b	c
Internalization of Sociocultural Beliefs About Attractiveness	a	b	b
Body Dissatisfaction	a	---	c
Eating Disorder Behaviors	a	b	c

[a,b,c] – Means scores without common superscripts are predicted to be significantly different at $p = .005$.

--- No hypotheses made due to conflicting past findings.

Table 2

Correlations, Means, and Standard Deviations of the Dependent Variables for the Total Sample

	Age	BMI	Real-Ideal BMI	Social Desirability	BULIT-R	Concern for Dieting	Weight Fluctuation	Impression Management	Approval by Others	Imperatives	Need to Succeed	Vulnerability
Age	1.000											
BMI	.301	1.000										
Real-Ideal BMI	.332	.871	1.000									
Social Desirability	.006	.020	-.017	1.000								
BULIT-R	.071	.249	.342	-.183	1.000							
Concern for Dieting	.065	.215	.286	-.187	.736	1.000						
Weight Fluctuation	.161	.467	.446	-.116	.548	.497	1.000					
Imp. Management	-.144	-.032	.020	-.241	.432	.382	.154	1.000				
Approval by Others	-.085	-.035	.033	-.234	.467	.372	.160	.634	1.000			
Imperatives	-.049	.007	.020	.102	.258	.202	.066	.471	.223	1.000		
Need to Succeed	-.065	.003	.044	-.139	.328	.277	.115	.717	.498	.471	1.000	
Vulnerability	-.076	.034	.055	-.125	.333	.242	.110	.651	.448	.440	.797	1.000
Catastrophizing	-.065	-.041	.004	-.280	.330	.347	.087	.656	.583	.344	.432	.410
Dich. Thinking	-.051	-.031	.015	-.213	.406	.312	.107	.733	.612	.473	.793	.720
Self Control	-.005	.222	.300	-.238	.672	.759	.471	.380	.441	.174	.241	.214
Rigid Weight Regulation	-.046	.146	.198	-.088	.615	.609	.341	.535	.408	.370	.488	.480
Weight and Approval	.050	.093	.152	-.128	.516	.406	.199	.456	.440	.200	.419	.385
Sad/Depressed	-.009	.121	.103	-.223	.380	.304	.249	.213	.239	.094	.211	.221
Anxious	-.009	.002	-.008	-.156	.218	.177	.116	.129	.115	.135	.135	.188
Guilty	.014	.075	.073	-.203	.341	.275	.189	.190	.250	.033	.155	.227
Shameful	.032	.135	.148	-.207	.443	.322	.263	.281	.301	.125	.244	.309
Stressed	.001	.043	.099	-.168	.265	.185	.195	.161	.111	.083	.102	.159
Happy	-.098	-.118	-.173	.151	-.308	-.296	-.211	-.253	-.328	-.068	-.236	-.227
Confident	-.027	-.071	-.102	.174	-.367	-.313	-.137	-.237	-.389	-.052	-.206	-.240
RSES	-.005	-.154	-.200	.314	-.500	-.441	-.281	-.405	-.450	-.176	-.311	-.333
Importance of Physical Fitness	.095	.032	.147	-.241	.425	.414	.169	.475	.405	.304	.328	.276
Importance of Attractive & Thin	.019	.096	.212	-.157	.467	.419	.215	.562	.429	.344	.513	.445
BSQ-R-10	.070	.392	.464	-.212	.749	.752	.581	.375	.368	.236	.240	.226
Satis. Body	-.091	-.443	-.472	.178	-.552	-.524	-.538	-.231	-.299	-.160	-.175	-.142
Satis. Face	-.007	-.026	-.072	.172	-.340	-.286	-.140	-.261	-.379	-.122	-.209	-.211
Mean	20.79	23.63	2.83	5.24	52.19	13.37	9.68	34.19	22.91	37.31	14.63	23.17
Standard Deviation	4.07	5.33	3.80	2.65	18.61	4.29	3.56	9.00	8.88	8.17	6.35	7.87

All correlations higher than or equal to (+/-) .190 are significant at $p < .001$

Note:

BMI- body mass index

Real-Ideal BMI- difference between actual and ideal body mass index

Social Desirability- Marlowe-Crowne Social Desirability Scale (0, no social desirability to 12, high social desirability)

Note (continued):

BULIT-R- Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)
Concern for Dieting- Revised Restraint Scale (6, no dietary restraint to 25, high levels of dietary restraint)
Weight Fluctuation- Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)
Impression Management- Dysfunctional Attitude Scale (10, no need to impress others with personality and intelligence to 70, high need)
Approval by Others- Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)
Imperatives- Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)
Need to Succeed- Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)
Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)
Catastrophizing- Dysfunctional Attitude Scale (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)
Dichotomous Thinking- Dysfunctional Attitude Scale (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)
Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval- Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)
Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident- Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)
Self-Esteem- Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)
Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin- Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)
BSQ-R-10- Body Shape Questionnaire-Revised-Short (10, no preoccupation with body image to 60, high preoccupation with body image)
Satisfaction with Body; Satisfaction with Face- Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 2 (continued)

	Catastro-phizing	Dichotomous Thinking	Self Control	Rigid Weight Regulation	Weight & Approval	Sad or Depressed	Anxious	Guilty	Shameful	Stressed	Happy	Confident	Self-Esteem
Age													
BMI													
Real-Ideal BMI													
Social Desirability													
BULIT-R													
Concern for Dieting													
Weight Fluctuation													
Imp. Management													
Approval by Others													
Imperatives													
Need to Succeed													
Vulnerability													
Catastrophizing	1.000												
Dich. Thinking	.523	1.000											
Self Control	.387	.347	1.000										
Rigid Weight Regulation	.338	.542	.658	1.000									
Weight and Approval	.267	.453	.488	.560	1.000								
Sad/Depressed	.242	.289	.322	.272	.166	1.000							
Anxious	.101	.127	.245	.292	.170	.306	1.000						
Guilty	.163	.268	.267	.301	.223	.327	.241	1.000					
Shameful	.232	.337	.289	.361	.291	.348	.164	.727	1.000				
Stressed	.107	.135	.262	.266	.180	.437	.492	.235	.197	1.000			
Happy	-.207	-.289	-.315	-.249	-.244	-.505	-.110	-.182	-.198	-.281	1.000		
Confident	-.271	-.267	-.375	-.297	-.333	-.394	-.105	-.234	-.278	-.259	.572	1.000	
RSES	-.362	-.423	-.462	-.380	-.359	-.443	-.174	-.379	-.398	-.308	.463	.492	1.000
Importance of Physical Fitness	.431	.375	.483	.399	.482	.155	.128	.143	.169	.105	-.178	-.235	-.292
Importance of Attractive & Thin	.353	.505	.420	.529	.612	.105	.089	.204	.308	.052	-.205	-.262	-.356
BSQ-R-10	.318	.312	.774	.625	.466	.361	.173	.261	.341	.338	-.320	-.403	-.554
Satis. Body	-.179	-.207	-.572	-.474	-.367	-.291	-.141	-.130	-.208	-.320	.341	.380	.439
Satis. Face	-.200	-.275	-.336	-.308	-.319	-.239	-.104	-.230	-.231	-.170	.339	.395	.386
Mean	30.32	17.93	25.51	19.17	17.98	2.58	3.06	1.86	1.70	3.73	3.80	3.40	4.85
Standard Deviation	7.09	7.22	7.25	5.79	5.28	1.11	1.21	1.01	.92	1.13	.89	1.03	1.32

All correlations higher than or equal to (+/-) .190 are significant at $p < .001$

Note:

BMI- body mass index

Real-Ideal BMI- difference between actual and ideal body mass index

Social Desirability- Marlowe-Crowne Social Desirability Scale (0, no social desirability to 12, high social desirability)

BULIT-R- Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)

Concern for Dieting- Revised Restraint Scale (6, no dietary restraint to 25, high levels of dietary restraint)

Note (continued):

Weight Fluctuation- Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)
Impression Management- Dysfunctional Attitude Scale (10, no need to impress others with personality and intelligence to 70, high need)
Approval by Others- Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)
Imperatives- Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)
Need to Succeed- Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)
Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)
Catastrophizing- Dysfunctional Attitude Scale (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)
Dichotomous Thinking- Dysfunctional Attitude Scale (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)
Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval- Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)
Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident- Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)
Self-Esteem- Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)
Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin- Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)
BSQ-R-10- Body Shape Questionnaire-Revised-Short (10, no preoccupation with body image to 60, high preoccupation with body image)
Satisfaction with Body; Satisfaction with Face- Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 2 (continued)

	Importance of Physical Fitness	Importance of Attractiveness & Thinness	Body Shape Concern	Satisfact. with Body	Satisfact. with Face
Age					
BMI					
Real-Ideal BMI					
Social Desirability					
BULIT-R					
Concern for Dieting					
Weight Fluctuation					
Imp. Management					
Approval by Others					
Imperatives					
Need to Succeed					
Vulnerability					
Catastrophizing					
Dich. Thinking					
Self Control					
Rigid Weight Regulation					
Weight and Approval					
Sad/Depressed					
Anxious					
Guilty					
Shameful					
Stressed					
Happy					
Confident					
RSES					
Importance of Physical Fitness	1.000				
Importance of Attractive & Thin	.647	1.000			
BSQ-R-10	.428	.447	1.000		
Satis. Body	-.343	-.340	-.765	1.000	
Satis. Face	-.307	-.233	-.358	.383	1.000
Mean	4.59	2.48	33.69	3.21	4.39
Standard Deviation	1.11	1.05	14.85	1.25	1.00

All correlations higher than or equal to (+/-) .190 are significant at $p < .001$

Note:

BMI- body mass index
Real-Ideal BMI- difference between actual and ideal body mass index
Social Desirability- Marlowe-Crowne Social Desirability Scale (0, no social desirability to 12, high social desirability)
BULIT-R- Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)
Concern for Dieting- Revised Restraint Scale (6, no dietary restraint to 25, high levels of dietary restraint)

Note (continued):

Weight Fluctuation- Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)
Impression Management- Dysfunctional Attitude Scale (10, no need to impress others with personality and intelligence to 70, high need)
Approval by Others- Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)
Imperatives- Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)
Need to Succeed- Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)
Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)
Catastrophizing- Dysfunctional Attitude Scale (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)
Dichotomous Thinking- Dysfunctional Attitude Scale (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)
Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval- Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)
Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident- Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)
Self-Esteem- Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)
Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin- Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)
BSQ-R-10- Body Shape Questionnaire-Revised-Short (10, no preoccupation with body image to 60, high preoccupation with body image)
Satisfaction with Body; Satisfaction with Face- Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 3

Correlations, Means, and Standard Deviations of the Dependent Variables for Eating-Disordered Group

	Age	BMI	Real-Ideal BMI	Social Desirability	BULIT-R	Concern for Dieting	Weight Fluctuation	Impression Management	Approval by Others	Imperatives	Need to Succ.	Vulnerability
Age	1.000											
BMI	.223	1.000										
Real-Ideal BMI	.239	.932	1.000									
Social Desirability	.155	.238	.121	1.000								
BULIT-R	.238	.053	.086	-.083	1.000							
Concern for Dieting	.284	.176	.169	.090	.677	1.000						
Weight Fluctuation	.215	.547	.488	.136	.379	.361	1.000					
Imp. Management	-.045	-.065	-.099	.274	.128	.049	-.110	1.000				
Approval by Others	.038	-.254	-.214	.150	.200	-.108	-.223	.597	1.000			
Imperatives	.065	-.149	-.290	.383	.000	.169	.014	.387	.035	1.000		
Need to Succeed	.015	-.143	-.195	.395	.003	.061	-.037	.720	.510	.571	1.000	
Vulnerability	.055	-.071	-.168	.414	.028	.065	-.009	.607	.394	.480	.870	1.000
Catastrophizing	.186	-.105	-.079	.147	.066	-.088	-.171	.550	.580	.205	.340	.297
Dich. Thinking	.082	-.107	-.167	.319	.187	.054	.020	.755	.621	.433	.879	.787
Self Control	.156	.011	.112	-.062	.497	.330	.130	.004	.085	-.084	-.050	-.104
Rigid Weight Regulation	.325	-.052	-.025	.232	.458	.531	.340	.460	.161	.278	.494	.431
Weight and Approval	-.051	-.059	-.151	.298	.349	.097	.044	.535	.507	.086	.394	.302
Sad/Depressed	-.152	-.167	-.180	.064	.136	.007	.008	-.176	-.025	.191	.183	.057
Anxious	.060	-.037	-.108	.055	-.204	-.017	.097	-.061	-.172	.261	.035	.008
Guilty	.073	-.206	-.205	-.059	.518	.424	.035	.089	.093	.099	.206	.162
Shameful	.016	-.278	-.239	.050	.502	.360	-.099	.151	.151	.089	.167	.255
Stressed	.067	.136	.213	-.104	.187	.072	.204	.035	-.110	.026	-.076	-.133
Happy	.054	-.059	-.035	-.050	-.407	-.138	-.098	-.239	-.271	.071	-.081	.044
Confident	-.072	-.118	-.137	-.033	-.465	-.065	-.020	-.185	-.347	.066	-.088	.053
RSES	.099	.036	.014	.101	-.379	.106	-.022	-.250	-.484	-.133	-.250	-.120
Importance of Physical Fitness	-.026	-.002	-.041	.143	-.042	-.138	.000	.477	.258	.053	.382	.292
Importance of Attractive & Thin	-.071	.060	-.026	.283	.138	.076	.078	.686	.380	.208	.568	.493
BSQ-R-10	.116	.286	.366	.043	.506	.381	.305	.186	.045	.189	.142	.077
Satis. Body	.038	-.240	-.233	.101	-.351	.046	-.254	-.289	-.137	-.156	-.066	-.027
Satis. Face	-.003	.329	.325	-.187	-.038	.021	.063	-.310	-.265	-.403	-.301	-.113
Mean	20.47	24.28	3.50	4.42	82.22	18.41	12.66	39.59	28.56	39.50	16.81	26.13
Standard Deviation	2.31	5.18	4.06	2.17	14.38	3.14	2.80	7.77	7.85	8.46	7.26	9.39

All correlations higher than or equal to (+/-) .589 are significant at $p < .001$

Note:

BMI- body mass index

Real-Ideal BMI- difference between actual and ideal body mass index

Social Desirability- Marlowe-Crowne Social Desirability Scale (0, no social desirability to 12, high social desirability)

Note (continued):

BULIT-R- Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)
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Weight Fluctuation- Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)
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Approval by Others- Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)
Imperatives- Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)
Need to Succeed- Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)
Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)
Catastrophizing- Dysfunctional Attitude Scale (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)
Dichotomous Thinking- Dysfunctional Attitude Scale (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)
Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval- Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)
Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident- Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)
Self-Esteem- Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)
Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin- Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)
BSQ-R-10- Body Shape Questionnaire-Revised-Short (10, no preoccupation with body image to 60, high preoccupation with body image)
Satisfaction with Body; Satisfaction with Face- Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 3 (continued)

	Catastro-phizing	Dichotomous Thinking	Self Control	Rigid Weight Regulation	Weight & Approval	Sad or Depressed	Anxious	Guilty	Shameful	Stressed	Happy	Confident	Self-Esteem
Age													
BMI													
Real-Ideal BMI													
Social Desirability													
BULIT-R													
Concern for Dieting													
Weight Fluctuation													
Imp. Management													
Approval by Others													
Imperatives													
Need to Succeed													
Vulnerability													
Catastrophizing	1.000												
Dich. Thinking	.489	1.000											
Self Control	.187	.111	1.000										
Rigid Weight Regulation	.262	.494	.225	1.000									
Weight and Approval	.331	.512	.312	.425	1.000								
Sad/Depressed	.002	.222	.205	-.021	.051	1.000							
Anxious	.217	.019	.142	.105	.146	.328	1.000						
Guilty	.197	.388	.505	.431	.339	.417	.174	1.000					
Shameful	.250	.338	.436	.439	.334	.306	.148	.866	1.000				
Stressed	.277	-.031	.391	.132	-.088	.319	.300	.082	.070	1.000			
Happy	-.038	-.146	-.305	-.140	-.491	-.115	.044	-.103	-.115	-.245	1.000		
Confident	-.155	-.223	-.619	-.198	-.549	-.290	-.055	-.325	-.320	-.301	.616	1.000	
RSES	-.301	-.366	-.461	.022	-.425	-.271	-.018	-.406	-.329	-.304	.343	.638	1.000
Importance of Physical Fitness	.291	.463	.313	.394	.623	-.023	.146	.103	.069	.185	-.332	-.382	-.274
Importance of Attractive & Thin	.255	.590	.057	.524	.766	-.175	.089	.212	.178	-.107	-.247	-.296	-.317
BSQ-R-10	.113	.169	.535	.373	.122	.196	.002	.222	.196	.481	-.102	-.589	-.415
Satis. Body	-.267	-.199	-.253	-.212	-.225	-.133	-.064	-.030	-.063	-.535	.413	.569	.501
Satis. Face	-.453	-.349	-.282	-.341	-.387	-.195	-.304	-.363	-.343	-.131	.255	.310	.293
Mean	32.72	22.41	32.91	24.44	21.69	3.25	3.53	2.41	2.25	4.09	3.56	2.94	4.00
Standard Deviation	4.58	9.02	3.62	6.51	6.14	1.08	1.16	1.13	1.08	.96	.91	.98	1.55

All correlations higher than or equal to (+/-) .589 are significant at $p < .001$

Note:

BMI- body mass index
Real-Ideal BMI- difference between actual and ideal body mass index
Social Desirability- Marlowe-Crowne Social Desirability Scale (0, no social desirability to 12, high social desirability)
BULIT-R- Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)
Concern for Dieting- Revised Restraint Scale (6, no dietary restraint to 25, high levels of dietary restraint)

Note (continued):

Weight Fluctuation- Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)
Impression Management- Dysfunctional Attitude Scale (10, no need to impress others with personality and intelligence to 70, high need)
Approval by Others- Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)
Imperatives- Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)
Need to Succeed- Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)
Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)
Catastrophizing- Dysfunctional Attitude Scale (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)
Dichotomous Thinking- Dysfunctional Attitude Scale (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)
Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval- Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)
Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident- Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)
Self-Esteem- Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)
Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin- Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)
BSQ-R-10- Body Shape Questionnaire-Revised-Short (10, no preoccupation with body image to 60, high preoccupation with body image)
Satisfaction with Body; Satisfaction with Face- Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 3 (continued)

	Importance of Physical Fitness	Importance of Attractiveness & Thinness	Body Shape Concern	Satisfact. with Body	Satisfact. with Face
Age					
BMI					
Real-Ideal BMI					
Social Desirability					
BULIT-R					
Concern for Dieting					
Weight Fluctuation					
Imp. Management					
Approval by Others					
Imperatives					
Need to Succeed					
Vulnerability					
Catastrophizing					
Dich. Thinking					
Self Control					
Rigid Weight Regulation					
Weight and Approval					
Sad/Depressed					
Anxious					
Guilty					
Shameful					
Stressed					
Happy					
Confident					
RSES					
Importance of Physical Fitness	1.000				
Importance of Attractive & Thin	.708	1.000			
BSQ-R-10	.130	.187	1.000		
Satis. Body	-.317	-.236	-.634	1.000	
Satis. Face	-.334	-.225	-.152	.348	1.000
Mean	5.25	3.00	48.33	2.33	3.59
Standard Deviation	1.01	1.41	10.90	1.04	1.01

All correlations higher than or equal to (+/-) .589 are significant at $p < .001$

Note:

BMI- body mass index
Real-Ideal BMI- difference between actual and ideal body mass index
Social Desirability- Marlowe-Crowne Social Desirability Scale (0, no social desirability to 12, high social desirability)
BULIT-R- Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)
Concern for Dieting- Revised Restraint Scale (6, no dietary restraint to 25, high levels of dietary restraint)

Note (continued):

Weight Fluctuation- Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)
Impression Management- Dysfunctional Attitude Scale (10, no need to impress others with personality and intelligence to 70, high need)
Approval by Others- Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)
Imperatives- Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)
Need to Succeed- Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)
Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)
Catastrophizing- Dysfunctional Attitude Scale (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)
Dichotomous Thinking- Dysfunctional Attitude Scale (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)
Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval- Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)
Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident- Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)
Self-Esteem- Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)
Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin- Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)
BSQ-R-10- Body Shape Questionnaire-Revised-Short (10, no preoccupation with body image to 60, high preoccupation with body image)
Satisfaction with Body; Satisfaction with Face- Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 4

Correlations, Means, and Standard Deviations of the Dependent Variables for the Symptomatic Group

	Age	BMI	Real-Ideal BMI	Social Desirability	BULIT-R	Concern for Dieting	Weight Fluctuation	Impression Management	Approval by Others	Imperatives	Need to Succeed	Vulnerability
Age	1.000											
BMI	.442	1.000										
Real-Ideal BMI	.455	.916	1.000									
Social Desirability	.057	.006	-.041	1.000								
BULIT-R	.054	.257	.387	-.129	1.000							
Concern for Dieting	.033	.090	.216	-.174	.575	1.000						
Weight Fluctuation	.185	.358	.334	-.137	.430	.238	1.000					
Imp. Management	-.157	-.049	.041	-.327	.425	.385	.097	1.000				
Approval by Others	-.161	-.042	.034	-.254	.479	.263	.050	.625	1.000			
Imperatives	.006	.020	.121	.045	.283	.310	.029	.484	.205	1.000		
Need to Succeed	-.073	-.050	.022	-.251	.355	.290	.061	.718	.467	.462	1.000	
Vulnerability	-.083	.013	.064	-.190	.379	.225	.085	.645	.403	.480	.791	1.000
Catastrophizing	-.083	-.059	.004	-.338	.309	.338	.056	.701	.560	.481	.474	.442
Dich. Thinking	-.067	-.101	-.004	-.259	.330	.277	-.005	.712	.538	.559	.777	.665
Self Control	-.014	.109	.241	-.247	.492	.675	.235	.343	.384	.182	.197	.163
Rigid Weight Regulation	-.099	.057	.112	-.030	.496	.492	.103	.484	.402	.366	.474	.487
Weight and Approval	.036	.107	.207	-.105	.474	.384	.095	.409	.428	.121	.364	.352
Sad/Depressed	-.075	.094	.098	-.203	.304	.236	.099	.279	.242	.120	.213	.271
Anxious	-.108	-.044	-.012	-.181	.186	.137	.108	.221	.232	.138	.187	.275
Guilty	-.006	.161	.132	-.194	.156	.029	.091	.097	.224	.027	.089	.200
Shameful	.043	.226	.235	-.259	.384	.170	.239	.265	.310	.139	.251	.329
Stressed	-.106	-.019	.049	-.156	.157	.047	.072	.210	.103	.019	.127	.222
Happy	-.046	-.062	-.069	.110	-.241	-.288	-.116	-.252	-.316	-.073	-.185	-.217
Confident	.014	-.073	-.107	.167	-.314	-.287	-.039	-.283	-.399	-.054	-.260	-.320
RSES	.028	-.171	-.222	.381	-.359	-.418	-.149	-.439	-.464	-.170	-.402	-.404
Importance of Physical Fitness	.106	.074	.275	-.273	.461	.570	.157	.455	.391	.333	.306	.259
Importance of Attractive and Thin	.033	.133	.290	-.234	.532	.539	.205	.559	.496	.405	.506	.471
BSQ-R-10	.069	.308	.431	-.222	.683	.696	.392	.385	.337	.273	.205	.199
Satis. Body	-.083	-.394	-.484	.176	-.472	-.439	-.409	-.153	-.248	-.144	-.124	-.077
Satis. Face	.022	.006	-.086	.145	-.228	-.214	-.003	-.193	-.319	-.004	-.147	-.203
Mean	21.45	24.57	3.52	4.97	58.70	15.39	10.86	35.32	24.62	38.12	15.42	24.09
Standard Deviation	5.21	5.73	4.08	2.66	17.14	3.64	3.14	9.28	8.98	8.74	6.73	7.92

All correlations higher than or equal to (+/-) .304 are significant at $p < .001$

Note:

BMI- body mass index

Real-Ideal BMI- difference between actual and ideal body mass index

Social Desirability- Marlowe-Crowne Social Desirability Scale (0, no social desirability to 12, high social desirability)

Note (continued):

BULIT-R- Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)
Concern for Dieting- Revised Restraint Scale (6, no dietary restraint to 25, high levels of dietary restraint)
Weight Fluctuation- Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)
Impression Management- Dysfunctional Attitude Scale (10, no need to impress others with personality and intelligence to 70, high need)
Approval by Others- Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)
Imperatives- Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)
Need to Succeed- Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)
Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)
Catastrophizing- Dysfunctional Attitude Scale (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)
Dichotomous Thinking- Dysfunctional Attitude Scale (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)
Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval- Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)
Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident- Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)
Self-Esteem- Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)
Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin- Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)
BSQ-R-10- Body Shape Questionnaire-Revised-Short (10, no preoccupation with body image to 60, high preoccupation with body image)
Satisfaction with Body; Satisfaction with Face- Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 4 (continued)

	Catastro-phizing	Dichotomous Thinking	Self Control	Rigid Weight Regulation	Weight & Approval	Sad or Depressed	Anxious	Guilty	Shameful	Stressed	Happy	Confident	Self-Esteem
Age													
BMI													
Real-Ideal BMI													
Social Desirability													
BULIT-R													
Concern for Dieting													
Weight Fluctuation													
Imp. Management													
Approval by Others													
Imperatives													
Need to Succeed													
Vulnerability													
Catastrophizing	1.000												
Dich. Thinking	.519	1.000											
Self Control	.336	.298	1.000										
Rigid Weight Regulation	.345	.546	.532	1.000									
Weight and Approval	.270	.381	.524	.529	1.000								
Sad/Depressed	.292	.262	.219	.230	.148	1.000							
Anxious	.158	.212	.227	.362	.070	.252	1.000						
Guilty	.078	.133	.112	.170	.025	.212	.223	1.000					
Shameful	.236	.267	.175	.291	.196	.269	.150	.668	1.000				
Stressed	.114	.164	.177	.164	.130	.434	.452	.206	.139	1.000			
Happy	-.220	-.246	-.354	-.239	-.208	-.565	-.224	-.138	-.128	-.282	1.000		
Confident	-.323	-.246	-.334	-.288	-.334	-.500	-.076	-.156	-.248	-.186	.619	1.000	
RSES	-.363	-.473	-.355	-.339	-.267	-.435	-.260	-.324	-.391	-.266	.505	.430	1.000
Importance of Physical Fitness	.485	.341	.568	.372	.460	.186	.101	.019	.205	.031	-.188	-.187	-.317
Importance of Attractive & Thin	.414	.510	.476	.477	.555	.178	.096	.119	.296	.040	-.235	-.273	-.404
BSQ-R-10	.331	.301	.682	.507	.487	.333	.140	.112	.278	.292	-.331	-.330	-.448
Satis. Body	-.178	-.125	-.521	-.368	-.343	-.287	-.158	-.010	-.115	-.245	.312	.351	.328
Satis. Face	-.103	-.199	-.255	-.201	-.267	-.293	-.137	-.203	-.119	-.212	.324	.367	.373
Mean	31.77	19.02	28.65	21.01	19.35	2.79	3.19	2.06	1.89	3.91	3.62	3.27	4.54
Standard Deviation	7.06	7.15	6.03	5.49	5.13	1.11	1.20	1.11	1.02	1.07	.91	1.08	1.43

All correlations higher than or equal to (+/-) .304 are significant at $p < .001$

Note:

BMI- body mass index

Real-Ideal BMI- difference between actual and ideal body mass index

Social Desirability- Marlowe-Crowne Social Desirability Scale (0, no social desirability to 12, high social desirability)

BULIT-R- Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)

Concern for Dieting- Revised Restraint Scale (6, no dietary restraint to 25, high levels of dietary restraint)

Note (continued):

Weight Fluctuation- Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)
Impression Management- Dysfunctional Attitude Scale (10, no need to impress others with personality and intelligence to 70, high need)
Approval by Others- Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)
Imperatives- Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)
Need to Succeed- Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)
Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)
Catastrophizing- Dysfunctional Attitude Scale (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)
Dichotomous Thinking- Dysfunctional Attitude Scale (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)
Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval- Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)
Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident- Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)
Self-Esteem- Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)
Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin- Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)
BSQ-R-10- Body Shape Questionnaire-Revised-Short (10, no preoccupation with body image to 60, high preoccupation with body image)
Satisfaction with Body; Satisfaction with Face- Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 4 (continued)

	Importance of Physical Fitness	Importance of Attractiveness & Thinness	Body Shape Concern	Satisfact. with Body	Satisfact. with Face
Age					
BMI					
Real-Ideal BMI					
Social Desirability					
BULIT-R					
Concern for Dieting					
Weight Fluctuation					
Imp. Management					
Approval by Others					
Imperatives					
Need to Succeed					
Vulnerability					
Catastrophizing					
Dich. Thinking					
Self Control					
Rigid Weight Regulation					
Weight and Approval					
Sad/Depressed					
Anxious					
Guilty					
Shameful					
Stressed					
Happy					
Confident					
RSES					
Importance of Physical Fitness	1.000				
Importance of Attractive & Thin	.700	1.000			
BSQ-R-10	.567	.548	1.000		
Satis. Body	-.438	-.414	-.722	1.000	
Satis. Face	-.221	-.177	-.250	.254	1.000
Mean	4.79	2.69	39.73	2.84	4.32
Standard Deviation	1.08	1.14	13.63	1.21	1.06

All correlations higher than or equal to (+/-) .304 are significant at $p < .001$

Note:

BMI- body mass index
Real-Ideal BMI- difference between actual and ideal body mass index
Social Desirability- Marlowe-Crowne Social Desirability Scale (0, no social desirability to 12, high social desirability)
BULIT-R- Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)
Concern for Dieting- Revised Restraint Scale (6, no dietary restraint to 25, high levels of dietary restraint)

Note (continued):

Weight Fluctuation- Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)
Impression Management- Dysfunctional Attitude Scale (10, no need to impress others with personality and intelligence to 70, high need)
Approval by Others- Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)
Imperatives- Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)
Need to Succeed- Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)
Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)
Catastrophizing- Dysfunctional Attitude Scale (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)
Dichotomous Thinking- Dysfunctional Attitude Scale (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)
Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval- Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)
Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident- Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)
Self-Esteem- Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)
Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin- Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)
BSQ-R-10- Body Shape Questionnaire-Revised-Short (10, no preoccupation with body image to 60, high preoccupation with body image)
Satisfaction with Body; Satisfaction with Face- Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 5

Correlations, Means, and Standard Deviations of the Dependent Variables for Asymptomatic Group

	Age	BMI	Real-Ideal BMI	Social Desirability	BULIT-R	Concern for Dieting	Weight Fluctuation	Impression Management	Approval by Others	Imperatives	Need to Succeed	Vulnerability
Age	1.000											
BMI	.093	1.000										
Real-Ideal BMI	.150	.805	1.000									
Social Desirability	-.044	.044	.031	1.000								
BULIT-R	-.022	.226	.331	-.109	1.000							
Concern for Dieting	-.044	.228	.270	-.107	.542	1.000						
Weight Fluctuation	.089	.525	.492	-.023	.373	.377	1.000					
Imp. Management	-.198	-.086	-.060	-.186	.367	.271	.043	1.000				
Approval by Others	-.075	-.087	-.024	-.206	.306	.299	.057	.591	1.000			
Imperatives	-.179	-.019	-.061	.153	.223	-.013	-.014	.445	.213	1.000		
Need to Succeed	-.113	.034	.072	-.094	.308	.185	.044	.701	.478	.426	1.000	
Vulnerability	-.137	.023	.047	-.127	.282	.143	.007	.642	.446	.363	.768	1.000
Catastrophizing	-.128	-.096	-.069	-.234	.258	.260	-.048	.606	.557	.213	.378	.368
Dich. Thinking	-.114	-.032	-.006	-.225	.359	.155	-.024	.719	.615	.368	.769	.724
Self Control	-.147	.241	.288	-.158	.565	.644	.364	.308	.351	.093	.196	.162
Rigid Weight Regulation	-.169	.168	.229	-.071	.474	.437	.207	.513	.284	.353	.449	.432
Weight and Approval	.019	.009	.067	-.137	.347	.159	.012	.382	.296	.225	.411	.362
Sad/Depressed	.037	.127	.081	-.220	.255	.129	.196	.098	.135	-.030	.128	.129
Anxious	.073	-.004	-.049	-.124	.157	.056	-.016	.000	-.035	.063	.053	.101
Guilty	-.031	-.043	-.026	-.175	.236	.193	.077	.182	.162	-.072	.112	.185
Shameful	-.054	.048	.051	-.137	.234	.158	.134	.203	.171	.028	.160	.219
Stressed	.076	.022	.060	-.141	.270	.126	.155	.069	.052	.097	.057	.115
Happy	-.148	-.110	-.245	.167	-.237	-.178	-.164	-.184	-.268	-.036	-.267	-.245
Confident	-.043	-.004	-.024	.162	-.310	-.241	-.074	-.120	-.309	-.017	-.119	-.177
RSES	.001	-.091	-.134	.236	-.504	-.324	-.212	-.295	-.293	-.107	-.121	-.237
Importance of Physical Fitness	.063	-.082	-.019	-.212	.287	.179	.014	.415	.333	.276	.269	.214
Importance of Attractive & Thin	-.051	-.027	.112	-.118	.334	.184	.037	.485	.265	.269	.451	.339
BSQ-R-10	-.036	.457	.485	-.132	.645	.616	.531	.238	.221	.120	.158	.140
Satis. Body	-.054	-.485	-.460	.100	-.447	-.423	-.499	-.134	-.187	-.086	-.127	-.096
Satis. Face	-.026	-.069	-.081	.192	-.249	-.156	-.070	-.201	-.349	-.109	-.167	-.160
Mean	20.34	22.80	2.16	5.59	41.67	10.91	8.23	32.34	20.57	36.29	13.63	21.91
Standard Deviation	3.19	4.92	3.41	2.68	10.16	3.18	3.32	8.48	8.24	7.54	5.69	7.30

All correlations higher than or equal to (+/-) .265 are significant at $p < .001$

Note:

BMI- body mass index

Real-Ideal BMI- difference between actual and ideal body mass index

Social Desirability- Marlowe-Crowne Social Desirability Scale (0, no social desirability to 12, high social desirability)

Note (continued):

BULIT-R- Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)
Concern for Dieting- Revised Restraint Scale (6, no dietary restraint to 25, high levels of dietary restraint)
Weight Fluctuation- Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)
Impression Management- Dysfunctional Attitude Scale (10, no need to impress others with personality and intelligence to 70, high need)
Approval by Others- Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)
Imperatives- Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)
Need to Succeed- Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)
Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)
Catastrophizing- Dysfunctional Attitude Scale (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)
Dichotomous Thinking- Dysfunctional Attitude Scale (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)
Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval- Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)
Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident- Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)
Self-Esteem- Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)
Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin- Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)
BSQ-R-10- Body Shape Questionnaire-Revised-Short (10, no preoccupation with body image to 60, high preoccupation with body image)
Satisfaction with Body; Satisfaction with Face- Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 5 (continued)

	Catastro-phizing	Dichotomous Thinking	Self Control	Rigid Weight Regulation	Weight & Approval	Sad or Depressed	Anxious	Guilty	Shameful	Stressed	Happy	Confident	Self-Esteem
Age													
BMI													
Real-Ideal BMI													
Social Desirability													
BULIT-R													
Concern for Dieting													
Weight Fluctuation													
Imp. Management													
Approval by Others													
Imperatives													
Need to Succeed													
Vulnerability													
Catastrophizing	1.000												
Dich. Thinking	.502	1.000											
Self Control	.323	.244	1.000										
Rigid Weight Regulation	.224	.433	.641	1.000									
Weight and Approval	.140	.374	.276	.443	1.000								
Sad/Depressed	.136	.202	.194	.151	.003	1.000							
Anxious	-.024	-.011	.148	.166	.147	.272	1.000						
Guilty	.129	.238	.126	.169	.203	.296	.192	1.000					
Shameful	.119	.279	.107	.173	.175	.310	.078	.691	1.000				
Stressed	.017	.063	.189	.266	.165	.405	.518	.216	.190	1.000			
Happy	-.145	-.290	-.166	-.140	-.090	-.477	.021	-.142	-.188	-.235	1.000		
Confident	-.181	-.210	-.294	-.197	-.179	-.244	-.070	-.197	-.199	-.257	.487	1.000	
RSES	-.287	-.253	-.369	-.311	-.228	-.369	-.012	-.275	-.247	-.273	.380	.459	1.000
Importance of Physical Fitness	.343	.282	.314	.256	.357	.011	.055	.119	-.018	.057	-.047	-.160*	-.113
Importance of Attractive & Thin	.249	.373	.292	.457	.525	-.067	-.024	.142	.212	-.006	-.048	-.148	-.124
BSQ-R-10	.179	.137	.700	.554	.272	.197	.068	.157*	.181*	.259	-.215	-.347	-.534
Satis. Body	-.026	-.097	-.449	-.404	-.207	-.144	-.017	-.046	-.113	-.260	.252	.284	.369
Satis. Face	-.171	-.199	-.238	-.206	-.198	-.057	.066	-.075	-.070	-.065	.317	.371	.295
Mean	28.77	16.28	21.76	16.80	16.26	2.29	2.87	1.61	1.45	3.54	3.98	3.58	5.24

All correlations higher than or equal to (+/-) .265 are significant at $p < .001$

Note:

BMI- body mass index

Real-Ideal BMI- difference between actual and ideal body mass index

Social Desirability- Marlowe-Crowne Social Desirability Scale (0, no social desirability to 12, high social desirability)

BULIT-R- Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)

Concern for Dieting- Revised Restraint Scale (6, no dietary restraint to 25, high levels of dietary restraint)

Note (continued):

Weight Fluctuation- Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)
Impression Management- Dysfunctional Attitude Scale (10, no need to impress others with personality and intelligence to 70, high need)
Approval by Others- Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)
Imperatives- Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)
Need to Succeed- Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)
Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)
Catastrophizing- Dysfunctional Attitude Scale (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)
Dichotomous Thinking- Dysfunctional Attitude Scale (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)
Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval- Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)
Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident- Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)
Self-Esteem- Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)
Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin- Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)
BSQ-R-10- Body Shape Questionnaire-Revised-Short (10, no preoccupation with body image to 60, high preoccupation with body image)
Satisfaction with Body; Satisfaction with Face- Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 5 (continued)

	Importance of Physical Fitness	Importance of Attractiveness & Thinness	Body Shape Concern	Satisfact. with Body	Satisfact. with Face
Age					
BMI					
Real-Ideal BMI					
Social Desirability					
BULIT-R					
Concern for Dieting					
Weight Fluctuation					
Imp. Management					
Approval by Others					
Imperatives					
Need to Succeed					
Vulnerability					
Catastrophizing					
Dich. Thinking					
Self Control					
Rigid Weight Regulation					
Weight and Approval					
Sad/Depressed					
Anxious					
Guilty					
Shameful					
Stressed					
Happy					
Confident					
RSES					
Importance of Physical Fitness	1.000				
Importance of Attractive & Thin	.539	1.000			
BSQ-R-10	.187*	.239	1.000		
Satis. Body	-.118	-.126	-.727	1.000	
Satis. Face	-.265	-.168*	-.323	.386	1.000
Mean	4.31	2.23	26.40	3.65	4.59

All correlations higher than or equal to (+/-) .265 are significant at $p < .001$

Note:

BMI- body mass index

Real-Ideal BMI- difference between actual and ideal body mass index

Social Desirability- Marlowe-Crowne Social Desirability Scale (0, no social desirability to 12, high social desirability)

BULIT-R- Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)

Concern for Dieting- Revised Restraint Scale (6, no dietary restraint to 25, high levels of dietary restraint)

Note (continued):

Weight Fluctuation- Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)
Impression Management- Dysfunctional Attitude Scale (10, no need to impress others with personality and intelligence to 70, high need)
Approval by Others- Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)
Imperatives- Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)
Need to Succeed- Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)
Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)
Catastrophizing- Dysfunctional Attitude Scale (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)
Dichotomous Thinking- Dysfunctional Attitude Scale (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)
Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval- Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)
Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident- Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)
Self-Esteem- Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)
Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin- Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)
BSQ-R-10- Body Shape Questionnaire-Revised-Short (10, no preoccupation with body image to 60, high preoccupation with body image)
Satisfaction with Body; Satisfaction with Face- Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 6

Means and Standard Deviations of the Dependent Variables

	Asymptomatic (n = 172)		Symptomatic (n = 130)		Eating-disordered (n = 32)		
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*
Set 1- Eating Measures							
Bulimic Symptoms	41.67[a]	10.16	58.70[b]	17.14	82.22[c]	14.38	142.610**
Concern for Dieting	10.91[a]	3.18	15.39[b]	3.64	18.41[c]	3.14	105.103**
Weight Fluctuation	8.23[a]	3.32	10.86[b]	3.14	12.66[c]	2.80	40.227**
Set 2- Cognitions							
Impression Management	32.34[a]	8.48	35.32[b]	9.28	39.59[c]	7.77	11.064**
Approval by Others	20.57[a]	8.24	24.62[b]	8.98	28.56[c]	7.85	16.227**
Imperatives	36.29	7.54	38.12	8.74	39.50	8.46	3.174
Need to Succeed	13.63	5.69	15.42	6.73	16.81	7.26	5.154
Vulnerability	21.91[a]	7.30	24.09[b]	7.92	26.13[b]	9.39	5.492*
Catastrophizing	28.77[a]	7.17	31.77[b]	7.06	32.72[b]	4.58	9.060**
Dichotomous Thinking	16.28[a]	6.40	19.02[b]	7.15	22.41[c]	9.02	12.996**
Self Control	21.76[a]	6.37	28.65[b]	6.03	32.91[c]	3.62	75.022**
Rigid Weight Regulation	16.80[a]	4.63	21.01[b]	5.49	24.44[c]	6.51	42.816**
Weight and Approval	16.26[a]	4.54	19.35[b]	5.13	21.69[c]	6.14	24.407**
Set 3- Mood							
Sad/Depressed	2.29[a]	1.03	2.79[b]	1.11	3.25[b]	1.08	15.284**
Anxious	2.87[a]	1.19	3.19[b]	1.20	3.53[b]	1.16	5.598*
Guilty	1.61[a]	.82	2.06[b]	1.11	2.41[b]	1.13	13.712**
Shameful	1.45[a]	.72	1.89[b]	1.02	2.25[b]	1.08	15.929**
Stressed	3.54[a]	1.17	3.91[b]	1.07	4.09[b]	.96	6.002*
Happy	3.98[a]	.83	3.62[b]	.91	3.56[b]	.91	7.436**
Confident	3.58[a]	.97	3.27[b]	1.08	2.94[b]	.98	6.961**
Self-Esteem	5.24[a]	1.02	4.54[b]	1.43	4.00[b]	1.55	20.110**
Set 4- Body							
Imp. Of Physical Fitness	4.31[a]	1.07	4.79[b]	1.08	5.25[b]	1.01	14.138**
Imp. Of Attractive and Thin	2.23[a]	.82	2.69[b]	1.14	3.00[b]	1.41	12.558**
Concern w/Body Shape	26.40[a]	12.11	39.73[b]	13.63	48.33[c]	10.90	65.126**
Satisfaction w/Body	3.65[a]	1.13	2.84[b]	1.21	2.33[b]	1.04	28.788**
Satisfaction w/Face	4.59[a]	.86	4.32[b]	1.06	3.59[c]	1.01	15.019**

[a,b,c] –Means scores without common superscripts are significantly different at p = .05.

* Significant at p = .005 level.

** Significant at p = .001 level.

Note:

BULIT-R - Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)

Note (continued):

Concern for Dieting – Revised Restraint Scale (6, no dietary restraint to 25, high levels of dietary restraint)

Weight Fluctuation – Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)

Impression Management – Dysfunctional Attitude Scale (10, no need to impress others with personality and intelligence to 70, high need)

Approval by Others - Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)

Imperatives - Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)

Need to Succeed - Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)

Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)

Catastrophizing - (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)

Dichotomous Thinking - (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)

Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval - Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)

Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident - Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)

Self-Esteem - Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)

Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin - Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)

BSQ-R-10 - Body Shape Questionnaire-Revised- Short (10 no preoccupation with body image to 60, high preoccupation with body image)

Satisfaction with Body; Satisfaction with Face - Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 7

Means and Standard Deviations of the Dependent Variables

	Asymptomatic (n = 172)		Symptomatic & Eating-Disordered (n = 162)		
	M	*SD*	*M*	*SD*	*F*
Set 1- Eating Measures					
Bulimic Symptoms	41.67	10.16	63.35	19.06	170.804**
Concern for Dieting	10.91	3.18	15.98	3.74	178.851**
Weight Fluctuation	8.23	3.32	11.22	3.15	70.882**
Set 2- Cognitions					
Impression Management	32.34	8.48	36.16	9.14	15.728**
Approval by Others	20.57	8.24	25.40	8.89	26.579**
Imperatives	36.29	7.54	38.40	8.68	5.614
Need to Succeed	13.63	5.69	15.69	6.84	9.027*
Vulnerability	21.91	7.30	24.49	8.24	9.202*
Catastrophizing	28.77	7.17	31.96	6.64	17.665**
Dichotomous Thinking	16.28	6.40	19.69	7.64	19.656**
Self Control	21.76	6.37	29.49	5.87	132.562**
Rigid Weight Regulation	16.80	4.63	21.69	5.85	72.106**
Weight and Approval	16.26	4.54	19.81	5.41	42.450**
Set 3- Mood					
Sad/Depressed	2.29	1.03	2.88	1.11	25.530**
Anxious	2.87	1.19	3.26	1.20	9.081*
Guilty	1.61	.82	2.13	1.12	24.050**
Shameful	1.45	.72	1.96	1.04	27.397**
Stressed	3.54	1.17	3.94	1.05	11.296**
Happy	3.98	.83	3.61	.91	14.787**
Confident	3.58	.97	3.20	1.06	11.125**
Self-Esteem	5.24	1.02	4.43	1.46	35.026**
Set 4-Body					
Imp. Of Physical Fitness	4.31	1.07	4.88	1.08	23.120**
Imp. Of Attractive and Thin	2.23	.82	2.76	1.20	22.639**
Concern w/Body Shape	26.40	12.11	41.43	13.55	114.569**
Satisfaction w/ Body	3.65	1.13	2.74	1.19	51.835**
Satisfaction w/Face	4.59	.86	4.18	1.08	14.571**

* Significant at p = .005 level.
** Significant at p = .001 level.

Note:

BULIT-R - Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)

Note (continued):

Concern for Dieting – Revised Restraint Scale (6, no dietary restraint to 25, high levels of dietary restraint)

Weight Fluctuation – Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)

Impression Management – Dysfunctional Attitude Scale (10, no need to impress others with personality and intelligence to 70, high need)

Approval by Others - Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)

Imperatives - Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)

Need to Succeed - Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)

Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)

Catastrophizing - (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)

Dichotomous Thinking - (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)

Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval - Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)

Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident - Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)

Self-Esteem - Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)

Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin - Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)

BSQ-R-10 - Body Shape Questionnaire-Revised- Short (10 no preoccupation with body image to 60, high preoccupation with body image)

Satisfaction with Body; Satisfaction with Face - Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 8

Means and Standard Deviations of the Dependent Variables

	Subthreshold Nonbinging Bulimia (n = 38)		Subthreshold Binge-Eating Disorder (n = 10)		Subthreshold Behavioral Bulimia (n = 11)		Chronic Dieter (n = 41)		
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*
Set 1- Eating Measures									
Bulimic Symptoms	56.90[a]	15.36	76.10[b]	13.75	70.27[b]	10.01	51.42[a]	13.00	11.891**
Concern for Dieting	14.76	4.06	16.90	3.07	16.00	3.41	15.59	2.94	1.191
Weight Fluctuation	10.68	3.51	12.10	2.33	11.91	3.65	10.59	2.71	1.078
Set 2- Cognitions									
Impression Management	34.47	9.88	35.30	12.00	38.09	12.39	35.32	6.49	.439
Approval by Others	24.68	8.05	25.10	12.09	26.82	8.81	23.02	8.92	.619
Imperatives	36.42	9.61	42.30	7.23	39.64	10.08	38.46	7.79	1.371
Need to Succeed	14.50	6.73	17.90	8.80	16.73	8.45	14.93	5.98	.850
Vulnerability	23.26	7.58	31.20	8.44	24.91	10.51	22.29	6.67	3.765
Catastrophizing	30.92	6.64	32.50	6.85	31.82	9.97	31.93	6.13	.215
Dichotomous Thinking	18.37	6.93	18.90	8.02	20.64	8.61	19.17	6.47	.308
Self Control	28.03	6.04	30.80	5.85	28.46	6.53	29.17	5.58	.670
Rigid Weight Regulation	21.29	5.69	22.00	5.77	21.27	6.70	20.76	4.82	.161
Weight and Approval	18.66	4.90	21.00	4.55	18.27	4.74	19.49	5.07	.776

[a,b,c,d] – Means scores without common superscripts are significantly different at p = .05.

* Significant at p = .005 level.

** Significant at p = .001 level.

Note:

BULIT-R - Bulimic Test Revised (28, no symptoms to 140, high level of symptoms endorsement)

Concern for Dieting – Revised Restraint Scale (6, no dietary restraint to 25, high levels of dietary restraint)

Weight Fluctuation – Revised Restraint Scale (4, no symptoms to 20, high level of symptom endorsement)

Note (continued):

Impression Management – Dysfunctional Attitude Scale (10, no need to impress others with personality and intelligence to 70, high need)

Approval by Others - Dysfunctional Attitude Scale (8, no need for others' approval to be happy to 56, strong need)

Imperatives - Dysfunctional Attitude Scale (9, expectations are not absolute and perfectionistic to 63, high endorsement)

Need to Succeed - Dysfunctional Attitude Scale (6, being successful is not a necessity to 42, high endorsement)

Vulnerability- Dysfunctional Attitude Scale (9, no perceived vulnerability to precariousness of life to 63, high agreement)

Catastrophizing - (7, events not interpreted in extreme terms to 49, highly prevalent cognitive distortion)

Dichotomous Thinking - (7, experiences not evaluated in mutually exclusive categories to 49, high endorsement)

Self Control and Self-Esteem; Rigid Weight Regulation and Fear of Weight Gain; Weight and Approval - Mizes Anorectic Cognitions Questionnaire (8, no cognitive distortions to 40, high level of cognitive distortions)

Table 8 (continued)

Means and Standard Deviations of the Dependent Variables

	Subthreshold Nonbinging Bulimia (n = 38)		Subthreshold Binge-Eating Disorder (n = 10)		Subthreshold Behavioral Bulimia (n = 11)		Chronic Dieter (n = 41)		
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*
Set 3- Mood									
Sad/Depressed	2.92	1.22	3.30	.82	3.00	1.34	2.56	1.00	1.560
Anxious	3.29	1.27	3.10	1.37	3.46	1.04	3.05	1.30	.421
Guilty	2.18	1.21	2.40	1.17	1.73	.91	1.98	.99	.916
Shameful	1.95	1.11	2.80	1.14	1.55	.69	1.56	.71	5.361
Stressed	4.16	1.08	4.00	1.05	3.46	1.13	3.85	1.11	1.320
Happy	3.47	.98	3.20	.92	3.73	.79	3.73	.81	1.299
Confident	3.32	1.02	2.60	.97	3.55	.93	3.42	1.05	1.966
Self-Esteem	4.55	1.47	4.00	1.63	4.82	1.17	4.51	1.40	.609
Set 4-Body									
Imp. Of Physical Fitness	4.62	1.04	5.16	.93	4.84	1.24	4.86	.90	.884
Imp. Of Attractive & Thin	2.58	1.07	3.44	1.28	2.94	1.39	2.51	.95	2.296
Concern w/Body Shape	39.16	14.55	48.70	12.18	37.55	10.89	40.90	11.52	1.179
Satisfaction w/Body	3.01	1.21	2.20	1.29	3.20	1.12	2.68	1.04	1.945
Satisfaction w/Face	4.35	1.05	4.03	.91	4.61	1.10	4.33	1.08	.518

[a,b,c,d] – Means scores without common superscripts are significantly different at p = .05.

* Significant at p = .005 level.

** Significant at p = .001 level.

Note:

Sad/Depressed; Anxious; Guilty; Shameful; Stressed; Happy; Confident - Visual-analogue mood scale (0, no symptoms to 4, high levels of symptoms endorsement)

Self-Esteem - Rosenberg Self-Esteem Scale (0, low self-esteem to 6, high self-esteem)

Note (continued):

Importance of Being Physically Fit and Inshape; Importance of Being Attractive and Thin - Beliefs About Attractiveness Scale-Revised (1, no endorsement of societal values concerning fitness and attractiveness 7, high endorsement)

BSQ-R-10 - Body Shape Questionnaire-Revised- Short (10 no preoccupation with body image to 60, high preoccupation with body image)

Satisfaction with Body; Satisfaction with Face - Body Parts Satisfaction Scale-Revised (1, extremely dissatisfied to 6, extremely satisfied)

Table 9

Frequencies for 6 BULIT-R Items

	Asymptomatic (n = 172)	Symptomatic (n = 130)	Eating Disordered (n = 32)
Question 6- "I use laxatives or suppositories to help control my weight."			
1- "once a day or more"	0 (0%)	2 (2%)	1 (3%)
2- "3-6 times a week"	0 (0%)	0 (0%)	1 (3%)
3- "1-2 times a week"	0 (0%)	2 (2%)	2 (6%)
4- "2-3 times a month"	0 (0%)	2 (2%)	3 (9%)
5- "once a month or less (or never)"	172 (100%)	124 (95%)	25 (78%)
Question 11- "I exercise in order to burn calories."			
1- "more than 2 hours a day"	3 (2%)	2 (2%)	1 (3%)
2- "about 2 hours a day"	4 (2%)	8 (6%)	3 (9%)
3- "more than 1 hour a day"	13 (8%)	15 (11%)	5 (16%)
4- "one hour or less a day"	56 (33%)	51 (39%)	17 (53%)
5- "I exercise but not to burn calories (or I don't exercise)"	96 (56%)	54 (42%)	6 (19%)
Question 15- "How often do you intentionally vomit after eating?"			
1- "2 or more times a week"	0 (0%)	1 (1%)	1 (3%)
2- "once a week"	0 (0%)	1 (1%)	1 (3%)
3- "2-3 times a month"	0 (0%)	3 (2%)	2 (6%)
4- "once a month"	0 (0%)	3 (2%)	5 (16%)
5- "less than once a month (or never)"	172 (100%)	122 (94%)	23 (72%)
Question 19- "I have tried to lose weight by fasting or going on strict diets."			
1- "never or not in the past year"	138 (80%)	36 (28%)	3 (9%)
2- "once in the past year"	25 (15%)	31 (24%)	5 (16%)
3- "2-3 times in the past year"	6 (3%)	38 (29%)	11 (34%)
4- "4-5 times in the past year"	3 (2%)	10 (8%)	8 (25%)
5- "most or all of the time"	0 (0%)	15 (11%)	5 (16%)

Table 9 (continued)

Frequencies for 6 BULIT-R Items

	Asymptomatic (n = 172)	Symptomatic (n = 130)	Eating Disordered (n = 32)
Question 34- "In the last 3 months, on average how often did you binge eat (eat uncontrollably to the point of stuffing yourself)?			
1- "once a month or less (or never)"	160 (93%)	90 (69%)	5 (16%)
2- "2-3 times a month"	8 (4%)	19 (14%)	14 (44%)
3- "once a week"	3 (2%)	11 (9%)	6 (19%)
4- "twice a week"	1 (1%)	9 (7%)	4 (12%)
5- "more than twice a week"	0 (0%)	1 (1%)	3 (9%)
Question 36- "I use diuretics (water pills) to help control my weight."			
1- "3 times a week or more"	0 (0%)	1 (1%)	6 (19%)
2- "once or twice a week"	0 (0%)	3 (2%)	0 (0%)
3- "2-3 times a month"	0 (0%)	2 (2%)	0 (0%)
4- "once a month"	0 (0%)	5 (4%)	2 (6%)
5- "never"	172 (100%)	119 (91%)	24 (75%)

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