THE RELATIONSHIP OF GENDER DISCREPANT ATTITUDES, BEHAVIORS AND CHARACTERISTICS TO DISORDERED EATING

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

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Denton, Texas

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Although researchers have examined gender role-eating disorder relationships, few have investigated the influence of discrepancy between actual and ideal perceived masculinity and femininity (i.e. gender discrepancy) on eating disordered behaviors and attitudes (i.e. anorexic and bulimic symptoms, depression, self-esteem and assertiveness). This study extended earlier research supporting discrepancy theory (Johnson & Petrie, 1995) by including a multidimensional conceptualization of gender including attitudes, behaviors, and characteristics. Analyses revealed that gender discrepancy when assessed multidimensionally or unidimensionally (as in past research) was not significantly related to eating disordered symptomatology. Results also indicate that both bulimic and anorexic symptomatology are prevalent in college populations and that concern about body shape predicted a significant amount of the variance for both anorexic and bulimic symptomatology. Findings are discussed in light of past research with particular emphasis on methodological problems

that may have impacted the results. Implications for counseling and future research are provided.

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CHAPTER 1

INTRODUCTION TO THE STUDY

Eating disturbances typically have encompassed the two distinct yet related disorders of anorexia nervosa and bulimia nervosa. Anorexia involves the extreme restriction of food resulting in a type of self-starvation. Bulimia, on the other hand, involves the repeated sequence of bingeing, or consuming large amounts of food in a short period of time, followed by some sort of purging behavior (i.e., vomiting, laxative use, diuretic use, or excessive exercising). Both disorders appear to be prevalent in our society and much research has focused on the epidemiology and related factors associated with these as well as the less severe non-diagnosable types of disordered eating. The following broadly reviews the literature on prevalence and psychological and behavioral correlates of eating disorders. In addition, it includes the influence of current sociocultural environments, emphasizing thinness and changing gender roles, with specific emphasis given to gender discrepancy and its relationship to disordered eating.

Epidemiology

Research has indicated that eating disorders are prevalent among women in U.S. society (Mitchell & Eckert,

1987). In college students, for example, incidence of bulimia has been found to range from 2.0 to 5.0% when using the Diagnostic and Statistical Manual of Mental Disorders, Revised (DSM-III-R; American Psychiatric Association [APA], 1987) criteria (Johnson & Hillard, 1990; Mitchell & Eckert, 1987; Striegel-Moore, Silberstein, Frensch & Rodin, 1989; Thelen, Mann, Pruitt & Smith, 1987). A comprehensive review of prevalence research (Stein, 1991) revealed that the incidence of bulimia in college women ranged from .8 to 3 percent, depending on the location of the university and the composition of the sample. Prevalence rates, however, were found to be as much as 70% higher when the broader criteria of the DSM-III were applied (Stein, 1991). In a more recent study, Rand & Kuldau (1990) interviewed 2,115 adults in the general population and found a 1.1% prevalence rate for bulimia nervosa. The rate increased to 4.1% when they restricted their sample to women aged 18-30. Based on these and other studies, it appears that the prevalence rate of bulimia varies depending on the criteria utilized, the age of the subjects, as well as the location from which the sample was selected. Generally, however, the prevalence rates for bulimia do not exceed 4-5% when the more stringent DSM-III-R criteria are considered.

Prevalence rates for anorexia nervosa are lower than those for bulimia. For example, at a psychiatric emergency service, Johnson and Hillard (1990) found no cases of

diagnosable anorexia, but did uncover a 3.0% incidence of bulimia in females aged 18-45 when using the DSM-III-R criteria. Looking specifically at anorexia nervosa, it has been estimated that this disorder occurs in approximately two to four individuals per hundred thousand (Kendell, Hall, Harley & Babigan, 1973; Szmukler, 1985). A recent prevalence study that used the DSM-III criteria in diagnosing 151,761 patients in 1985 and 1986 found that anorexia nervosa occurred at a rate of 6.3 per 100,000 people (Hoek, 1991).

Evidence exists suggesting that non-diagnosable cases of disordered eating may be more prevalent than anorexia or bulimia. Some researchers have referred to these nonspecific categories as "atypical" or "sub-threshold" eating disorders (Bunnell, Shenker, Nussbaum, Jacobson & Cooper, 1990; Fairburn & Garner, 1986). Atypical cases are those where one or more features are absent (i.e., binge without purging, purge without bingeing, or diet chronically), while subthresholds have been defined as a failure to meet the criteria for anorexia or bulimia due to insufficient severity. A prevalence study conducted by Johnson & Hillard (1990) found that atypical eating disorders were most frequent, with 12% of the women and 9.2% of the men in a sample of 143 subjects evidencing some type of disordered eating.

Some researchers have suggested that eating disorders occur on a continuum from normal eating to the diagnosable forms of anorexia or bulimia (Streigel-Moore, Silberstein & Rodin, 1986). Using this continuum approach, Mintz & Betz (1988) classified their subjects as normals, chronic dieters, bingers, purgers, subthreshold bulimics or bulimics. In this sample, only 3% met diagnostic criteria for bulimia; however, 61% were classified as having one of the intermediate forms of disordered eating. Thus, there appears to be evidence that eating disturbances do range in severity from bulimia or anorexia to atypical disorders (e.g., bingers, dieters) to normals.

The high rate of eating disturbance not diagnosed as bulimia or anorexia seems to indicate that there may be some problems with the current definition of eating disorders in the DSM-III-R. Currently, there has been additional support for the existence of eating disorders not formally classified by DSM-III-R. Bunnell, Cooper, Hertz & Shenker (1992), for example, compared scores on a body shape measure of 27 diagnosed anorexics, 13 diagnosed bulimics, 15 subclinical bulimics, 26 subclinical anorexics and 88 non-eating disordered controls. They found that all clinical groups including the subclinical groups had higher scores than the control group and that the bulimic group had the highest degree of body shape concern. This provides additional support for the contention that there may be

other forms of disordered eating that have similar correlates as the more severe eating disorders. Steiger and Ghadirian (1989) argued that there are numerous cases of patients exhibiting eating-disordered-like symptomatology, yet failing to meet the full criteria. They proposed a subtype of atypical eating disorder to include behavioral and psychological characteristics not associated entirely with either anorexia or bulimia.

Currently there is much debate regarding whether the criteria for eating disorders should be expanded to include some of these other forms of eating disturbances (Devlin, Walsh, Spitzer & Hasin, 1992; Spitzer, Devlin, Walsh, & Hasin, 1992). The DSM-IV (American Psychiatric Association [APA], 1994) has included binge eating disorder as a category requiring further study. This disorder refers to recurrent binge eating without the accompanying purging behaviors. Spitzer et al. (1992) found that this new eating disorder occurred in 30% of a hospital weight control program, but in only 2% of the general population. Aside from this expansion, the DSM-IV has included subtypes of bulimia (purging and non-purging type) and of anorexia (restricting and binge-eating/purging type). These subtypes have received support in the literature (DaCosta & Halmi, 1992; Steiger, Liquornik, Chapman & Hussain, 1991; Steiger, Puentes-Neuman, & Leung, 1991; Welch, Hall & Renner, 1990).

The above research appears to point to the importance of examining eating attitudes and behaviors on a continuum. There appears to be an alarming amount of unhealthy attitudes and behaviors about eating and body shape that may go unnoticed as they do not fit a strict DSM-IV criteria. The current research trend examining non-diagnosable eating disorders, however, lends support to the idea that non-diagnosable eating disturbances are prevalent and worthy of our clinical and research attention.

Psychological and Behavioral Correlates

In addition to research concerning the various manifestations of disordered eating, there have been numerous studies examining psychological and behavioral correlates. Comparing eating disordered and non-eating disordered individuals, for example, Katzman and Wolchik (1984) found that bulimics had lower self-esteem, poorer body image, higher self-expectations and need for approval, greater dietary restraint, and higher levels of depression. This group of bulimics had greater dieting concern, more binge eating behaviors, lower self-esteem, poorer body attitudes, greater need for approval and greater depression than a group of binge-eaters. Additionally, thirty-three percent of the bulimic group reported a history of anorexia nervosa. Williamson, Kelley, Davis, Ruggiero and Blouin (1985) similarly found that bulimics, when compared to non-bulimics and obese subjects, were more depressed, anxious,

neurotic, impulsive and exhibited greater body image distortion. They found that aside from exhibiting greater pathology than obese subjects and non-bulimics, bulimics evidenced greater body image distortion in that they perceived their bodies as larger than they actually were. Greenberg (1986) found that bulimic undergraduates displayed more dietary restraint, reported more life stress and were more involved in binge eating compared to nonbulimic controls. Additionally, social impairment has been found to be associated with bulimia. Herzog, Keller, Lavori and Ott (1987) compared social adjustment of bulimic and non-bulimic women and found that the bulimic group evidenced more social impairment in work, social/leisure, and family settings than non-bulimics.

Depression also has been related to bulimia. For example, Sykes, Leuser, Melia and Gross (1988) analyzed demographic variables and secondary diagnoses of 252 eating disordered patients and found a 50% prevalence of depression with these subjects. This rate is significantly higher than the existence of depression in the general population. In a review of the literature on bulimia, Ulster (1989) reported that depression often was associated with bulimia. Finally, Greenberg (1986), examining depression and bulimia nervosa, found that bulimics scored higher than controls on the Beck Depression Inventory.

A series of underlying factors, including sexual conflict, major life changes, and an experienced loss, also have been consistently associated with bulimia nervosa (Greenberg, 1986; Lacey, Coker & Birtchnell, 1986). Streigel-Moore, Silberstein, Frensch and Rodin (1989) found that worsening of disordered eating was associated with negative feelings about one's weight and attractiveness, high perceived stress, and increased feelings of ineffectiveness. These underlying difficulties as well as the previously mentioned psychological correlates suggest that persons suffering from bulimia experience more psychological distress than persons without the disorder. Overall, there appears to be a wide variety of other disturbances including depression, low self-esteem and body image distortion that often accompanies bulimic behaviors.

For anorexia, studies have demonstrated that individuals with this eating disorder tend to overestimate the size of their bodies and have a high drive for thinness (Crisp, 1980; Garfinkel & Garner, 1982). Other characteristics found to be highly associated with anorexia nervosa include: high perfectionism, low self-esteem, low assertiveness, and interpersonal sensitivity (Connors, Johnson & Stuckey, 1984; Garner, Garfinkel & Bemis, 1982; Katzman & Wolchik, 1984). Steiger, Fraenkel and Leichner (1989) reported that anorexics exhibited significant body-image distortion, hyperfeminine identifications and

maladaptive cognitions. It seems that anorexic individuals, similar to bulimics, have specific psychological disturbances that are frequently associated with their eating pathology.

Nondiagnosable manifestations of disordered eating also have been studied to determine psychological and behavioral correlates. Steiger, Leung, Puentes and Gottheil (1992), for example, examined adolescent girls aged 11-18 and found that general eating disturbance as measured by the Eating Attitudes Test (EAT; Garner & Garfinkel, 1979) was associated with disturbed mood, body-image concerns, perfectionism, impulsivity, self-criticism and lack of family cohesion. Another recent study examining women who desired to be underweight (Kishchuk, Gagnon, Belisle & Laurendeau, 1992) found that those underweight subjects tended to experience considerable psychological distress similar to anorexics and bulimics. Body dissatisfaction also was found to be a trait associated with subclinical anorexics and bulimics (Bunnell, et al., 1992). This non-diagnosable population, referred to as "symptomatic eaters" by Steiger, et al. (1991) was found to display more mood problems, body concerns and self-criticism than did asymptomatic subjects. In addition, they noted that there were differences between the restrictive types and the bingers. The restrictive types were more perfectionistic

while the bingers were more impulsive and reported less family cohesion.

Mintz and Betz (1988) examined a normal-weight college population and found a high incidence of eating disordered behavior, most of which could not be classified as either bulimic or anorexic. They suggested that eating disorders be viewed on a continuum of behaviors from normal to pathological eating, including chronic dieting, bingeing or purging alone or subclinical bulimia. Their study revealed that the degree of eating disturbance was strongly correlated with lowered self-esteem, negative body image, and greater tendency to endorse sociocultural beliefs regarding the desirability of female thinness. Research examining psychological and behavioral correlates of eating disorders have consistently found that low self-esteem, poor body image, need for approval, life stress, poor social adjustment, depression and drive for thinness are all highly correlated with eating disorders. These findings have been confirmed within anorexic and bulimic populations, and also in those with non-diagnosable forms of eating disturbances. Thus, it appears that both anorexia, bulimia and unspecified eating disorders have identifiable concomitant psychological and behavioral disturbances making them worthy of attention.

Sociocultural Influences

Sufficient results are available on the prevalence of eating disorders to conclude that both anorexia and bulimia

are significantly more frequent in women than men (Streigel-Moore, et al, 1986) and tend to affect women in more urban or westernized cultures (Dolan, 1991; Leeds, 1992). This gender and cultural difference lends support to the contention that the sociocultural environment plays an important role in the development of eating disorders.

Sociocultural theory in general is based on the assumption that cultural events or cultural environments add extra pressure that may increase a person's risk for the development of pathology (Johnson & Connors, 1987). In the last few decades two significant cultural events have been proposed to explain the high prevalence of eating disturbances in women. These events include (1) societal over-emphasis on thinness and (2) gender role confusion resulting from shifting gender roles (Garner, Garfinkel & Olmstead, 1983; Johnson & Connors, 1987; Rodin, Silberstein & Streigel-Moore, 1985; Streigel-Moore et al., 1986). With these two events in mind, eating disorders might be viewed as a woman's attempt to gain control or make sense out of the confusing and often contradictory messages society is sending out about beauty ideals and gender roles (Boskind-Lodahl, 1976; Cantelon, Leichner & Harper, 1986, Garner et al. 1983, Nagel & Jones, 1992; Squires & Kagan, 1985; Striegel-Moore, Silberstein & Rodin, 1986).

Emphasis on thinness. The emphasis on thinness in Western culture has been given considerable attention in the

literature (Garner, Garfinkel, Schwartz & Thompson, 1980; Morris, Cooper & Cooper; 1989; Silverstein, Perdue, Peterson & Kelly, 1986; Silverstein, Perdue, Peterson, Vogel & Fantini, 1986; Silverstein, Peterson & Perdue, 1986; Wiseman, Gray, Mosimann, Ahrens, 1992). What these studies continue to reveal, is that cultural standards of beauty as well as the media's general portrayal of women has emphasized an increasingly thin beauty ideal. In a seminal study in this area, Garner, et al. (1980) provided evidence to support this contention by examining two cultural standards of beauty, Miss America contestants and playboy centerfolds, over a 20 year period. For Playboy centerfolds, they noted a significant decrease in body weight and measurements. Specifically, bust measurements decreased, waists became larger and hips became smaller. In addition, they found that while absolute weight stayed the same across this twenty year period, heights increased leading to a more tubular appearance. For Miss America contestants, they found a similar trend towards a thinner standard. Specifically, there was an average decline in weight of contestants of .28 lb. per year and that the winners weighed significantly less than the contestants.

Extending Garner et al.'s (1980) methodology, Wiseman et al. (1992) found that this overvaluation of thinness continued. They examined Playboy magazine centerfolds and Miss America contestants between 1979 and 1988. Body

measurements of these two groups indicated a body weight 13-19% below expected weight for women in that age group. Over the 10 year period studied, 69% of the Playboy centerfolds and 60% of Miss America contestants had weights 15% or more below the expected weight for their age and height, which is a DSM-III-R criteria for anorexia nervosa. Wiseman et al. (1992) also found an increase in the number of diet and exercise articles in popular women's magazines. In fact, these findings suggested that currently there may be more of an emphasis on exercising as opposed to dieting behaviors to control weight.

Similar results also were reported in a study examining fashion models between 1967 and 1987 (Morris et al., 1988). Height and weight measurements appeared to increase relative to bust and hip measurements over this period. This change in body shape has resulted in a beauty ideal that appears to be more "androgynous" or "tubular." The change in women's ideal shape is fairly apparent in light of the above findings (Garner et al., 1980; Morris et al., 1988; Wiseman et al. 1992). This changing ideal body shape is especially interesting when considering current weight statistics from the Metropolitan Life Insurance Company (cited in Johnson & Connors, 1987) that indicate women under 30 have actually increased in body weight over the last 20 years. Thus, it appears that although women in society are becoming heavier in general, possibly because of the better health care and

nutrition, the beauty ideal for this same population has become smaller and lighter. DiNicola (1990) describes this inverse relationship between the abundance of food and body weight as a cross-cultural phenomenon. This view asserts that the consumer society and the fashion of thinness pressure certain women in societies where food is abundant to idealize and seek out thinness.

Society's presentation of a thinner, more tubular physique appears to be negatively influencing women. In a study involving 1,300 college students, Pyle, Mitchell, Eckert, Halverson, Neuman and Goff (1983) found that fear of becoming fat was equally pervasive in both bulimic and nonbulimic women. Rodin et al. (1985) pointed out that for many females in Western society chronic dieting has become a way of life. In fact, dieting may be somehow inherent in femininity itself. Squires and Kagan (1985) found that the more feminine subjects perceived and preferred themselves to be, the more they tended to diet. They concluded that dieting in many instances is becoming tied up with the whole notion of femininity itself. In support of Rodin et al. (1985), Mintz and Betz (1988) found that high percentages of women are actively engaged in some form of dieting behavior in their pursuit of thinness. Over 28% of Mintz and Betz's (1988) sample of undergraduate women engaged in dieting behavior more than once daily, while 54% dieted on a daily basis. While fewer women engaged in the more extreme weight

control behaviors such as the use of laxatives, diet pills, or purging, the large numbers attempting to control their weight indicates a trend or desire to be thinner.

Several authors have suggested that the current preoccupation with thinness and dieting may have contributed to the prevalence of eating disorders in western society (Boskind-Lodahl, 1976; Garner & Garfinkel, 1980; Schwartz, Thompson & Johnson, 1982; Thompson & Schwartz, 1982). This high drive for thinness has often been considered a characteristic of individuals suffering from eating disorders (Ben-Tovim & Walker, 1991; Gordon, 1989; Nassar, Hodges, & Ollendick, 1992) and is even included as a subscale on the Eating Disorders Inventory (Garner, Olmstead & Polivy, 1983). Mintz and Betz (1988) found that the extent of eating disordered behavior was highly correlated with several characteristics related to the cultural pursuit of thinness. These included negative body image, endorsement of sociocultural beliefs regarding the desirability of female thinness and obsessive thoughts concerning weight and appearance.

In light of the above findings it seems that societal body ideals emphasizing a thinner or more tubular shape may be negatively affecting women's self-perception. This is evidenced in the surprisingly high number of women who appear to be actively engaged in pathogenic weight control behaviors in an effort to alter their shape. There also is

the implication that this trend toward a more slim physique in conjunction with the resulting discontent women have toward their bodies, has played a role in the prevalence of disordered eating for women.

Changing gender roles. In addition to the current trend emphasizing a thin physique, women's changing gender roles have been suggested in the etiology of eating disturbances. In earlier decades a woman's role was fairly straightforward and understood--the mother, the wife, the homemaker. With the advent of the feminist movement, however, women began increasing their position within the workforce and expanding these roles. Although this expansion provided additional opportunities for women, it also may have created more confusion about what it means to be a woman in today's society. In a study examining the gender role attitudes of women, Mason, Czajka and Arber (1976) collected data in 1964, 1970 and 1973-1974 and found a significant decline in the endorsement of traditional role attitudes and values both in and out of the home. Their results are particularly interesting in light of the fact that the first data set was collected prior to the passage of the Civil Rights Act of 1964 and in the midst of the growing feminist movement. Helmreich, Spence and Gibson (1982) conducted a similar study to update the findings of Mason et al. (1976). They used the Attitudes Toward Women Scale (Spence & Helmreich, 1972) to assess changing gender-

role attitudes between 1972, 1976 and 1980 in samples of college students and their parents. The results indicated that, in both groups, there were large shifts toward egalitarianism in masculine and feminine roles between 1972 and 1976, and relatively small changes between 1976 and 1980. Thus, it appears that there have been shifts in the roles espoused by men and women during the last few decades.

Gender roles and well-being

Given these shifting gender roles, one question to consider is how do gender roles relate to a person's well-being? Early theories of gender role identity, referred to as congruence or sex-typed theories, conceptualized masculinity and femininity as opposite ends of a single continuum (Kagan, 1964; Kohlberg, 1966). Psychological health under this assumption was defined as being consistent with one's gender type and gender such that a healthy male would exhibit mostly masculine behaviors and a healthy female would exhibit mostly feminine behaviors. Thus, the more consistent one was with regard to society's stereotyped gender role, the more psychologically healthy one was. Sandra Bem (1974) challenged this assumption and suggested that the dimensions of masculinity and femininity are independent of each other. She further argued that psychological androgyny, or adopting both masculine and feminine traits is more desirable in the formation of a healthy gender role identity than possessing masculinity or

femininity alone. The Bem Sex Role Inventory (Bem, 1974), and the Personal Attributes Questionnaire (Spence, Helmreich & Stapp, 1974) were developed to assess gender role orientation in such a bidimensional manner.

Several studies have been conducted to test the validity of these opposing gender role theories. Markstrom-Adams (1989) reviewed numerous studies examining the relationship between gender role orientation and psychological well-being. She found that neither the congruence model nor the androgyny model was entirely supported as being associated with psychosocial well-being. Several studies, however, supported the hypothesis that psychological well-being was strongly associated with masculinity and androgyny in both females and males. Masculinity, more than femininity, was associated with positive social and psychological correlates (e.g. self-esteem, low depression and low anxiety). Interestingly, femininity was not associated with greater psychological health for women. Markstrom-Adams (1989) concluded that masculinity or the masculine component of androgyny may be most associated with psychological well-being for both men and women.

These findings are consistent with Whitley (1983) who conducted a meta-analysis on studies concerning the relationship between gender role orientation and self-esteem. Aside from the androgyny and congruence models,

Whitley also examined what he deemed the masculinity model. This model asserts that one's psychological well-being is a function of the extent to which one has a masculine gender role orientation, irrespective of gender. Self-esteem was chosen as an indicator of psychological health. His study revealed that both masculinity and femininity were positively related to self-esteem; however, masculinity demonstrated the stronger relationship. Overall, his results demonstrated no support for the congruence hypothesis and weak support for the androgyny hypothesis. The best support was found for the masculinity hypothesis.

Other attempts to determine the relationship between gender role orientation and psychological health also have been made (Bassoff & Glass, 1982; Orlofsky & Stake, 1981; Spence & Helmreich, 1978). Spence and Helmreich (1978) found that both androgyny and masculinity were associated with high levels of self-esteem. Orlofsky and Stake (1981), on the other hand, examined other variables aside from self-esteem and noted that masculinity was related to higher achievement motivation, higher performance self-esteem and lower fear of failure than femininity regardless of gender. Additionally, their findings suggested that although feminine qualities are a prerequisite for high social self-esteem in both sexes, masculine qualities added appreciably to women's, but not to men's, social self-esteem. In other words, women who possessed more masculine qualities had

higher self-esteem than men with equally high masculine qualities. Examining female undergraduates Kimlicka, Cross and Tarnai (1983) found that women high on androgyny and masculinity had higher body satisfaction and overall self-esteem than women high on femininity or with an undifferentiated gender role orientation. Bassoff and Glass (1982), in a meta-analysis examining the relationship between gender roles and mental health, similarly found that masculine and androgynous subjects, whether male or female, possessed higher levels of mental health than their feminine counterparts. Psychological health in this case, was measured extensively using measures of adjustment, maladjustment, self-esteem, neurosis, self-dissatisfaction, character disorders and psychosis. They found that the distinctions between androgyny and femininity as well as between masculinity and femininity were substantially greater than those between androgyny and masculinity. It seems, then, that the masculine component of androgyny rather than the integration of femininity and masculinity accounts for the higher levels of mental health. Thus, endorsing typically masculine attitudes regardless of gender may be positively related to psychological well-being.

Gender Roles and Eating Disorders

Although gender roles have been related to general psychological health, questions remain regarding their relationship to eating disorders, particularly in women.

Johnson and Connors (1987) noted that the mean age of eating disordered individuals suggests they are the first generation of women to be raised entirely within the feminist movement. Other researchers have suggested that the sociocultural transition resulting from the feminist reforms may have contributed to role and identity confusion among a subgroup of this population (Garner, et al., 1983; Lewis & Johnson, 1985; Schwartz, et al., 1982). Garner et al. (1983) presented evidence that changing societal norms have forced women to face many ambiguous and often contradictory role expectations. For example, women are encouraged to maintain the more traditional expectations, such as physical attractiveness and domesticity, while also incorporating the more modern expectations of vocational achievement and personal autonomy. Garner et al. (1983) suggests that although the expansion of gender roles have increased personal choice and freedom for many women, it also may have overwhelmed a less stable group of women already "at-risk" for the development of eating disorders.

In examining the relationship between eating disorders and gender role, two theories have appeared in the literature (Lancelot & Kaslow, 1994). The femininity theory claims that individuals with eating disorders are hyperfeminine in their gender role orientation, that is, they are overly passive, dependent, and needing approval from others (Boskind-Lodahl, 1976). In order to achieve an

exaggerated feminine ideal, these women rely heavily on dieting and the pursuit of thinness. An alternative theoretical position, recently coined the discrepancy theory (Steiner-Adair, 1986), asserts that eating disorders are related to a self-perception of a lack of traditionally masculine characteristics. This discrepancy is typically measured by assessing the degree of conflict a woman experiences between her actual and ideal perceptions of masculinity, hence gender discrepancy.

Boskind-Lodahl's (1976) femininity theory is the most commonly cited in eating disorder-gender role research. Drawing from this theory, which proposes that eating disordered individuals are "hyperfeminine," researchers have predicted that eating disordered individuals should score higher on femininity subscales of gender role orientation measures. Research investigating the femininity theory, however, has been conflictual and inconsistent with some studies finding support for the theory (Boskind-Lodahl, 1976; Pettinati, Franks, Wade & Kogan, 1987; Rost, Neuhaus & Florin, 1982; Steiger et al., 1989; Sysmanski & Chrisler, 1991) and others not (Cantrell & Ellis, 1991; Dunn & Ondercin, 1981; Lewis & Johnson, 1985; Sitnick & Katz, 1984; Timko, Striegel-Moore, Silberstein & Rodin, 1987).

Pettinati et al. (1987), for example, found that high feminine ratings on the Bem Sex Role Inventory (BSRI) were associated with eating disturbances as assessed by the EAT.

Eating disordered and non-eating disordered individuals completed the BSRI twice. The first administration reflected current gender role orientation while the second administration revealed ideal gender role orientation. The eating disordered patients in the study described their ideals as more feminine than the control subjects. This provides support for the contention that eating disordered individuals subscribe to a more highly feminized gender role ideal. Steiger et al. (1989) replicated these findings in their study which included both anorexics and bulimics. They found that subjects with eating disorders showed hyperfeminine identifications on the Bem Sex Role Inventory. Additional support for this hypothesis was provided by Szymanski and Chrisler (1991) in their study of eating disorders, gender roles and athletic activity. Women classified as feminine on the Bem Sex Role Inventory scored higher than the other subjects on the bulimia subscale of the Eating Disorders Inventory.

In a study involving adolescent females, Rost et al., (1982) found that bulimics endorsed more traditionally feminine roles than did normal control subjects. Additionally, Squires and Kagan (1985) designed a study to examine the gender role orientation of individuals with disordered eating. Although compulsive eaters tended to perceive themselves as low in feminine qualities, these individuals desired to be more, rather than less, feminine.

On the other hand, restrictive dieters perceived themselves as being relatively high in feminine traits. Overall, Squires and Kagan's (1985) study revealed an indirect relationship between femininity and self-resentment. It also brings up the issue that there may be some differences in gender role orientation depending on the type of disordered eating pattern.

A recent study (Paxton & Schulthorpe, 1991) assessed the relationship between positive and negative femininity/masculinity and disordered eating. Positive feminine traits were "emotional," "patient" and "gentle," while negative feminine traits included "dependent," "timid" and "weak." Positive masculine traits included "firm," "competitive" and "confident," while negative masculine traits were "bossy," "aggressive" and "noisy." Paxton and Schulthorpe (1991) found a positive correlation between measures of disordered eating (measured by the EAT and the Bulimia and Drive for Thinness subscales of the EDI) and the extent to which women perceived themselves to possess feminine negative traits (e.g., dependency, needing approval and timidity). There was no relationship between disordered eating and positive feminine traits. Thus, in looking at femininity it may be important to discriminate between positive and negative aspects to better understand femininity's relationship to disordered eating. Taken as a whole, these studies seem to support the idea that over-

identification with femininity in some way relates to disordered eating. Many studies, however, have failed to demonstrate a relationship between femininity and disordered eating. Several studies, in fact, have found no differences at all in gender role orientation between eating disordered subjects and controls (Beren & Chrisler, 1990; Cantelon et al., 1986; Dunn & Ondercin, 1981; Lewis & Johnson, 1985; Xinaris & Boland, 1990). Van Strien (1989), for example, found that food restriction was no more prevalent in feminine than in masculine sex-typed women. Lewis and Johnson (1985) examined bulimic women and their gender role orientation. Although they did not find support for their hypothesis that bulimic women have hyperfeminine self-concepts, a significant number of the bulimic subjects fell into the undifferentiated category. This may reflect, the authors suggested, a relationship of bulimia with low self-esteem and a less defined sense of self.

Other studies have found that eating disordered individuals are more masculine than non-eating disordered individuals, further disputing the femininity theory. For example, Cantrell and Ellis (1991) administered the Bem Sex Role Inventory and the EDI to 206 college men and women. Results indicated that masculine women had higher mean scores on the EDI than any other groups (i.e., Feminine, Undifferentiated, Androgynous). Thus, femininity was unrelated to disordered eating. Heilbrun and Putter (1986)

disputed the femininity theory in their examination of women who were psychologically similar to anorexics (PSA's; as determined by EDI scores). Results suggested that the PSA females were generally more alert to gender-role stereotypes than the control group and tended not to think in traditionally feminine manners. A study addressing the relationship of masculinity and femininity to disordered eating (Timko et al., 1987) found no relationship between femininity as measured by the Personal Attributes Questionnaire (PAQ) and disordered eating, but did find that possessing socially desirable masculine traits was a significant predictor. Additionally, Dunn and Ondercin (1981) used the Bem Sex Role Inventory to determine whether female compulsive eaters would be either more masculine or more feminine than a control group. They did not find support for Boskind-Lodahl's (1976) hypothesis suggesting that bulimics are hyperfeminine. Instead, they found that high compulsive eaters endorsed "masculine" traits (e.g., ambition, independence) significantly more than did the control group. High compulsive eaters also indicated greater discrepancy between their actual self-concept and their ideal self. No significant differences, however, were found in regard to "feminine" behaviors between the compulsive eaters and control subjects. Thus, there is also evidence disputing the femininity theory suggesting instead

that disordered eating is unrelated to femininity or that it is more related to possession of masculine traits.

The results of these studies suggest that although the femininity perspective has received considerable attention in the theoretical literature, it has not been consistently supported empirically. One fault may be that this approach oversimplifies the apparently complex relationship between gender role and eating disorders. As Cantrel and Ellis (1991) suggested, the relationship between eating disorders and gender roles is a complex one requiring further study and more complete conceptualization. By maintaining that all eating disordered individuals are overly feminine this perspective fails to address the interplay between masculine and feminine qualities. Equally as important, by focusing solely on the feminine orientation of the individual, the feminine perspective ignores the individual's degree of comfort with that orientation. In other words it fails to address the discrepancy between her ideal and real sense of both masculinity and femininity. This conflict, between societal ideals and personal realities has been suggested in the development of psychological disorders (Horney, 1950).

Gender discrepancy theory appears to address some of the above mentioned limitations by considering the relationship between a person's perceptions of real and ideal gender orientation. Specifically, discrepancy theory

argues that eating disorders are related to a self perception of a lack of traditionally "ideal" masculine characteristics. Several studies supporting the gender discrepancy theory have suggested that failure to possess certain masculine qualities may be related to disordered eating in women and may be more important than possession of certain feminine qualities. Sitnik and Katz (1984), for example, found that when anorexics were compared to normals they did not differ on femininity scores; however, the anorexics scored considerably lower on the masculinity items than control subjects. The authors suggested that women at-risk for developing anorexia may appear "hyperfeminine" but, perhaps more significantly, may have failed to develop those "masculine" traits (e.g., assertiveness, competitiveness, independence) necessary for optimal adult female functioning in modern society. Other studies have implied that a gender discrepancy may be important in the etiology of eating disorders as well. Dunn and Ondercin (1981), although finding no differences between binge eaters and nonbinge eaters on the masculinity/femininity scale of the BSRI, alluded to the idea of examining gender role discrepancy in eating disorder research. Interestingly, they did find that high compulsive eaters tended to endorse "masculine" traits as more desirable than the low compulsive eaters. Dunn and Ondercin (1981) suggested that masculinity/femininity should

be examined along with the ideals that subjects hold for themselves on these dimensions.

Pendleton, Tisdale, Moll and Marler (1990), after examining the MMPI 4-5-6 configuration in bulimic and control subjects, found that what distinguished bulimics from controls was not an over-identification with the stereotypic feminine role, but rather a conflict between feminine role characteristics and the more aggressive constellation of characteristics that are associated with achievement. They concluded that it may be this type of gender role discrepancy (the conflict between a person's real and ideal gender role orientation) that contributes significantly to the prevalence of eating disorders in contemporary society. In a review article of psychosexual factors associated with disordered eating, Scott (1987) concluded that the bulk of gender role research, most of which has tested the femininity theory, has failed to support any of the existing hypotheses. He suggested examining an individual's perception of real and ideal gender roles to help determine the contribution of gender role conflict to the development of eating disorders. Squires and Kagan (1985) previously attempted to address this issue; however, they did not refer to gender role discrepancy per se, but instead labeled the discrepancy between actual and ideal feminine gender role, "feminine dissatisfaction." They asked subjects to fill out the PAQ

once according to one's perceived sense of gender role orientation and another time according to one's ideal orientation. Results suggested that those who were displeased with the discrepancy between their actual and ideal selves tended to eat compulsively.

Timko et al. (1987), in their examination of masculinity, femininity and disordered eating in female college students, examined the idea of gender role discrepancy as well. Femininity, as measured by the PAQ, was unrelated to eating disordered behavior measured by the EAT. Females who felt that socially desirable masculine traits (e.g., aggression, little need for security) were important, however, were more likely to display disordered eating. Interestingly, it was not the degree to which a woman perceived herself to possess these traits, but rather the extent to which she considered them to be important that appeared to be related to eating disorder symptomatology.

An Australian study (Paxton & Schulthorpe, 1991) provides additional support for the discrepancy theory. Using the PDQ, the Women in Society Questionnaire, the EAT, and the EDI, Paxton and Schulthorpe (1991) found that women who obtained higher scores on the Bulimia and Drive for Thinness subscales of the EDI also had a greater discrepancy between their self and ideal masculine positive scores. Thus, these women desired to possess more masculine positive traits (e.g., firm, competitive, confident) than they

currently believed they had. Additionally, they found positive correlations between self feminine negative scores and the EAT, and with the Bulimia and Drive for Thinness subscales of the EDI. Thus, those who felt they possessed more negative feminine traits reported more bulimic and anorexic symptomatology.

Although Cantelon et al. (1986) designed a study specifically examining gender role discrepancy and disordered eating, they found limited support for the hypothesis that gender role discrepancy is higher in individuals with eating disorders. In this study gender role conflict was defined as the difference between the individual's perceived sense of masculinity/femininity and her ideal sense of masculinity/femininity as measured by the Bem Sex Role Inventory. Although gender role conflict was prevalent across all groups (anorexic, bulimic and control), the bulimic group reported more conflict than both the anorexic and control groups. Their study, however, was limited in several respects. The sample was small (N = 30) and details on the duration, severity and progress of the eating disordered subjects were not available. In addition, they limited their population to women who met all of the criteria for a DSM-III-R diagnosis and did not include women with pathological eating behaviors and attitudes.

In sum, gender discrepancy theory asserts that eating disorders may be related to a self perception of a lack of

certain masculine traits. That is, females who feel they are not "masculine" enough (i.e., strong, competitive, independent) may be more at-risk for eating disorders. Although the idea that a discrepancy may play a role in the etiology of eating disorders has been implied by several researchers, very few have designed studies specifically to validate this construct. Although the studies that have examined gender discrepancy (e.g. Cantelon et al., 1986; Paxton & Schulthorpe, 1991) have produced some support for the theory, they have been limited in that each failed to consider both dimensions of gender discrepancy (masculinity and femininity) simultaneously. Instead, each one focused on masculine dimensions only or looked at masculine and feminine dimensions separately. This limitation, leaves important questions unanswered. For example, is there a conflict only with masculine characteristics, or is there one also with feminine traits? How do they relate together?

A recent study by Johnson and Petrie (1995) considered these questions. They examined masculine and feminine discrepancy scores simultaneously creating nine orthogonal groups that represent the various types of gender discrepancies that might exist including a nondiscrepant group (n = 62), a group desiring to be less feminine but was nonconflicted in masculinity (n = 2), a group desiring to be more masculine but was nonconflicted in femininity (n = 69), a group desiring to be more masculine and more feminine (n =

28), a group desiring to be more feminine but was nonconflicted in masculinity (n = 14), a group desiring to be less masculine and more feminine (n = 0), a group desiring to be less masculine but was nonconflicted in femininity (n = 1), and a group desiring to be less masculine and less feminine (n = 0). They found that gender discrepancy was related to eating disordered symptoms and that the direction of the discrepancy also appeared important. Specifically, those exhibiting a gender discrepancy showed more eating disordered symptoms and appeared to possess more of a masculine self-ideal than those who did not possess such a discrepancy. That is, the group desiring to possess more masculine qualities and who were nonconflicted with femininity, and the group who desired to possess both more masculine qualities and more feminine qualities, all scored significantly higher on bulimic and anorexic symptomatology, concern about body shape, and significantly lower on self-esteem. This finding of a "masculine ideal" lends further support to the discrepancy theory of gender role/eating disorders, yet additional studies in this area are warranted as this is the only study of this type that has been done and limited eating disorder variables were used.

The broad base of research seems to support the contention that gender role and eating disorders are somehow related. There is mixed support for the femininity

hypothesis, that is, eating disordered women are more feminine in their gender role orientation. There is an indication, also, that a lack of masculine traits may be related in some way. Generally, this research has focused on whether an eating disordered individual exhibits a specific gender role orientation (i.e., masculine, feminine or androgynous). There is little consensus, however, that the possession of any particular gender role orientation, either feminine or masculine, is related to the development of specific eating disturbance. What has been implied as more relevant to the development of eating pathology is the degree of conflict experienced between perceived and ideal gender roles, hence, gender discrepancy (e.g., Cantelon et al., 1986). However, this construct has been given little attention in the literature.

Aside from the limited amount of eating disorder-gender role research examining gender discrepancy, another methodological limitation has been assessing masculinity/femininity based only on stereotypical traits or characteristics. Current gender role theory stresses a multidimensional approach in measuring the constructs of masculinity/femininity that includes stereotypical characteristics as well as gender role attitudes and behaviors (Lancelot & Kaslow, 1994; Spence, 1993). Research indicates that gender role characteristics, attitudes and behaviors each are distinct aspects of the underlying

construct masculinity/femininity and should be measured independently (Orlofsky & Stake, 1981). Measuring gender discrepancy by including characteristics, as well as gender role attitudes and behaviors should provide further validation for the construct of gender discrepancy and more specific information about this conflict. In other words, is it just the conflict between stereotyped characteristics that relates to eating disorders, or do behaviors and attitudes also need to be considered?

Few eating disorder-gender role studies, however, have attempted to measure aspects of masculinity and femininity beyond the stereotypical characteristics level. Essentially, the PAQ and the BSRI which measure the expressive-instrumental characteristics of masculinity and femininity, are the only measures used to assess gender role orientation and gender discrepancy. A few eating disordered studies (e.g., Timko et al., 1987) have attempted to study gender role attitudes as measured by the Attitudes Towards Women Scale (Spence & Helmreich, 1973), but none have examined characteristics, attitudes and role behaviors together. Thus, the purpose of this study is to determine the existence of gender discrepancy within gender role attitudes, behaviors, and characteristics, and how this gender discrepancy as the IV may relate to dependent measures of eating disordered attitudes and behaviors. Specifically, this study will examine the interrelationships

among gender discrepancy in attitudes, characteristic, and behaviors, such as determining the degree to which a person who is discrepant in characteristics also is discrepant in attitudes and behaviors. In addition, it will examine two way relationships determining, for instance, how discrepant characteristics and behaviors, characteristics and attitudes, and behaviors and attitudes relate to the dependent measures. A second purpose will be to determine which of the three measures of gender role (characteristics, attitudes and behaviors) is the most predictive of anorexic and bulimic symptomatology.

Hypotheses

The main effect model will test the hypothesis that gender discrepant females (whether measured by attitudes, behaviors or characteristics) will report a higher degree of eating disorder symptomatology. Specifically, it is expected that women desiring to possess more masculine qualities or more masculine and more feminine qualities will receive higher scores on the BULIT-R (bulimic symptomatology), the EAT (anorexic symptomatology), the BSQ (concern about body shape), the CES-D (depression), and will receive lower scores on the SES (self-esteem) and the CSES (assertiveness). Because previous research has not examined all three components of gender simultaneously, the degree to which discrepancies across the components overlap is unknown. Thus, two and three way interactions will be

tested as adequate cell sizes allow. In other words, in examining the interrelatedness of gender discrepancy scores, there has been no previous research to tender specific hypotheses. While it is expected that women with a gender discrepancy will report more bulimic and anorexic symptoms, it is not clear how the interplay of three gender discrepancy measures will relate to eating disordered symptomatology. Based on Johnson & Petrie's (1996) previous study, it could be assumed that gender discrepancy, no matter how operationalized would relate to anorexic and bulimic symptoms. On the other hand, it could be that only the gender discrepancy involving characteristics relates to eating disordered symptomatology, and that looking at behaviors and attitudes does not add to what is already known.

Regarding the second purpose, it is unclear which of the three gender components will be most predictive of anorexic and bulimic symptoms as research in this area has not been done. Thus, utilizing regression procedures, the relative predictive validity of the discrepancy scores (masculine and feminine for each component) will be determined.

CHAPTER 2

METHOD

Participants

One hundred eighty-seven female college students, solicited from psychology classes at a large southwestern, public university participated in this study on a voluntary basis and received extra credit for their participation. Participants' average ages were 22.2 years (SD = 6.19); 134 (71.7%) were Caucasian, non-hispanic; 19 (10.2%) were African-American; 11 (5.9%) were Hispanic; 13 (7%) were Asian-American; and 2 were Native American (1%). Eight (4.2%) indicated "other."

Regarding rank in college, 65 (32%) of the participants were freshman, 26 (13%) were sophomores, 55 (27%) were juniors, 47 (23%) were seniors, and 9 (5%) were graduate students. For self reported grade point average participants fell in the following categories: 45 (22%) reported 3.5 - 4.0, 70 (35%) reported 3.0 - 3.49, 70 (35%) reported 2.5 - 2.9, and 14 (7%) reported 2.0 - 2.49 and 3 (2%) reported under 2.0.

Instruments

Gender discrepancy - characteristics. The 24-item Personal Attributes Questionnaire (PAQ; Spence et al., 1974)

measures gender-role orientation and was used to determine gender discrepancy (see Appendix A). For each item, respondents indicate, on a scale from A to E, where they fall between two opposite/contradictory characteristics. Example items include "very independent" or "not at all independent," and "not at all aggressive" or "very aggressive."

The PAQ includes 3 scales: (1) Masculinity (M)--characteristics appropriate to both sexes but thought to be possessed more by males; (2) Femininity (F)--characteristics appropriate to both sexes but thought to be possessed more by females; and (3) Masculinity/Femininity (M-F)--characteristics viewed as appropriate to either male or female but not to both. The M-F scale was excluded in this study as it was not clear how a discrepancy score for this measure would add to an understanding of gender role. Specifically, the scale measures masculinity/femininity on a single continuum with masculine scores on one end and feminine scores on the opposite end. This view of gender as unidimensional is an oversimplification and does not fit with current gender theory (e.g., Bem, 1974) proposing that gender is made up of at least two dimensions (masculine and feminine) for each individual. For this study then, only the M scale and the F scale were used to determine discrepancy scores. Scoring is as follows: each item is assigned to one of the three scales (M, F or M-F), 4 points

are given for the extreme masculine response (on the M and M-F scales) and extreme feminine response (on the F scale), 3 points for the next most extreme response, etc. with no points given for the least extreme answers. Total scores for each scale, ranging from 0 to 32, are obtained by summing the ratings of the relevant items.

Spence and Helmreich (1978) reported internal consistencies (Cronbach's alpha) of .85, .82 and .78 for the M, F, and M-F scales, respectively. Significant sex differences, reported by Spence et al. (1974) indicated that the PAQ was able to discriminate between known groups of males and females.

Gender discrepancy - behaviors. The Sex Role Behavior Scale Short Form (Orlofsky & O'Heron, 1987) assesses sex role interests and behaviors, as distinct from sex role traits or attitudes and is modeled after the PAQ (see Appendix B). It consists of 64 items including male-valued (M), female-valued (F) and sex specific (MF) interests and behaviors in four areas: leisure activity preferences; vocational interests; social interaction; and marital, or primary relationship, behavior. Illustrative items are as follows: Leisure activities--basketball (M), volleyball (F), hunting (MF), knitting (MF); Vocational interests--accountant (M), social worker (F), plumber (MF), nurse (MF); Social interaction--telephoning an opposite-sex person to ask for a date (M), taking special care with one's

appearance (F), ordering in a restaurant for both people (MF), primping in front of the mirror (MF); Marital behavior--being the one to initiate sexual interactions (M), being very perceptive of a spouse's changes in mood and responding to them in some way (F), yard work (MF), doing laundry (MF).

Respondents rate each item on a 5-point scale for how characteristic the interest or activity is of them. Four points are given for responses to "extremely characteristic of me", 3 points for "moderately characteristic of me" 2 points for "slightly characteristic of me" 1 point for "hardly characteristic of me" and no points for "not at all characteristic of me". Total scores for each scale (M, F, MF) ranging from 0 to 32, will be obtained by summing the ratings of the relevant items. For this study only the M and F scale of the SRBS items were administered.

Internal consistency is satisfactory for each of the three scales. Orlofsky and O'Heron (1987) reported alpha coefficients to be .83, .84 and .92 for the M, F, and MF scales, respectively. The scales of the short-form SRBS were highly correlated with the corresponding scales of the long form for each sex with correlations reported to be .95 and .95 for males and females respectively on the male-valued items, .96 and .94 for males and females respectively on the female-valued items, and .91 and .90 for males and

females respectively on the sex-specific scale (Orlofsky & O'Hearon, 1987). No test-retest data could be found.

Gender discrepancy - attitudes. The Attitudes Towards Women Scale - Short Form (AWS; Spence & Helmreich, 1973) is a 25-item version of the Attitudes toward Women Scale (AWS) that contains statement about the rights and roles of women in such areas as vocational, educational, and intellectual activities; dating behavior and etiquette; sexual behavior; and marital relationships (see Appendix C). Each item has four response alternatives, ranging from agree strongly to disagree strongly and each item is given a score from 0 to 3, with 0 representing the most traditional and 3 the most contemporary response. Total scores range from 0 to 75. Example items include "Swearing and obscenity are more repulsive in the speech of a woman than of a man", and "Women should take increasing responsibility for leadership in solving the intellectual and social problems of the day."

The AWS is essentially unifactorial, measuring the continuum from traditional to non-traditional attitudes. In samples of college students, Cronbach alphas for each sex are similar and in the low .90's for both the short (25 item) and the long (55-item) form of the scale (Spence, et al., 1973). No test-retest data could be found.

Bulimic symptomatology. The 36-item Bulimia Test - Revised (BULIT-R; Thelen, Farmer, Wonderlich & Smith, 1991) provides a measure of bulimic symptomatology based on the

DSM-III-R (American Psychiatric Association [APA], 1987) criteria (see Appendix D). Although individuals respond to all items, only 28 contribute to the total score. All items are presented in a 5-point, forced-choice Likert type format with 5 points given to answers in the extreme "bulimic" direction and 1 point for answers in the extreme "normal" direction. Total scores are obtained by summing across the 28 items and can range from 28 to 140.

Thelen et al. (1991) found two-month test-retest and internal consistency reliability (Cronbach's alpha) to be .95 and .97, respectively. In terms of construct validity, the BULIT-R correlated .85 and .99 with the Binge Scale (Hawkins & Clement, 1980) and the BULIT (Smith & Thelen, 1984), respectively. Using therapist diagnosis as the criterion measure, Thelen et al. (1991) reported the sensitivity, specificity, positive, and negative predictive values as, .83, .96, .73, .97, respectively, for female undergraduates when a cutoff score of 104 was employed.

Anorexic symptomatology. The 26-item Eating Attitudes Test (EAT; Garner & Garfinkel, 1979) assesses anorexic eating behaviors and attitudes (see Appendix E). Items are presented in a 6-point, Likert type format ranging from "always" to "never". Although six response options are provided, scoring is as follows: 3 for an extreme "anorexic" response, 2 points and one point respectively for the next two responses. No points are given for the remaining three

(non-anorexic) responses. A total score is obtained by summing across all items and can range from 0 to 120.

Internal consistency (Cronbach's alpha) was .94 (Garner & Garfinkel, 1979). A correlation of .87 was found between the EAT and the criterion group membership (i.e., anorexic vs. normal control) suggesting acceptable criterion-related validity.

Concern about body shape. The 34-item Body Shape Questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987) measures degree of concern about body shape (see Appendix F). Each item is presented in a 6-point Likert-type format ranging from 1 (never) to 6 (always), and total scores can range from 34 to 204 with higher scores reflecting a higher degree of body dissatisfaction. Evans and Dolan (1993) reported internal consistency (Cronbach alpha) as .97. Significant correlations between the BSQ and the total EAT score (r=.61) and the Body Dissatisfaction subscale of the EDI (r =.66) helped to establish its construct validity (Cooper et al. , 1987).

Self-esteem. The 10-item Self-Esteem Scale (SES; Rosenberg, 1965) assesses attitudes toward self, specifically level of self acceptance (see Appendix G). For each item individuals indicate their level of agreement on a 4-point Likert scale, ranging from strongly disagree to strongly agree. Total scores are obtained via Guttman scoring. For items one through three, individuals answering

at least 2 out of the 3 in the high self-esteem direction receive one point. For items 4 and 5, and items 9 and 10, individuals answering 2 out of 2 in the high self-esteem direction receive a point for each set. The remaining three items are independent of one another, and individuals receive one point for each high self-esteem response. Thus, total scores can range from 0, low self-esteem, to 6, high self-esteem. Silber and Tippet (1964) found a test-retest reliability of .85. Evidence of the scale's validity is provided by Robinson and Shaver (1973) who reported moderate, yet significant correlations between this measure and the Coopersmith Self-Esteem Inventory (r=.59) and a one item self-esteem scale (r=66). Additional validity information is provided by Francis & Wilcox (1995) who found significant correlations between this measure and the Coopersmith Self-Esteem Inventory (r=.52).

Depression. The 20 item Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) was given to measure subjective depression (see Appendix H). The CES-D was designed to measure current level of depressive symptomatology, with emphasis on the affective component, depressed mood. Sample items of the CES-D include, "I felt that I could not shake off the blues even with help from my family or friends." and "My sleep was restless." Individuals indicate the degree to which each item applies to them on a four point Likert scale ranging from 0, "rarely

or none of the time (Less than 1 day a week)", to 3, "most or all of the time (5-7 days a week)." The possible range of scores is zero to 60, with the higher scores indicating more depressive symptoms.

Radloff (1977) found measures of internal consistency (coefficient alpha and the Spearman-Brown) to be high in the general population (.85) and even higher in the patient sample (.90). Test-retest correlations were in the moderate range (.57) as would be expected with such a measure. The CES-D was able to discriminate between patient and general population groups (Radloff, 1977), demonstrating its validity. The average CES-D score for a sample of psychiatric inpatients was significantly higher than the average for the general population samples. Seventy percent of the patients and only 21% of the general population scored at or above an arbitrary cutoff score of 16. In the patient group, the correlation between the CES-D scale and ratings of severity of depression by a clinician was .56 (Craig & Van Natta, 1976).

Assertiveness. The 50 item College Self-Expression Scale (CSES; Galassi, DeLo, Galassi & Bastien, 1974) was used to measure three aspects of assertiveness: positive (including feelings of love, affection, admiration, approval and, agreement), negative (including justified feelings of anger, disagreement, dissatisfaction and annoyance), and self-denial (including over-apologizing, excessive

interpersonal anxiety, and exaggerated concern for the feelings of others) (see Appendix I). It uses a five-point Likert format (0-4) with 21 items positively worded and 29 items negatively worded. Sample items include: "Do you ignore it when someone pushes in front of you?" and "Do you go out of your way to avoid trouble with other people?". Individuals indicate the degree to which each item applies to them on a five point Likert scale ranging from 0, "Almost Always or Always" to 4, "Never or Rarely". A total score for the scale is obtained by summing all positively worded items and reverse scoring and summing all negatively worded items. The possible range of scores is zero to 200 with low scores indicating a generalized nonassertive response pattern. Test-retest reliability coefficients have been found to be .89 and .90 (Galassi, Delo, Galassi & Bastien, 1974). The CSES correlates positively with several scales on the Adjective Checklist thought to reflect assertiveness, and correlated negatively with several scales reflecting non-assertiveness which demonstrate it's construct validity.

Demographic data. A questionnaire was developed specifically for this study to obtain age, weight, height, ideal weight, year in school, and race/ethnicity (see Appendix J).

Procedure

Participants were solicited from undergraduate psychology classes to complete questionnaires during group

meetings. Initially, participants were introduced to the general purpose of the study (i.e., assessment of personality characteristics and eating behaviors in female college students). Second, they were informed about the voluntary and anonymous nature of the project and asked to complete consent forms. Subsequently, participants were administered the PAQ-R (real), the SBRS-RR (real), the ATW-R (real), the PAQ-I (ideal),the SBRS-RI (ideal), the ATW-I (ideal), the EAT, the BULIT-R, the BSQ, the SES, the CES-D and the Demographic Questionnaire. The real and ideal versions of the PAQ, SBRS, and ATW differ only in the instructions. For the real versions, participants were instructed to respond as they truly perceive themselves. For the ideal versions participants were asked to answer the questions as they would ideally like to be. The three real questionnaires were presented first and the three ideal questionnaires were administered last. The remaining questionnaires were counter-balanced to control for ordering effects. Following completion of the questionnaires participants received extra credit points.

Data Analysis

Initially, univariate descriptive statistics were obtained noting ranges, means, and standard deviations. Data were screened for normality, outliers and fit between distribution and assumptions of multivariate statistics. Gender discrepancy scores were derived from the PAQ, SBRS-R

and ATW, and were obtained by subtracting the respective ideal from the real score (PAQR - PAQI, range of scores -32 to 32 on each subscale; SBRS-RR - SBRS-RI, range of scores -32 to 32 on each subscale, ATW-R - ATW-I, range of scores -75 to 75). A negative discrepancy score indicates a desire to possess more of the traits associated with that particular scale (e.g., have more masculine characteristics, more masculine behaviors, or to have more contemporary attitudes towards women), while a positive score indicates a desire to possess fewer masculine traits, fewer masculine behaviors, or more traditional attitudes towards women. A zero score, on the other hand, indicates no discrepancy between ideal and real perceptions on each measure.

Because previous research has demonstrated both masculine and feminine gender roles to be related to disordered eating (Steiger et al., 1989; Dunn & Ondercin, 1981), the two discrepancy scores were considered simultaneously to create nine orthogonal discrepancy groups for both PAQ (see Figure 1). In a replication study, Johnson and Petrie (1995) validated the following method for creating discrepancy groups:

(1) NonDiscrepant--each discrepancy score fell within its standard deviation of the zero (0) point for each subscale (n = 73)

(2) Less-Fem--desire to be less feminine and are nonconflicted in masculinity (n = 6)

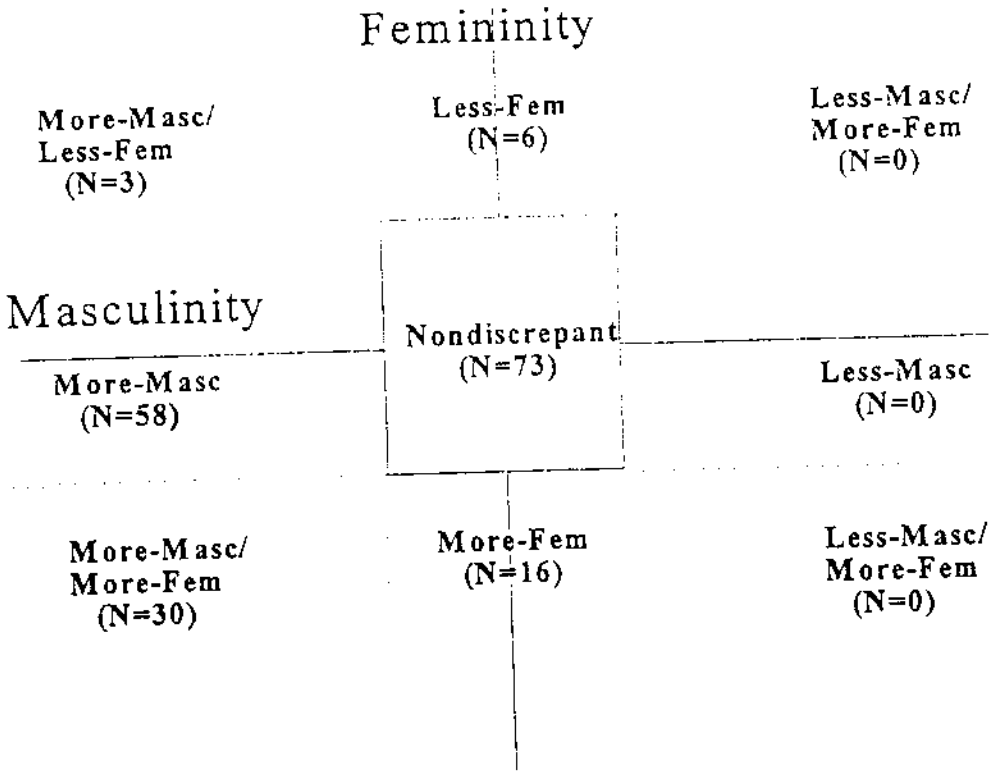

Figure 1. Graphical illustration of the nine orthogonal gender discrepancy groups - characteristics

(3) More-Masc/Less-Fem--desire to be more masculine and less feminine (n = 3)

(4) More-Masc--desire to be more masculine and are nonconflicted in femininity (n = 58)

(5) More-Masc/More-Fem--desire to be more masculine and more feminine (n = 30)

(6) More-Fem--desire to be more feminine and are nonconflicted in masculinity (n = 16)

(7) Less-Masc/More-Fem--desire to be less masculine and more feminine (n = 0)

(8) Less-Masc--desire to be less masculine and are nonconflicted in femininity (n = 0)

(9) Less-Masc/Less-Fem--desire to be less masculine and less feminine (n = 0).

Discrepancy groups for the SRBS-R were figured similarly as the scale was formulated from the PAQ (see Figure 2). The groups are as follows:

(1) NonDiscrepant--each discrepancy score fell within its standard deviation of the zero (0) point for each subscale (n = 95)

(2) Less-Fem--desire to be less feminine and are nonconflicted in masculinity (n = 2)

(3) More-Masc/Less-Fem--desire to be more masculine and less feminine (n = 1)

(4) More-Masc--desire to be more masculine and are nonconflicted in femininity (n = 26)

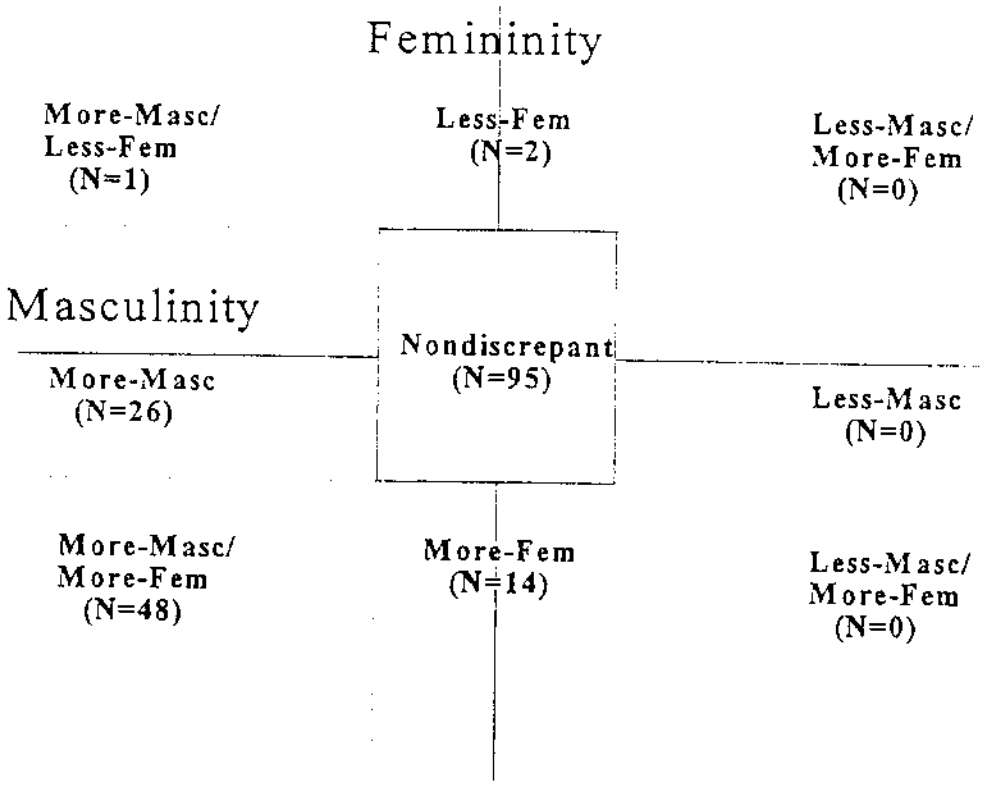

Figure 2. Graphical illustration of the nine orthogonal gender discrepancy groups - behaviors

(5) More-Masc/More-Fem--desire to be more masculine and more feminine (n = 48)

(6) More-Fem--desire to be more feminine and are nonconflicted in masculinity (n = 14)

(7) Less-Masc/More-Fem--desire to be less masculine and more feminine (n = 0)

(8) Less-Masc--desire to be less masculine and are nonconflicted in femininity (n = 0)

(9) Less-Masc/Less-Fem--desire to be less masculine and less feminine (n = 1).

Discrepancy scores for the ATW fell into three groups (see Figure 3):

(1) Nondiscrepant--discrepancy score fell within one standard deviation of the zero (0) point (n = 138)

(2) Traditional--desire to be more traditional in attitudes towards women (n = 29)

(3) Nontraditional--desire to be more nontraditional in attitudes towards women (n = 20).

To address the first purpose whether discrepancy scores are related to disordered eating and to determine how discrepancies in attitudes, behaviors and characteristics are interrelated, a 9x9x3 matrix was computed including discrepancy scores for behaviors, characteristics and attitudes. The cells that filled included: nondiscrepant attitude - behavior - characteristics (n = 46), nondiscrepant attitude - nondiscrepant behavior - more masc

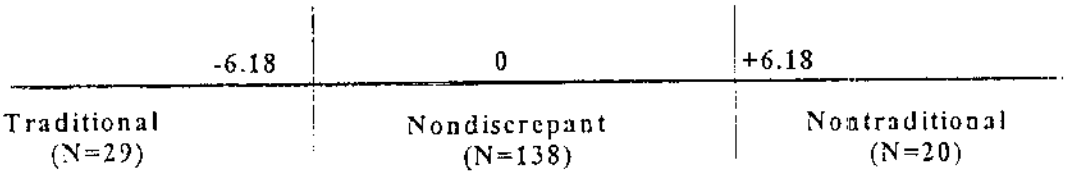

Figure 3. Graphical illustration of three orthogonal discrepancy groups - attitudes

characteristics (n = 21), nondiscrepant attitude - more masc behaviors - more masc characteristics (n = 8), nondiscrepant attitude - more masc/more fem behavior - more masc characteristics (n = 15), nondiscrepant attitude - more masc/more fem behavior - more masc/more fem characteristics (n = 7), traditional attitude - nondiscrepant behavior - nondiscrepant characteristics (n = 8). To test for two and three way interactions and main effects, a multivariate analysis of variance was conducted with those cells that did fill to determine differences among groups on the dependent measures (EAT, BULIT-R, BSQ, SES, CSES, and CES-D). Univariate ANOVAs and, where appropriate, Scheffe post-hoc analyses were performed.

The second purpose was to determine which of the six discrepancy scores (masculine and feminine attitudes, behaviors and characteristics) is most predictive of anorexic and bulimic symptomatology. In order to examine this question, a stepwise multiple regression procedure with forward selection was conducted.

CHAPTER 3

RESULTS

To present the results in an organized fashion, this chapter has been divided into four broad categories: (a) descriptive and demographic data, (b) prevalence of disordered eating--both anorexic and bulimic symptomatology, (c) interactions and main effects among discrepant attitudes, behaviors and characteristics, (d) ability of gender discrepant attitudes, behaviors and characteristics to predict disordered eating symptomatology. Although 203 participants initially participated, 16 were later dropped from the study due to incomplete questionnaires. Thus, all subsequent statistical analyses was conducted with 187 subjects. For all analyses alpha was set at .05.

Descriptive and Demographic Data

Table 1 presents the means, standard deviations and ranges of the independent and dependent variables. On average, the women in the study were 65.39 inches (*SD* = 2.64) tall, weighed 136.47 pounds (*SD* = 33.62) and had a body mass index of 22.19 kg/m^2 (*SD* = 5.5).

Table 2 presents the Pearson product-moment correlations for the primary dependent variables. The EAT

was positively correlated with the BULIT-R (r = .69), the BSQ (r = .65), and the CES-D (r = .49) suggesting that those with more prominent symptoms of anorexia also had higher levels of bulimic symptomatology, greater concern about their body shape, and more depressive symptoms. The EAT was negatively correlated with the SES (r = -.39) and the CSES (r = -.15) indicating that those exhibiting more symptoms of anorexia also had lower self-esteem and less assertive behavior. The BULIT-R was positively correlated with the BSQ (r = .80), the CES-D (r = .47), and BMI (r = .34),and negatively correlated with the SES (r = -.46) and the CSES (r = -.27) suggesting that the women who displayed more bulimic symptomatology evidenced greater concern about their body shape, more depressive symptoms, larger body mass, lower self-esteem and less assertive behavior. With regards to gender discrepancy measures, masculine and feminine discrepancy (behaviors), masculine and feminine discrepancy (characteristics) and discrepancy (attitudes) all correlated positively with the CSES (r = .17 and .20, .17 and .18, and .15, respectively). This indicates that women possessing a gender discrepancy of any sort (behaviors, characteristics or attitudes) also reported more assertiveness. In addition, masculine discrepancy (characteristics) correlated negatively with the BULIT-R (r = -.15), and feminine discrepancy (characteristics) correlated negatively with the CES-D (r = .15). This indicates that the women who exhibited

Table 1

Means, Standard Deviations and Ranges for Independent and Dependent Variables (N=187)

Variables	M	SD	Range
Age	22.22	6.19	16 - 56
Height	65.39	2.64	59 - 71
Weight	136.47	33.62	85 - 400
Ideal Weight	121.78	13.89	90 - 175
BMI	22.19	5.50	16 - 71
PAQRM	20.76	4.81	7 - 32
PAQRF	24.97	4.48	5 - 32
PAQIM	26.35	4.77	3 - 32
PAQIF	27.02	4.45	0 - 32
CONFLM	-05.59	5.22	-20 - 09
CONFLF	-02.05	4.13	-18 - 12
SRBSM-RR	85.65	13.12	51 - 138
SRBSF-RR	106.16	12.58	69 - 143
SRBSM-RI	98.94	17.68	46 - 141
SRBSF-RR	114.55	15.22	66 - 150
CONSRBSM	-13.28	14.34	-55 - 18
CONSRBSF	-08.39	11.79	-49 - 23
AWSR	54.86	9.78	12 - 75
AWSI	55.61	10.92	12 - 75
CONATTIT	-00.76	6.18	-23 - 19
EAT	18.46	17.77	00 - 103
BSQ	100.13	43.89	34 - 197
BULIT-R	56.25	21.29	32 - 123
SES	4.34	1.65	00 - 06
CES-D	17.41	11.55	00 - 56
CSES	122.19	23.31	66 - 176

Note. PAQ-RM/PAQ-RF = real level of masculinity/femininity; PAQ-IM/PAQ-IF = ideal level of masculinity/femininity; CONFLM/CONFLF = discrepant attitudes masculine/feminine; SRBSM-RR/SRBSF-RR = real level of masculine/feminine behavior; SRBSM-RI/SRBSF-RI ideal level of masculine/feminine behavior; CONSRBSM = discrepant behavior masculine/feminine; AWSR = real attitudes towards women; AWSI = ideal attitudes towards women; CONATTIT = discrepant attitude; EAT = level of anorexic symptomatology; SES = level of self-esteem; BSQ = degree of concern about body shape; BULIT-R = degree of bulimic symptomatology; CES-D = level of depression; CSES = level of assertiveness; BMI = body mass index (kg/m^2).

masculine discrepancy in characteristics also reported fewer bulimic symptoms and the women who exhibited feminine discrepancy in characteristics reported less depressive symptoms.

Prevalence of Eating Disordered Symptomatology

The participants' BULIT-R scores were used to assess prevalence of bulimia nervosa. Based on Thelen et al.'s (1991) diagnostic criteria (i.e., BULIT-R > 104), 8 (4.2%) individuals could be considered at-risk for the development of bulimia. The participants' EAT scores were used to assess prevalence of anorexic-like disordered eating. Based on Garner and Garfinkel's (1979) diagnostic criteria (i.e., EAT > 30) 30 (16%) participants could be classified as at risk for anorexia. It is important to note that both the EAT and the BULIT-R are screening instruments and were not designed to be used alone for diagnostic purposes. As participants were not interviewed clinically, it is impossible to determine exactly how many would meet the DSM-IV criteria for anorexia or bulimia.

Table 2

Correlations Among Dependent Variables

	EAT	SES	BSQ	BULIT-R	CSES	CES-D	BMI
EAT	1.0						
SES	-.46*	1.0					
BSQ	.65*	-.46*	1.0				
BULIT-R	.69*	-.46*	.80*	1.0			
CSES	-.15***	.35*	-.19**	-.27*	1.0		
CES-D	.49*	-.56*	.47*	.47*	-.35*	1.0	
BMI	.07	-.18***	.28**	.34**	.03	.09	1.0

Note. EAT represents level of anorexic symptomatology; SES indicated degree of self-esteem; BSQ represents the degree of concern about body shape; BULIT-R represents level of bulimic symptomatology.

* $p < .0001$

** $p < .01$

*** $p < .05$.

Interactions and Main Effects: Discrepant Attitudes by Behaviors by Characteristics

In order to determine the combined effect of gender discrepant attitudes, behaviors and characteristics on disordered eating symptomatology, a 9 (gender behaviors) x 9 (gender characteristics) x 3 (gender attitudes) was created. It was assumed that certain individuals might simultaneously possess multiple discrepancies while others might possess singular discrepancies. The matrix allowed for an examination of the interrelationships among discrepancy groups to determine which would be used in testing interactions and main effects with the dependent measures. Initially, the groups with appropriate cells sizes were determined and then MANCOVA's were conducted to test if differences existed among discrepancy groups on the dependent measures (i.e., EAT, BULIT, SES, BSQ, CSES, CES-D). Of all the possible cells created, 50 filled with at least one subject; however, there were only three cells with n's greater than 10 that were ultimately included in the analysis. The cells that filled included: nondiscrepant attitude - nondiscrepant behavior - nondiscrepant characteristics (n = 46), nondiscrepant attitude - nondiscrepant behavior - more masc characteristics (n = 21), nondiscrepant attitude - more masc/more fem behavior - more masc characteristics (n = 15). To test for the three way interactions these three groups represented, a multivariate

analysis of covariance with BMI as the covariate was conducted to determine differences among groups on the dependent measures (EAT, BULIT-R, BSQ, SES, CSES, and CES-D). In order to determine whether BMI shared a significant amount of variance with other variables in the analysis, a test of heterogeneity of slopes was conducted which revealed that the BMI was an appropriate covariate. The MANCOVA with the three way discrepancy groups as the IV did not reach significance, Wilks' Lambda =.67, $F(30,370) = 1.31$, $p = .13$ (Table 3).

To test for two-way interactions (i.e., attitudes by characteristics, attitudes by behaviors and behaviors by characteristics) three additional MANCOVA's with BMI as the covariate were conducted to determine differences among groups on the dependent measures (EAT, BULIT-R, BSQ, SES, CSES, and CES-D). In order to determine whether BMI shared a significant amount of variance with other variables in the analysis, a test of heterogeneity of slopes was conducted which revealed that the BMI was an appropriate covariate for each analysis.

A two-way MANCOVA was conducted to test differences in dependent measures among combined discrepant behavior and characteristics groups. Only 5 groups had sufficient cell sizes to be included in the analysis (Nondiscrepant Behavior-Nondiscrepant Characteristics [$n = 59$], Nondiscrepant Behavior-More Masculine Characteristics [$n =$

Table 3

Means and Standard Deviations for Gender Discrepant Groups (Defined by Attitudes, Behaviors and Characteristics)

Variable	1 (n =46)	2 (n = 21)	3 (n =15)
EAT	18.70 (2.59)	16.25 (3.92)	12.93 (4.69)
BULIT-R	75.56 (3.45)	73.15 (5.23)	74.64 (6.25)
SES	4.50 (.25)	4.25 (.37)	4.64 (.45)
BSQ	98.20 (6.76)	94.05 (10.25)	100.78 (12.25)
CES-D	16.86 (1.92)	17.75 (2.91)	13.57 (3.49)
CSES	126.04 (3.38)	133.05 (5.12)	114.71 (6.12)

Group 1 = nondiscrepant attitude - nondiscrepant behavior - nondiscrepant characteristics

Group 2 = nondiscrepant attitude - nondiscrepant behavior - more masc characteristics

Group 3 = nondiscrepant attitude - more masc/more fem behavior - more masc characteristics

EAT = anorexic symptomatology, BULIT-R = bulimic symptomatology, SES = self-esteem, BSQ = concern about body shape, CES-D = depression, CSES = assertiveness (higher scores on each measure indicate higher levels of each construct).

22], MoreMasculine Behavior-More Masculine Characteristics [n = 12], More Masculine/More Feminine Behaviors-More Masculine Characteristic [n = 18], More Masculine/More Feminine Behaviors-More Masculine-More Feminine Characteristics [n = 15]). This MANCOVA did not reach significance, Wilkes' Lambda = .75 F(24,402) = 1.45, p = .08 (Table 4).

A second MANCOVA with attitudes by characteristics as the IV was conducted. Only 4 groups were included in the analysis due to cell size (Nondiscrepant Attitude-Nondiscrepant Characteristics [n = 56], Nondiscrepant Attitude-More Masculine Characteristics [n = 46], Nondiscrepant Attitude-More Masculine/More Feminine Characteristics [n = 17], and Nondiscrepant Attitude-More Feminine Characteristics [n = 10]). This MANCOVA did not reach significance, Wilkes' Lambda = .86 F(18,337) = 1.05, p = .41 (Table 5).

Finally, a third MANCOVA with attitudes by behaviors as the IV was conducted. Only 4 groups were included in the analysis due to cell size (Nondiscrepant Attitudes-Nondiscrepant Behaviors [n = 75], Nondiscrepant Attitudes-More Masculine Behaviors [n = 16], Nondiscrepant Attitudes-More Masculine/More Feminine Behaviors [n = 31], and More Traditional Attitudes-Nondiscrepant Behaviors [n = 10]. This MANCOVA did not reach significance, Wilkes' Lambda = .84 F(18,345) = 1.21, p = .25 (Table 6).

Table 4

Means and Standard Deviations for Gender Discrepancy Groups (Behaviors X Characteristics)

Variable	1 (n=59)	2 (n=22)	3 (n=12)	4 (n=18)	5 (n=15)
EAT	17.41(2.52)	16.81(4.22)	30.50(5.59)	16.28(4.56)	26.53(4.99)
BULIT-R	76.42(3.08)	74.48(5.10)	85.50(6.83)	75.72(5.58)	85.93(6.11)
SES	4.63(.23)	4.14(.39)	3.91(.51)	4.39(.42)	3.33(.46)
BSQ	98.29(5.85)	97.19(9.80)	115.25(12.96)	97.83(10.58)	129.93(11.59)
CES-D	15.92(1.60)	18.33(2.69)	22.17(3.56)	12.44(2.90)	25.13(3.18)
CSES	125.59(12.98)	131.91(5.00)	115.33(6.62)	115.67(5.40)	106.80(5.92)

Group 1 = Nondiscrepant Behaviors-Nondiscrepant Characteristics
Group 2 = Nondiscrepant Behaviors-More Masculine Characteristics
Group 3 = More Masculine Behaviors-More Masculine Characteristics
Group 4 = More Masculine/More Feminine Behaviors-More Masculine Characteristics
Group 5 = More Masculine/More Feminine Behaviors-More Masculine-More Feminine Characteristics
EAT = anorexic symptomatology, BULIT-R = bulimic symptomatology, SES = self-esteem, BSQ = concern about body shape, CES-D = depression, CSES = assertiveness (higher scores on each measure indicate higher levels of each construct).

Table 5

Means and Standard Deviations for Gender Discrepancy Groups (Attitudes X Characteristics)

Variable	1 (n=46)	2 (n=17)	3 (n=10)	4 (n=15)
EAT	17.66(2.07)	16.97(2.31)	14.06(3.75)	18.30(4.90)
BULIT-R	74.82(3.00)	76.00(3.34)	78.41(5.44)	80.20(7.10)
SES	4.57(.21)	4.31(.24)	3.76(.39)	4.80(.50)
BSQ	95.52(5.58)	100.44(6.22)	108.47(10.12)	94.80(13.20)
CES-D	16.46(1.52)	15.93(1.70)	21.71(2.76)	13.70(3.60)
CSES	127.27(3.04)	122.27(3.40)	114.35(5.52)	121.90(7.20)

Group 1 = Nondiscrepant Attitude-Nondiscrepant Characteristics
Group 2 = Nondiscrepant Attitude-More Masculine Characteristics
Group 3 = Nondiscrepant Attitude-More Masculine/More Feminine Characteristics
Group 4 = Nondiscrepant Attitude-More Feminine Characteristics
EAT = anorexic symptomatology, BULIT-R = bulimic symptomatology, SES = self-esteem, BSQ = concern about body shape, CES-D = depression, CSES = assertiveness (higher scores on each measure indicate higher levels of each construct).

Table 6

Means and Standard Deviations for Gender Discrepancy Groups (Attitudes X Behaviors)

Variable	1 (n=75)	2 (n=16)	3 (n=31)	4 (n=10)
EAT	17.64(1.78)	18.38(3.84)	15.39(2.76)	12.20(4.85)
BULIT-R	74.91(2.59)	75.88(5.57)	77.80(4.00)	71.30(7.04)
SES	4.43(.18)	4.56(.39)	4.45(.28)	4.50(.50)
BSQ	94.97(4.91)	106.94(10.56)	104.58(7.59)	86.80(13.36)
CES-D	16.96(1.36)	16.13(2.93)	16.38(2.09)	16.40(3.70)
CSES	127.81(2.63)	125.88(5.67)	112.87(4.07)	115.40(7.14)

Group 1 = Nondiscrepant Attitude-Nondiscrepant Behavior
Group 2 = Nondiscrepant Attitude-More Masculine Behavior
Group 3 = Nondiscrepant Attitude-More Masculine/More Feminine Behavior
Group 4 = More Traditional Attitude-Nondiscrepant Behaviors

EAT = anorexic symptomatology, BULIT-R = bulimic symptomatology, SES = self-esteem, BSQ = concern about body shape, CES-D = depression, CSES = assertiveness (higher scores on each measure indicate higher levels of each construct).

Because no significant effects emerged when gender was defined multidimensionally, that is, with all three measures of gender, it was decided to conduct separate MANCOVA's on discrepant attitudes, behaviors and characteristics (Tables 7, 8 & 9). This, in essence, replicated the Johnson and Petrie (1995 & in press) studies and extended them by including separate analyses of discrepant attitudes and behaviors. Separate MANCOVA's, thus, were conducted with BMI as the covariate. Tests for homogeneity of variance indicated that BMI was an appropriate covariate for discrepant characteristics, Wilks' Lambda =.94, $F(18,453)$ = .55, p = .93, discrepant behaviors, Wilks' Lambda =.88, $F(18,453)$ = 1.17, p = .28, but not discrepant attitudes, Wilks' Lambda =.85, $F(12,324)$ = 2.33, $p < .01$. Thus, for the analysis of discrepant attitudes, BMI, was excluded as a covariate. Results indicated no significant main effects for either of the three measures of gender discrepancy: Characteristics, Wilks' Lambda = .80, $F(36,762)$ = 1.06, p = .37; Behaviors, Wilks' Lambda = .78, $F(36,762)$ = 1.23, p = .16; Attitudes, Wilks' Lambda = .96, $F(12,354)$ = .61, p = .83.

Table 7

Means and Standard Deviations for Gender Discrepant Groups (Characteristics)

Variable	NonDiscrepant (n=73)	More-Masc (n=58)	More-Masc More-Fem (n=30)	More-Fem (n=16)
EAT	16.59(2.07)	19.38(2.35)	19.21(3.26)	18.58(4.40)
BULIT-R	74.19(2.66)	78.65(3.01)	78.93(4.18)	84.49(5.63)
SES	4.73(.19)	4.12(.21)	3.73(.31)	4.77 (.41)
BSQ	94.00(5.08)	103.55(5.76)	110.78(8.01)	101.58(10.77)
CES-D	15.92(1.36)	16.91(1.54)	21.98(2.14)	16.06(2.89)
CSES	126.62(2.71)	122.22(3.08)	115.82(4.27)	119.44(5.75)

EAT = anorexic symptomatology, BULIT-R = bulimic symptomatology, SES = self-esteem, BSQ = concern about body shape, CES-D = depression, CSES = assertiveness (higher scores on each measure indicate higher levels of each construct).

Table 6

Means and Standard Deviations for Gender Discrepancy Groups (Attitudes X Behaviors)

Variable	1 (n=10)	2 (n=75)	3 (n=16)	4 (n=31)
EAT	17.64(1.78)	18.38(3.84)	15.39(2.76)	12.20(4.85)
BULIT-R	74.91(2.59)	75.88(5.57)	77.80(4.00)	71.30(7.04)
SES	4.43(.18)	4.56(.39)	4.45(.28)	4.50(.50)
BSQ	94.97(4.91)	106.94(10.56)	104.58(7.59)	86.80(13.36)
CES-D	16.96(1.36)	16.13(2.93)	16.38(2.09)	16.40(3.70)
CSES	127.81(2.63)	125.88(5.67)	112.87(4.07)	115.40(7.14)

Group 1 = Nondiscrepant Attitude-Nondiscrepant Behavior
Group 2 = Nondiscrepant Attitude-More Masculine Behavior
Group 3 = Nondiscrepant Attitude-More Masculine/More Feminine Behavior
Group 4 = More Traditional Attitude-Nondiscrepant Behaviors

EAT = anorexic symptomatology, BULIT-R = bulimic symptomatology, SES = self-esteem, BSQ = concern about body shape, CES-D = depression, CSES = assertiveness (higher scores on each measure indicate higher levels of each construct).

Because no significant effects emerged when gender was defined multidimensionally, that is, with all three measures of gender, it was decided to conduct separate MANCOVA's on discrepant attitudes, behaviors and characteristics (Tables 7, 8 & 9). This, in essence, replicated the Johnson and Petrie (1995 & in press) studies and extended them by including separate analyses of discrepant attitudes and behaviors. Separate MANCOVA's, thus, were conducted with BMI as the covariate. Tests for homogeneity of variance indicated that BMI was an appropriate covariate for discrepant characteristics, Wilks' Lambda =.94, $F(18,453)$ = .55, p = .93, discrepant behaviors, Wilks' Lambda =.88, $F(18,453)$ = 1.17, p = .28, but not discrepant attitudes, Wilks' Lambda =.85, $F(12,324)$ = 2.33, $p < .01$. Thus, for the analysis of discrepant attitudes, BMI, was excluded as a covariate. Results indicated no significant main effects for either of the three measures of gender discrepancy: Characteristics, Wilks' Lambda = .80, $F(36,762)$ = 1.06, p = .37; Behaviors, Wilks' Lambda = .78, $F(36,762)$ = 1.23, p = .16; Attitudes, Wilks' Lambda = .96, $F(12,354)$ = .61, p = .83.

Regression Results

The second purpose of this study was to examine which of the dependent measures accounted for most of the variance for anorexic and bulimic symptomatology (Tables 10 & 11). Step-wise multiple regression included the following variables: self-esteem, depression, concern about body shape, assertiveness, gender discrepancy - characteristics, gender discrepancy - behaviors and gender discrepancy - attitudes entered with forward selection. The discrepancies were entered into the equation quadratically as they reflect a curvilinear relationship. In step 1 for determining bulimic symptomatology, concern about body shape accounted for 65% of the variance ($F(1,171) = 258.19$, $p < .0001$) with higher scores relating to more bulimic symptomatology. In step 2, self-esteem accounted for an additional 1% of the variance ($F(3,169) = 4.48$, $p < .05$) with lower self-esteem relating to more reported bulimic symptomatology. No other variables contributed significantly. In step 1 for determining anorexic symptomatology, concern about body accounted for 43% of the variance ($F(1,171) = 128.49$, $p < .0001$) with higher scores related to more anorexic symptomatology. In step 2 depression accounted for an additional 3% of the variance ($F(3,169) = 11.95$, $p < .001$), with higher scores related to more anorexic symptomatology. In step 3, gender discrepancy - attitudes accounted for an additional 2% of the variance ($F(4,168) = 7.8$, $p < .01$),

with discrepant scores (indicating a desire to be more traditional or a desire to be less traditional) relating to more anorexic symptomatology.

Table 10

Stepwise Regression Analysis for Variables

Bulimic Symptomatology (N= 187)

Step	Variable	R2	R2 Partial	F
1	BSQ	.65	.53	258.20
2	SES	.66	.01	4.48

Note. Total R2 = .66. BSQ represents concern about body shape, SES represents self-esteem.

Table 11

Stepwise Regression Analysis for Variables

Anorexic Symptomatology (N= 187)

Step	Variable	R2	R2 Partial	F
1	BSQ	.43	.42	128.49
2	CES-D	.47	.04	11.95
3	DIS-ATT	.49	.02	7.80

Note. Total R2 = .49. BSQ represents concern about body shape, CES-D represent depression and DIS-ATT represents gender discrepancy - attitudes.

CHAPTER 4

DISCUSSION

Two theories have been suggested to explain the relationship between gender role and eating disorders (Lancelot & Kaslow, 1994). The femininity theory claims that individuals with eating disorders are hyperfeminine in their gender role orientation, that is, they are overly passive, dependent, and needing approval from others (Boskind-Lodahl, 1976). These women, in an attempt to achieve an exaggerated feminine ideal, rely heavily on dieting and the pursuit of thinness. Research testing this theory has been equivocal, and has led researchers to examine alternative theoretical perspectives such as the discrepancy theory. This theory (Steiner-Adair, 1986) asserts that eating disorders are related to a perceived lack of traditionally masculine characteristics. This discrepancy is typically measured by assessing the degree of conflict a woman experiences between her actual and ideal perceptions of masculinity, hence gender discrepancy. Although this relationship has been implied by researchers (Dunn & Ondercin, 1981; Pendleton, Tisdale, Moll & Marler, 1990; Scott, 1987; Sitnik & Katz, 1984; Squires & Kagan, 1985; Timko et al., 1987), few studies have tested this

theory. Paxton and Schulthorpe (1991), Cantelon et al. (1986), as well as Johnson and Petrie (1995) designed studies whose results supported discrepancy theory and it appears to be useful in understanding disordered eating. The current study set out to further test discrepancy theory by examining the real-ideal differences multidimensionally as they relate to indices of disordered eating. In addition, it attempted to determine which of several variables, including gender discrepancy, best accounted for eating disordered attitudes and behaviors.

To allow for adequate discussion of major findings the chapter will be divided into six categories: (a) correlates of gender discrepancy, (b) regression results, (c) prevalence of disordered eating, (d) research limitations, (e) counseling implications, and (f) directions for future research.

Correlates of Gender Discrepancy

The first purpose of this study was to examine the relationship among gender discrepancy groups and disordered eating symptomatology. Based on previous research (Johnson & Petrie, 1995, 1996), it was hypothesized that non-discrepant college women would report less anorexic and bulimic symptoms, less concern about body shape, less depression, higher self- esteem, and more assertiveness than college women who exhibited a gender discrepancy (specifically those wanting to possess more masculine or

more masculine and more feminine traits, behaviors and attitudes). However, in this study, when gender was defined multidimensionally (i.e., using behaviors and attitudes as well as characteristics) there were no differences found on eating disorder symptomatology, self-esteem, concern about body shape, depression, or assertiveness between nondiscrepant females and females possessing any particular gender discrepancy.

Gender discrepancy theory states that females who are conflicted in their sense of masculinity (e.g., assertiveness, independence or competitiveness) and hence, desire to possess more masculine traits, are more likely to possess eating disordered symptomatology than females who are not discrepant (Steiner-Adair, 1986). Research examining this theory has demonstrated a relationship between discrepancies in gender characteristics and increased incidence of eating disordered symptomatology, low self-esteem and concern about body shape (Johnson & Petrie, 1995, 1996). The results of this study did not lend clear support to discrepancy theory, and need to be discussed in light of past research.

In looking at the current study, there are a few possible reasons why no differences were found between nondiscrepant and discrepant groups on dependent measures. One explanation could be that the multidimensional manner of assessing gender discrepancy was not ideal. Since the

individuals were grouped using a 9x9x3 matrix and only cells that filled were included in the MANCOVA, a significant number of participants did not fall in any of the three discrepancy groups included in the analysis. Specifically, 107 participants (51.7%) had to be excluded from the analysis. This left the remaining groups with cell sizes that were relatively small and may not have been sensitive enough to detect significant findings. Future research should include more subjects in the initial pool so that the number of subjects in each cell used in the multivariate analysis would be larger.

Second, the fact that no differences were found when gender was assessed multidimensionally may be due to conceptual difficulties. Although assessing gender multidimensionally has been suggested in current gender research (Lancelot & Kaslow, 1994; Spence, 1993), it has not been suggested specifically in eating disorder/gender role theory. Existing theories, including the femininity theory (Boskind-Lodahl, 1976), and the contention that a masculine orientation relates to disordered eating focus only on stereotyped gender orientation (e.g., masculine, feminine, androgynous, undifferentiated). What is missing from these type of theories, and what is taken into account by discrepancy theory, is the complex interplay between real and ideal perceptions of both masculine and feminine characteristics. Although a more comprehensive perspective,

the discrepancy theory may still be inadequate in explaining the complexities inherent in the eating disorder/gender relationship. Likely, this relationship is a more complex one than current theory can explain, possibly including specific predisposing characteristics and mediating events/traits for which current gender/eating disorder theory has not accounted for.

On the other hand, perhaps the theories are intact, but attempts to operationalize them have been unsuccessful. In fact, the gender role-eating disordered literature is plagued with methodological problems, including varied measures and lack of replication studies. Problems with existing gender measures pose a specific obstacle. Many of the measures commonly used to assess gender role behaviors and attitudes were developed in the 1970's and have not been updated. Thus, there is the possibility they are not relevant to current societal trends. For example, the items on the Attitudes Towards Women Scale (AWS; Spence & Helmreich, 1973) reflect the extremes in traditional vs. non-traditional dating, work place and family situations (e.g., male as primary breadwinner, female as homemaker). As dual income households have become more commonplace, the belief that women should be in the workplace may not be as "non-traditional" as it once was. What may be more relevant to current gender study may be items reflecting more subtle attitudes (i.e., those reflected in our language and

expectations). Thus, methodological problems including instrumentation may have accounted for the lack of relationship between disordered eating symptomatology and gender when gender was defined multidimensionally.

Because there were no differences between discrepancy groups and nondiscrepant females when looking at gender multidimensionally, it was thought that differences might exist if each group (characteristics, behaviors and attitudes) were examined independently. Therefore, three additional analyses were conducted with either discrepancy - characteristics, discrepancy - behavior and discrepancy - attitudes as the IV's. This, in essence, replicated Johnson and Petrie's 1995, 1996) studies and extended them by including behavior and attitude discrepancy groups. As mentioned in the results section, BMI was used as the covariate in two of the MANCOVA's (discrepancy - characteristics and discrepancy - behavior), but not with discrepancy - attitudes where using the BMI as a covariate did not meet the assumption of homogeneity of slopes. Thus, for that analysis a MANOVA procedure was utilized. Results in each case failed to reach significance, and were, thus, unable to replicate the previous study nor lend support to the discrepancy theory.

This study replicated the discrepancy groupings involving gender role characteristics from Johnson and Petrie's previous two studies (1995, 1996) groupings,

with similar numbers falling into each of the following groups: nondiscrepant, more masculine, more masculine/more fem and more feminine. In addition, when examining gender role behaviors similar groupings appeared with the majority of women falling into these four groups: nondiscrepant, more masculine, more masculine/more feminine and more feminine. Despite the replications in the current study, it was not clear that the nondiscrepant females represented an overall healthier psychological profile. The initial Johnson and Petrie (1995) study found that the nondiscrepant females scored significantly lower on measures of anorexic symptomatology, bulimic symptomatology, and concern about body, while scoring significantly higher on a measure of overall self-esteem. The authors concluded that the nondiscrepant females were psychologically healthier and less likely to be at risk for eating disordered behavior than the discrepant females. This finding was partially supported in a replication study by Johnson and Petrie (1996) in which the nondiscrepant females, although not differing in terms or eating disordered symptomatology, did score higher on overall self-esteem and physical self-esteem, and lower on concern about body. Thus, both of the studies indicated that being nondiscrepant in terms of gender role characteristics was psychologically healthier. The current finding that being discrepant in gender attitudes accounted for anorexic-like symptomatology, hints

that there may be a connection between gender discrepancies and some aspects of mental health. Overall, however, the contention that being free from gender discrepancy relates to psychological health is not clearly supported.

The current investigation was similar to previous studies (Johnson & Petrie, 1995, 1996) examining gender discrepancy in that it utilized the same measures and analyses, and reflected comparable populations with regard to age, classification and race. With this similarity in methodology in mind, what might have accounted for the differences between this and previous research? One explanation may lie in the questionnaire packets' length. In the first two studies, the questionnaire packets were relatively short and were completed easily within 30 to 45 minutes. The current questionnaire packet, however, was significantly longer due to the addition of two gender discrepancy measures and two dependent measures. As well, it included several questionnaires for an additional study which resulted in the average completion time being between 60 to 75 minutes. This length could have resulted in fatigue and inaccurate reporting. Also, for each of the three sets of gender questionnaires participants were asked to respond to one as you would like to be and the other as you perceived yourself to be. This could have been confusing and resulted in inaccurate reporting. Another factor may have been the time at which the data were

collected. For the prior two studies, participants were solicited for several weeks over the course of a semester. For this study, however, the majority of the participants were solicited during the last few weeks of the fall semester. Not only is this a highly stressful time, which may in itself have altered results, but since participants received extra credit for coursework, the volunteers may have been more motivated by the credit than by being honest, or thoughtful in their responding. Thus, there were some differences in collecting the data that may have resulted in the lack of many significant findings in the MANCOVA's.

As discussed previously, the nonsignificant results here could have been the product of methodological or theoretical problems. However, nonsignificance in and of itself should not be discarded as not meaningful. Particularly these nonsignificant results indicate that more research in this area is warranted, that current theory may not be adequate in describing the complexities between gender role and eating disordered attitudes and behaviors, and that gender discrepancy may not be as closely linked to eating disorder symptomatology as researchers have believed. Thus, it will be important to view such findings as important building blocks in understanding the eating disorder - gender role relationship.

Predictors of Disordered Eating

The second purpose of this study was to determine which of the dependent measures accounted for disordered eating symptomatology. For determining bulimic symptomatology, concern with body shape and self-esteem entered into the equation with body shape accounting for the most variance. For anorexic symptomatology, concern with body shape, depression and discrepant attitudes entered in the equation with body shape accounting for the most variance. The finding that concern about body shape accounted for most of the variance for both anorexic and bulimic symptomatology is consistent with past research (Bunnell et al., 1992; Heatherton, Nichole, Mahamedi & Keel, 1995; Steiger et al., 1991) and suggests that being concerned about body shape is important in both disorders. This result implies that women who are extremely concerned about their body shape may be more at risk for eating disordered attitudes and behaviors than other women. These women may, in an attempt to decrease body mass and, in essence, decrease concern about body shape employ pathological weight control measures that could lead to binge/purge types of behavior or extreme food restriction seen in bulimia and anorexia. Although all variables discussed (SES, CES-D, BMI, BSQ) correlated with BULIT-R and EAT scores, and appeared to be a component in understanding eating disorder symptomatology as a whole, there was an

interesting difference between EAT and BULIT-R scores that emerged in the regression equation. Depression and gender discrepant attitudes accounted for a small percent of the variance of EAT scores, but did not account for any variance in BULIT-R scores in this sample. In addition, overall self-esteem accounted for bulimia (BULIT-R) scores, but did not account for anorexia (EAT) scores. Thus, when these particular variables are considered, depression and discrepant gender attitudes may play a more significant role in relating to food restriction while overall self-esteem may related more to binge/purge behaviors.

Although depression and lowered self-esteem have frequently been found to be correlated with both types of eating disorders (Mintz & Betz, 1988; Telch & Agras, 1994; Webber, 1994), there has been research to support that there may be some differences between these variables in how they related to each disorder. For example, Kendler, MacLean, Neale and Kessler (1991) studied the epidemiology and genetics of bulimia in 1,033 female twins and found that low self-esteem was a risk factor for this disorder, while depression was not. Interestingly, there was a significant comorbidity between bulimia and depression. Garner, Omstead, Davis and Rockert (1990) found that, in looking at outcomes of bulimic subjects, depression symptoms did not predict outcome, but depression scores declined with improved symptom control. Thus, depression may be more of a

symptom of this disorder while lowered self-esteem places a person at risk for bulimic symptomatology.

The current results suggest that self-esteem is more salient in accounting for bulimic symptoms and depression for accounting for anorexic symptoms. This could reflect the extrinsic/intrinsic difference between anorexia and bulimia that has been suggested in past research (Diehl, Johnson, Rogers & Petrie, in press; Streigel-Moore, et al., 1993). Streigel-Moore et al., 1993, for example, found that concern about how others viewed the self, was more characteristic of bulimia than anorexia. Perhaps self-esteem is more tied into social or external concern and thus, more salient for bulimic symptomatology while depression may have a more internal component more indicative of anorexic symptomatology. Further research comparing symptomatology may clarify this question.

The current results also reflect that being dissatisfied with one's gender role attitudes relates to anorexic-like symptoms. One possible explanation could be that a discrepancy in attitudes about gender may reflect internalization of conflicting societal messages for women (i.e., the attitude that women should be nurturing and passive, but also competitive and independent). Women at risk for anorexic-like symptoms may be experiencing an underlying inadequacy or feelings of lack of control about what it means to be female and may attempt to control food

in order to feel adequate. Thus, discrepancy, in this case does reflect the less healthy orientation and suggests it be included in future study involving eating disordered symptomatology.

Prevalence of Disordered Eating

An additional purpose of this study was to determine the prevalence of anorexic and bulimic symptomatology in a sample of female undergraduates. Previous research by Mintz and Betz (1988) using DSM-III-R criteria found a 3% prevalence rate of bulimia in a female college sample. Pyle et al. (1991) similarly found a 4.7% incident rate of bulimia in freshman females. However, surveys using questionnaires have revealed up to 19% of female students report bulimic symptoms (Hoek, 1995). In this study, using the diagnostic criteria previously established by Thelen et al. (1991) (i.e., BULIT-R > 104), eight (4.2%) of the 187 participants were considered at risk. To verify a bulimia nervosa diagnosis, Thelen et al. suggested that researchers use follow-up interviews regardless of the cut-off score employed, to verify diagnosis. No clinical interviews were used in the current investigation, so the exact number of individuals that could be diagnosed with bulimia nervosa could not be determined.

The prevalence rate uncovered in the current study (using the more stringent cut-off score) is consistent with what has been observed in college samples (e.g., Mintz &

Betz, 1988, Pyle, Halvorsen, Neuman, & Mitchell, 1986; Striegel-Moore et al., 1989). These findings indicate that bulimia nervosa continues to be consistently prevalent in a female undergraduate population.

Although the rate of bulimic symptomatology was consistent with previous research, the rate of anorexic symptomatology was somewhat higher. In this study, as with the Johnson and Petrie (1995) study, a considerable number of females exceeded the cutoff for anorexia as indicated by EAT scores. Based on Garner and Garfinkel's (1979) diagnostic criteria (i.e., EAT > 30) 30 (16%) subjects could be classified as at risk for anorexia. As with bulimia nervosa, it is important to employ a follow up interview to obtain a more precise assessment. As such interviewing was not conducted in the current study, the exact number of women with anorexia nervosa is unclear.

The prevalence rate for anorexia is interesting because it is unusually high for undergraduate females and may reflect an alarming trend on college campuses toward increases in the disorder. The significantly higher numbers of undergraduates classified as at-risk for this type of disordered eating combined with the finding of consistency in numbers of classified bulimics, suggests that restricting behavior may be becoming more common than bingeing and purging, and that bingeing/purging behaviors are not decreasing significantly. This appears to parallel an

increasing social trend encouraging ultrathinness and the starving "waif" look as is currently presented in fashion magazines and runway models. Future research is again needed to provide additional support for these findings and should look at both bulimic and anorexic symptomatology together.

Limitations

This investigation provides additional information concerning the relationship of gender discrepancy and disordered eating behaviors and attitudes in a female college sample; however, limitations exist that deserve mention. First, the sample consisted primarily of caucasian, college student volunteers, which limits generalizability to other populations. Second, the instrumentation relied on self-report measures and could reflect inaccurate reporting that may have led to misclassification of subjects due to over or under-reporting. Third, the questionnaire packet was longer than was used previously and may have resulted in fatigue and inaccurate reporting. Fourth, the participants were solicited during final exams of the spring semester and offered extra credit for their participation. The stressful timing and the desire for extra credit may have caused some self selection to occur that resulted in a less representative sample or a less than ideal mindset for responding to the questionnaires.

Counseling Implications

Keeping these limitations in mind, the results of the current study suggest some implications for counselors and therapists working with college students as well as those suffering from eating disorders. The results of the regression equation, indicating concern about body predicted significant amounts of variance for both anorexic and bulimic symptomatology should alert counselors that women presenting with such concerns may be at risk for developing eating disorders. In addition, low self-esteem appears to be an additional risk factor, specifically in predicting bulimic-type symptomatology, and in combination with bodily concern should be red flags to counselors to check for the presence of eating disturbance. Depression and gender discrepancy in role attitudes were shown to predict anorexic-like symptoms and should also be considered as part of the symptom picture of this disorder. Counselors may use this information to help in assessing disordered eating behaviors, and these symptoms may also be areas to work on in counseling. Thus, it would be wise for the counselor working with eating disordered patients to focus on bodily concerns and educate about realistic body ideals. Rosen (1995) details such an approach utilizing body image work in treating persons with eating disorders. In addition treating depression and bolstering self-esteem have been shown to be effective treatments for eating disorders (Crow

& Mitchell, 1994; Goldner & Birmingham, 1994; Root, 1990, Vitousek, 1995). The finding that discrepancy about gender role attitudes was a significant predictor of anorexic symptomatology, suggests that it, too, should be taken into account in assessing and treating individuals with eating disturbances. This finding along with previous research on gender ideals (Cantelon et al., 1986; Dunn & Ondercin, 1981; Lancelot & Kaslow, 1994; Paxton & Schulthorpe, 1991; Squires & Kagan, 1985; Timko et al., 1987) suggests that counselors may want to assess a female's conflicting views about gender roles. In particular, discussing gender roles in sociocultural terms and exploring where gender messages originate will be important for college females reporting eating disturbances.

The prevalence of bulimic symptomatology supports previous findings (with college populations and indicates that despite attempts at education and campus intervention, these harmful behaviors still exist. The finding that 16% of females in this study met the criteria for anorexia warrants attention. It will be important for counselors to realize that while anorexia typically is seen as the less prevalent disorder, it may be on the rise in college females. In addition, counselors also should be aware that low self-esteem, depression and high concern about body relate to disordered eating. Thus, interventions aimed at building self-esteem, reducing depression and increasing

understanding about appropriate body shape are likely to be helpful in treating the eating disordered client.

Implications for Future Research

Although the results of this study failed to support the discrepancy theory linking gender discrepancy to eating disordered behaviors, gender discrepancy attitudes predicted anorexic symptomatology and suggests that gender discrepancy may still be a useful construct. Regarding the limitations already discussed, it will be important to replicate this study further using less time consuming data packets and collecting data during less stressful times in the semester than finals.

Future research continues to be needed on the construct of gender discrepancy. For example, does a multidimensional view incorporating characteristics, attitudes and behaviors provide more helpful information in the understanding of the relationship with disordered eating, or does singly examining characteristics provide enough information? Also, are there more accurate ways this construct can be measured? As this was the initial attempt in looking at gender relating to eating disorders in this manner, it may be important to explore other ways this construct can be measured. With the change in gender roles that has been observed over the last few decades, measures such as the PAQ, AWS, and SRBS-R may not accurately reflect what society deems as "feminine" or "masculine". Possibly

new survey research looking into what society views a particular gender role to be could lead to more representative questionnaires, such as was used in previous research (Paxton & Schulthorpe, 1991) assessing positive and negative masculine and feminine characteristics. As well, it would be interesting to assess whether gender discrepancy exists within other populations including males, non-college students, and those from other ethnic and geographic regions. Different statistical methods might be employed instead of regression procedures. For example, canonical correlations may be helpful in examining how the two sets of variables (gender discrepancy and eating disordered symptomatology) relate to each other.

Conclusion

This study's results confirm that bulimic symptomatology continues to exist as a problem on college campuses and that anorexic behavior may be on the rise. The results did not, however, lend support to discrepancy theory. The hypothesis that nondiscrepant females would be psychologically healthier (i.e., report fewer eating disordered symptomatology, less concern about body, less depression, more self-esteem and more assertive behaviors) than those discrepant females was not supported when gender was defined multidimensionally nor when it was assessed by examining gender role attitudes, behaviors and characteristics separately. No differences existed in

gender discrepant - characteristics, behaviors or attitudes, however, possessing gender discrepant attitudes did account for a small percentage of the variance on anorexia (EAT) scores. Methodological problems including the manner in which data were collected may have accounted for the failure of this study to replicate previous work in this area. While gender issues still appear relevant to women's health and disordered eating in particular, the relationship remains unclear and more research in this area is warranted.

APPENDIX A

PERSONAL ATTRIBUTES QUESTIONNAIRE (PAQ)

PAQ

The items below inquire about what kind of person you would like to be. You are to chose a number which best describes where you would ideally like to fall on the scale.

1.	Not at all independent	0....1....2....3....4	1. Very independent
2.	Not at all emotional	0....1....2....3....4	2. Very emotional
3.	Very passive	0....1....2....3....4	3. Very active
4.	Not at all able to devote self completely to others	0....1....2....3....4	4. Able to devote self completely to others
5.	Very rough	0....1....2....3....4	5. Very gentle
6.	Not at all helpful to others	0....1....2....3....4	6. Very helpful to others
7.	Not at all competitive	0....1....2....3....4	7. Very competitive
8.	Not at all kind	0....1....2....3....4	8. Very kind
9.	Not at all aware of feeling of others	0....1....2....3....4	9. Very aware of feelings of others
10.	Can make decisions easily	0....1....2....3....4	10. Has difficulty making decisions
11.	Gives up very easily	0....1....2....3....4	11. Never gives up easily
12.	Not at all self-confident	0....1....2....3....4	12. Very self-confident
13.	Feels very inferior	0....1....2....3....4	13. Feels very superior
14.	Not at all understanding of others	0....1....2....3....4	14. Very understanding of others
15.	Very cold in relations with others	0....1....2....3....4	15. Very warm in relations with others
16.	Goes to pieces under pressure	0....1....2....3....4	16. Stands up well under pressure

APPENDIX B

SEX ROLE BEHAVIOR SCALE - REVISED (SRBS-R)

Sex Role Behavior Scale - Short Form

On the following pages are a number of interests, activities and behaviors. For each item, you are being asked to describe how you would ideally like to be. You will make each of your ratings on a scale like the following:

1	2	3	4	5
not at all like me	hardly like me	slightly like me	moderately like me	extremely like me

I. RECREATIONAL ACTIVITIES

A. Sports

_____ 1. Basketball
_____ 2. Hiking
_____ 3. Golf
_____ 4. Volleyball
_____ 5. Soccer

B. Aptitudes, Interests, Hobbies and Leisure Activities

_____ 6. Neat in habits
_____ 7. Playing chess
_____ 8. Playing bridge
_____ 9. Playing poker
_____ 10. Cooking
_____ 11. Disco dancing
_____ 12. Gardening
_____ 13. Enjoying competitive games
_____ 14. Going to art museums and galleries
_____ 15. Going to plays
_____ 16. Going to sporting events

II. VOCATIONAL INTERESTS

Using the same 5-point scale, rate the following occupations for how much they might appeal to you.

_____ 17. Architect
_____ 18. Physician
_____ 19. Art teacher
_____ 20. Dentist
_____ 21. Elementary school teacher
_____ 22. Social worker
_____ 23. Lawyer
_____ 24. Bank teller
_____ 25. Flight attendant
_____ 26. Business executive
_____ 27. Dental hygienist
_____ 28. Accountant
_____ 29. Journalist
_____ 30. Optician
_____ 31. Dietician
_____ 32. Interior decorator

III. SOCIAL AND DATING

Using the same 5-point scale, rate the following behaviors for how characteristic they are of you. (If you have not encountered the situation, rate the item for how likely the behavior would be for you.)

1	2	3	4	5
not at all like me	hardly like me	slightly like me	moderately like me	extremely like me

_____ 33. Complementing one's date on their appearance
_____ 34. Telephoning an opposite-sex person to ask for a date
_____ 35. Taking the first step to start a relationship with a person of the opposite sex.
_____ 36. Deciding what to do or where to go on a date
_____ 34. Giving same-sex friends a friendly slap or nudge on the back
_____ 35. Preferring to avoid premarital sex

1	2	3	4	5
not at all like me	hardly like me	slightly like me	moderately like me	extremely like me

_____ 36. Exchanging friendly insults with friends
_____ 37. Laughing at a date's joke more to make them feel good rather than because the joke was amusing
_____ 38. Being sexually faithful to one's regular dating partner
_____ 39. Preferring to avoid a sexual relationship unless one is in love with the other person.
_____ 40. Telling "dirty" jokes with same-sex friends
_____ 41. Taking special care with one's appearance
_____ 42. Giving a gift to one's date
_____ 43. Inviting a date over for dinner at home
_____ 44. Using cologne or perfume
_____ 45. Placing particular importance on the companionship aspects of a steady dating relationship.

IV. MARITAL RELATIONSHIPS

For the remaining items, use the following 5-point scale to rate the following behaviors and responsibilities for:
if you are married: how characteristic they are of you compared to your spouse
if you are not married: how characteristic you expect they will be of you compared to your spouse if and when you are married

1	2	3	4	5
much more like my spouse	slightly more like my spouse	equally like me and my spouse	slightly more like me	much more like me

_____ 46. Having an occasional night out with same-sex friends
_____ 47. Being very perceptive of a spouse's changes in mood and responding to them in some way
_____ 48. Being first to say "I'm sorry" after a dispute
_____ 49. Decorating the house or apartment
_____ 50. Being the one to initiate sexual interactions.
_____ 51. Responding to spouse's sexual overtures even when one is not really interested or in the mood.
_____ 52. Having a full time job.
_____ 53. Deciding which investment to make
_____ 54. Working at a more enjoyable job although it pays less than a less enjoyable one.
_____ 55. Deciding on major family purchases (e.g., new t.v. or car)

Household Responsibilities (If both you and your spouse work outside of the home, which one does or would take primary responsibility for the following?)

_____ 56. Washing the car
_____ 57. Buying groceries

Child care (If both you and your spouse work outside of the home, which one does or would take primary responsibility for the following?)

_____ 58. Child care
_____ 59. Teaching one's children how to drive
_____ 60. Helping the children put together unassembled toys
_____ 61. Dealing with a child's teacher when there is a problem at school

APPENDIX C

ATTITUDES ABOUT WOMEN SCALE (AWS)

Attitudes Towards Women

The statements listed below describe attitudes toward the role of women in society which different people have. There are no right or wrong answers, only opinions. You are asked to express your feelings about each statement by indicating whether you (A) agree strongly (B) agree mildly, (C) disagree mildly, or (D) disagree strongly. Please indicate your opinion by marking the column on the answer sheet which corresponds to the alternative which best describes your personal attitude. Please respond to every item.

1 Agree Strongly 2 Agree Mildly 3 Disagree Mildly 4 Disagree Strongly

1. Swearing and obscenity is more repulsive in the speech of a woman than a man.	1	2	3	4
2. Women should take increasing responsibility for leadership in solving the intellectual and social problems of the day.	1	2	3	4
3. Both husband and wife should be allowed the same grounds for divorce.	1	2	3	4
4. Telling dirty jokes should be mostly a masculine prerogative.	1	2	3	4
5. Intoxication among women is worse than intoxication among men.	1	2	3	4
6. Under modern economic conditions with women being active outside the home, men should share in household tasks such as washing dishes and doing the laundry.	1	2	3	4
7. It is insulting to have the 'obey' clause remain in the marriage service.	1	2	3	4
8. There should be a strict merit system in job appointment and promotion without regard to sex	1	2	3	4
9. A woman should be as free as a man to propose marriage.	1	2	3	4
10. Women should worry less about their rights and more about becoming good wives and mothers.	1	2	3	4
11. Women earning as much as their dates should bear equally the expense when they go out together.	1	2	3	4
12. Women should assume their rightful place in business and all the professions along with men.	1	2	3	4
13. A woman should not expect to go to exactly the same places or to have quite the same freedom of action as a man.	1	2	3	4
14. Sons in a family should be given more encouragement to go to college than daughters.	1	2	3	4
15. It is ridiculous for a woman to drive an 18-wheeler and for a man to sew clothes.	1	2	3	4
16. In general, the father should have greater authority than the mother in the bringing up of children.	1	2	3	4
17. The husband should not be favored by law over the wife in the disposal of family property or income.	1	2	3	4
18. Women should be encouraged not to become sexually intimate with anyone before marriage, even their fiances.	1	2	3	4
19. Women should be concerned with their duties of childrearing and housetending, rather than with desires for professional and business careers.	1	2	3	4
20. The intellectual leadership of a community should be largely in the hands of men.	1	2	3	4
21. Economic and social freedom is worth far more to women than acceptance of the ideal of femininity which has been set by men.	1	2	3	4
22. On the average, women should be regarded as less capable of contribution to economic production than are men	1	2	3	4
23. There are many jobs in which men should be given preference over women in being hired or promoted.	1	2	3	4
24. Women should be given equal opportunity with men for apprenticeship in the various trades.	1	2	3	4
25. The modern girl is entitled to the same freedom from regulation and control that is given to the modern boy.	1	2	3	4

APPENDIX D

BULIMIA TEST - REVISED (BULIT-R)

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 E

EATING ATTITUDES TEST (EAT)

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.

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

APPENDIX F

BODY SHAPE QUESTIONNAIRE (BSQ)

BSQ

We would like to know how you have been feeling about your appearance over the **PAST FOUR WEEKS**. Please read each question and circle the appropriate number to the right.

1	2	3	4	5	6
Never	Rarely	Sometimes	Often	Very Often	Always

OVER THE PAST FOUR WEEKS:

1.	Has feeling bored made you brood about your shape?	1 2 3 4 5 6
2.	Have you been so worried about your shape that you have been feeling you ought to diet?.	1 2 3 4 5 6
3.	Have you thought that your thighs, hips or bottom are too large for the rest of you?	1 2 3 4 5 6
4.	Have you been afraid that you might become fat?	1 2 3 4 5 6
5.	Have you worried about your flesh being not firm enough?	1 2 3 4 5 6
6.	Has feeling full (eg. after eating a large meal) made you feel fat?	1 2 3 4 5 6
7.	Have you felt so bad about your shape that you have cried?	1 2 3 4 5 6
8.	Have you avoided running because your flesh might wobble?	1 2 3 4 5 6
9.	Has being with thin women made you feel self-conscious about your shape?	1 2 3 4 5 6
10.	Have you worried about your thighs spreading out when sitting down?	1 2 3 4 5 6
11.	Has eating even a small amount of food made you feel fat?	1 2 3 4 5 6
12.	Have you noticed the shape of other women and felt that your own shape compared unfavorably?	1 2 3 4 5 6
13.	Has thinking about your shape interfered with you ability to concentrate (eg. while watching T.V., reading, listening to a conversation)?	1 2 3 4 5 6
14	Has being naked, such as when taking a bath, made you feel fat?	1 2 3 4 5 6
15.	Have you avoided wearing clothes which make you particularly aware of the shape of your body?	1 2 3 4 5 6
16.	Have you imagined cutting off fleshy areas of your body?	1 2 3 4 5 6
17.	Has eating sweets, cakes, or other high calorie food made you feel fat?	1 2 3 4 5 6

		1 Never	2 Rarely	3 Sometimes	4 Often	5 Very Often	6 Always
18.	Have you not gone out to social occasions (eg. parties) because you have felt bad about your shape?	1	2	3	4	5	6
19.	Have you felt excessively large and rounded?	1	2	3	4	5	6
20.	Have you felt ashamed of your body?	1	2	3	4	5	6
21.	Has worry about your shape made you diet?	1	2	3	4	5	6
22.	Have you felt happiest about your shape when your stomach has been empty (eg. in the morning)?	1	2	3	4	5	6
23.	Have you thought that you are the shape you are because you lack self-control?	1	2	3	4	5	6
24.	Have you worried about other people seeing rolls of flesh around your waist or stomach?	1	2	3	4	5	6
25.	Have you felt that it is not fair that other women are thinner than you?	1	2	3	4	5	6
26.	Have you vomited in order to feel thinner?	1	2	3	4	5	6
27.	When in company have you worried about taking up too much room (e.g. sitting on a sofa, or a bus seat)?	1	2	3	4	5	6
28.	Have you worried about your flesh being flabby?	1	2	3	4	5	6
29.	Has seeing your reflection (eg. in a mirror or shop window) made you feel bad about your shape?	1	2	3	4	5	6
30.	Have you pinched areas of your body to see how much fat there is?	1	2	3	4	5	6
31.	Have you avoided situations where people could see your body (eg. communal changing rooms or swimming pools)?	1	2	3	4	5	6
32.	Have you taken laxatives in order to feel thinner?	1	2	3	4	5	6
33.	Have you been particularly self-conscious about your shape when in the company of other people?	1	2	3	4	5	6
34.	Has worrying about your shape made you feel you ought to exercise?	1	2	3	4	5	6

APPENDIX G

SELF-ESTEEM SCALE (SES)

SES

Please read each question and circle the appropriate response that pertains to you.

1. I feel that I am a person of worth, at least on an equal plane with others.

   Strongly Agree Agree Disagree Strongly Disagree

2. I feel that I have a number of good qualities.

   Strongly Agree Agree Disagree Strongly Disagree

3. All in all, I am inclined to feel that I am a failure.

   Strongly Agree Agree Disagree Strongly Disagree

4. I am able to do things as well as most other people.

   Strongly Agree Agree Disagree Strongly Disagree

5. I feel I do not have much to be proud of.

   Strongly Agree Agree Disagree Strongly Disagree

6. I take a positive attitude toward myself

   Strongly Agree Agree Disagree Strongly Disagree

7. On the whole, I am satisfied with myself.

   Strongly Agree Agree Disagree Strongly Disagree

8. I wish I could have more respect for myself.

   Strongly Agree Agree Disagree Strongly Disagree

9. I certainly feel useless at times.

   Strongly Agree Agree Disagree Strongly Disagree

10. At times I think I am no good at all.

    Strongly Agree Agree Disagree Strongly Disagree

APPENDIX H

CENTER OF EPIDEMIOLOGY STUDIES - DEPRESSION (CES-D)

CES-D

Below is a list of ways you might have felt or behaved. Please indicate how often you have felt this way in the **past week** by choosing from the following and circling the appropriate number.

0 - Rarely or none of the time (Less than 1 day)
1 - Some or a little of the time (1-2 days)
2 - Occasionally or a moderate amount of the time (3-4 days)
3 - Most or all of the time (5-7 days)

During the past week:	less than 1 day	1-2 days	3-4 days	5-7 days
1. I was bothered by things that usually don't bother me	0	1	2	3
2. I did not feel like eating; my appetite was poor	0	1	2	3
3. I felt that I could not shake off the blues even with help from my family or friends	0	1	2	3
4. I felt that I was just as good as other people	0	1	2	3
5. I had trouble keeping my mind on what I was doing	0	1	2	3
6. I felt depressed	0	1	2	3
7. I felt that everything I did was an effort	0	1	2	3
8. I felt hopeful about the future	0	1	2	3
9. I thought my life had been a failure	0	1	2	3
10. I felt fearful	0	1	2	3
11. My sleep was restless	0	1	2	3
12. I was happy	0	1	2	3
13. I talked less than usual	0	1	2	3
14. I felt lonely	0	1	2	3
15. People were unfriendly	0	1	2	3
16. I enjoyed life	0	1	2	3
17. I had crying spells	0	1	2	3
18. I felt sad	0	1	2	3
19. I felt that people dislike me	0	1	2	3
20. I could not get "going"	0	1	2	3

APPENDIX I

COLLEGE SELF-EXPRESSION SCALE (CSES)

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
ythe 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

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

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

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

38. If a person teases you to the point that it is no longer fun, do you have difficultly expressing your displeasure? 0 1 2 3 4

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? 0 1 2 3 4

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? 0 1 2 3 4

41. If someone keeps kicking the back of you chair in a movie, would you ask him to stop? 0 1 2 3 4

42. If someone interrupts you in the middle of an important conversation, do you request that the person wait until you have finished? 0 1 2 3 4

43. Do you freely volunteer information or opinions in class discussions? 0 1 2 3 4

44. Are you reluctant to speak to an attractive acquaintance of the opposite sex? 0 1 2 3 4

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? 0 1 2 3 4

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? 0 1 2 3 4

47. Do you find it difficult to stand up for your rights? 0 1 2 3 4

48. If a friend unjustifiable criticized you, do you express your resentment there and then? 0 1 2 3 4

49. Do you express your feelings to others? 0 1 2 3 4

50. Do you avoid asking questions in class for fear of feeling self-conscious? 0 1 2 3 4

APPENDIX J

DEMOGRAPHIC QUESTIONNAIRE

Demographic Questionnaire

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

I. PERSONAL DATA

1. Age:_____

2. Marital Status: 1 ___ Single 2 ___ Married 3 ___ Divorced/Seperated

3. Sexual Orientation: 1 ___ Bisexual 2 ___ Heterosexual 3 ___ Homosexual 4 ___ Other

4. Academic Rank in School:

   1 ___ freshman

   2 ___ sophomore

   3 ___ junior

   4 ___ senior

   5 ___ graduate student

   6 ___ other (please specify) _____

5. Cumulative Grade Point Average:

   1 ___ 3.5 - 4.0

   2 ___ 3.0 - 3.49

   3 ___ 2.5 - 2.99

   4 ___ 2.0 - 2.49

   5 ___ less than 1.99

6. Race/Ethnic Group:

   1 ___ Asian-American

   2 ___ Black, non-Hispanic

   3 ___ Caucasian

   4 ___ Hispanic

   5 ___ Native American

   6 ___ Other (please specify) _____

7. Present Height: _____feet _____inches

8. Present Weight: _____lbs.

9. Your Ideal Weight: _____lbs.

10. Have you ever had a weight problem? 1 ___ yes 2 ___ no

--IF YES, PLEASE ANSWER QUESTION 11.

--IF NO, PROCEED TO NEXT QUESTIONNAIRE.

11. What type of weight problem have you had (please specify)

1 ___ Anorexia Nervosa

2 ___ Bulimia Nervosa

3 ___ Unhealthy Underweight, but not to point of Anorexia Nervosa

4 ___ Underweight (wanted to gain weight but couldn't)

5 ___ Overweight (weight 10% higher than a normal comfortable weight)

6 ___ Obese (weight high enough to be a health risk and significantly interfere with your life)

12. Have you ever been in treatment for an eating disorder?

1 ___ YES 2 ___ NO

13. IF YES, PLEASE SPECIFY WHAT TYPE:

1 ___ Anorexia Nervosa

2 ___ Bulimia Nervosa

3 ___ Obesity

4 ___ Other (please specify) _____

14. Are you currently in treatment for an eating disorder?

1 ___ YES 2 ___ NO

15. IF YES, PLEASE SPECIFY WHAT TYPE:

1 ___ Anorexia Nervosa

2 ___ Bulimia Nervosa

3 ___ Obesity

4 ___ Other (please specify) _____

APPENDIX K

INFORMED CONSENT

Informed Consent

I, _____ agree to participate in a research study at the University of North Texas Psychology Department. The purpose of this study is to examine the eating behaviors and attitudes of college females. We hope to use the information obtained from this study to further our understanding of eating disorders and to suggest prevention and treatment options.

As a participant, I understand that I will be expected to complete a series of questionnaires relating to my attitudes and behaviors. I have been informed that any information obtained in this study will be recorded with a code number that will allow the researcher to determine my identity. At the conclusion of this study the key that relates my name with my assigned code number will be destroyed. Under this condition, I agree that any information obtained from this research may be used in any way thought best for publication or education.

I understand that there is no personal risk or discomfort directly involved with this research and that I am free to withdraw my consent and discontinue participation in this study at any time. Withdrawal from this study will not adversely affect my academic standing in any way.

If I have any questions or problems that arise in connection with my participation in this study, I should contact Courtney Johnson at 565-2671.

_____ _____

(Date) (Signature of Participant)

_____ _____

(Date) (Investigator)

APPENDIX L

RECRUITMENT STATEMENT

Recruiting Statement

The following will be posted on the second floor of Terrill Hall for recruitment purposes:

Female volunteers needed to fill out questionnaires for a psychological research study examining personality variables of college women. All volunteers will receive extra credit points for their participation (approximately 60 minutes). Please sign below in the time slot you would be available. Thank you!

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