PSYCHOLOGICAL CORRELATES OF ANOREXIC AND
BULIMIC SYMPTOMATOLOGY

DISSERTATION

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the degree of

DOCTOR OF PHILOSOPHY

By

Rebecca L. Rogers, M.A.
Denton, Texas
August, 1997

The purpose of this study was to examine the degree to which several psychological and personality variables relate to anorexic and bulimic symptomatology in female undergraduates. Past research investigating the relationship between such variables and eating disorders has been contradictory for several reasons, including lack of theoretical bases, discrepant criteria, or combination of anorexia and bulimia nervosa. Recent investigators have concluded that it is important to examine subdiagnostic levels of eating pathology, especially within a college population. Thus, the present investigation used a female undergraduate sample in determining the extent to which several psychological factors--obsessiveness, dependency, over-controlled hostility, assertiveness, perceived control, and self-esteem--account for anorexic and bulimic symptomatology. Regression analyses revealed that anorexic symptoms were best explained by obsessiveness and then two measures of dependency, emotional reliance on another and autonomy. Bulimic symptoms were related most strongly to lack of social self-confidence (a dependency measure) and
obsessiveness. Clinical implications and directions for future research are addressed.
PSYCHOLOGICAL CORRELATES OF ANOREXIC AND BULIMIC SYMPTOMATOLOGY

DISSERTATION

Presented to the Graduate Council of the University of North Texas in Partial Fulfillment of the Requirements

For the degree of

DOCTOR OF PHILOSOPHY

By

Rebecca L. Rogers, M.A.
Denton, Texas
August, 1997
TABLE OF CONTENTS

LIST OF TABLES ............................................. v

I. INTRODUCTION ........................................... 1

   Prevalence Rates
   Sociocultural Factors
   Personality/Psychological Factors
      Obsessiveness
      Dependency
      Hostility
      Assertiveness
      Locus of Control
      Self-Esteem

   Personality Profiles
   Purpose of the Current Investigation

II. METHOD .................................................. 41

   Participants
   Instruments
   Procedure

III. RESULTS .............................................. 57

IV. DISCUSSION ............................................ 60

   Personality Correlates of Anorexia and Bulimia
TABLE OF CONTENTS--Continued

Levels and Prevalence of Anorexia and Bulimia Nervosa

Limitations

Clinical Implications

Implications for Future Research

Summary

APPENDICES ........................................... 82
REFERENCES .......................................... 118
LIST OF TABLES

1. Response Frequencies of Specific Pathogenic Eating and Weight Loss Items on the BULIT-R . . . . . . . . . . 116
2. Pearson Product-Moment Correlations, Means, and Standard Deviations Among the Predictor and Criterion Variables . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 117
CHAPTER I

INTRODUCTION

The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM IV; American Psychiatric Association [APA], 1994) includes two categories of eating disorders that involve severe disturbances in eating behavior and perceptions of body shape and weight. Anorexia nervosa is defined by "a refusal to maintain a minimally normal body weight" (p. 539, APA, 1994) while bulimia nervosa is characterized as "repeated episodes of binge eating followed by inappropriate compensatory behaviors such as self-induced vomiting; misuse of laxatives, diuretics, or other medications; fasting; or excessive exercise" (p. 539, APA, 1994). To fully understand the nature of these disorders, the remainder of this chapter will be divided into 5 sections involving: prevalence rates; sociocultural factors; personality/psychological factors (and specifically addressing obsessiveness, dependency, overcontrolled hostility, assertiveness, locus of control, and self-esteem); personality profiles; and purpose of the current investigation.

Prevalence rates. Studies of the prevalence rates of eating disorders indicate that approximately .5% to 1% of females in late adolescence and early adulthood meet full
criteria for anorexia while 1% to 3% of this population meet
full criteria for bulimia (APA, 1994). The majority of
anorexic and bulimic individuals are female, although
approximately 5% to 10% of clinical samples are male (APA,
1994; Hoek, 1995). Research (e.g., Beglin & Fairburn, 1992)
has suggested that the prevalence rates of eating disorders
in the general population are likely to be underestimated.
Moreover, prevalence rates are found to be much higher in
certain environments, such as college campuses (Mintz &
Betz, 1988) and lean sports (Brownell, 1995).

Although the incidence of eating pathology can be
traced to the fourth century (Lacey, 1982), eating disorders
such as anorexia and bulimia nervosa continue to affect a
significant percentage of women in today's society.
Recently, the prevalence of the disorders has been reported
to have reached almost epidemic rates (Brisman & Siegel,
1984; Waltos, 1986). In addition, anorexia nervosa is one
of few mental disorders that in and of itself can be fatal,
with mortality rates ranging from 6-20% depending on the
length of follow-up (Schwartz & Thompson, 1981; Theander,
1970). Given the urgency and seriousness of these
disorders, research surprisingly and unfortunately has
failed to provide consistent findings regarding the nature
of the disorders.

**Sociocultural factors.** Researchers and clinicians have
long debated the etiology of eating disorders, and today,
most conclude that society plays a major role in their occurrence. Striegel-Moore, Silberstein, and Rodin (1986), in examining factors associated with bulimia, provided an insightful overview as to why women are more susceptible to developing the disorder. They argued that women are at greater risk than males due to the socialization and sex-role stereotypes that our culture promotes. While qualities such as thinness and attractiveness are valued by society in general, they apply more to women than men. Striegel-Moore et al. suggested that women who are most fearful of being overweight and who strive for an ideal body have incorporated the socio-culture's mores regarding appearance. In uncovering a positive relationship between the level of disordered eating and agreement with societal messages regarding attractiveness, Striegel-Moore et al. argued that sociocultural or environmental factors were key in the etiology of bulimia. Mintz and Betz (1988) also supported the sociocultural theory by suggesting that Western ideals regarding body shape pressure females to obtain a thin-ideal, thus increasing the likelihood that they will engage in disordered eating patterns to achieve this ideal. In fact, these authors found that bulimics reported greater endorsement of societal mores involving thinness and attractiveness than other disordered eating groups.

In a seminal study examining the influences of societal expectations on eating pathology, Garner, Garfinkel,
Schwartz, and Thompson (1980) demonstrated that the weight of the average American woman was increasing while the weight of the ideal woman (i.e., Playboy centerfolds and beauty pageant contestants) was decreasing. In addition, they found that the ratio of bust and hip measurements to waist size in these beauty ideals had been decreasing over the years, suggesting a movement toward a more tubular body shape. During this same time period, there was a corresponding increase in the number of diet articles published in popular women's magazines.

Silverstein, Perdue, Peterson, and Kelly (1986) not only confirmed these trends, but found they were gender specific. The media's portrayal of each gender's ideal body or standard of attractiveness was slimmer for women than for men, and recent images of the female standard were found to be slimmer than past portrayals. Silverstein et al. also found that the proportion of diet, exercise, and food articles were higher in women's, as opposed to men's, magazines. These findings suggest that women receive contradictory messages from the media as to how they should look and what they should eat. Women are expected to meet the beauty ideal by staying trim and fit while at the same time being bombarde about the benefits associated with food and eating.

Wiseman, Gray, Mosimann, and Ahrens (1992), while confirming these trends, made two additional claims. First,
they found that, between 1979-1988, 65% of women portrayed as beauty ideals (i.e., Playboy centerfolds and beauty pageant contestants) weighed 15% below average expected weight as determined by actuarial tables based on age, height, and weight. They pointed out that this degree of below-average weight is one of the major criteria of anorexia nervosa as listed by the DSM-III-R (APA, 1987). Second, although both exercise and diet articles had increased between 1959-1988, the number of exercise articles surpassed the number of diet articles within the last eight years of the study. They suggested that this new trend toward fitness may serve as a more discrete and socially accepted form of purging.

Silverstein, Peterson, and Perdue (1986) implicated the media further with their findings that women's magazines portrayed a more noncurvaceous figure during the mid-1920s and 1960s, time periods that correlated with a higher proportion of very thin women in college as well as a higher incidence of eating disorders. Still, they raised the question as to why certain women strive toward the slim standard. Silverstein, Perdue, Peterson, Vogel, and Fantini (1986) found that women who believed that their fathers perceived them as unintelligent tended to ascribe to the slim standard. They speculated that women who are concerned about other's perceptions of them and who associate curvaceousness with incompetence may be more susceptible to
eating disorders. This concern may have influenced more women in the 1920's and 1960's since the media was portraying a tubular body shape as the ideal at a time when the number of college graduate and professional women was increasing. In this manner, eating disorders can be viewed as a psychological manifestation of a society biased against women.

Taken together, these studies provide a theory suggesting that eating disorders result from the sociocultural representations of the beauty ideal that pressure women to reach a standard that is physically impossible to obtain. Several investigators (Garner et al., 1980; Silverstein et al., 1986) have noted the stringent standards of beauty that have been put forth by Western society. These images portray female ideals that are physically difficult to achieve. Silverstein et al., (1986) demonstrated a connection between the messages reflected in the media and increases in the incidence of eating disorders. Moreover, Striegel-Moore et al. (1986) found a positive association between a female's agreement with Western society's messages regarding attractiveness and her degree of disordered eating. Much support exists for the theory that society plays a major role in the etiology of eating disorders.

This theory cannot, however, account for all of the questions concerning the etiology of the eating disorders. First, if women are exposed basically to the same
environments, why do some women develop an eating disorder while others do not? Second, the media's role in the development of eating disorders does not provide a complete picture as it would be unrealistic to assume that anorexic or bulimic women watch more television or read more women's magazines. Third, why do some women develop anorexia nervosa, others bulimia, and still others no problems at all (Crisp & Bhat, 1982; Norman & Hertzog, 1983)? As it is known that anorexia may develop early in childhood (Neuman & Halvorson, 1983), should it be assumed that these children are attempting to conform to the ideal body image portrayed by models? Given these questions, it appears important to examine other factors as well in determining the etiology of these complex psychological disorders.

**Personality/Psychological factors.** An aspect of the sociocultural theory that seems to be lacking is the message that may be conveyed concerning ideal female roles and personalities. Society sends messages not only about how women should look but about how they should behave. Women are socialized to adopt stereotypic female behaviors reflected in all areas of the social environment. Women generally are portrayed as weak, emotional, incompetent, passive, timid, innocent, and dependent. From an early age, traits such as assertiveness, intelligence, and independence are discouraged (Ruth, 1990). Through socialization, women are taught to be inferior, and they learn to nurture others
while sacrificing their own needs (Horney, 1950). In fact, Orbach (1986) suggested that women are uncomfortable with their place in society and often question their right to have needs. These stereotypes are so pervasive and complete that they become real for many women. Thus, believing in these definitions of femininity, women strive to incorporate characteristics (e.g., dependence, passivity) into their personalities (Ruth, 1990) that may be physically and psychologically damaging.

It is interesting to note that the increase in eating disorders reported in the '20s and '60s coincided with the two major women's movements. These movements brought new definitions of femininity that involved political, economic, and reproductive freedoms. This liberation of women's roles conflicted with society's expectations of the domestic and passive female. Standards of attractiveness and societal pressures for ideal female behavior became increasingly stringent or more obvious during these time periods. Feminists often refer to this as a societal backlash (Wolf, 1991).

While women were obtaining the right to vote, underweight models were presented by the media. When the birth control pill was being marketed, Twiggy, too, was being promoted as the beauty ideal. It has been noted in the feminist literature (e.g., Wolf, 1991) that society's definition of "beautiful" is merely a symbol of accepted and
desired female behavior; following this assumption, society's standards of beauty actually prescribe expected behaviors rather than outward appearance. By instilling a preoccupation with weight, society attempts to create personality traits that run counter to the values espoused in women's liberation. Passivity, weakness, and mental illness counteract much of the progress made through women's equality. In this manner, society's obsession with beauty involves obedience, not thinness (Wolf, 1991).

In trying to conform to this personality ideal, women again experience conflict. Expanding theories proposed by Horney (1950), Westkot (1986) described this conflict as the attempt to develop a healthy personality in a society that devalues women. Women must conform to society's standards in order to gain acceptance, yet in doing so, they devalue the self. Westkot, consistent with Horney, viewed women as simultaneously incorporating and opposing this devaluation. That is, women internalize yet struggle against values and characteristics that either prescribe female inferiority or are devalued by society. They struggle between perfection and genuineness, dependence and autonomy, caring and anger, and passivity and assertiveness. When this conflict is in its extreme forms, it can manifest specific neuroses (Horney, 1950).

Horney (1950) presented a theory of neurosis that described the person as being in conflict. The determinants
of this conflicted character are based within the individual's culture. That is, as occurs with women in general, societal messages are devaluing and contradictory. The neurotic, however, perceives these messages more intensely and, consequently, responds by incorporating the devaluation and conflict in an extreme manner.

Horney (1950) described neurosis as a fight against the real self. Specifics within Horney's theory may be used to illustrate the conflict of the individual with anorexia or bulimia nervosa. The self-hate that the neurotic feels may be caused by discrepant feelings she has towards her ideal image and actual self. By condemning imperfections, self-hate serves to shape the actual self into the ideal. With regard to the anorexic, she holds on to her self-hate because she is afraid that if she stops condemning her imperfections (e.g., her perceived size), she will lose control (e.g., eat) and be less than perfect. As a consequence, the anorexic is difficult to treat because she wants to continue hating herself; it is a defense that works for her. From this theoretical perspective, the self-hate perpetuates the disorder. Moreover, anorexia may be viewed as egosyntonic in nature, signifying a particular character pattern. The bulimic also condemns her imperfections and uses self-hate to strive toward the ideal self; however, the conflict within the bulimic manifests somewhat differently. The imperfections of the bulimic (e.g., perceived size)
become salient each time she loses control (e.g., binges) thus stimulating her feeling of self-hate. Thus, the nature of bulimia is somewhat different from anorexia in that the disorder perpetuates the self-hate. Moreover, bulimia may be viewed as more egodystonic in that the bulimic attempts to free herself from that part of the disorder which further distances her from the ideal self.

Eating disorders also may be seen as a form of subtle opposition to perceptions of inferior status. In general, women strive to meet their perception of society's expectations of being good, pure, and submissive. They believe it is inappropriate to outwardly express "negative" behaviors (i.e., hostility) so that when these emotions arise, assertive behavior is repressed. Among women with eating disorders, this anger is taken out on their bodies. Given etiological theories that include society's messages regarding physical and psychological appearance, it is feasible to assume that certain psychological factors present in women with eating disorders. Anecdotal and empirical findings related to several specific factors -- obsessiveness, dependence, overcontrolled hostility, unassertiveness, external locus of control and low self-esteem -- will be reviewed below.

**Obsessiveness.** Obsessive-compulsive symptoms have long been noted in anorexia nervosa (Kay & Leigh, 1954) with several studies demonstrating relationships between the two
The anorexic may constantly ruminate about food and the rituals used to avoid it. Ritualistic behaviors often are employed to defend against the anxiety associated with such obsessions, and superstitions and magical thinking help to maintain the rituals (Roth, & Golloway, 1984). For example, the anorexic may chew each bite of food a certain number of times before swallowing. In this way, her thoughts are occupied by counting so that her awareness of the underlying anxiety associated with eating is diminished.

The debate over obsessiveness in anorexia involves the origin of these symptoms (Ben-Tovim et al., 1979). Many of the obsessive thoughts reported by anorexics have been found in starved individuals who do not have anorexia, suggesting a physiological origin (Keys, Brozek, Henschel, Mickelsen, & Taylor, 1950; Schiele & Brozek, 1948). These symptoms, however, also tend to be related to issues of power and control, and therefore may be a characterological aspect of the anorexic (Roth & Golloway, 1984). Smart et al., (1976) found that anorexic patients reported more obsessional symptoms, traits, and related distress than normal subjects. When compared to obsessional patients, however, anorexics exhibited fewer behaviors and less distress, yet had a similar amount of obsessional traits. Similarly, Strober (1980) found that while the presence and severity of
obsessional symptoms (e.g., ruminations and ritualistic behaviors) in young, nonchronic anorexics decreased with weight restoration, the underlying obsessional trait-structure remained stable. He speculated that underlying obsessional character structures facilitate the emergence of the obsessive thought patterns and compulsive behaviors that are present during the acute phase of the disorder. In other words, the anorexic has an obsessional character at onset of the disorder and the obsessional thinking patterns and compulsive behaviors that serve to perpetuate her disorder are manifestations of the underlying character structure.

Several researchers have noted that obsessive-compulsive symptoms in anorexia are associated with a poor prognosis (Crisp & Bhat, 1982; Dally, 1969). Halmi, Brodland, and Loney (1973), in examining anorexics and recovered anorexics, found certain demographic and clinical features that correlated with each group. Among other variables, obsessive-compulsive symptoms were associated with a poor prognosis (i.e., nonrecovered anorexics). They also found, however, that the correlation between a premorbid obsessional personality and prognosis was not significant between groups. It is believed in the present study that these symptoms are in fact a manifestation of the underlying character of the anorexic. Therefore, other psychological factors (dependency, overcontrolled hostility,
unassertiveness, external locus of control, and low self-esteem) may work in combination with the obsessive behaviors to further complicate treatment.

As bulimia nervosa was not identified as a separate disorder until relatively recently, its psychological correlates have not received the historical attention comparable to anorexia. Still, the behavioral criteria of bulimia have been supported by accounts describing the "obsession" of food and the "compulsive ritual" of the binge-purge cycle (Neuman & Halvorson, 1983). Obsessive qualities also may be seen in the characteristic regimens that "tend to be rigid and joyless compulsions... designed to elicit admiration and to insure a successful image" (Neuman & Halvorson, p. 60). Moreover, the bulimic's cognitive style has been said to involve two modes, "the 'perfect' mode and the 'bulimic' mode" (Neuman & Halvorson, p.60). With increased investigation of characterological traits, bulimics have been equated to anorexics in terms of perfectionistic qualities, including industriousness and high achievement (Fairburn, Cooper, & Cooper, 1986).

In terms of empirical examination of bulimia and obsessiveness, findings seem to parallel those demonstrated with anorexia. For example, Johnson and Holloway (1988) found that anorexic bulimics and normal-weight bulimics reported similar levels of obsessional symptoms and traits although these two groups reported significantly higher
levels than a combined clinical and normal control group. Although the connection between obsessive qualities and eating disorders seems to be highly accepted, investigators (e.g., Strober, 1980; Thiel, Ohlmeier, Jacoby, & Schuler, 1995) often do not distinguish between anorexia and bulimia when measuring these traits. This distinction may be warranted, however, as a recent investigation examining concurrent personality disorders found that Obsessive Compulsive Personality Disorder was common in restricting anorexics but not in bulimics (Wonderlich, Swift, Slotnick, & Goodman, 1990). A related finding involved examining the psychological profiles of 507 patients with bulimia and discovering an "obsessive-ritualistic" subtype in only 2% of the sample (Hall, Blakey, & Hall, 1992). These findings suggest that obsessive characteristics are more common in patients with anorexia nervosa rather than bulimia nervosa; however, it is important to examine the extent to which obsessiveness accounts for anorexic as opposed to bulimic symptomatology.

Dependency. Westkott (1986) defined dependency as involving submission to confirm a devalued self-concept as well as the need to merge with valued others. While dependency also has been noted in anorexic (Kay & Leigh, 1954) and bulimic (Boskind-Lodahl, 1976) populations, the relationships between the disorders and dependent traits are less clear. This lack of clarity appears to be due to
problems in conceptualization as well as measurement. Researchers have examined this relationship in terms of independence (Smart, et al., 1976), submissiveness (Pillay & Crisp, 1977; Strober, 1980), and ego-functioning (Becker, Bell, & Billington, 1987). For example, Smart et al., (1976) found that, among other personality traits, anorexic patients were more independent than controls, while Pillay and Crisp (1977) concluded that low dominance scores and high abasement needs suggested submissiveness. Becker et al., (1987) examined an index of object relations and found that bulimic women reported more fears of abandonment and less autonomy in relationships than normal women.

Psychoanalytic theorists, emphasizing the relationship between mother and infant, proposed that difficulties in separation and individuation contributed to eating disorders (Bruch, 1982; Orbach, 1985; Selvini-Palazzoli, 1978; Wilson, 1983). This construct may be defined as the developmental process toward achieving "a sense of separate individual entity" (Edward, Ruskin, & Turrini, 1981, p.3) and appears to be closely related to dependency. These theorists posited that the anorexic's relationship with her mother is enmeshed. Therefore, in order to maintain this relationship, the anorexic is discouraged from autonomous behavior and rewarded for compliant, dependent behavior.

Friedlander and Siegel (1990) examined the relationship between separation and individuation and cognitive-
behavioral characteristics of anorexia and bulimia, as measured by the Eating Disorders Inventory. Their results provided support for the theory of separation difficulties as a contributing factor to eating disorders. Specifically, they found that dependency conflicts and poor self-other differentiation were strongly predictive of bulimic behaviors, drive for thinness, beliefs about personal ineffectiveness, interpersonal distrust, immaturity, and an inability to discriminate between feelings and sensations. This empirical relationship was so strong they suggested that women who seek treatment for dependency issues be assessed for an over-preoccupation with weight and body image.

In a similar study, Smolak and Levine (1993) examined separation-individuation difficulties between bulimic-like and anorexic-like college women. They reported that both groups demonstrated more conflictual dependency (e.g., excessive guilt, mistrust, and resentment) than non-eating disordered women. Furthermore, bulimic-type women displayed greater attitudinal independence than controls and greater attitudinal separation from the father than anorexic-like women. These investigators proposed that the process of separation-individuation in late adolescence differs for girls who develop restricting anorexia versus girls who develop bulimia. In general, however, the results indicate
that separation-individuation issues are relevant for understanding both forms of eating disorders.

Shisslak, Crago, and Yates (1989) examined the characteristics of atypical anorexics through structured interviews. Atypical anorexia, what Bruch (1973) defined as secondary anorexia, involves weight loss due to reasons other than a preoccupation with weight. In contrast, primary anorexia involves weight preoccupation as well as rigorous efforts to reduce body size at the expense of social and/or medical difficulties. Shisslak et al. found that atypical anorexics were characterized by, among others traits, unmet dependency needs. They asserted that while dependency issues exist within both primary and secondary anorexia, these conflicts are experienced quite differently. The environment of the patient with primary anorexia is seen as over-controlling and, although the patient is discouraged from autonomy and rewarded for her dependency, she struggles for an identity and independence. The environment of the patient with atypical anorexia, on the other hand, is perceived as being uninvolved. The patient uses the anorexic symptoms in order to get her dependency needs met.

Related to the conceptualization problem, a psychometrically sound measure of dependency for an eating disordered population is lacking. As mentioned previously, some measures of dependency in eating disorders research have been based on structured interviews (Shisslak, et al.,
In addition, researchers often have relied on the results of personality profiles to interpret the existence of dependent traits. For example, Scott and Baroffio (1986) used the Minnesota Multiphasic Personality Inventory to investigate differences between anorexics, bulimics, obese women and a non-disordered control group. They found that anorexics and bulimics had elevations on scales 2, 4, and 8 on the MMPI and described similarities on scales 2 and 4 as reflective of immaturity, passive aggressiveness, self-defeating patterns, and struggles of interpersonal control. Gilberstadt and Duker (1965) interpreted this profile as suggesting dependency, oral fixation, and addictive personality traits. Scott and Baroffio described the elevation of scale 8 as identity confusion and distortion of boundaries, suggesting dependent-like qualities. Similarly, Strober (1980) examined the scores of "abstaining" and "vomiting" anorexics on the California Psychological Inventory and the Hopkins Symptom Checklist. He concluded that, in addition to other personality variables, both groups of anorexics were insecure, overcompliant, and lacked autonomy and independence.

Because of neglect in assessing anorexics and bulimics with a psychometrically sound measure of dependency, much of the information concerning dependency is provided by clinical observations. A review by Garner and Garfinkel (1982) described the character of anorexics in a manner that
indicates a dependent personality. That is, anorexics ignore their own needs and seek approval by conforming and pleasing others. In this way, they affirm their self-worth. Boskind-Lodahl (1976) asserted that bulimics demonstrate deficits in autonomy and take a passive, accommodating approach to life. She elaborated that this style is coupled with a simultaneous need to please and fear of rejection. Friedrichs (1986) extended Horney's "dependent character solution" (1950) to eating disorders by noting that several of the symptoms of eating disorders (i.e., compliance, interpersonal distrust, perfectionism, ineffectiveness, maturity fears, a lack of interoceptive awareness, body dissatisfaction, and drive for thinness) are central to Horney's theory. Friedrichs argued that women often rely on a dependent character to defend against the devaluation and sexualization of society. Anorexia and bulimia may be more prevalent among women because they are manifestations of this dependent character.

The present study addresses the problem of conceptualization by providing an objective definition (Westkott, 1986) that may be applied in future research on dependency. In addition, this definition coincides with that offered by Hirschfeld, Klerman, Gough, Barrett, Korchin, and Chodoff (1977) in their development of the Interpersonal Dependency Inventory. Essentially, they define interpersonal dependency as both the positive and
negative aspects of thoughts, beliefs, feelings, and behaviors concerning the need to interact and rely upon valued others. Moreover, these authors assert that this construct includes three factors: emotional reliance on another, lack of social self-confidence, and assertion of autonomy. Although this scale appears to be psychometrically sound, it has been overlooked as a measure of dependency, especially within an eating disorder population; however, a recent study (Rogers & Petrie, 1996) used the inventory to examine anorexic symptomatology among undergraduates, providing empirical data on the inventory itself as well as the relationship between dependency and anorexia. The present study provides additional data concerning the degree to which the three factors of dependency account for anorexic and bulimic symptomatology.

**Overcontrolled Hostility.** Overcontrolled hostility has been defined as anger that is not overtly expressed (Megargee, Cook, & Mendelsohn, 1967), and noted in clinical observations of eating disorder individuals. For example, Neuman and Halvorson (1983) described anorexics as having a high level of hostility but lacking the ability or permission to express their anger. In addition, Crisp (1980) provided anecdotal evidence describing the anorexic as defending against hostility by appearing either unemotional or overly cheerful. Finally, Krueger (1988)
described bulimics as expressing intense anger toward others through the denial of need.

Research has provided empirical evidence supporting the relationship between overcontrolled hostility and eating disorders. Williams, Chamove, and Millar (1990) compared anorexic and bulimic females to female psychiatric patients, dieters, and non-dieting controls on measures of eating pathology and hostility (among other variables). They found that both anorexics and bulimics reported significantly more self-directed hostility (as measured by the Hostility and Direction of Hostility Questionnaire) than non-psychiatric controls. In addition, eating disorder symptomatology (as measured by the Eating Disorders Inventory) was associated with inwardly directed hostility.

In using the same measure of hostility, Ben-Tovim, et al. (1979) found no difference between abstaining anorexics and binging and purging anorexics. In their attempt to subcategorize anorexics, however, they decreased their sample size from twenty-one anorexics to twelve abstainers and nine purgers thereby decreasing the power to detect an actual effect. In fact, when they compared their sample of anorexics (both abstainers and vomitors) to normal samples of past studies, differences were revealed between anorexics and controls.

As previously described, Scott and Baroffio (1986) found that the profiles of anorexic and bulimic patients
were similar, although there were discrepancies between the patients and the controls. Elevations on scales 2 and 4 were interpreted as reflecting individuals who are immature, passive-aggressive, self-defeating, and often struggling with interpersonal control. In addition, a moderate elevation on scale 1 demonstrated the tendency to displace emotions onto somatic problems. From these findings, support is provided for the idea that anorexics and bulimics, unable to express their hostility in a mature and direct manner, express their anger mentally and physically toward the self.

Casper (1990) examined personality characteristics among recovered anorexics at an 8-10 year follow-up. Although she found that women who scored higher on the Eating Attitudes Test reported more hostility using the Hopkins Symptom Checklist, this finding was not discussed within the study. Given descriptive and empirical reports, it appears that the relationship between eating pathology and hostility needs further examination.

Assertiveness. Assertiveness has been defined as the expression of thoughts, feelings, and needs in claiming one's rights while respecting the rights of others (Bloom, Coburn, & Pearlman, 1975). Assertive communication is direct, honest, and self-enhancing (Bloom et al., 1975). Boskind-Lodahl (1976) suggested that bulimics have deficits in assertiveness and Hawkins and Clement (1980) proposed
that the severity of binge eating is related to less assertiveness, among other factors. In addition, clinical reports have described anorexics as exhibiting less assertive behavior in their relationships for fear of rejection (Neuman & Halvorson, 1983; Wilson, 1976). By not expressing their genuine thoughts and feelings, these anorexics and bulimics are giving up their rights so that others will not be offended or angry.

Williams, Chamove, and Millar (1990), unable to find published studies that directly examined the relationship between assertiveness and eating disorders, hypothesized a relationship between the two based solely on anecdotal evidence. Assessing assertiveness in a somewhat indirect manner (i.e., self-report), they found that anorexics and bulimics were less assertive than non-psychiatric controls.

Other studies, while not specifically assessing assertiveness, have reported characteristics of anorexics that suggest unassertive behavior. Crisp, Hsu, and Stonehill (1979) found that anorexics tended to score low on emotionality yet high on other scales suggesting that they were denying the extent of their emotions. In addition, Pillay and Crisp (1977) found that while anorexics have more fears and sensitivities, they are less likely to communicate these to others. Casper (1990) found that recovered anorexics exhibited a restricted amount of emotional expression and initiative when compared to women without a
history of eating disorders. Although these studies appear to assess assertive-like traits, they lack consistent definition; therefore, it is difficult to determine what exactly is being measured. The present study assessed assertiveness specifically yet in an indirect manner (i.e., a self-report measuring assertive attitudes and behaviors), thus providing empirical data concerning assertiveness and its relationship to anorexia and bulimia nervosa.

Locus of Control. Bruch (1978) asserted that eating disorders presented after a "desperate but futile struggle to establish a sense of control" and that the disorders represent "a maladaptive search for control" (p. 229). Wilson (1976) associated anorexia with an external locus of control while Boskind-Lodahl (1976) asserted that bulimics tend to possess feelings of inadequacy and helplessness, also suggesting an external locus of control. Krueger (1988) described personal ineffectiveness in eating disordered women as involving feelings that one's body and self-organization may be easily invaded and influenced by external force. He added that these women lack an internal center of initiative.

In terms of the empirical literature examining an association between perceived control and anorexia, research findings seem to support the idea that women with anorexia possess an external, as opposed to internal, locus of control. For example, Garner et al. (1976) demonstrated
that anorexic patients had a higher level of external locus of control than obese controls. Similarly, Harding and Lachenmeyer (1986) found that the best predictor of both the presence and severity of anorexia nervosa was locus of control orientation. Females with anorexia were significantly more external than females without the disorder. Harding and Lachenmeyer noted that these findings support Bruch's ideas regarding anorexia and personal ineffectiveness. Providing somewhat discrepant results, Hood et al. (1982) reported that young anorexics perceived more internal control while older anorexics perceived more external control. Also contrary to the external assumption, Strober (1982) found that anorexics perceived a higher degree of internal control than age matched controls.

Similarly, in comparing binging and abstaining anorexics, Strober (1980) found that bingers demonstrated "less adequate self-control" (p. 357).

The findings noted above seem consistent with the empirical literature that addresses the relationship between bulimia and perceived locus of control. Williams et al. (1990; 1993) have consistently reported that eating disordered individuals display more externality than both dieting and normal weight controls. Shisslak, McKeon, and Crago (1990) found similar results when comparing subgroups of eating disorders (underweight bulimics, normal-weight bulimics, overweight bulimics, restrictor anorexics, and...
controls) on the Rotter Internal-External Locus of Control scale. These authors reported that bulimics in all three weight categories exhibited more external locus of control than normal controls and that the highest scores were obtained by the underweight bulimics.

Overall, these studies support theories regarding an association between external locus of control and eating disorders. What appears to be less clear involves the extent to which externality accounts for anorexic as opposed to bulimic symptomatology. Similarly, the degree to which external locus of control may manifest itself in nondiagnosed levels of eating pathology is unknown. Finally, the value of this correlate in relation to other psychological variables in predicting anorexic and bulimic patterns is uncertain.

Self-Esteem. The concept of self-esteem and it's relationship to eating disorders also has a history within clinical reports. Bruch (1978) was one of the first authors to describe the anorexic patient as having problems with self-esteem while Boskind-Lodahl (1976) described bulimics as being low on this construct. Moreover, Garner, Garfinkel and Bemis (1982) suggested that the low self-esteem observed in patients with eating disorders should be addressed in treatment.

The Eating Disorders Inventory assesses a broad range of cognitive-behavioral dimensions associated with anorexia
and bulimia. The Ineffectiveness Scale taps, among other things, one's negative evaluation, feelings of inadequacy, and sense of worthlessness (Garner and Olmstead, 1984). Scores on the ineffectiveness scale have discriminated between typical undergraduates and clients with eating disorders (Garner, 1986). Although this scale does not represent a direct measure of self-esteem, the underlying construct appears similar; therefore, the relationship between eating disorders and ineffectiveness may be pertinent to understanding the relationship between eating disorders and self-esteem.

In terms of empirical investigation, self-esteem has been found to be associated with bulimia across several eating disordered subgroups. For example, Willmuth, Leitenberg, Rosen, and Cardo (1988) compared 20 normal weight purging bulimics, 20 normal weight non-purging bulimics, and 20 normal weight controls. These investigators reported that self-esteem scores were significantly lower for both bulimic groups. Similarly, Katzman and Wolchik (1984) reported that, among other findings, bulimics had lower self-esteem than controls. With regard to a broader spectrum of eating pathology, Mintz and Betz (1988) investigated several psychological and attitudinal characteristics of college women, who were classified, along a continuum, into one of several eating groups (i.e., normals, restrictors, bingers, purgers,
subthreshold, and bulimics). The results indicated that the degree of disturbed eating was strongly correlated with lowered self-esteem. Finally, self-esteem also has been reported to be an important factor in predicting the outcome of eating disorders. For example, Norring and Sohlberg (1991) examined low self-esteem and stressful life events in hopes of explaining the chronicity of anorexia and bulimia. In a one year follow-up of 37 patients, they found that both factors were related to poorer outcome of these disorders.

**Personality profiles.** One topic of controversy within the eating disorder literature is the notion that certain characteristics define a person with anorexia or bulimia nervosa. Research examining the underlying character of these disorders has been equivocal. Some researchers believe that the disorders are too heterogeneous to classify (Blitzer, Rollins, & Blackwell, 1961; Thoma, 1967), while others contend that the connection between eating pathology and personality has been overlooked (Aronson, Fredman, & Gabriel, 1990; Crisp, 1965; Smart et al., 1976; Strober, 1980). Also, anecdotal evidence (Boskind-Lodahl, 1976; Bruch, 1982; Selvini-Palazzoli, 1978) as well as clinical observations suggest that correlations between anorexia and bulimia and distinct personality styles exist.

Several factors may contribute to the conflicting evidence existing within the literature (Smart et al., 1976). First, as mentioned previously, much of the
literature consists of anecdotal evidence. The lack of empirical data makes generalizing such observations difficult. Within the empirical literature, definitions of eating disorders have been inconsistent. For example, anorexia nervosa has been defined using various weight cutoffs (Garner & Garfinkel, 1982; Strauss & Ryan, 1987) which may present problems in comparing results since the relationship between weight gain and personality traits is unclear (Channon & DeSilva, 1985; Crisp et al., 1979; Stonehill & Crisp, 1977; Strober, 1981).

Another factor contributing to conflicting evidence concerning the existence of an anorexic or bulimic personality involves a problem in trying to compare research focusing on an abnormal personality structure and research examining personality traits common to all (Smart et al., 1976). For example, studies examining the comorbidity of obsessive compulsive personality disorder and anorexia nervosa (Norris, 1979; Russell, 1970) have been compared to studies examining the relationship between obsessiveness and anorexia (Ben-Tovim et al., 1979; Crisp & Bhat, 1982; Smart, et al., 1976; Stonehill & Crisp, 1977). A further problem in the literature pertains to the fact that many studies have examined anorexia in combination with symptoms of bulimia, sometimes referred to as bulimarexia (Boskind-Lodahl & White, 1978; Channon & DeSilva, 1985; Strober, 1980), while others have separated the two disorders to
examine their differences (Casper, Eckert, Halmi, Goldberg, & Davis, 1980; Crisp & Bhat, 1982; Scott & Baroffio, 1986). Although individuals with the two disorders have been compared, some researchers have reported similarities between the personalities of bulimics and anorexics (Ben-Tovim, et al., 1979; Scott & Baroffio, 1986; Strober, 1980) while others have argued that they are quite different (Casper, 1990; Powers, 1984).

Although the eating disorder literature contains several limitations in its examination of personality, leading some investigators to maintain that a specific personality profile predisposing women to eating disorders does not exist (e.g., Garner & Garfinkel, 1982), recent research has demonstrated that certain characteristics may be present in women with anorexia as well as bulimia. For example, Williams et al. (1990) compared anorexic and bulimic women with psychiatric patients, dieters, and nondieters on measures of eating disorder symptomatology as well as various personality traits. Eating disordered patients reported significantly less family encouragement of independence, more self-directed hostility, less assertiveness, and more external control than dieting and nondieting controls. Although eating disordered patients did not differ from psychiatric controls, the investigation may have been weakened by methodological problems, such as
inadequate control group inclusion criteria and a heterogenous eating disorder group (Williams et al., 1993).

In an attempt to correct the methodological weaknesses suggested in the Williams et al. (1990) study, a similar investigation (Williams et al., 1993) was designed to compare anorexics and bulimics to obese dieters, nonobese dieters, and normal controls on many of the same variables (e.g., self-directed hostility, assertiveness, and locus of control). Williams et al. (1993) also examined these groups in terms of self-esteem explaining that the results in the previous investigation suggested that eating disordered women would report lower self-esteem. Williams et al. (1993) documented the presence of four "cognitive/emotional" features that distinguish eating disordered patients from other dietary/weight groups. These features include: self-directed hostility, assertiveness, perceived control, and self-esteem. In examining a European clinical population, these authors found that anorexic and bulimic patients scored significantly different from the dietary/weight groups on all measures; however, anorexics and bulimics did not differ significantly on any measure. These investigators concluded that self-directed hostility, low assertiveness, perceived external control, and low self-esteem characterize patients with eating disorders while distinguishing them from individuals who display dietary/weight concerns.
A third study (Williams et al., 1994) noted the theoretical and empirical significance of the four cognitive-emotional features (i.e., self-directed hostility, low assertiveness, external control, and low self-esteem) and developed scales to assess eating disorder patients. Results demonstrated that the Stirling Eating Disorder Scales (SEDS) are reliable, consistent, and valid measures of the dietary behaviors and cognitive-emotional features of both anorexia and bulimia. Furthermore, the four cognitive-emotional scales of the SEDS did not differentiate anorexic and bulimic women.

Although the findings by Williams et al. (1994) have been consistently documented (Williams, et al., 1990; Williams, et al., 1993), a recent study in the United States (Rogers & Petrie, 1996) did not completely support these findings. In examining overcontrolled hostility, assertiveness, obsessiveness, and dependency within a nonclinical population, Rogers and Petrie found that overcontrolled hostility and assertiveness were poor predictors of anorexic symptomatology. Moreover, these two variables were measured with the questionnaires used in the Williams et al. (1990) study. Obsessiveness and emotional reliance on another person, a factor of dependency, however, were significantly related to anorexic symptoms. Based upon these findings, the most parsimonious model for anorexic symptomatology for the undergraduate women in the study was
defined by obsessiveness and emotional reliance on another person.

Although these two studies present somewhat discrepant results, theoretical descriptions and empirical evidence suggest that each of these variables (i.e., obsessiveness, dependency, overcontrolled hostility, unassertiveness, external locus of control, and low self-esteem) contributes to the psychological profile of women with eating disorders. The extent to which each factor is related to eating disordered symptomatology is less clear. Do certain features distinguish clinical from nonclinical populations? Are anorexic and bulimic symptoms related to different characteristics? Which characteristics account for the most variance in each eating pathology?

**Purpose of the current investigation.** The purpose of this study is to empirically determine the degree to which each of these variables -- obsessiveness, dependency, overcontrolled hostility, assertiveness, perceived control, and self-esteem -- is related to anorexic and bulimic symptomatology. Several factors may have contributed to the inconsistent findings between Williams et al. (1993) and Rogers and Petrie (1996), primarily involving the settings from which the participants were pooled. First, Williams et al. used a clinical population while Rogers and Petrie sampled females within a nonclinical population; therefore, findings may reflect differences in the degree of
psychological disturbance. Similarly, it may be that using a sample of college females influenced results concerning certain psychological variables, such as assertiveness (Rogers & Petrie, 1996). Finally, the studies were conducted in different countries and, therefore, results may reflect different cultural values and social biases.

In addressing the discrepancy between employing clinical versus nonclinical populations, this investigation examined a nonclinical population for several reasons. Most investigations addressing the issue of personality variables and eating disorders have been conducted with clinical populations (Ben-Tovim et al., 1979; Casper, 1990; Strober, 1980; Williams et al., 1990), providing valuable information regarding psychiatric disturbances that may coexist with anorexia and bulimia nervosa. It is important, however, to consider the relationship between personality and undiagnosed eating pathology. Button and Whitehouse (1981) concluded that approximately 5% of women develop a "subclinical form" of anorexia nervosa and that investigating the broader group of women with eating and weight concerns would result in a better understanding of the disorder. Research conducted with eating disordered females who have not been diagnosed is lacking, and since most do not seek treatment, findings from this nonclinical sample may be more generalizable.
Prior research also has focused on personality variables present during the course of the disorders; therefore, it is not clear if these factors reflect underlying personality structures or merely symptoms related to the disorders. Studies have attempted to assess personality after weight restoration (Channon & DesSilva, 1965; Crisp et al., 1979; Stonehill & Crisp, 1977; Strober, 1981) and recovery (Casper, 1990) in an effort to provide evidence of an underlying personality structure. Findings from these studies, however, are conflictual and include problems related to the high relapse rate within eating disorders (Neuman & Halvorson, 1983). Evidence of personality characteristics within a nontreatment sample may lend support to the theory of a personality type that predisposes some women to anorexia or bulimia nervosa.

Although research has focused on diagnostic categories of eating disorders, many investigators are beginning to examine subdiagnostic levels of eating pathology, especially within a college environment. Mintz and Betz (1988) have categorized eating disorders along a continuum, including: normal eating, binging, purging, restricting, subclinical bulimia, and bulimia. In examining female college students, they found that 64% demonstrated some form of eating pathology although few met the criteria for a bulimic diagnosis. Similarly, some investigators have classified college females as pathologically preoccupied with
dietary/weight concerns as determined by scores on eating disorder scales (Aronson et al., 1990; Klemchuk, Hutchinson, & Frank, 1990; Rogers & Petrie, 1996).

This trend toward examining eating pathology in undergraduate females appears warranted as a relatively high prevalence of eating pathology has been reported on college campuses (Aronson et al., 1990). In a review of research pertaining to bulimia nervosa, Striegel-Moore et al. (1986) indicated that the university milieu may place women at risk for developing an eating disorder. University campuses were conceptualized as stressful, semiclosed environments that may intensify societal pressures to be thin, foster competition to meet ideals, and provide an opportunity for females to inform each other about disordered eating patterns. In fact, research findings have suggested that environments which emphasize thinness, or the thin ideal, increase the risk for developing an eating disorder. Squire (1983) found that females attending boarding schools and colleges, where these sociocultural pressures to be thin may be magnified, were more likely to be bulimic than females who were not attending these institutions. Pope et al. (1984) examined the prevalence of eating disorders among three student populations and found that 1% to 4.2% of female students reported a history of anorexia while 6.5% to 18.6% reported a history of bulimia. In addition, Striegel-Moore, Silberstein, Frensch, and Rodin (1989) examined
students during their first year of college and found that 3.8% of females met DSM-III-R criteria for bulimia. Over the course of the year, a few women developed bulimia; however, a significant number of students reported an increase in eating disordered symptomatology. More specifically, approximately 15% of the female students began bingeing while 25% began dieting, and this worsening of eating pathology was associated with more negative feelings regarding weight and attractiveness. The prevalence of eating disorders is greater on university campuses than in the general population (Striegel-Moore et al., 1986) and the number of women seeking treatment for eating disorders at university based counseling centers has dramatically increased in the past decade (Johnson and Holloway, 1988); therefore, further investigations focusing on eating symptomatology on college campuses appear warranted. Given the limitations and equivocal findings of past research, additional investigations seemed warranted. The present investigation examined several psychological factors (i.e., obsessiveness, dependency, overcontrolled hostility, assertiveness, perceived control, and self-esteem) and their independent relationship to anorexic and bulimic symptomatology within a nonclinical, college population. The purposes of conducting this study were twofold. First, in using the six psychological variables suggested by psychodynamic (e.g., Bruch, 1985) and feminist (e.g.,
Orbach, 1986) theory and empirically documented by Rogers and Petrie (1994) and Williams et al. (1993), personality characteristics associated with individuals with eating disorders may be clarified within a theoretical context. Rather than associating a symptom with anorexia and/or bulimia, this study attempted to uncover which personality traits best define the character of the anorexic and bulimic. Second, by examining a range of eating disordered symptomatology in a nondiagnosed population, the present study provides information regarding certain personality features in these populations. Investigating a range of symptoms in a nondiagnosed population provides useful information regarding the psychological makeup of women with a broader range of eating pathology.

Although research has demonstrated that the relationships between psychological, or personality, variables and anorexic and bulimic symptomatology are inconclusive, several findings were expected in the present study.

1a. Based on the above reviewed literature, it was expected that the following zero order relationships between anorexic symptomatology and the psychological correlates would include: obsessiveness (strong, positive relationship), emotional reliance on another (strong, positive relationship), lack of social self-confidence (strong, positive relationship), assertion of autonomy (moderate,
negative relationship), over-controlled hostility
(moderate, positive relationship), assertiveness (moderate,
negative relationship), perceived external control
(moderate, positive relationship), and self-esteem
(moderate, negative relationship).

1b. Based on the above reviewed literature, it was expected
that the following zero order relationships between bulimic
symptomatology and the psychological correlates would
include: obsessiveness (moderate, positive relationship),
emotional reliance on another (moderate, positive
relationship), lack of social self-confidence (moderate,
positive relationship), assertion of autonomy (moderate,
negative relationship), over-controlled hostility
(moderate, positive relationship), assertiveness (moderate,
negative relationship), perceived external control (strong,
positive relationship), and self-esteem (strong, negative
relationship).

2a. Considering all variables simultaneously, was expected
that obsessiveness would be most strongly related to
anorexic symptomatology while perceived external control
would be most strongly related to bulimic symptomatology.
CHAPTER II

METHOD

Participants

Participants were 97 female undergraduates solicited from undergraduate psychology classes at a large, southwestern university. The mean age of participants was 22.17 years (SD=5.61). For race/ethnicity, 72% identified themselves as Caucasian/non-Hispanic, 10% Asian American, 7% African American, 7% Hispanic, 2% Native American, and 1% as "other." The majority of participants classified themselves as freshmen (33%), and most stated they were single, never married (72%). Two percent of participants reported a history of anorexia nervosa, and 7% reported a history of bulimia nervosa. Mean body mass of participants was 22.23 (kg/m$^2$) (SD = 3.83).

Instruments

Demographic and weight information. A demographic and weight questionnaire was developed to obtain information regarding age, racial/ethnic group, year in school, marital status, history and/or treatment of an eating disorder, and weight and height. Present height and weight were used to determine body mass, a standard measure of physical size and leanness (Keys, Fidanza, Karvonen, Kimura, & Taylor, 1972). (See Appendix A)
Anorexic symptomatology. The 40-item Eating Attitudes Test (EAT; Garner & Garfinkel, 1979) assesses psychological and behavioral symptoms associated with anorexia nervosa. Sample items include, "Other people think that I am too thin," and "Feel that others pressure me to eat." For each item, individuals indicate the degree to which it applies to them on a six-point Likert-type scale ranging from "always" to "never." Although there are six response options, each item is scored as follows: 3 points for the extreme anorexic response, 2 points for the next most extreme response, 1 point for the next. The remaining three responses are all scored as 0 (zero). A total score is obtained by summing across all items and can range from 0 to 120.

The EAT was found to be a highly reliable measure with an internal consistency (Cronbach's alpha) of .94 for a pooled sample of anorexics and controls (Garner & Garfinkel, 1979). The present investigation also found that the instrument was internally consistent, with a Cronbach's alpha of .90. In addition, scores were significantly correlated with criterion group membership (r = .87; p < .001) demonstrating a high degree of concurrent validity (Garner & Garfinkel, 1979). Garner and Garfinkel (1979; 1980) have suggested using a cutoff score of 30 to maximize differentiation between anorexics and normal-weight female undergraduates. This cutoff reduced the number of false
positives to 12% and false negatives to 6%. A discriminant function analysis found the EAT to be 91% accurate in classifying anorexics and controls. (See Appendix B)

Bulimic symptomatology. The Bulimia Test Revised (BULIT-R; Thelen, Farmer, Wonderlich, & Smith, 1991) is a 36-item self-report questionnaire that measures symptoms of bulimia nervosa, based on criteria of the Diagnostic and Statistical Manual of Mental Disorders, Third Edition-Revised (DSM-III-R; American Psychological Association [APA], 1987). In addition to assessing the clinical symptoms associated with bulimia, the BULIT-R provides information regarding disordered eating and weight-loss behaviors. Sample items include, "I am satisfied with my eating patterns," and, "Would you presently call yourself a 'binge eater?'" Individuals indicate the degree to which each item applies to them, using a five-point Likert-type scale. Scoring involves assigning 5 points for responses answered in the extreme "bulimic" direction and 1 point for responses answered in the extreme "normal" direction. Although 36 items are presented, only 28 are used to compute a total score; therefore, a total score may range from 28 to 140. Thelen et al. recommended a cutoff score of 104 to maximally discriminate between bulimic and normal-weight females.

In terms of reliability, Thelen et al. (1991) reported that test-retest reliability over a 2-month period was .95.
Moreover, Thelen et al. reported high internal consistency (Cronbach's alpha = .97), which corresponds with the present study's finding of a Cronbach's alpha of .94. With regard to validity, correlations between the BULIT-R and the BULIT (Smith & Thelen, 1984) and the Hawkins and Clements Binge Scale (Hawkins & Clements, 1980) were .99 and .85, respectively. In a cross-validation study, BULIT-R scores accurately identified sixteen of twenty individuals who had been previously diagnosed via independent clinical interview with Bulimia Nervosa (Thelen et al., 1991). (See Appendix C)

**Obsessiveness.** The Leyton Obsessional Inventory-Questionnaire (LOI-Q; Snowdon, 1980) is a 70-item self-report that was based on the (individually administered) Leyton Obsessional Inventory (Cooper, 1970). In addition, a few items were reworded to reduce gender bias that was present in the original questionnaire. The LOI-Q consists of four subscales: (a) Obsessional symptoms, (b) Obsessional traits, (c) Resistance, and (d) Interference. Forty-six items comprise the Obsessional symptom subscale. These symptoms are described as chronic thoughts and feelings that are ego-dystonic and often result in compulsive behaviors used to decrease anxiety associated with resisting these thoughts and feelings. For example, subjects answer yes or no to symptom items such as, "Do you like to put your personal belongings in set places or patterns?" Twenty-four
items make up the Obsessional trait subscale. These traits are described as ego-syntonic character traits such as rigidity, perfectionism, and excessive attention to details (Johnson & Holloway, 1988). For example, subjects answer yes or no to trait items such as, "Do you pride yourself in thinking things over very carefully before making a decision?".

The resistance and interference subscales measure subjects' attitudes and experiences of their obsessive behaviors. For each symptom and trait item answered positively, subjects are asked how they feel about the behavior as well as how much the behavior interferes with their other activities. Scores may be obtained by summing the items (symptoms and traits) or points (resistance and interference) within each of the four subscales. Strober (1980) found that vomiting and abstaining anorexics did not differ significantly from depressed patients on the resistance and interference subscales, suggesting that these 2 scales may be measuring a more general component of psychological distress. Taking Strober's findings into account as well as other investigations (e.g., Solyom, Ledwidge, & Solyom, 1986), the present study did not include the resistance and interference scales. Three separate scores were computed by summing all symptom items endorsed, all trait items endorsed, and a combination of both obsessive symptoms and traits; however, only the combined
score was used for analysis as the symptom and trait scores were found to be highly correlated in prior research (Rogers & Petrie, 1996) as well as in the current study ($r = .76$).

Two month test-retest reliabilities reported for the original and revised questionnaires range from .73 to .77 for the total questionnaire score (Snowdon, 1980). In a recent study involving undergraduate females, the internal consistency reliability (KR-20) was .94 for the combined symptom and trait score (Rogers & Petrie, 1996). Similarly, Kuder Richardson (KR-20) reliability coefficient was .94 in the current investigation. In the original study, Cooper (1970) found the LOI to be a valid measure in differentiating between obsessional and normal patients. Symptom scores between high scoring normals and low scoring obsessionals may be further distinguished through the use of the resistance and interference subscales. The questionnaire form of the LOI has been professed as the best measure of obsessionality to date and frequently is used within an eating disorders population (Johnson & Holloway, 1988). (See Appendix D)

**Dependency.** The 48-item Interpersonal Dependency Inventory (IDI; Hirschfeld, Klerman, Gough, Barrett, Korchin, & Chodoff, 1977) assesses the thoughts, feelings, beliefs, and behaviors relating to one’s needs to associate with valued others. Factor analysis revealed the presence of three factors: Emotional Reliance on another Person
(concerning emotional attachment, needs for affection, and doubts of independence), Lack of Social Self-Confidence (reflecting a more generalized wish for attention and approval), and Assertion of Autonomy (involving the denial of attachment or dependency needs). The authors proposed that these three scales, in combination, measure interpersonal dependency.

Sample items of the IDI include: "As a child, pleasing my parents was very important to me" (Emotional Reliance on Another); "I am quick to agree with the opinions expressed by others" (Lack of Social Self-Confidence); and "I prefer to be by myself" (Assertion of Autonomy). Individuals indicate the degree to which each item applies to them on a four point Likert-type scale ranging from 4, "very characteristic of me," to 1, "not characteristic of me." Hirschfeld et al. (1977) suggested obtaining a score for each of the three subscales as well as a total score. The present investigation is concerned with each factor of dependency and, therefore, did not compute a total dependency score. In addition, the total score is a linear combination of the subscales and thus highly intercorrelated. Obtaining raw scores for each scale entails reversing values of items 10, 23, and 44 on subscale 2, and then summing across all items within each scale.

Hirschfeld et al. (1977) found that split-half correlations for the subscales were .87, .78, and .72,
respectively. Concerning the scales' validity, they found that Emotional Reliance on Another Person and Lack of Social Self-confidence correlated with measures of neuroticism ($r = .49$, $r = .47$), depression ($r = .44$, $r = .42$), anxiety ($r = .34$, $r = .27$), and social desirability ($r = -.44$, $r = -.56$), respectively. These two scales also were able to discriminate scores between normals and patients while Assertion of Autonomy differentiated scores between males and females. In using the IDI with an undergraduate sample, Rogers and Petrie (1996) reported that internal consistency reliabilities (Cronbach's alphas) were .85, .84, and .76 for Emotional Reliance, Lack of Social Self-Confidence, and Assertion of Autonomy, respectively. The present study also found that the scales were internally stable, with Cronbach's alphas of .82 (Emotional Reliance), .82 (Lack of Social Self Confidence), and .73 (Assertion of Autonomy). (See Appendix E)

**Hostility.** The Hostility and Direction of Hostility Questionnaire (HDHQ; Caine, Foulds, & Hope, 1967) consists of 51 items selected from the MMPI that measure the degree and direction of overall hostility. Individuals are asked to answer true or false to items such as, "My hardest battles are within myself," (intropunitive scale) and "Sometimes I enjoy hurting people I love" (extrapunitive scale). Items reflecting hostile responses are scored 1 and items reflecting non-hostile responses are scored 0 (zero).
The questionnaire is based on five subscales: (a) Urge to act out hostility, (b) Criticism of others, (c) Projected delusional (i.e., paranoid) hostility, (d) Self-criticism, and (e) Guilt. The first three subscales are used to measure extrapunitiveness while subscales (d) and (e) comprise the measure of intropunitiveness, or self-directed hostility. Thus, scoring includes summing items across the respective subscale.

Internal consistency reliability (KR-20) for the intropunitive subscale has been reported as .78 (Rogers & Petrie, 1996), and was calculated as .74 in the current study. The internal consistency (KR-20) of the extrapunitive subscale was calculated as .79 in the current study. In terms of the questionnaire's use with eating disorders, Williams, Chamove, and Millar (1990) found that the intropunitive scale was significantly correlated (r = .64) with a measure of eating disordered symptoms (i.e., the Eating Disorders Inventory). (See Appendix F)

Assertiveness. The 50-item College Self-Expression Scale (CSES; Galassi, DeLo, Galassi, & Bastien, 1974) measures three aspects of assertiveness: positive feelings (e.g., love, admiration, approval), negative feelings (e.g., anger, disagreement, disapproval), and self-denial (e.g., excessive apologies, excessive concern for others' feelings). Sample items include, "Is it difficult for you to compliment or praise others?" "Do you ignore it when
someone pushes in front of you in line?" and "Are you inclined to be over-apologetic?" Items are presented in a 5-point Likert format ranging from 0, "almost always or always," to 4, "never or rarely." A total score is obtained by summing 21 positively worded items and, after reverse scoring, summing 29 negatively worded items. Thus, a total score may range from 0 to 200, with low scores indicating a general nonassertive response pattern.

Galassi et al. (1974) reported 2-week test-retest reliability coefficients to be .89 and .90, and the current investigation found the scale to be internally consistent with a Cronbach's alpha of .89. When examined with the Adjective Check List, the CSES correlated positively with several scales thought to reflect assertiveness (e.g., Self-Confidence) and negatively with several scales thought to reflect nonassertiveness (e.g., Succorance). Thus, the scale has demonstrated some degree of construct validity. Galassi et al. also reported that the scale possessed concurrent validity by correlating participants' CSES self-report scores with observers' (i.e., the participants' supervisors) CSES behavioral rating scores. (See Appendix G)

Locus of control. The I.P.C. Scales (IPC; Levenson, 1974) include 24-items measuring the degree to which people believe they exercise control over their lives and/or feel that their destinies are beyond their control. Levenson
subjected the scales to a principle components analysis, and varimax rotation indicated the presence of three interpretable factors. These I.P.C. factors include:

- **Internal Control** (accounting for 9.7% of the variance) involving perceived mastery over one's life;
- **Powerful Others Control** (accounting for 16.8% of the variance) referring to the expectancy for control by powerful others; and
- **Chance Control** (accounting for 6.4% of the total variance) concerning the belief that the world is unordered.

Sample items of the scales include: "My life is determined by my own actions" (Scale I); "Getting what I want requires pleasing those people above me" (Scale P); and "To a great extent my life is controlled by accidental happenings" (Scale C). Each scale includes 8 items, and participants are asked to respond using a 6-point Likert-type scale. The present study followed a modified scoring technique, used by Williams et al. (1993), and scored all items in the direction of externality, with 6 being the most extreme external response. Therefore, summing across all scales, scores may range from 24 to 144.

In terms of internal consistency, Levenson (1974) reported that the I.P.C. Scales were moderately stable. Split-half reliabilities (Spearman-Brown) for I, P, and C were .62, .66, and .64, respectively. One-week test-retest reliabilities were reported as .64 (I scale), .74 (P scale), and .78 (C scale). Finally, coefficient alphas were
reported as .64 for the I scale, .77 for the P scale, and .78 for the C scale. The present investigation also found that the scales were internally consistent with alphas of .62 (I scale), .80 (P scale), and .78 (C scale). The combined I.P.C. Scales also were internally consistent with alpha of .85.

In terms of validity, correlations among the I.P.C. Scales indicated that P and C were moderately related ($r = .59, p<.01$) and both were negatively related to I ($r_s = -.14$ and -.17, ns). These relationships are consistent theoretically as the constructs measured through P and C reflect the idea of external locus of control. Further validation was indicated through the finding that individuals who believed that chance controlled their lives possessed less information on a specific topic. A recent study employing the I.P.C. scales (Williams et al., 1993) found that anorexic and bulimic groups scored significantly higher than three comparison groups (obese dieters, nonobese dieters and normal controls). (See Appendix H)

**Self-esteem.** The Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a 10-item instrument measuring a self-acceptance dimension of self-esteem. Participants respond to items on four-point Likert-type scale, ranging from 1 (strongly agree) to 4 (strongly disagree). A total score is obtained by using Guttman scoring: two or three responses indicating high self-esteem on the first three items are
scored as one item, two responses indicating high self-esteem on items 4 and 5 are scored as one item, and two responses indicating high self-esteem on items 9 and 10 are scored as one item. The remaining items (6, 7, and 8) are scored individually; therefore, a total score may range from 0 (low self-esteem) to 6 (high self-esteem).

Robinson and Shaver (1973) found that the scale is relatively stable over time, reporting a 2-week test-retest reliability as .85. The current investigation found that the SES was internally reliable as well (Coefficient alpha = .84). In terms of validity, Robinson and Shaver reported that the Rosenberg Self-Esteem Scale correlated with the Coopersmith Self-Esteem Inventory ($r = .59$) and the California Psychological Inventory Self-Acceptance scale ($r = .66$). More recent studies, utilizing this scale (Mintz and Betz, 1988; Williams et al., 1993), have found a relationship between lower self-esteem and disturbed eating patterns. (See Appendix I)

**Social desirability.** The Marlowe Crowne Social Desirability Scale, Short Form (M-C SDS SF; Strahan & Gerbasi, 1972) is a 10-item self-report measure assessing the degree to which people endorse socially desirable traits. Participants respond "True" or "False" to items, such as "I always try to practice what I preach" and "I never resent being asked to return a favor." Items 1-5 are scored positively (i.e., receive 1 point) for "True"
responses while items 6-10 are scored positively for "False" responses. A total score is obtained by summing all points, or items scored positively.

The short form of the M-C SDS was developed through principal components analysis. Criteria for item selection included: items with the highest loadings, an equal proportion of positively- and negatively-keyed items, simplified wording, and appropriateness for a college population. In the original analysis, Kuder Richardson (KR-20) reliability coefficients ranged from .59 to .70. In the present investigation, KR-20 coefficient was .63. Strahan and Gerbasi (1972) reported cross validation with a similar 10 item form as well as a longer 20 item form. Correlations among the short forms and the original M-C SDS were above .80. (See Appendix J)

Procedure

Participants were given a statement of the study's general purpose (i.e., to investigate various personality traits among college aged females) as well as information regarding the anonymity and confidentiality of the study, and their right to discontinue participation at any time. They signed consent forms indicating their understanding of the study's purpose and their rights as participants. The various measures were administered during group testing sessions. Instruments measuring psychological correlates were counterbalanced to minimize ordering effects; however,
questionnaires measuring eating disordered symptomatology (i.e., the EAT and BULIT-R) always were administered after these psychological inventories and the demographic questionnaire always was administered last. Upon completion, participation in the study was verified so subjects could receive extra class credit. In addition, participants were given a list of several mental health referrals in case their involvement in the study contributed to feelings of distress. (See Appendix K)

Analysis of Data

To determine the independent relationships between anorexic and bulimic symptomatology and the psychological correlates, hierarchical regression was employed. Consistent with previous investigations (Lester & Petrie, 1995), age and body mass (wt[kg]/ht[m²]) were entered into the model first to control for the effects on eating disorder symptomatology. To determine if the psychological variables—obsessiveness, emotional reliance, lack of social self confidence, autonomy, self-directed and/or outward-directed hostility, assertiveness, locus of control, and self-esteem—accounted for any additional variance in EAT and BULIT-R scores, they were entered second into the regression model. Because previous research and theory have not indicated whether any of these personality characteristics were more influential than others in predicting eating disorder symptoms, the measures were
entered by stepwise selection. With alpha set at .05 and, for an effect size of $R^2 = .2$, power exceeded .7 (Cohen & Cohen, 1983).
CHAPTER III

RESULTS

Applying the suggested cutoff score on the EAT (Garner & Garfinkel, 1979; 1980) to the sample in the present investigation, demonstrated that 20% of the participants exceeded the level most reflective of anorexia nervosa. Applying the recommended cutoff score on the BULIT-R (Thelen et al., 1991), demonstrated that 9% of participants exceeded the level suggestive of bulimia nervosa. Regarding pathogenic eating patterns, the majority of participants denied frequent periods of restricted caloric intake as well as frequent episodes of uncontrollable, binge-eating. Regarding pathogenic methods of weight loss, the majority of participants denied excessive use of strategies involving restriction of intake, intentional vomiting, laxative use, diuretic use, and compulsive exercise. Table 1 presents response frequencies to specific pathogenic eating and weight loss items. (See Appendix L)

Table 2 presents means, standard deviations, and Pearson product-moment correlations of the predictor and criterion variables. (See Appendix L) In examining the correlations among the predictor variables, only one correlation (CSES and lack of social self-confidence) exceeded .7. Since tolerance for this variable was
acceptable, multicollinearity was not a major concern in the subsequent regression analysis (Tabachnick & Fidell, 1989). Scatter plots were produced to examine the linearity of the bivariate relationships, and this visual examination suggested that proceeding with the planned analyses was appropriate.

Regression analysis revealed that, with regard to drive for thinness, age ($\beta = -.13, p < .18$) and body mass ($\beta = -.05, p < .58$) were unrelated and accounted for less than 6% of the variance, $F(2, 88) = 2.75, p > .07$. Of the personality variables, obsessiveness entered the equation first and accounted for an additional 13% of the variance ($F[1, 87] = 13.96, p < .01; \beta = .24, p < .05$), emotional reliance on another person added 5% ($F[1, 86] = 5.66, p < .05; \beta = .29, p < .01$), and assertion of autonomy accounted for an additional 4% of the variance ($F[1, 85] = 4.72, p < .05; \beta = .20, p < .05$). The full regression model was significant ($F[5, 85] = 6.77, p < .001$) and, overall, these variables accounted for 28% of the EAT score variance.

With regard to bulimic symptomatology, age ($\beta = -.08, p > .19$) and body mass ($\beta = .24, p > .24$) were unrelated and accounted for less than 6% of the variance, $F(2, 88) = 2.39, p > .09$. Of the personality variables, lack of social self-confidence entered the equation first and accounted for additional 14% of the variance ($F[1, 87] = 15.23, p < .01; \beta = .28, p < .01$) while obsessiveness entered next and
explained another 6% of the variance ($F[1, 86] = 6.97, p < .05; \beta = .28, p < .01$). The full regression model was significant ($F[4, 88] = 7.65 p < .001$) and explained 26% of BULIT-R score variance.
CHAPTER IV

DISCUSSION

This study investigated the relationship between anorexic and bulimic symptoms and specific personality/psychological correlates. Undergraduate females with varying degrees of anorexic and/or bulimic symptomatology were compared on measures of obsessiveness, dependency, hostility, assertiveness, locus of control (externality), and self-esteem. To fully examine the findings related to each of these traits, the remainder of this chapter will be divided into 6 categories: (a) correlates of anorexia and bulimia, (b) levels and prevalence of anorexia and bulimia, (c) research limitations, (d) clinical implications, (e) recommendations for future research, and (f) summary.

Personality Correlates of Anorexia and Bulimia

This study attempted to replicate an earlier investigation (Rogers & Petrie, 1996) that found variance in EAT scores among college women was best explained by obsessiveness and a factor of dependency (i.e., emotional reliance on another). Furthermore, the current study intended to extend findings that documented "cognitive/emotional" features in eating disorder patients (Williams et al., 1993) to nonclinical college females.
Thus, the relationships of six identified characteristics—obsessiveness, dependency, self-directed hostility, assertiveness, external locus of control, and self-esteem—to eating disorder symptoms (EAT and BULIT-R scores) were examined in a nonclinical sample of college women. Although four of the six variables were independently related to disordered eating symptoms in the expected directions, when considered together in regression analyses, only obsessiveness and different measures of dependency proved to be significant. For EAT scores, obsessiveness, emotional reliance on another person, and assertion of autonomy explained 22% of the variance. For the BULIT-R, lack of social self-confidence and obsessiveness accounted for 20% of the variance.

These findings support previous research (Rogers & Petrie, 1996), indicating that personality characteristics are related to disordered eating symptoms and not just to clinical diagnoses. Furthermore, certain characteristics (i.e., obsessiveness and dimensions of dependency) appear to be particularly important in the overall relationship to disordered eating symptoms. Thus, it is important to consider these characteristics in both research and treatment.

The eating disorder literature has long noted obsessive tendencies in anorexic and bulimic patients. Anorexics have been characterized as possessing an underlying obsessive trait structure (Strober, 1980), while bulimics have been
described by their obsession with food and compulsion with binge/purge behavior (Neuman & Halvorson, 1983). Consistent with past research (Johnson & Holloway, 1988; Rogers & Petrie, 1996; Smart et al., 1976), the present investigation found a relationship between obsessiveness and eating disorder symptomatology. Obsessive symptoms and traits accounted for variability in both EAT and BULIT-R scores. However, when the psychological correlates were considered in regression analyses, obsessiveness accounted for the majority of the variance in EAT scores but added a smaller degree to BULIT-R scores. This finding coincides with recent investigations suggesting that obsessive characteristics are more common among anorexic than bulimic patients (Hall et al., 1992; Wonderlich et al., 1990).

In terms of dependency, the eating disorder literature has included descriptions of anorexics and bulimics that suggest dependent features. Smolak and Levine (1993) suggested that dependency may be more characteristic of anorexia than bulimia. However, their investigation examined "separation-individuation" issues and, thus, highlights the lack of clear definition of dependent features. The present investigation, in examining certain factors of dependency, found that different factors are related to anorexic vs. bulimic symptoms.

For anorexic symptoms, the three factors of dependency were significantly related; however, when all psychological
variables are considered in regression analyses, only two appear important (i.e., emotional reliance on another and assertion of autonomy). Anorexic symptomatology may be characterized by dependency on a close other as well as the need to deny this reliance and assert one's individualism. These findings support psychoanalytic theories suggesting that anorexics are encouraged to display compliant, dependent behavior to maintain an enmeshed relationship with the mother. The anorexic symptoms (i.e., restriction of intake) may be conceptualized as the means of asserting individualism in the context of an enmeshed relationship.

For bulimic symptoms, the three factors of dependency, again, were significantly related; however, in considering all psychological variables in regression analyses, lack of social self-confidence was the only factor that demonstrated significance. This finding seems to support Boskind-Lodahl's (1976) description of the bulimic's accommodating style and need to please. She asserts that bulimic anorexics have constructed a self-image around the expectations of others and, thus, possess a great fear of rejection. Bulimic symptoms are an attempt to control physical appearance in hopes of pleasing others, particularly men, and validating self-worth.

In examining results from regression analyses, one may conclude that dependency needs present somewhat differently in women with anorexic vs. bulimic symptoms. Anorexic
symptoms may be viewed as a means of getting dependency needs met while asserting one's individualism. Bulimic symptoms may be described as an attempt to manage the lack of social self-confidence that comes from failed attempts to meet the cultural thin ideal. In examining findings from simple correlations, however, it appears that dependency presents similarly in women with anorexic vs. bulimic symptoms which may be due to the high intercorrelation between EAT and BULIT-R scores. Thus, the relationship of dependency factors among nonclinical and clinical levels of eating pathology should be more thoroughly examined.

In examining hostility, the present study uncovered a simple correlation between self-directed hostility and anorexic and bulimic symptomatology; however, when all psychological variables were considered together in regression analyses, self-directed hostility did not account for a significant portion of the variance in EAT or BULIT-R scores. This finding is consistent with Williams and her colleagues (1990, 1993) who have repeatedly found that females with anorexia or bulimia nervosa reported greater levels of self-directed hostility than nonpsychiatric controls. Ben-Tovim et al. (1979), using the same measure of hostility, also found that abstaining and purging anorexics endorsed greater levels than controls. Based on Rogers and Petrie (1996) and the current investigation, however, self-directed hostility does not appear to
contribute a unique portion of the understanding of anorexic or bulimic symptoms after other personality characteristics (i.e., obsessiveness and dependency factors) are considered.

Although intropunitiveness appears related to eating disorder symptoms, methodological differences (i.e., statistical analyses) obscure a clear understanding of its contributing role in nonclinical vs. clinical levels of eating pathology. The individual with anorexic and/or bulimic symptoms may possess a greater degree of self-directed hostility as symptoms reach clinical levels; however, additional research is needed to demonstrate the extent to which intropunitiveness explains eating disorder symptoms at diagnostic levels when other psychological correlates are considered.

Although the present study was designed to examine self-directed hostility, the relationship between bulimic symptoms and outward-directed hostility was considered as well. To our knowledge, the relationship between extrapunitiveness and eating disorder symptomatology has not been studied. In reviewing the literature on personality and eating disorders, Wonderlich (1995) noted that individuals with anorexia have been characterized by high levels of "restraint, risk avoidance and conformity" suggesting lack of overt hostile behavior; however, he also noted the controversy regarding the existence of "impulsive" and "acting out" behaviors in individuals with bulimia. He
recognized that bulimics have been described as more hostile than control or anorexic groups yet advised further investigation. Given the descriptive nature of women with anorexia versus women with bulimia, a relationship between outward directed hostility and bulimic symptomatology was thought to be plausible and thus examined. Findings from this analysis suggested simple correlational relationships between extrapunitiveness and EAT and BULIT-R scores. Extrapunitiveness, however, did not contribute any unique variance in the regression equations once the other personality variables were considered.

In terms of assertiveness, a negative relationship with anorexic and bulimic symptoms was found; however, assertiveness did not explain any unique variance in EAT and BULIT-R scores when all variables were considered together. This result somewhat supports past evidence correlating anorexia and bulimia nervosa with lower levels of assertiveness. Clinical reports described the anorexic as being unable to assert her rights (Neuman & Halvorson, 1983), while empirical studies (Williams et al., 1990, 1993) have found anorexic and bulimic patients to be less assertive than non-psychiatric controls.

In examining a nonclinical population, previous research (Rogers & Petrie, 1996) failed to establish assertiveness as a significant factor in explaining anorexic symptoms even with using the same measure of assertiveness
as Williams et al. (1990). Thus, the present investigation used an inventory specific for a college population as it was thought to be more representative of the participants' life experiences. Doing so, seemed to improve the relationship between assertiveness and eating disorder scores.

In terms of external locus of control, the present investigation found a simple correlation with anorexic and bulimic symptomatology. However, when all psychological variables were considered together in regression analyses, external locus of control did not add significantly to the prediction of anorexic or bulimic symptomatology. Although external locus of control may not uniquely add to the prediction of eating disorder symptoms, after obsessiveness and dependency factors were considered, the simple correlations support anecdotal and empirical investigation, reporting the presence of externality in women with anorexia and bulimia. Wilson (1976) noted an external locus of control among women with anorexia nervosa, while Boskind-Lodahl (1976) highlighted feelings of helplessness among women with bulimia nervosa. In an empirical analysis, Harding and Lachenmeyer (1986) found that external locus of control was the best predictor of the diagnosis and severity of anorexia nervosa. Shisslak, McKeon, and Crago (1990) reported that an external locus of control was more characteristic of bulimic women (in 3 different weight
categories) than normal controls. Finally, Williams and her colleagues (1990, 1993) have consistently reported a greater degree of externality among eating disordered women than dieting and normal weight controls.

In examining the relationship between self-esteem and anorexic and bulimic symptoms, the present investigation found that self-esteem was negatively related to EAT, but not BULIT-R, scores. However, self-esteem did not contribute a significant amount to the variance of EAT or BULIT-R scores when all psychological variables were considered. Several authors have noted the existence of low self-esteem among anorexic and bulimic patients (Bruch, 1978; Boskind-Lodahl, 1976; Garner et al., 1982) and researchers have consistently reported negative correlations between self-esteem and eating disorders (Williams et al., 1993; Willmuth et al., 1988). The nonexistent relationship between self-esteem and bulimic symptoms in the current study was particularly surprising, as past investigations of college women have linked low self-esteem with disturbed eating (Mintz & Betz, 1988; Street-Nieberding & Petrie, 1996). Further investigation regarding the degree to which self-esteem accounts for eating disorder symptomatology appears warranted.

As previously stated and illustrated above, investigations of personality and eating disorders differ on their opinion regarding the similarity (e.g., Ben-Tovim et
al., 1979; Scott & Barroffio, 1986; Strober, 1980) or difference (e.g., Casper, 1990; Powers, 1984) between anorexics and bulimics. The present study suggests that personality traits among college women with anorexic symptoms and college women with bulimic symptoms are somewhat similar. When simple correlations are considered, the personality variables were related to the eating disorder measures in the same direction and with basically the same magnitude, with one exception (i.e., self-esteem). When regression analyses were conducted, obsessiveness and two factors of dependency (i.e., emotional reliance on another and assertion of autonomy) accounted for all the unique variance in EAT scores while a third factor of dependency (i.e., lack of social self-confidence) and obsessiveness accounted for the unique variance in BULIT-R scores. Differences between these two forms of disturbed eating patterns lie in the degree to which obsessiveness contributes to symptom variance as well as the specific dependency factors involved.

In attempting to explain results between the Williams et al. (1990, 1993) and Rogers and Petrie (1996) studies, several points may be made. First, when examining simple correlational relationships, findings from these two lines of research tend to support each other. Both investigative groups found relationships between eating disorder symptoms and self-directed hostility, low assertiveness, externality,
and low self-esteem. When examining the degree to which predictor variables account for eating disorder symptoms, however, findings from the two lines of research are difficult to explain. Williams et al. found differences in hostility, assertiveness, externality, and self-esteem between eating disordered and non-eating disordered groups. Rogers and Petrie reported that hostility and assertiveness lacked predictive power and that the most parsimonious model for understanding eating disorder symptoms involved obsessiveness and dependency. Apparent differences in these results, however, may be a consequence of statistical analyses. Williams et al. used MANOVA to inspect between-group differences while Rogers and Petrie used regression analyses to determine within-group predictors. Thus, these statistical procedures ask different research questions. In examining eating disorder symptoms on a continuum, future investigators may want to use regression analyses to support existing research regarding the best model of understanding eating disorders with respect to personality and psychological characteristics.

Given the evidence of characterological features among clinical and nonclinical populations, certain questions arise.

1) Do certain personality characteristics (e.g., obsessiveness and dependency) predispose some women to eating disorders?
2). Do eating disorders lead to maladaptive character traits (e.g., hostility, low assertiveness, external locus of control, low self-esteem)?

Many researchers have conceptualized eating disordered thoughts and behaviors along a continuum, yet there is a clear distinction between a woman with restrictive thoughts/behaviors and a woman with anorexia. For example, females frequently alter their diet to reach a slimmer, and more culturally desired, figure. Females with anorexia, however, restrict intake at the expense of physical and mental health. In the same manner, personality traits lie on a continuum yet clearly differ from personality disorders. For example, people may rely on obsessive traits to varying degrees, and this reliance may be more or less adaptive; however, a person with obsessive compulsive disorder is hindered by the interference of obsessive thoughts and copes with these through engaging in compulsive behaviors.

Anorexia and bulimia nervosa may be conceptualized in the same manner as personality disorders. There may be a clear characterological profile that fits an anorexic woman and a characterological profile that fits a bulimic woman; however, the dynamics of the various traits may account for different weights. Much like the polythetic nature of DSM's personality disorders, clinical presentation may be somewhat heterogenous as the individual needs to present with only a
subset of criteria. As suggested in this study, several psychological correlates may represent factors involved in eating pathology rather than a clear pattern that fits each individual with anorexia or bulimia.

**Levels and Prevalence of Anorexia and Bulimia Nervosa**

The developers of the EAT (Garner & Garfinkel, 1979) suggested applying a cutoff score of 30 to determine risk for anorexia, and several studies have implemented this cutoff as well (Aronson et al., 1990; Clarke & Palmer, 1983). In diagnosing anorexia nervosa with the criteria previously established by Garner and Garfinkel (1979), the present study found a prevalence rate of 20%. In other words, 19 of the 97 participants scored 30 or above on the EAT.

The developers of the BULIT-R (Thelen, Farmer, Wonderlich, & Smith, 1991) suggested a cutoff score of 104 to classify those at risk for bulimia. In using this cutoff in the current investigation, 9% of women may be identified as bulimic. In other words, 9 of the 97 participants scored 104 or above on the BULIT-R. It should be noted, however, that categorization of symptoms was based upon EAT and BULIT-R scores alone. Clinical interviews were not conducted and, therefore, diagnoses according to DSM-IV criteria can not be confirmed. Furthermore, these rates are somewhat higher than reported by other studies examining anorexic and bulimic symptomatology on college campuses.
(Aronson et al., 1990; Clarke & Palmer, 1983). For example, Aronson et al. (1990) found that 10% of the female undergraduates in their younger age group (i.e., between the ages of 18 and 27) scored within the anorexic range defined by the EAT. Also, Mintz and Betz (1988) found that 3% of female undergraduates exceeded the bulimic cutoff suggested for the BULIT-R. The current investigation used a representative, though small, sample of the college population as well as a psychometrically sound measures; thus, the number of women exceeding the anorexic and bulimic levels of symptomatology may be considered valid.

Limitations

Although the current investigation provided important information concerning the relationship between several psychological correlates and anorexic and bulimic symptomatology, limitations exist that warrant discussion. First, results may have been biased due to the reliance on self-report. In general, participants may have under- or over-reported their eating disorder symptoms or personality traits; however, it is unlikely that this occurred based on two findings: (1) participants completed a measure of social desirability (i.e., Marlow-Crowne Social Desirability Scale) and this demonstrated no relationship to measures of eating disorder symptoms or personality; and (2) prevalence rates of anorexic and bulimic levels of symptoms were consistent with previous research. Given these two
findings, the participants' self-reports seem to lack social response bias and reflect expected levels of eating disordered symptoms. A more specific limitation of self-report may involve the reliance on an assertiveness self-report, as it reflects attitudinal rather than behavioral evidence. Although simple relationships between assertiveness and anorexic and bulimic symptoms were found, a more behavioral measure of assertiveness may demonstrate a stronger relationship, especially when considering all psychological variables together.

Another limitation in the current study involves sampling. That is, results may have been biased due to limited sampling. This sample was drawn from a single university in the southwestern region of the United States; thus, it may not be completely representative of female undergraduates. Furthermore, the sample employed in this study included a relatively small number of participants; therefore, generalizability of results may be limited.

Clinical Implications

Keeping limitations in mind, results of this investigation hold several implications in treating women with eating disorder symptoms. First, if the cutoff criteria suggested by Garner and Garfinkel were applied, 20% of these college women would exceed the anorexic level. If the cutoff criteria suggested by Thelen et al. (1991) were applied, 9% of these college women would exceed the bulimic
level. These rates reflect a significant number of young women who report experiencing severe anorexic and bulimic symptomatology, and clinicians should be aware of the prevalence and characteristics of this population. These women may present at university counseling centers and may be considered at risk for developing clinical diagnosis of an eating disorder.

Females with anorexic symptomatology are in need of intervention and treatment at multiple levels. Physical complications (i.e., weight loss, electrolyte imbalance) and psychological distress (e.g., depression) often coexist with eating disorders, and these issues should be addressed in treatment; however, certain character traits should not be ignored. As described below, the characterological tendencies of patients may hinder, or facilitate, change in primary diagnoses. Over the course of therapy, clinicians should become aware of patient tendencies. Results of the present investigation may guide clinicians in this assessment. For college females presenting with anorexic symptoms, it will be important for clinicians to address obsessive and dependent (e.g., emotional attachment and denial of attachment needs) qualities. For college females presenting with bulimic symptoms, it will be important for clinicians to address dependent (i.e., lack of social self-confidence) and obsessive tendencies.
The eating disorder literature has indicated that because the obsessive quality of anorexia and bulimia is directed toward food and weight issues, change in these areas is difficult to attain. Researchers (e.g., Crisp & Bhat, 1982) have supported this implication by finding that obsessive-compulsive symptoms in anorexics are associated with a poor prognosis. Because obsessiveness has the potential to impede recovery, practitioners should consider this trait when planning interventions.

As obsessive thoughts are often combatted (in adaptive or maladaptive ways) through behavioral action, therapists may attempt to alleviate obsessive tendencies through various cognitive-behavioral techniques. Rigid limits and high standards of achievement regarding eating and weight may be challenged through various "decentering" techniques that redirect focus from symptoms to adaptive coping strategies. Therapists may provide an alternative perspective by questioning negative self-ruminations and/or provide a more realistic outlook by decatastrophizing extreme (i.e., black or white) attitudes. Also, activity logs may be used to create extraneous activities that detract the patient during periods of intense obsessiveness. In each of these techniques, focus is shifted away from the self in more adaptive ways. Alternatively, therapists may elect to capitalize on the strengths associated with obsessive thinking. For example, patients may be taught to
replace negative ruminations with more health-promoting phrases.

As factors of dependency have been associated with disturbed eating, practitioners also should be aware of the importance of this issue when planning treatment. Dependency frequently becomes an issue in the therapeutic relationship, and Orbach (1985) noted that "object constancy" is an essential part of therapy. The therapist should provide a consistent environment, and the development and maintenance of the therapeutic alliance will be integral in facilitating change.

Results of this study demonstrate that different factors of dependency may be at work; therefore, it will be important for clinicians to determine what factor(s) is most significant for his/her client. For example, a client's tendency and need to rely on others will be addressed differently than her lack of social self-confidence. Cognitive-behavioral techniques may assist the client in understanding and challenging her need to rely on others as well as encourage and reinforce autonomous thinking and behaving. Alternatively, CBT may attempt to increase the client's social self-confidence by challenging automatic thoughts provoked in social situations. The goal of challenging maladaptive thoughts is to facilitate the client's ability to take a more objective and realistic perspective, independent of the therapist. Garner and Bemis
(1985) noted, however, that direct challenges may reinforce feelings of inadequacy and impede the therapeutic relationship. Thus, challenging issues of dependency should be executed with caution and done in the context of a supportive and trusting therapeutic environment.

Implications for Future Research

In examining a nonclinical college population, the current investigation provides some support for investigations of anorexic and bulimic patients. As noted above, however, findings appear somewhat discrepant when considering all psychological variables together. It is suggested that future research include assessment of all six of these psychological correlates with a clinical sample of anorexics and bulimics, using regression analyses. It is also recommended that future investigations directly compare women with anorexia and bulimia to women with subdiagnostic levels of eating pathology on these various personality measures. To address the generalizability of results, other populations may be targeted. For example, investigators may want to examine personality correlates within eating disordered (i.e., anorexic or bulimic) males or within different cultures or age groups.

To determine if these personality characteristics relate to the development of anorexia or bulimia nervosa, longitudinal research is needed. Investigations may examine if certain personality correlates serve to predispose some
women to anorexia or bulimia. Such inquiries may, instead, reveal that personality traits are merely symptoms which present at different levels of anorexic or bulimic symptomatology. Thus, an alternative avenue for longitudinal study may be to explore the degree of symptomatology over time. Such examinations may determine if symptom severity (as measured by the EAT and BULIT-R) predicts subsequent diagnoses of anorexia or bulimia nervosa as well as address the issue of conceptualizing eating pathology on a continuum.

In terms of the specific psychological correlates examined in the present investigation, further attention may be directed to examine the construct of dependency. Disagreement in definition as well as lack of appropriate measurement has led to confusing results in relating dependency and eating disorders (e.g., Pillay & Crisp, 1977; Smart et al., 1976; Strober, 1980). Our recent studies, using a reliable and valid measure of dependency factors, suggest that specific aspects of dependency are significant in relation to anorexic and bulimic symptomatology. Future investigations may want to measure dependency factors by various objective scales, thus allowing investigations of the relationship between dependency and eating pathology to be more discernable.

A final avenue of investigation involves outcome studies. If certain psychological factors are evident in
women with eating disturbance, what type of psychotherapy orientation and treatment modality is best suited to address these features? Given the cognitive nature of obsessiveness and the interpersonal nature of dependency, these types of approaches (i.e., cognitive therapy and interpersonal therapy) seem worthy of examination.

**Summary**

The present study examined the relationship between several psychological correlates and eating disordered symptoms. Based on the findings of this investigation, anorexic symptomatology is related to several psychological factors (i.e., obsessiveness, dependency factors, extrapunitiveness and intropunitiveness, low assertiveness, external locus of control, and low self-esteem); however, EAT scores are best explained by obsessiveness and dependency factors (i.e., emotional reliance on another person and autonomy). Some support is provided for investigations by Williams et al. (1990, 1993); however, these results confirm previous findings documented by Rogers and Petrie (1996) in that the most parsimonious model for explaining anorexic symptomatology in a female undergraduate population is defined by obsessiveness and emotional reliance on another person. Findings from the current investigation also demonstrate that bulimic symptomatology is related to several psychological characteristics (i.e., obsessiveness, emotional reliance on another, lack of social
self-confidence, assertion of autonomy, extrapunitiveness and intropunitiveness, low assertiveness, and external locus of control); however, when psychological factors are considered simultaneously, the most parsimonious model for explaining bulimic symptomatology in undergraduate females is defined by a factor of dependency (i.e., lack of social self-confidence) and obsessiveness.

Findings from this investigation suggest implications for treatment as well as directions for future research. For clinicians, it should be noted that the personality features of women with eating disordered symptoms may provide further understanding concerning the development, maintenance and treatment of these women. For researchers, it will be necessary to continue examining personality traits in combination in an attempt to uncover characterological features of the women with eating disorder symptoms. In addition, it will be useful to consider the degree of symptomatology (i.e., clinical vs nonclinical) when assessing personality.
APPENDIX A

DEMOGRAPHIC AND WEIGHT QUESTIONNAIRE
Demographic Questionnaire

Directions: Please answer all items on this questionnaire as honestly and accurately as possible as they apply to you. All information you provide will be kept strictly confidential.

1. Age:

2. Marital Status:  ___Single  ___Married  ___Divorced/Separated

3. Family of Origin:
   Number of Siblings:__
   Parental Marital Status:  ___Married  ___Divorced/Separated  ___Other

4. Race/Ethnic Group:
   ___Black, non-Hispanic  ___Hispanic  ___Native American
   ___Caucasian  ___Asian-American  ___Other (please specify)_____

5. Annual Household Income:
   ___Less than 10,000  ___61,000-100,000
   ___10,000-30,000  ___More than 100,000
   ___31,000-60,000  Is this personal__ or family__?

6. Academic Rank in School:
   ___freshman  ___senior  ___graduate student
   ___sophomore  ___other (please specify)_____

7. Number of Years Attending an Institution of Higher Education (e.g.
   community college, university):_____

8. Cumulative Grade Point Average:
   ___3.5-4.0  ___3.0-3.49  ___2.5-2.99  ___2.0-2.49  ___less than 1.99

9. Academic Major (please specify):__________________________

10. Weight History:
    Present Weight:_____
    Present Height:_____
    Ideal Weight:_____
    Ideal Height:_____
    Lowest Weight at Present Height:_____
    Highest Weight at Present Height:_____
APPENDIX B

EATING ATTITUDES TEST
APPENDIX Eating Attitudes Test

Please place an (X) under the column which applies best to each of the numbered statements. All of the results will be strictly confidential. Most of the questions directly relate to food or eating, although other types of questions have been included. Please answer each question carefully. Thank you.

<table>
<thead>
<tr>
<th>Always</th>
<th>Very often</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Like eating with other people.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Prepare foods for others but do not eat what I cook.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Become anxious prior to eating.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Am terrified about being overweight.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Avoid eating when I am hungry.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Find myself preoccupied with food.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Have gone on eating binges where I feel that I may not be able to stop.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Cut my food into small pieces.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Aware of the calorie content of foods that I eat.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Particularly avoid foods with a high carbohydrate content (e.g. bread, potatoes, rice, etc.).</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Feel bloated after meals.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Feel that others would prefer if I ate more.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Vomit after I have eaten.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Feel extremely guilty after eating.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Am preoccupied with a desire to be thinner.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Exercise strenuously to burn off calories.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Weigh myself several times a day.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Like my clothes to fit tightly.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Enjoy eating meat.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Wake up early in the morning.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Eat the same foods day after day.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Think about burning up calories when I exercise.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Have regular menstrual periods.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. Other people think that I am too thin.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Am preoccupied with the thought of having fat on my body.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Take longer than others to eat my meals.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. Enjoy eating at restaurants.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. Take laxatives.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. Avoid foods with sugar in them.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. Eat diet foods.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. Feel that food controls my life.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. Display self control around food.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. Feel that others pressure me to eat.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34. Give too much time and thought to food.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. Suffer from constipation.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36. Feel uncomfortable after eating sweets.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37. Engage in dieting behaviour.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38. Like my stomach to be empty.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39. Enjoy trying new rich foods.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40. Have the impulse to vomit after meals.</td>
<td>( ) ( ) ( ) ( ) ( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C

BULIMIA TEST REVISED
BULIT-R

Answer each question by filling in the appropriate circle on the computer answer sheet. Please respond to each item as honestly as possible; remember all of the information you provide will be kept strictly confidential.

1. I am satisfied with my eating patterns
   1. agree
   2. neutral
   3. disagree a little
   4. disagree
   5. disagree strongly

2. Would you presently call yourself a "binge eater"?
   1. yes, absolutely
   2. yes
   3. yes, probably
   4. yes, possibly
   5. no, probably not

3. Do you feel you have control over the amount of food you consume?
   1. most or all of the time
   2. a lot of the time
   3. occasionally
   4. rarely
   5. never

4. I am satisfied with the shape and size of my body.
   1. frequently or always
   2. sometimes
   3. occasionally
   4. rarely
   5. seldom or never

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).
   1. always
   2. almost always
   3. frequently
   4. sometimes
   5. never or my eating behavior is never out of control

6. I use laxatives or suppositories to help control my weight
   1. once a day or more
   2. 3 - 6 times a week
   3. once or twice a week
   4. 2 - 3 times a month
   5. once a month or less (or never)

7. I am obsessed about the size and shape of my body.
   1. always
   2. almost always
   3. frequently
   4. sometimes
   5. seldom or never
8. There are times when I rapidly eat a very large amount of food.
   1. more than twice a week
   2. twice a week
   3. once a week
   4. 2 - 3 times a month
   5. once a month or less (or never)

9. How long have you been binge eating (eating uncontrollably to the point of stuffing yourself)?
   1. not applicable; I don’t binge eat
   2. less than 3 months
   3. 3 months - 1 year
   4. 1 - 3 years
   5. 3 or more years

10. Most people I know would be amazed if they knew how much food I can consume at one sitting.
    1. without a doubt
    2. very probably
    3. probably
    4. possibly
    5. no

11. I exercise in order to burn calories
    1. more than 2 hours per day
    2. about 2 hours per day
    3. more than 1 but less than 2 hours per day
    4. one hour or less per day
    5. 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?
    1. a great deal more than average
    2. much more than average
    3. more than average
    4. a little more than average
    5. average or less than average

13. I am afraid to eat anything for fear that I won’t be able to stop.
    1. always
    2. almost always
    3. frequently
    4. sometimes
    5. seldom or never

14. I feel tormented by the idea that I am fat or might gain weight.
    1. always
    2. almost always
    3. frequently
    4. sometimes
    5. seldom or never

15. How often do you intentionally vomit after eating?
    1. 2 or more times a week
    2. once a week
    3. 2 - 3 times a month
    4. once a month
    5. less than once a month or never
16. I eat a lot of food when I'm not even hungry.
   1. very frequently
   2. frequently
   3. occasionally
   4. sometimes
   5. seldom or never

17. My eating patterns are different from the eating patterns of most people.
   1. always
   2. almost always
   3. frequently
   4. sometimes
   5. seldom or never

18. After I binge eat I turn to one of several strict methods to try to keep from gaining weight (vigorous exercise, strict dieting, fasting, self-induced vomiting, laxatives, or diuretics).
   1. never or I don't binge eat
   2. rarely
   3. occasionally
   4. a lot of the time
   5. most of or all of the time

19. I have tried to lose weight by fasting or going on strict diets.
   1. not in the past year
   2. once in the past year
   3. 2 - 3 times in the past year
   4. 4 - 5 times in the past year
   5. more than 5 times in the past year

20. I exercise vigorously and for long periods of time in order to burn calories
   1. average or less than average
   2. a little more than average
   3. more than average
   4. much more than average
   5. a great deal more than average

21. When engaged in an eating binge, I tend to eat foods that are high in carbohydrates (sweets and starches).
   1. always
   2. almost always
   3. frequently
   4. sometimes
   5. seldom, or I don't binge

22. Compared to most people, my ability to control my eating behavior seems to be:
   1. greater than others' ability
   2. about the same
   3. less
   4. much less
   5. I have absolutely no control

23. I would presently label myself a "compulsive eater", (one who engages in episodes of uncontrolled eating).
   1. absolutely
   2. yes
   3. yes, probably
   4. yes, possibly
   5. no, probably not
24. I hate the way my body looks after I eat too much.
   1. seldom or never
   2. sometimes
   3. frequently
   4. almost always
   5. always

25. When I am trying to keep from gaining weight, I feel that I have to resort to vigorous exercise, strict dieting, fasting, self-induced vomiting laxatives, or diuretics.
   1. never
   2. rarely
   3. occasionally
   4. a lot of the time
   5. most or all of the time

26. Do you believe that it is easier for you to vomit than it is for most people?
   1. yes, it's no problem at all for me
   2. yes, it's easier
   3. yes, it's a little easier
   4. about the same
   5. no, it's less easy

27. I use diuretics (water pills) to help control my weight.
   1. never
   2. seldom
   3. sometimes
   4. frequently
   5. very frequently

28. I feel that food controls my life.
   1. always
   2. almost always
   3. frequently
   4. sometimes
   5. seldom or never

29. I try to control my weight by eating little or no food for a day or longer
   1. never
   2. seldom
   3. sometimes
   4. frequently
   5. very frequently

30. When consuming a large quantity of food, at what rate of speed do you usually eat?
   1. more rapidly than most people have ever eaten in their lives
   2. a lot more rapidly than most people
   3. a little more rapidly than most people
   4. about the same rate as most people
   5. more slowly than most people (or not applicable)

31. I use laxatives or suppositories to help control my weight
   1. never
   2. seldom
   3. sometimes
   4. frequently
   5. very frequently
32. Right after I binge eat I feel:
   1. so fat and bloated I can't stand it
   2. extremely fat
   3. fat
   4. a little fat
   5. ok about how my body looks or I never binge eat

33. Compared to other people of my sex, my ability to always feel in control of how much I eat is:
   1. about the same or greater
   2. a little less
   3. less
   4. much less
   5. a great deal less

34. In the last 3 months, on the average how often did you binge eat (eat uncontrollably to the point of stuffing yourself)?
   1. once a month or less (or never)
   2. 2 - 3 times a month
   3. once a week
   4. twice a week
   5. 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.
   1. yes, definitely
   2. yes
   3. yes, probably
   4. yes, possibly
   5. no, probably not or I never eat a lot of food

36. I use diuretics (water pills) to help control my weight
   1. 3 times a week or more
   2. once or twice a week
   3. 2 - 3 times a month
   4. once a month
   5. never
APPENDIX D

LEYTON OBSESSIONAL INVENTORY - QUESTIONNAIRE
LOI-Q

Directions: Please read each item carefully and indicate whether the item applies to you or does not apply to you by circling the YES (1) or NO (0) response.

1. Are you often inwardly compelled to do certain things even though your reason tells you it is not necessary?
   YES  NO

2. Do unpleasant or frightening thoughts or words ever keep going over and over in your mind?
   YES  NO

3. Do you ever have persistent imaginings that someone close to you (e.g. children or parents) might be having an accident or that something might have happened to them?
   YES  NO

4. Have you ever been troubled by certain thoughts or ideas of harming yourself or persons in your family—thoughts which come and go without any particular reason?
   YES  NO

5. Do you often have to check things several times?
   YES  NO

6. Do you ever have to check gas or water taps or light switches after you have already turned them off?
   YES  NO

7. Do you ever have to go back and check doors, cupboards or windows to make sure that they are really shut?
   YES  NO

8. Do you hate dirt and dirty things?
   YES  NO

9. Do you ever feel that if something has been used, touched or knocked by someone else it is in some way spoiled for you?
   YES  NO

10. Do you dislike brushing against people or being touched in any way?
    YES  NO

11. Do you feel that even a slight contact with bodily secretions (such as sweat, saliva, urine, etc.) is unpleasant or dangerous, or liable to contaminate your clothes or belongings?
    YES  NO

12. Do you worry if you go through a day without having your bowels open?
    YES  NO

13. Are you ever worried by the thoughts of pins, needles, or bits of hair that might have been left lying about?
    YES  NO

14. Do you worry about household things that might chip or splinter if they were to be knocked or broken?
    YES  NO

15. Does the sight of knives, hammers, hatchets, or other possibly dangerous things in your home ever upset you or make you feel nervous?
    YES  NO

16. Do you tend to worry a bit about personal cleanliness or tidiness?
    YES  NO

17. Are you fussy about keeping your hands clean?
    YES  NO

18. Do you ever wash and iron clothes, or ask for this to be done, when they are not obviously dirty in order to keep them extra clean and fresh?
    YES  NO

19. Do you take care that the clothes you are wearing are always clean and neat, whatever you are doing?
    YES  NO

20. Do you like to put your personal belongings in set places or patterns?
    YES  NO
21. Do you take great care in hanging and folding your clothes at night?
   YES: 1, NO: 0

22. Are you strict about the house always being kept very clean?
   YES: 1, NO: 0

23. Do you dislike having a room untidy or not quite clean for even a short time?
   YES: 1, NO: 0

24. Do you sometimes get angry that children (or other people) spoil your nice clean and tidy room(s)?
   YES: 1, NO: 0

25. Do you like furniture or ornaments to be in exactly the same place always?
   YES: 1, NO: 0

26. Do your easy chairs have cushions which you like to keep exactly in position?
   YES: 1, NO: 0

27. If you notice any bits or specks on the floor or furniture, do you have to remove them at once?
   YES: 1, NO: 0

28. Do you ever clean or dust rooms that haven't had time to get dirty, just to make sure that they are really clean?
   YES: 1, NO: 0

29. Do you ever have to clean, dust, or wash things over again several times just to make sure they are really clean?
   YES: 1, NO: 0

30. Do you have to keep to strict timetables or routines for doing ordinary things?
   YES: 1, NO: 0

31. Do you have to keep a certain order for undressing and dressing, or washing and bathing?
   YES: 1, NO: 0

32. Do you get a bit upset if you cannot do your work (and or housework) at set times or in a certain order?
   YES: 1, NO: 0

33. Do you ever have to do things over again a certain number of times before they seem quite right?
   YES: 1, NO: 0

34. Do you ever have to count things several times or go through numbers in your mind?
   YES: 1, NO: 0

35. Do you ever get behind with work (and or housework) because you have to do something over again several times?
   YES: 1, NO: 0

36. Are you a person who often has a guilty conscience over quite ordinary things?
   YES: 1, NO: 0

37. Are you the sort of person who has to pay a great deal of attention to details?
   YES: 1, NO: 0

38. Are you ever over-conscientious or very strict with yourself?
   YES: 1, NO: 0

39. Do you ever waste time by doing a thing more thoroughly than is really necessary just to see it is really finished?
   YES: 1, NO: 0

40. Even when you have done something carefully, do you often feel that it is somehow not quite right or complete?
   YES: 1, NO: 0

41. Do you feel unsettled or guilty if you haven't been able to do something exactly as you would like?
   YES: 1, NO: 0

42. Do you always fail to explain things properly, in spite of having planned beforehand exactly what to say?
   YES: 1, NO: 0

43. Do you have difficulty in making up your mind?
   YES: 1, NO: 0
<table>
<thead>
<tr>
<th>Question</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>44. Do you have to turn things over and over in your mind for a long time before being able to decide about what to do?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>45. Do you ask yourself questions or have doubts about a lot of things you do?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>46. Are there any particular things that you try to keep away from or that you avoid doing, because you know that you would be upset by them?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>47. Do you find it difficult to throw things away?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>48. Do you keep rather a lot of empty boxes, paper bags, old newspapers, or empty tins in case they come in useful one day?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>49. Do you regard cleanliness as a virtue in itself?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>50. Do you get more pleasure from saving money than from spending it?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>51. Are you more careful with money than most people you know?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>52. Do you keep regular accounts of the money you spend every day?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>53. Do you usually look on the gloomy side of things?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>54. Do people often get on your nerves and make you feel irritable?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>55. When you feel critical of someone, do you usually say what you are thinking?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>56. Do you get angry or irritated if people don’t do things carefully or correctly?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>57. Do you try to avoid changes in your house or work or in the way you do things?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>58. Do you try to avoid changing your mind once you have made a decision about something?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>59. Are you a person who likes to stick to principles and decisions whatever the opposition or difficulties?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>60. Do you pride yourself on thinking things over very carefully before making decisions?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>61. Do you think that regular daily bowel movements are important for your health?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>62. Do you often get scared that you might be developing some sort of serious illness or cancer?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>63. Are you very systematic and methodical in your daily life?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>64. Do you like to get things done exactly right, down to the smallest detail?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>65. Do you think it is important to follow rules and regulations exactly?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>66. Do you like to have set times or orders for doing your work (and or household jobs)?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>67. Are you ever late because you just can’t seem to get through everything in time?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>68. If you have to catch a train or keep an important appointment, do you have to plan out how to do it beforehand in great detail?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>69. Do you ever count things without there being any necessity to do so?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>70. Do you like cushions on chairs to be kept exactly in position?</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
APPENDIX E

INTERPERSONAL DEPENDENCY INVENTORY
IDI

Directions: Please read each item below and, using the code given below, circle the number which indicates the item which is most characteristic of you.

1. not characteristic of me
2. somewhat characteristic of me
3. quite characteristic of me
4. very characteristic of me

1. I prefer to be by myself.  
2. When I have a decision to make, I always ask for advice.  
3. I do my best work when I know it will be appreciated.  
4. I can't stand being fussed over when I am sick.  
5. I would rather be a follower than a leader.  
6. I believe people could do a lot more for me if they wanted to.  
7. As a child, pleasing my parents was very important to me.  
8. I don't need other people to make me feel good.  
9. Disapproval by someone I care about is very painful to me.  
10. I feel confident of my ability to deal with most of the personal problems I am likely to meet in life.  
11. I'm the only person I want to please.  
12. The idea of losing a close friend is terrifying to me.  
13. I am quick to agree with the opinions expressed by others.  
14. I rely only on myself.  
15. I would be completely lost if I didn't have someone special.
1. I get upset when someone discovers a mistake I've made.
   1  2  3  4

2. It is hard for me to ask someone for a favor.
   1  2  3  4

3. I hate it when people offer me sympathy.
   1  2  3  4

4. I easily get discouraged when I don't get what I need from others.
   1  2  3  4

5. In an argument, I give in easily.
   1  2  3  4

6. I don't need much from people.
   1  2  3  4

7. I must have one person who is very special to me.
   1  2  3  4

8. When I go to a party, I expect that the other people will like me.
   1  2  3  4

9. I feel better when I know someone else is in command.
   1  2  3  4

10. When I am sick, I prefer that my friends leave me alone.
    1  2  3  4

11. I'm never happier than when people say I've done a good job.
    1  2  3  4

12. It is hard for me to make up my mind about a TV show or movie until I know what other people think.
    1  2  3  4

13. I am willing to disregard other people's feelings in order to accomplish something that's important to me.
    1  2  3  4

14. I need to have one person who puts me above all others.
    1  2  3  4

15. In social situations I tend to be very self-conscious.
    1  2  3  4

16. I don't need anyone.
    1  2  3  4
<table>
<thead>
<tr>
<th></th>
<th>not characteristic of me</th>
<th>somewhat characteristic of me</th>
<th>quite characteristic of me</th>
<th>very characteristic of me</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.</td>
<td>I have a lot of trouble making decisions by myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>33.</td>
<td>I tend to imagine the worst if a loved one doesn't arrive when expected.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>34.</td>
<td>Even when things go wrong I can get along without asking for help from my friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>35.</td>
<td>I tend to expect too much from others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>36.</td>
<td>I don't like to buy clothes by myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>37.</td>
<td>I tend to be a loner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>38.</td>
<td>I feel that I never really get all that I need from people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>39.</td>
<td>When I meet new people, I'm afraid that I won't do the right thing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>40.</td>
<td>Even if most people turned against me, I could still go on if someone I love stood by me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>41.</td>
<td>I would rather stay free of involvements with others than to risk disappointments.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>42.</td>
<td>What people think of me doesn't affect how I feel.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>43.</td>
<td>I think that most people don't realize how easily they can hurt me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>44.</td>
<td>I am very confident about my own judgement.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>45.</td>
<td>I have always had a terrible fear that I will lose the love and support of people I desperately need.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>46.</td>
<td>I don't have what it takes to be a good leader.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>47.</td>
<td>I would feel helpless if deserted by someone I love.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>48.</td>
<td>What other people say doesn't bother me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
APPENDIX F

HOSTILITY AND DIRECTION OF HOSTILITY

QUESTIONNAIRE
This questionnaire is concerned with your feelings and attitudes. Read each statement and decide if it is true or false. Show your decision by circling the TRUE or FALSE response. Please answer truthfully and be careful to answer every statement.

1. Most people make friends because friends are likely to be useful to them.  
   **TRUE**: 1  **FALSE**: 0

2. I do not blame a person for taking advantage of someone who lays himself open to it.  
   **TRUE**: 1  **FALSE**: 0

3. I usually expect to succeed in the things I do.  
   **TRUE**: 1  **FALSE**: 0

4. I have no enemies who really wish to harm me.  
   **TRUE**: 1  **FALSE**: 0

5. I wish I could get over worrying about things I have said that may have hurt other peoples feelings.  
   **TRUE**: 1  **FALSE**: 0

6. I think nearly everyone would tell a lie to keep out of trouble.  
   **TRUE**: 1  **FALSE**: 0

7. I don't blame anyone for grabbing everything he can in this world.  
   **TRUE**: 1  **FALSE**: 0

8. My hardest battles are with myself.  
   **TRUE**: 1  **FALSE**: 0

9. I know who, apart from myself, is responsible for most of my troubles.  
   **TRUE**: 1  **FALSE**: 0

10. Some people are so bossy, I feel like doing the opposite of what they say, even though I know they are right.  
    **TRUE**: 1  **FALSE**: 0

11. Some of my family have habits that bother and annoy me very much.  
    **TRUE**: 1  **FALSE**: 0

12. I believe my sins are unpardonable.  
    **TRUE**: 1  **FALSE**: 0

13. I have very few quarrels with members of my family.  
    **TRUE**: 1  **FALSE**: 0

14. I have lost out on things because I could not make up my mind soon enough.  
    **TRUE**: 1  **FALSE**: 0

15. I can easily make people afraid of me, and sometimes do it for fun.  
    **TRUE**: 1  **FALSE**: 0

16. I believe I am a condemned person.  
    **TRUE**: 1  **FALSE**: 0

17. In school I was sometimes sent to the headmaster for misbehaving.  
    **TRUE**: 1  **FALSE**: 0

18. I have sometimes stood in the way of people who were trying to do something, not because it was important, but because of the principle.  
    **TRUE**: 1  **FALSE**: 0

19. Most people are honest mainly through fear of being caught.  
    **TRUE**: 1  **FALSE**: 0

20. Sometimes I enjoy hurting people I love.  
    **TRUE**: 1  **FALSE**: 0

21. I have not lived the right kind of life.  
    **TRUE**: 1  **FALSE**: 0

22. Sometimes I feel that I must injure either myself or someone else.  
    **TRUE**: 1  **FALSE**: 0

23. I seem to be as capable and clever as most others around me.  
    **TRUE**: 1  **FALSE**: 0

24. I sometimes tease animals.  
    **TRUE**: 1  **FALSE**: 0

25. I get angry.  
    **TRUE**: 1  **FALSE**: 0
<table>
<thead>
<tr>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

26. I am entirely self-confident.
27. Often, I can't understand why I have been so cross and grouchy.
28. I shrink from facing a crisis or difficulty.
29. I think most people would lie to get ahead.
30. I have sometimes felt that the difficulties were piling up so high that I would never overcome them.
31. If people had not had it in for me I would have been more successful.
32. I have often found people jealous of my good ideas, just because they had not thought of them first.
33. Much of the time I feel as if I have done something wrong or evil.
34. I have often given up doing something because I thought too little of my ability.
35. Someone has it in for me.
36. When somebody does me wrong, I feel I should pay him/her back if I can, just for the principle of the thing.
37. I am sure to get a raw deal from life.
38. I believe I am being followed.
39. At times I have a strong urge to do something harmful or shocking.
40. I am easily beaten in an argument.
41. It is safer to trust nobody.
42. I easily become impatient with people.
43. At times I think I am no good at all.
44. I often wonder what reason another person may have for doing something nice for me.
45. I get angry easily then get over it soon.
46. At times I feel like smashing things.
47. I believe I am being plotted against.
48. I certainly feel useless at times.
49. At times I feel like picking a fist fight with someone.
50. Someone has been trying to rob me.
51. I am certainly lacking in self-confidence.
APPENDIX G

COLLEGE SELF-EXPRESSION SCALE
College Self-Expression Scale

The following inventory is designed to provide information about the way in which you express yourself. Please answer the questions by circling the appropriate number box. Your answer should reflect how you generally express yourself in the situation.

0 1 2 3 4
Almost Always or Always Usually Sometimes Seldom Never or Rarely

1. Do you ignore it when someone pushes in front of you in line? 0 1 2 3 4
2. When you decide that you no longer wish to date someone, do you have difficulty telling the person of your decision? 0 1 2 3 4
3. Would you exchange a purchase you discover to be faulty? 0 1 2 3 4
4. If you decided to change your major to a field which your parents will not approve would you have difficulty telling them? 0 1 2 3 4
5. Are you inclined to be over-apologetic? 0 1 2 3 4
6. If you were studying and if your roommate were making too much noise, would you ask him/her to stop? 0 1 2 3 4
7. Is it difficult for you to compliment and praise others? 0 1 2 3 4
8. If you are angry at your parents, can you tell them? 0 1 2 3 4
9. Do you insist that your roommate does his/her fair share or the cleaning? 0 1 2 3 4
10. If you find yourself becoming fond of someone you are dating, would you have difficulty expressing these feelings to that person? 0 1 2 3 4
11. If a friend who has borrowed $5.00 from you seems to have forgotten about it, would you remind this person? 0 1 2 3 4
12. Are you overly careful to avoid hurting other people’s feelings? 0 1 2 3 4
13. If you have a close friend whom your parents dislike and constantly criticize, would you inform your parents that you disagree with them and tell them of your friend’s assets? 0 1 2 3 4
14. Do you find it difficult to ask a friend to do a favor for you? 0 1 2 3 4
15. If food which is not to your satisfaction is served in a restaurant, would you complain about it to the waitperson? 0 1 2 3 4
16. If your roommate without your permission eats food that he/she knows you have been saving, can you express your displeasure to him/her? 0 1 2 3 4
17. If a salesman has gone to considerable trouble to show you some merchandise which is not quite suitable, do you have difficulty in saying no? 0 1 2 3 4
18. Do you keep your opinions to yourself? 0 1 2 3 4
19. If friends visit when you want to study, do you ask them to return at a more convenient time? 0 1 2 3 4
20. Are you able to express love and affection to people for whom you care? 0 1 2 3 4
21. If you were in a small seminar and the professor made a statement that you considered untrue, would you question it? 0 1 2 3 4
22. If a person of the opposite sex whom you have been wanting to meet smiles or directs attention to you at a party, would you take the initiative in beginning a conversation? 0 1 2 3 4
23. If someone you respect expresses opinions with which you strongly disagree, would you venture to state your own point of view? 0 1 2 3 4
24. Do you go out of your way to avoid trouble with other people? 0 1 2 3 4
25. If a friend is wearing a new outfit which you like, do you tell that person so? 0 1 2 3 4
26. If after leaving a store you realize that you have been "short-changed", do you go back and request the correct amount? 0 1 2 3 4
27. If a friend makes what you consider to be an unreasonable request, are you able to refuse? 0 1 2 3 4
28. If a close and respected relative were annoying you, would you hide your feelings rather than express your annoyance? 0 1 2 3 4
29. If your parents want you to come home for a weekend but you have made important plans, would you tell them of your preference? 0 1 2 3 4
30. Do you express anger or annoyance toward the opposite sex when it is justified? 0 1 2 3 4
31. If a friend does an errant for you, do you tell that person how much you appreciate it? 0 1 2 3 4
32. When a person is blatantly unfair, do you fail to say something about it to him/her? 0 1 2 3 4
33. Do you avoid social contacts for fear of doing or saying the wrong thing? 0 1 2 3 4
34. If a friend betrays your confidence, would you hesitate to express annoyance to that person? 0 1 2 3 4
35. When a clerk in a store waits on someone who has come in after you, do you call his/her attention to the matter? 0 1 2 3 4
36. If you are particularly happy about someone's good fortune, can you express this to that person? 0 1 2 3 4
37. Would you be hesitant about asking a friend to lend you a few dollars? 0 1 2 3 4
38. If a person teases you to the point that it is no longer fun, do you have difficulty expressing your displeasure?  

39. If you arrive late for a meeting, would you rather stand than go to a front seat which could only be secured by walking in front of everyone?  

40. If your date calls fifteen minutes before you are supposed to meet and says that he/she has to study for an important exam and cannot make it, would you express your annoyance?  

41. If someone keeps kicking the back of your chair in a movie, would you ask him to stop?  

42. If someone interrupts you in the middle of an important conversation, do you request that the person wait until you have finished?  

43. Do you freely volunteer information or opinions in class discussions?  

44. Are you reluctant to speak to an attractive acquaintance of the opposite sex?  

45. If you lived in an apartment and the landlord failed to make certain necessary repairs after promising to do so, would you insist on it?  

46. If your parents want you home by a certain time which you feel is much too early and unreasonable, do you attempt to discuss or negotiate it with them?  

47. Do you find it difficult to stand up for your rights?  

48. If a friend unjustifiably criticized you, do you express your resentment there and then?  

49. Do you express your feelings to others?  

50. Do you avoid asking questions in class for fear of feeling self-conscious?
APPENDIX H

I.P.C. SCALES
L.P.C. Scales
Indicate how characteristic or descriptive each of the following statements is of you by using the code given below.

1 very uncharacteristic of me, extremely nondescriptive
2 rather uncharacteristic of me, quite nondescriptive
3 somewhat uncharacteristic of me, slightly nondescriptive
4 somewhat characteristic of me, slightly descriptive
5 rather characteristic of me, quite descriptive
6 very characteristic of me, extremely descriptive

1. Whether or not I get to be a leader depends mostly on my ability. 1 2 3 4 5 6
2. To a great extent my life is controlled by accidental happenings. 1 2 3 4 5 6
3. I feel like what happens in my life is mostly determined by powerful people. 1 2 3 4 5 6
4. Whether or not I get into a car accident depends mostly on how good a driver I am. 1 2 3 4 5 6
5. When I make plans, I am almost certain to make them work. 1 2 3 4 5 6
6. Often there is no chance of protecting my personal interest from bad luck happenings. 1 2 3 4 5 6
7. When I get what I want, it's usually because I'm lucky. 1 2 3 4 5 6
8. Although I might have good ability, I will not be given leadership responsibility without appealing to those in positions of power. 1 2 3 4 5 6
9. How many friends I have depends on how nice a person I am. 1 2 3 4 5 6
10. I have often found that what is going to happen will happen. 1 2 3 4 5 6
11. My life is chiefly controlled by powerful others. 1 2 3 4 5 6
12. Whether or not I get into a car accident is mostly a matter of luck. 1 2 3 4 5 6
13. People like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups. 1 2 3 4 5 6
14. It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune. 1 2 3 4 5 6
15. Getting what I want requires pleasing those people above me. 1 2 3 4 5 6
16. Whether or not I get to be a leader depends on whether I'm lucky enough to be in the right place at the right time. 1 2 3 4 5 6
17. If important people were to decide they didn't like me, I probably wouldn't make many friends. 1 2 3 4 5 6
18. I can pretty much determine what will happen in my life. 1 2 3 4 5 6
19. I am usually able to protect my personal interests. 1 2 3 4 5 6
20. Whether or not I get into a car accident depends mostly on the other driver. 1 2 3 4 5 6
21. When I get what I want, it's usually because I worked hard for it. 1 2 3 4 5 6
22. In order to have my plans work, I make sure that they fit in with the desires of people who have power over me. 1 2 3 4 5 6
23. My life is determined by my own actions. 1 2 3 4 5 6
24. It's chiefly a matter of fate whether or not I have a few friends or many friends. 1 2 3 4 5 6
APPENDIX I

SELF-ESTEEM SCALE
Please read each question and circle the appropriate response that pertains to you by using the code below.


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

Indicate whether or not the statement describes you, by circling the TRUE (1) or FALSE (0) response.

1. I'm always willing to admit it when I made a mistake.  1  0
2. I always try to practice what I preach.  1  0
3. I never resent being asked to return a favor.  1  0
4. I have never been irked when people expressed ideas very different from my own.  1  0
5. I have never deliberately said something that hurt someone's feelings.  1  0
6. I like to gossip at times.  1  0
7. There have been occasions when I took advantage of someone.  1  0
8. I sometimes try to get even rather than forgive and forget.  1  0
9. At times I have really insisted on having things my own way.  1  0
10. There have been occasions when I felt like smashing things.  1  0
APPENDIX K

INFORMED CONSENT FORM
Informed Consent

I, ___________________________, agree to participate in a study concerning personality traits. As a participant in this study, I agree to complete a series of questionnaires designed to measure various personality traits. I understand that the estimated completion time is 1 hour and that, following completion of the questionnaires, no additional time will be required or requested by the investigator. The purpose of this study is to better understand the personality variables found with a college population.

I understand that all information I provide will be confidential, and will not be recorded in any way that could identify me personally. In addition, I understand that the personal introspection required through participation may result in psychological discomfort. The risks are believed to be minimal; however, I have been given several referrals in case my participation contributes to feelings of distress. Also, I understand that my participation in this study is completely voluntary, and I am free to discontinue participation, without prejudice, at any time.

If I have any questions or problems that arise in connection with my participation in this study, I should contact Rebecca Rogers or supervisor, Dr. Trent Petrie, Department of Psychology, 565-2671 (work).

Date ___________________________  
Participant's Signature ___________________________

Date ___________________________  
Investigator's Signature ___________________________

THIS PROJECT HAS BEEN REVIEWED BY UNIVERSITY OF NORTH TEXAS COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS (Phone 565-3940)

REFERRALS

University of North Texas Counseling and Testing Center  
(817) 565-2741

University of North Texas Psychology Clinic  
(817) 565-2631
APPENDIX L

TABLES
Table 1.

Response Frequencies of Specific Pathogenic Eating and Weight Loss Items on the BULIT-R

6. I use laxatives or suppositories to help control my weight.
   (3%) 1. Once a day or more
   (1%) 2. 3-6 times a week
   (3%) 3. Once or twice a week
   (3%) 4. 2-3 times a month
   (90%) 5. Once a month or less (or never)

11. I exercise in order to burn calories.
   (5%) 1. More than 2 hours per day
   (8%) 2. About 2 hours per day
   (3%) 3. More than 1 but less than 2 hours per day
   (30%) 4. One hour or less per day
   (54%) 5. I exercise but not to burn calories or I don't exercise

15. How often do you intentionally vomit after eating?
   (4%) 1. 2 or more times a week
   (2%) 2. Once a week
   (1%) 3. 2-3 times a month
   (3%) 4. Once a month
   (90%) 5. Less than once a month or never

19. I have tried to lose weight by fasting or going on strict diets.
   (54%) 1. Not in the past year
   (11%) 2. Once in the past year
   (19%) 3. 2-3 times in the past year
   (5%) 4. 4-5 times in the past year
   (11%) 5. More than 5 times in the past year

34. In the last 3 months, on the average how often did you binge eat (eat uncontrollably to the point of stuffing yourself)?
   (80%) 1. One a month or less (or never)
   (6%) 2. 2-3 times a month
   (6%) 3. Once a week
   (4%) 4. Twice a week
   (3%) 5. More than twice a week

36. I use diuretics (water pills) to help control my weight
   (2%) 1. 3 times a week or more
   (1%) 2. Once or twice a week
   (3%) 3. 2-3 times a month
   (2%) 4. Once a month
   (92%) 5. Never
### Table 2

Pearson Product-Moment Correlations, Means, and Standard Deviations Among Predictor and Criterion Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>M</th>
<th>(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. EAT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>18.76</td>
<td>(15.27)</td>
</tr>
<tr>
<td>2. BULIT-R</td>
<td>.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>68.87</td>
<td>(21.16)</td>
</tr>
<tr>
<td>3. Age</td>
<td>-.19</td>
<td>-.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22.24</td>
<td>(5.72)</td>
</tr>
<tr>
<td>4. BMI</td>
<td></td>
<td>-.12</td>
<td>.17</td>
<td>.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22.20</td>
<td>(3.82)</td>
</tr>
<tr>
<td>5. LOI-Q</td>
<td>.39</td>
<td>.38</td>
<td>-.05</td>
<td>-.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>26.39</td>
<td>(14.71)</td>
</tr>
<tr>
<td>6. Emot rel</td>
<td>.39</td>
<td>.40</td>
<td>-.25</td>
<td>.00</td>
<td>.43</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>41.71</td>
<td>(8.70)</td>
</tr>
<tr>
<td>7. Lack self</td>
<td>.35</td>
<td>.40</td>
<td>-.22</td>
<td>-.06</td>
<td>.42</td>
<td>.66</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30.81</td>
<td>(7.63)</td>
</tr>
<tr>
<td>8. Auton</td>
<td>.22</td>
<td>.19</td>
<td>-.06</td>
<td>-.05</td>
<td>.16</td>
<td>-.03</td>
<td>.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>28.95</td>
<td>(6.38)</td>
</tr>
<tr>
<td>9. Extra</td>
<td>.28</td>
<td>.36</td>
<td>-.16</td>
<td>-.01</td>
<td>.49</td>
<td>.38</td>
<td>.42</td>
<td>.34</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10.48</td>
<td>(4.94)</td>
</tr>
<tr>
<td>10. Intro</td>
<td>.20</td>
<td>.30</td>
<td>-.03</td>
<td>-.07</td>
<td>.35</td>
<td>.49</td>
<td>.58</td>
<td>-.10</td>
<td>.45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.28</td>
<td>(3.20)</td>
</tr>
<tr>
<td>11. CSES</td>
<td>-.22</td>
<td>-.26</td>
<td>.15</td>
<td>.05</td>
<td>-.37</td>
<td>-.57</td>
<td>-.78</td>
<td>-.01</td>
<td>-.36</td>
<td>-.55</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>121.44</td>
<td>(19.76)</td>
</tr>
<tr>
<td>12. IPC</td>
<td>.20</td>
<td>.17</td>
<td>-.17</td>
<td>-.03</td>
<td>.31</td>
<td>.46</td>
<td>.59</td>
<td>.03</td>
<td>.33</td>
<td>.63</td>
<td>-.58</td>
<td></td>
<td></td>
<td></td>
<td>68.09</td>
<td>(15.09)</td>
</tr>
<tr>
<td>13. SES</td>
<td>-.17</td>
<td>-.13</td>
<td>.05</td>
<td>.16</td>
<td>-.25</td>
<td>-.38</td>
<td>-.31</td>
<td>.05</td>
<td>-.27</td>
<td>-.46</td>
<td>.41</td>
<td>-.32</td>
<td></td>
<td></td>
<td>4.54</td>
<td>(1.63)</td>
</tr>
<tr>
<td>14. SDS</td>
<td>-.02</td>
<td>-.08</td>
<td>.03</td>
<td>.07</td>
<td>-.02</td>
<td>-.17</td>
<td>-.08</td>
<td>-.04</td>
<td>-.38</td>
<td>-.25</td>
<td>.09</td>
<td>-.01</td>
<td>.20</td>
<td></td>
<td>4.72</td>
<td>(2.14)</td>
</tr>
</tbody>
</table>

Note. EAT = level of anorexic symptomatology; BULIT-R = level of bulimic symptomatology; BMI = body mass index (kg/m²); LOI-Q = obsessive symptoms and traits; Emot rel = emotional reliance on another person; Lack self = lack of social self-confidence; Auton = assertion of autonomy; Extra = extrapunitive; Intro = intropunitiveness; CSES = college self-expression, or assertiveness; IPC = external locus of control; SES = self-esteem; SDS = social desirability. Any r > .17 is significant p < .05.
REFERENCES


Cooper, J. (1970). The Leyton Obsessional Inventory. *Psychological Medicine, 1*, 48-64.


Anorexia Nervosa and Bulimia (pp. 113-132). New York: Karger.


