Sex Role Issues Among Women with Eating Disorders and Women with Weight Preoccupations

by

Shelly J. C. Turcotte

A thesis presented to the University of Manitoba in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Department of Psychology

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ABSTRACT

The current study examined the relationship between several sex role issues and eating disturbances. Eating disorder (ED) participants were 41 women who met DSM-III-R criteria for anorexia nervosa or bulimia nervosa (9 restricting anorexic, 11 bulimic anorexic, and 21 bulimic). Nonclinical university respondents included 55 women with weight preoccupations (WP) (18 anorexic-like, 17 bulimic-like, and 20 anorexic- and bulimic-like) and 51 women without weight preoccupations (NWP). Other subjects (n = 182) were considered only in preliminary psychometric analyses. All participants completed measures of demographic characteristics, eating attitudes and history, and sex role variables. Sex role-related measures assessed aspects of expressiveness and instrumentality (Extended Personality Attributes Questionnaire; EPAQ), appearance compliance, self-definition, and sex role conflict.

Multivariate contrasts indicated significant sex role-related differences between ED and NWP, ED and WP, and WP and NWP groups. The relative importance of individual scales was examined with univariate F-tests and stepwise discriminant function analyses. Of the sex role variables that were significantly more symptomatic for ED than NWP subjects, appearance and social approval, denying needs,

negative communion, and sex role conflict provided strong independent contributions to group differentiation whereas appearance vs. health/comfort, positive instrumentality, and defining self by others did not produce unique discriminatory power after adjustment for shared variability with preceding factors. The same measures showed significant differences between ED and WP groups, with appearance vs. health/comfort, denying needs, and negative communion independent contributors to group discrimination. Of the significant differences between WP and NWP groups, appearance and social approval and sex role conflict were the primary contributors to group differentiation whereas denying needs did not provide additional independent discrimination.

Subgroup contrasts suggested less prominent sex role issues for restricting anorexics than bulimic anorexics and bulimics. Restricting anorexics were most strongly distinguished by less emphasis on relationships with men. However, subtype findings are tentative due to small sample sizes.

Results generally support theoretical suggestions relating eating disturbances to certain sex role issues. Implications of the results are also discussed in terms of the continuity of eating disorders, etiology, and intervention. Limitations of the current study are addressed and directions for further research are recommended.

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INTRODUCTION

Generally classified as "eating disorders," anorexia nervosa and bulimia nervosa refer to a complex of behavioral, attitudinal, emotional, and physiological features related to eating, weight, and body image (e.g., American Psychiatric Association, 1987). The central characteristics of anorexia nervosa are extreme food restriction and weight loss whereas the primary features of bulimia nervosa are uncontrolled consumption of food ("binge eating") and restitutive behavior ("purging" and fasting).

There has been growing acknowledgement of sociocultural factors in anorexia nervosa and bulimia nervosa by writers of varying theoretical orientations (e.g., Boskind-White, 1985; Bruch, 1985; Crisp, 1980; Hawkins & Clement, 1984; Root, Fallon, & Friedrich, 1986; Sours, 1980). Sociocultural influences are suggested by the differential demographic distribution and rising prevalence of eating disorders (e.g., Duddle, 1973; Jones, Fox, Babigian, & Hutton, 1980). Most notably, women constitute the vast majority of individuals with eating disorders.[1] Eating

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[1]Since most individuals with eating disturbances are women, and the focus of this paper is on women's eating disturbances, statements should be assumed to refer to women unless otherwise indicated and female pronouns will be employed. Males with eating disorders may present features

disorders are further disproportionately represented among women who are young, of middle to upper socioeconomic status (SES), Caucasian, and living in Western cultures (Bruch, 1973; Garfinkel & Garner, 1982). Increases in reports of anorexia nervosa and bulimia nervosa have been paralleled by widespread concerns and preoccupations regarding weight, body shape, and dieting (Button & Whitehouse, 1981; Nylander, 1971; Shefer, 1987; Thompson & Schwartz, 1982). The pervasiveness of eating and weight concerns throughout the female population has led to controversy regarding the extent to which eating disorders are continuous versus discrete syndromes (Button & Whitehouse, 1981; Polivy & Herman, 1987; Garner, Olmsted, Polivy, & Garfinkel, 1984).

Certain societal expectations regarding the roles, behavior, appearance, and qualities of women (female "sex roles") may constitute a major class of sociocultural variables related to eating disorders and nonclinical weight preoccupations. Eating disturbances have been increasingly linked to societal emphases on physical appearance and the current thin body ideal for women, which promote a focus on weight and body (Boskind-White, 1985; Garner, Garfinkel, Schwartz, & Thompson, 1980; Rodin, Silberstein, & Striegal-Moore, 1985). It has further been proposed that eating

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either consistent with or dissimilar to those reported for females (e.g., Boskind-Lodahl, 1976; Bruch, 1973; Cauwells, 1983; Sours, 1980).

disturbances are associated with a number of other limiting and conflict-engendering societal norms and proscriptions directed at women (Boskind-Lodahl, 1976; Boskind-White & White, 1986; Brown, 1985; Chernin, 1981; Lawrence, 1984a; Orbach, 1978a, 1985a, 1986; S. C. Wooley & Kearney-Cooke, 1986; S. C. Wooley & O. W. Wooley, 1985).

From a female socialization perspective, women who have incorporated certain sex role expectations may be at particular risk for eating disorders or weight preoccupations. Clinical descriptions and research studies have suggested the importance of sex role issues in eating disturbances. However, few unequivocal and consistent patterns have emerged and several sex role aspects that have been theoretically implicated in eating disturbances have not been adequately researched. Further research exploration and conceptual clarification are required. The current study was designed to investigate several sex role factors among women with eating disorders, with weight preoccupations, and without weight preoccupations.

Historical Context

References to self-inflicted starvation, unusual eating patterns and attitudes, extreme over-eating, and voluntary vomiting occur throughout written history (see Bliss & Branch, 1960; Bruch, 1973; Powers, 1980). Morton (1689/1694) is generally credited with presenting the first comprehensive report of symptoms of deliberate food

restriction and emaciation consistent with modern definitions of anorexia nervosa under the name of "nervous atrophy" or consumption. Almost two hundred years later, Gull (1868, 1874) in England and Laseque (1873) in France, provided detailed case descriptions and treatment suggestions. Gull originally called the condition "apepsia hysterica" (1868), later moving to "anorexia hysterica" and finally coining the term "anorexia nervosa" (1874). Laseque referred to the disorder as "anorexie hysterique", which was later replaced by "anorexie mentale" (Bruch, 1973; Sours, 1980). By the early 1900's, anorexia nervosa had been identified as a distinct syndrome and described in several articles and textbooks (see Lucas, 1981; Dally & Gomas, 1979; Thoma, 1967). However, it was a relatively rare condition and did not receive a great deal of attention until the 1960's (e.g., Bruch, 1961, 1965; Crisp, 1965a, 1970; G. Russell, 1965, 1970; Theander, 1970; Thoma, 1967).

Unlike anorexia nervosa, bulimia nervosa does not have a long history as a distinct disorder. Stunkard (1959) first referred to binge eating to describe periodic uncontrolled consumption of large quantities of food by some obese individuals. Early reports of anorexia nervosa occasionally referred to episodic over-eating (e.g., Gull, 1868). In 1903, in a book focusing on obsessions and dysthymia, Janet described several cases of women with symptoms of restricted eating and weight loss as well as

over-eating and behaviors designed to prevent growth (Pope, Hudson, & Mialet, 1985). Modern writers have recognized binge eating and purging in a proportion of individuals with anorexia nervosa (Beumont, 1977; Bruch, 1973; Crisp, 1980; Dally, 1969). Bulimia nervosa as a pattern of binge eating and restitutive behaviors by average weight individuals has only recently been identified and studied as a separate disorder (American Psychiatric Association, 1980, 1987; Boskind-Lodahl & White, 1978; Cauwells, 1983).

Over the past 15 years, the dramatic rise in reported cases of anorexia nervosa (e.g., Duddle, 1973; Jones et al., 1980; Willi & Grossman, 1983) has been accompanied by burgeoning professional and media interest in understanding, identifying, preventing, and treating the syndrome. Bulimia nervosa, as a recently defined disorder which is evidently more common than anorexia nervosa (e.g., Drewnowski, Yee, & Krahn, 1988; Gray & Ford, 1985; Pope, J. Hudson, Yurgelun-Todd, & M. Hudson, 1984), has similarly been receiving increasing attention. With the recognition of features of eating disorders throughout the general female population, interest in non-clinical weight preoccupations and their relationship to eating disorders has also been emerging (e.g., Button & Whitehouse, 1981; Garner et al., 1984; Polivy & Herman, 1987).

Features and Definition of Anorexia Nervosa and Bulimia Nervosa

There has been much discussion regarding the characteristics and classification of anorexia nervosa and bulimia nervosa.[2] Despite increasing consistency and precision in the definitions of eating disorders, essential features and diagnostic criteria continue to vary considerably. In this section, the features, classification, and assessment of anorexia nervosa and bulimia nervosa will be reviewed.

Anorexia Nervosa

Features. Many of the behaviors and attitudes of individuals with anorexia nervosa revolve around extreme attempts to achieve and maintain a very low weight and thin body. Related to the pursuit of thinness is an intense fear of becoming obese despite emaciation (Bruch, 1973; Casper & Davis, 1977; Crisp, 1970, 1980; G. Russell, 1970). Some of

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[2]Descriptive labels that organize behaviors and attitudes into agreed upon categories facilitate communication and research and it is in this sense that this paper refers to eating disorders, weight preoccupations, and individuals who demonstrate particular eating and weight related features at the current time. There has been considerable debate regarding the effects of diagnostic labelling (e.g., Kaplan, 1983; Sarbin, 1969; Szasz, 1961). When individuals whose behavior falls into descriptive categories are given "diagnoses," individual pathology is often assumed. Individual differences among those labelled as well as communalities with those not labelled may be obscured and societal influences and the need for societal changes may be minimized. Therefore, several authors have cautioned against emphasizing diagnostic categorization and the medical model in eating disorders (Boskind-White & White, 1983; Brown, 1985; Smead, 1983, 1985).

the features seen in anorexia nervosa are also evident in externally induced food deprivation and malnutrition (Keys, Henschel, Mickelson, & Taylor, 1950; Schiele & Brozek, 1948).

Reduced food intake is the major method of weight loss, with consumption of disproportionately low levels of carbohydrates and fats and higher levels of protein (Crisp, 1977a; Halmi & Fry, 1974; G. Russell, 1967). Despite the term "anorexia nervosa," which means "loss of appetite of nervous origin," appetite is not usually diminished until an advanced state of starvation sets in (Bruch, 1973; Ceaser, 1979; Garfinkel, 1974; Mawson, 1974). The anorexic woman is engaged in a constant struggle to rule her body and is plagued by fears of losing control. Attempts to control other aspects of life, such as sleep, sexual feelings, exercise, and studying are also common (Bruch, 1973; Crisp, 1980; Garfinkel & Garner, 1982; G. Russell, 1970). The maintenance of a very low weight provides only fleeting feelings of mastery. A sense of powerlessness or ineffectiveness is viewed as a hallmark of anorexia nervosa by some authors (e.g., Bruch, 1973; Crisp, 1980; Lawrence, 1979; Selvini Palazzoli, 1974).

Between one-quarter and one-half of anorexics periodically lose control and engage in episodes of binge eating (Beumont, George, & Smart, 1976; Bruch, 1973; Casper, Eckert, Halmi, Goldberg, & Davis, 1980; Crisp, 1965a, 1980;

Dally & Gomez, 1979; Garfinkel & Garner, 1982, 1984; Theander, 1970). Binge eating typically consists of uncontrolled rapid consumption of energy-rich foods that the individual denies herself during restrictive periods and is followed by feelings of guilt and renewed reduction efforts. Various restitutive strategies may be employed to counteract the effects of bingeing or to produce weight loss more rapidly, such as self-induced vomiting, excessive exercise, and abuse of laxatives, diuretics, and amphetamines. In the past decade, anorexia nervosa has typically been categorized into the two subgroups of restricting anorexia nervosa and bulimic anorexia nervosa. The bingeing and purging behaviors of bulimic anorexics and normal weight bulimics are similar and will bee discussed in more detail subsequently.

A variety of unusual behaviors and attitudes toward food and eating by individuals with anorexia nervosa have been reported (Bruch, 1973; Crisp, 1980; Dally & Gomez, 1979; Garfinkel & Garner, 1982; Sours, 1980; Ushakov, 1971). Intruding, obsessive thoughts about food often occupy much time and interfere with concentration. Some anorexics prepare elaborate meals for others. Food may be cut into very small pieces, retained in the mouth for long periods of time, hidden, hoarded, and rearranged. Similar preoccupations with food and eating and abnormal behavior toward food have been noted in studies of the effects of

externally induced starvation (Keys et al., 1950; Schiele & Brozek, 1948).

Cognitive and perceptual disturbances in anorexia nervosa have often been reported (Bruch, 1973; Crisp & Fransella, 1972; Garner & Bemis, 1982, 1985; Guidano & Liotti, 1983; Selvini Palazzoli, 1978). Some anorexics overestimate their body size or parts of their body in objective tests (Bell, Kirkpatrick, & Finn, 1986; Casper, Halmi, Goldberg, Eckert, & Davis, 1979; Garfinkel, Moldofsky, Garner, Stancer, & Coscina, 1978; Pierloot & Houben, 1978; Slade & G. Russell, 1973), although there is some disagreement concerning whether this tendency is specific to women with anorexia nervosa (e.g., Button, Fransella, & Slade, 1977; Dolan, Birtchnell, & Lacey, 1987; Gardner & Moncrieff, 1988). In any case, most anorexics experience their body or parts of their body as fat despite emaciation and express dissatisfaction and disgust with their body (Bruch, 1973; Casper, Offer, & Ostrov, 1981; Garner & Garfinkel, 1981). Other dysfunctional beliefs and values related to self-concept and interpersonal relationships have also been reported (Bruch, 1973; Garner & Bemis, 1982, 1985; Guidano & Liotti, 1983). Anorexics commonly deny their physical and psychological difficulties and are resistant to intervention (Crisp, 1980; Selvini Palazzoli, 1978; Theander, 1970; Ushakov, 1971).

Psychological characteristics ascribed to women with anorexia nervosa include perfectionistic, anxious, introverted, emotionally unaware and inhibited, approval-seeking, conventional, conforming, unassertive, immature, neurotic, obsessional, average to above average intelligence, and achievement-motivated (Garfinkel & Garner, 1983; Pillay & Crisp, 1977; Rahman, Richardson, & Ripley, 1939; Rowland, 1970; Smart, Beumont, & George, 1976; Strauss & Ryan, 1987; Strober, 1981a; Theander, 1970; Ushakov, 1971). Social withdrawal, sexual dysfunctions and disinterest, low self-esteem, and depression have also been described (Ben-Tovim, Marilov, & Crisp, 1979; Beumont, Abraham, & Simson, 1981; Crisp, 1970, 1980; Eckert, Goldberg, Halmi, Casper, & Davis, 1982; Huon & Brown, 1984). Reported proportions of anorexics with clinical depression vary from minimal (Bruch, 1973; Theander, 1970) to a majority (Ben-Tovim et al., 1979; Rollins & Piazza, 1978) and may be related to the severity of the symptoms (Eckert et al., 1982). Negativism, rigidity, manipulativeness, and dishonesty are often seen in relation to weight-related issues (Bruch, 1973; Frazier, 1965; Rowland, 1970; Sours, 1980; Ushakov, 1971).

The premorbid personality of anorexic women is most consistently described in terms such as obedient, cooperative, compliant, well-behaved, polite, and dependable (Bruch, 1973; Crisp, 1965a, 1980; Dally, 1969; Halmi,

Casper, Eckert, Goldberg, & Davis, 1979; Sours, 1980). The "special goodness" (Bruch, 1973) and "model" behavior (Garfinkel & Garner, 1983) of the anorexic throughout childhood have been noted.

Several personality differences have been reported between anorexic women who achieve weight loss strictly through food restriction and those who also binge and purge (Beumont, 1977; Beumont et al., 1976; Casper et al., 1980; Garfinkel & Garner, 1984; Garfinkel, Moldofsky, & Garner, 1980; Strober, 1981b). As compared with restrictors, binge-purgers may be more extroverted and sociable yet more likely to experience interpersonal conflict and they may be more sexually active although not necessarily more sexually interested. Binge-purgers have been found to show more marked depression, guilt, anxiety, and lability of mood and to display more impulse-related behavior, such as stealing, drug and alcohol abuse, and suicide attempts than restrictors. They may also be more likely to have a premorbid history of affective and behavioral problems than restrictors.

A number of background factors have been associated with anorexia nervosa. Some researchers have reported high rates of childhood obesity and early feeding difficulties (Bliss & Branch, 1960; Crisp, 1965b, 1970; Kay & Leigh, 1954; Ushakov, 1971) whereas others have not (Bruch, 1973; Rowland, 1970; Thoma, 1967). The development of anorexia

nervosa is often preceded by dieting (Bemis, 1978; Bliss, 1982; Crisp, 1980; Garfinkel & Garner, 1982; Powers, 1980; Theander, 1970). Numerous writers have noted the presence of stressful events, such as illness, death or illness of a relative, heterosexual or other interpersonal conflicts, perceived failure at school or work, entering university or a new school, and leaving home prior to the development of anorexia nervosa (Casper & Davis, 1977; Crisp, 1980; Dally, 1969; Rowland, 1970; Slade, 1982; Theander, 1970). A number of investigators have reported sexual abuse histories among anorexics, particularly those who binge and purge, and have noted similarities between the features of anorexia nervosa and the effects of sexual abuse, such as sexual conflicts and dysfunctions, interpersonal difficulties, low self-esteem, feelings of guilt, depression, and a sense of lack of control (e.g., Goldfarb, 1987; Oppenheimer, Howells, Palmer, & Chaloner, 1985; Schechter, Schwartz, & Greenfeld, 1987; Sloan & Leichner, 1986). More research is needed to determine the prevalence of sexual abuse among women with anorexia nervosa relative to the general female population.

Family concerns regarding appearance and food, weight, and dieting have frequently been reported (Bemis, 1978; Bliss & Branch, 1960; Bruch, 1985; Crisp, 1980; Garfinkel & Garner, 1982; Kalucy, Crisp, & Harding, 1977; Powers, 1980; Theander, 1970). Physical illnesses and affective disorders may be more common in the families of anorexics than in the

general population (Kog & Vandereycken, 1985). Family relationships have been found to be characterized by enmeshment, overcontrol, discouragement of independence, and underlying conflict with the pretext of family harmony (Bruch, 1973; Kog & Vandereycken, 1985; Minuchin, Rosman, & Baker, 1978; Selvini Palazzoli, 1971, 1978; Sours, 1980; Strober & Humphrey, 1987). Binge-purgers may be more likely than restrictors to have experienced a negative, depriving, disorganized family environment (Strober, 1981b, 1984; Strober & Humphrey, 1987).

A variety of physical symptoms related to starvation and malnutrition as well as bingeing and purging are associated with anorexia nervosa (Anderson, 1984; Cahill, Aoki, & Rossini, 1979; Dally & Gomez, 1979; Fries, 1974; Halmi & Falk, 1982; Kaplan & Woodside, 1987; Mitchell, 1986a; G. Russell, 1967). Menstrual irregularities in females, including amenorrhea and corresponding hormonal disturbances in males occur with extreme weight loss and caloric restriction. Cardiovascular (e.g., hypotension, arrythmia, bradycardia), gastrointestinal (e.g., constipation, abdominal pain, nausea), hematological (e.g., anemia), and metabolic (e.g., hypoglycemia) abnormalities are related to food deprivation and are compounded by bingeing and purging. Generalized muscular weakness and bone aberrations often occur. Dermatological changes, such as rough, dry skin, discoloration of skin, thinning scalp

hair, and lanugo hair (a fine, downy growth) may be observed. Anorexics may have varying degrees of electrolyte abnormalities due to dehydration and nutritional imbalance, with those who binge and purge at greatest risk for serious medical complications from depletion of potassium, sodium, and chloride. Binge-purgers also commonly have dental problems, such as caries and erosion of teeth enamel due to repeated contact of teeth with stomach acid.

Classification. There has been disagreement regarding the essential criteria of anorexia nervosa (see Askevold, 1983; Halmi, 1983, 1985; Kirstein, 1981; Lowenkopf, 1982). Parts of classification systems have often been modified or combined with other criteria for both research and clinical purposes.

At minimum, striving for thinness and weight loss are required for a diagnosis of anorexia nervosa. However, required weight loss varies from 10% (e.g., Dally & Gomez, 1979) to 30% (e.g., Brady & Reiger, 1975). Rollins and Piazza (1978) recommended weight loss of 20% or weight 20% below average. Bliss and Branch (1960) and G. Russell (1970) employed the criterion of a 25-lb. weight loss. The third edition of the Diagnostic and Statistical Manual (DSM-III) (American Psychiatric Association, 1980) required weight loss of 25% whereas the revised edition (DSM-III-R) (APA, 1987) refers to weight 15% below expected. Substantial weight loss may not be applicable for

individuals who were slender prior to the onset of the syndrome (Garfinkel et al., 1980).

Criteria regarding age, amenorrhea, and central psychological features have also varied. Some investigators have specified age onset requirements, such as prior to age 25 (Feighner et al., 1972) or between 11 and 35 (Dally & Gomez, 1979) whereas many have not included age of onset as a criterion (Garrow et al., 1975; Halmi, 1985; Kirstein, 1981; Rollins & Piazza, 1978; G. Russell, 1970). Amenorrhea in females has been considered a core criterion (Askevold, 1983; Dally & Gomez, 1979; Garrow et al., 1975; Halmi, 1985; Rollins & Piazza, 1978) or a secondary symptom that may be present (Feighner et al., 1972; G. Russell, 1970). Amenorrhea was not employed as a criterion in DSM-III (APA, 1980) but it was added in the revised edition (DSM-III-R) (APA, 1987). Several psychological features have been included in classification systems. Intense fear of weight gain (APA, 1980, 1987; Halmi, 1985; Garrow et al., 1975; G. Russell, 1970) or weight phobia (Crisp, 1970) are common criteria. Disturbance of body image is considered essential in many systems, such those of Bruch (1973), Rollins & Piazza (1978), DSM-III (APA, 1980) and DSM-III-R (APA, 1987) and Askevold (1983). A sense of ineffectiveness or inadequacy are viewed as central by Bruch (1973) and Rollins and Piazza (1978). Bruch (1973) refers further to

misinterpretation of internal perceptions. Askevold (1983) requires the avoidance of sexuality.

Varying and nonspecific criteria and features may result in inappropriate and contradictory research findings and clinical observations. For example, the criteria of Feighner and associates (1972) are restrictive and their reference to anorexia is misleading as loss of appetite rarely occurs. In contrast, Bliss and Branch (1960) proposed the sole criterion of a 25-lb. weight loss due to psychological factors, which would include individuals with a variety of other difficulties, such as affective and anxiety disorders. Rollins and Piazza reported that, of 30 patients referred to their centre for anorexia nervosa, 27 (90%) met the criteria of the authors whereas only 7 (23%) met the criteria of Feighner et al. (1972).

The most recent edition of the Diagnostic and Statistical Manual (DSM-III-R; APA, 1987) provides several widely cited and fairly precise criteria which may be increasingly employed for research and clinical purposes. The DSM-III-R diagnostic criteria are reproduced in Table 1.

Bulimia Nervosa

Features. Bulimia nervosa involves a cyclical pattern of binge eating and extreme attempts to control eating and weight (Abraham & Beumont, 1982; Boskind-White & White, 1983; Cauwells, 1983; Fairburn, Z. Cooper, & P. Cooper, 1986; Gandour, 1984; Johnson, Stukey, Lewis, & Schwartz,

Table 1
Diagnostic Criteria for Anorexia Nervosa of DSM-III-R (American Psychiatric Association, 1987)

A.	Refusal to maintain body weight over a minimal normal weight for age and height, e.g., weight loss leading to maintenance of body weight 15% below that expected; or failure to make expected weight gain during period of growth, leading to body weight 15% below that expected.
B.	Intense fear of gaining weight or becoming fat, even though underweight.
C.	Disturbance in the way in which one's body weight, size, or shape is experienced, e.g., the person claims to "feel fat" even when emaciated, believes that one area of the body is "too fat" even when obviously underweight.
D.	In females, absence of at least three consecutive menstrual cycles when otherwise expected to occur (primary or secondary amenorrhea). (A woman is considered to have amenorrhea if her periods occur only following hormone, e.g., estrogen, administration.)

1983; Mitchell & Pyle, 1982; Root et al., 1986; G. Russell, 1979; Schlesier-Stropp, 1984). The majority of bulimics employ restitutive strategies, such as self-induced vomiting, to counteract the effects of bingeing and facilitate weight loss. Body weight generally fluctuates between the low-average and high-average ranges.

As in the case of bulimic anorexia nervosa, binge eating consists of the uncontrolled consumption of high calorie, easily ingested foods, which are restricted between binges. The quantity of food consumed during a binge varies and may range from 1,200 to 55,000 calories with daily food intake of 3 to 27 times greater than average (Abraham &

Beumont, 1982; Johnson, Stukey, Lewis, & Schwartz, 1983; Mitchell, Pyle, & Eckert, 1981). A large volume of liquids may also be consumed to facilitate regurgitation. Duration of bingeing is typically 1 to 2 hours and may vary from 15 minutes to over a day. Frequency of bingeing ranges from weekly to 30 times a day (Gandour, 1984; Schlesier-Stropp, 1984).

Binge eating is most likely to occur in the evening and when the individual is alone at home (Davis, Freeman, & Solyom, 1985; Johnson, Stukey, Lewis, & Schwartz, 1983; G. Russell, 1979). It is often subjectively precipitated by negative mood states, including anxiety, sadness, loneliness, irritation, and helplessness (Abraham & Beumont, 1982; Cauwells, 1983; Mitchell & Pyle, 1982; G. Russell, 1979). Social demands or interpersonal conflict frequently precede bingeing (Abraham & Beumont, 1982). A number of researchers have suggested that dietary restraint itself predisposes the individual to binge through physiological deprivation and lowering cognitive inhibition upon minimal food consumption (e.g., Polivy, Herman, Olmsted, & Jazwinski, 1983; Ruderman & Grace, 1987; G. Russell, 1979; Smead, 1984, 1988; Spencer & Fremouw, 1979).

The initial stages of the bingeing episode may be accompanied by feelings of relief, relaxation, and tranquility whereas common aftermaths include depression, self-depreciation, and guilt (Boskind-White & White, 1983;

Edelman, 1981; Gandour, 1984; Johnson & Larson, 1982; Orleans & Barnett, 1984; G. Russell, 1979). Binge eating is followed by resolutions to more consistently restrict intake and restitutive strategies, such as self-induced vomiting, excessive exercising, and abuse of laxatives, diuretics, and appetite suppressants. Vomiting is the most commonly employed purging method, with reported proportions of 50 to 100%, and is related to the severity and chronicity of bulimia nervosa (e.g., Abraham & Beumont, 1982; Johnson, Stukey, Lewis, & Schwartz, 1983; G. Russell, 1979). Although purging is often a response to feelings of guilt regarding bingeing and may produce brief relief, it typically engenders further shame and self-deprecation.

Individuals with bulimia nervosa are generally preoccupied with food, eating, weight, and body shape to the extent that daily activities are disrupted and concentration is impaired (Fairburn & Cooper, 1982; Gandour, 1984; Johnson & Larson, 1982; Root et al., 1986; G. Russell, 1979; Schlesier-Stropp, 1984). Many bulimics are plagued by fears of losing control over eating and becoming obese (Fairburn et al., 1986; G. Russell, 1979). Body dissatisfaction is strong and some researchers have found that bulimics overestimate body size and desire a weight below average (e.g., Fairburn & Cooper, 1982; Pyle, Mitchell, & Eckert, 1981; G. Russell, 1979; Powers, Schulman, Gleghorn, & Prange, 1987; Williamson, Kelley, Davis, Ruggiero, & Blouin,

1985; Willmuth, Leitenberg, Rosen, Fondacaro, & Gross, 1985). Dysfunctional and inaccurate beliefs, particularly involving appearance, weight, and eating are frequently reported (e.g., Fairburn, 1981, 1985; Fremouw & Heyneman, 1983; Guidano & Liotti, 1983; Loro, 1984; Orleans & Barnett, 1984).

A number of affective and personality features have been associated with bulimia nervosa. Depressive symptoms, including depressed mood, guilt and self-deprecation, and hopelessness are prominent and are related to the severity of the disorder (Abraham & Beumont, 1982; Fairburn, 1980; Fairburn & Cooper, 1982; Hatsukami, Owen, Pyle, & Mitchell, 1982; Herzog, 1982; Johnson, Stukey, Lewis, & Schwartz, 1983; Katzman & Wolchik, 1984; Pyle et al., 1981; G. Russell, 1979; Williamson et al., 1985). Suicidal thoughts and attempts are not uncommon, particularly following binge-purging. Other features consistently reported to characterize bulimic individuals include poorly defined sense of self, low self-esteem, high expectations, low sense of control yet self-blame, high need for approval, interpersonal difficulties, low assertiveness, feelings of alienation, tension and anxiety, emotional instability, and impulsiveness (Allerdissen, Florin, & Rost, 1981; Dunn & Ondercin, 1981; Grace, Jacobson, & Fullager, 1985; Hatsukami, et al., 1982; Johnson & Larson, 1982; Katzman & Wolchik, 1984; Nagelberg, Hale, & Ware, 1984; Norman &

Herzog, 1983; Weiss & Ebert, 1983; Williamson et al., 1985). High rates of stealing and chemical dependency have been reported by some investigators (e.g., Hatsukami et al., 1982; Pyle et al., 1981; Mitchell & Pyle, 1982; Weiss & Ebert, 1983).

There is little information on the premorbid characteristics of women with bulimia nervosa. Based on reports of parents and spouses, G. Russell (1979) noted a history of anxiety, depression, interpersonal relationships, dependence, impulsiveness, and high achievement. Boskind-Lodahl (1976) and Boskind-White and White (1983) noted clinically that women with bulimia nervosa ("bulimarexia") had been rewarded for physical appearance, submissiveness, compliance, and approval-seeking and discouraged from independence and assertiveness.

Onset of bulimia nervosa generally follows a period of increased concern about body weight and dieting. A history of anorexia nervosa and obesity is common, although reported proportions of bulimics with such histories vary widely (e.g., Abraham & Beumont, 1982; G. Russell, 1979; Pyle et al., 1981). The presence of stressful events prior to the onset of bulimia nervosa has been noted, such as loss or separation from a significant person, sexual conflicts, and vocational or educational decisions (Gandour, 1983, Pyle et al, 1981). As in the case of anorexia nervosa, references to a history of sexual abuse among bulimics are common

(e.g., Goldfarb, 1987; Oppenheimer et al., 1985; Root et al., 1986; Sloan & Leichner, 1986; S. C. Wooley & Kearney-Cooke, 1986), although a high prevalence of sexual abuse among bulimics relative to the general female population has not been established.

A number of family features have been associated with bulimia nervosa. Weight, eating, and appearance concerns among family members are common (Fairburn et al., 1986; Herzog, 1982; Kog & Vandereycken, 1985; Pyle et al., 1981; Root et al., 1986; Schwartz, Barrett, & Saba, 1985; Strober & Humphrey, 1987). Physical illness, affective disorder, and alcoholism may be more prevalent for family members of bulimics than the general population (Herzog, 1982; Kog & Vandereycken, 1985; Pyle et al., 1981). The family environments of bulimics have been described as controlling, intrusive, critical, conflictive, emotionally distancing, and either overly enmeshed or disengaged (Boskind-White & White, 1983; Cauwells, 1983; Igoin-Apfelbaum, 1985; Johnson & Pure, 1986; Kog & Vandereycken, 1985; Orbach, 1978a; Sights & Richards, 1984; Strober & Humphrey, 1987).

A variety of physical symptoms resulting from bingeing, purging, food restriction, and weight fluctuations are associated with bulimia nervosa (Boskind-White & White, 1983; Gandour, 1984; Johnson, Stukey, Lewis, & Schwartz, 1983; Schlesier-Stropp, 1984; Kaplan & Woodside, 1987; Mitchell, 1986b). Electrolyte imbalances, cardiac

abnormalities, gastrointestinal difficulties, dehydration, hematological abnormalities, dental problems, and neurological abnormalities are commonly reported. Menstrual irregularities are experienced by many bulimic women and amenorrhea occurs in some cases.

Classification. The classification of binge eating and purging behaviors has been marked by inconsistency and confusion due to varying terminology, features, criteria, and restrictiveness. Patterns of bingeing and restitutive behaviors have been described and researched under the labels "bulimia" (APA, 1980), "bulimic syndrome" (Lacey, 1982; Mitchell & Pyle, 1982), "binge eating" (Wardle & Beinart, 1981), "compulsive eating" (Orbach, 1978a; Rau & Green, 1975), "bulimarexia" (Boskind-Lodahl, 1976; Boskind-White & White, 1983), "dietary chaos syndrome" (Palmer, 1979), "binge-purge syndrome" (Hawkins, Fremouw, & Clement, 1984), and "abnormal normal weight syndrome" (Crisp, 1981). G. Russell (1979) first referred to "bulimia nervosa" as a variant of anorexia nervosa. The third edition of the Diagnostic and Statistical Manual (DSM-III) (APA, 1980) included the diagnostic category of bulimia whereas the revised edition (DSM-III-R) (APA, 1987) adopted the term bulimia nervosa to emphasize the relationship to anorexia nervosa.

Criteria and restrictiveness vary with the terms employed and among investigators. One primary issue has

been the distinction between binge eating and binge-purging. The combination of bingeing and restitutive behaviors is less common and more pathogenic than binge eating alone. Purging and/or fasting were not included as criteria in DSM-III's (APA, 1980) diagnosis of bulimia but have been added in DSM-III-R's (APA, 1987) category of bulimia nervosa. Restitutive behaviors were considered central in Boskind-Lodahl and White's (1978) description of bulimarexia and G. Russell's (1979) definition of bulimia nervosa whereas they were included as possible features in Palmer's (1979) description of dietary chaos syndrome. Some researchers maintain that bulimarexia, bulimia, and binge eating constitute different syndromes, with self-starvation and purging invariable in bulimarexia, not necessarily present in bulimia, and absent in binge eating (Cullari & Redmon, 1983). Others consider bulimia, bulimarexia, and the dietary chaos syndrome as descriptive of a pattern of bingeing that may or nay not include food restriction and purging (Gandour, 1984; Nagelberg, 1984). Several investigators refer to binge eating, compulsive eating, bulimia nervosa, bulimarexia, and the dietary chaos syndrome as involving bingeing as well as dieting/purging (Wardle & Beinart, 1981).

Other essential criteria also vary and are at times open to interpretation. Depressed or dysphoric states, self-depreciation, low self-esteem, and guilt have been

required in some systems (Boskind-Lodahl & White, 1978; Palmer, 1979). Depressed mood and self-deprecating thoughts following eating binges are included as criteria in DSM-III (APA, 1980) but are viewed as common associated features in DSM-III-R (APA, 1987). Body image disturbance is included by Boskind-Lodahl & White (1978) and persistent overconcern with body shape and weight is required by DSM-III-R (APA, 1987). G. Russell (1979) employs the criterion of fear of becoming obese and Palmer (1979) stipulates a body weight within or above average.

Consistency and comparability across reports is obviously limited by varying and nonspecific criteria. The diagnostic criteria of DSM-III-R (APA, 1987) for bulimia nervosa include several common central features of the binge-purge/fast pattern and may facilitate precise and comparable definitions. The DSM-III-R criteria are reproduced in Table 2.

Differential Definition

Anorexia Nervosa and Bulimia Nervosa. The relationship between anorexia nervosa and bulimia nervosa is currently a source of some controversy. The central characteristic of anorexia nervosa is food restriction, although bingeing and purging may also occur. The primary features of bulimia nervosa are bingeing and restitutive behaviors, which may include purging and/or fasting. Drastic weight loss characterizes anorexia nervosa whereas less extreme weight

Table 2
Diagnostic Criteria for Bulimia Nervosa of DSM-III-R (American Psychiatric Association, 1987)

A.	Recurrent episodes of binge eating (rapid consumption of a large amount of food in a discrete period of time).
B.	A feeling of lack of control over eating behavior during the eating binges.
C.	The person regularly engages in either self-induced vomiting, use of laxatives or diuretics, strict dieting or fasting, or vigorous exercise in order to prevent weight gain.
D.	A minimum average of two binge eating episodes a week for at least three months.
E.	Persistent overconcern with body shape and weight.

fluctuations are present in bulimia nervosa. Physiological symptoms of anorexia nervosa and bulimia nervosa differ to the extent that food restriction, bingeing, and purging occur.

Anorexia nervosa and bulimia nervosa clearly share several central features, such as attempts to control weight through regulating food intake, preoccupations regarding food, eating, and weight, body concerns and body image disturbances, and various physical symptoms. There are similarities in background factors, personality characteristics, and family variables. The behaviors and features in bulimic anorexia nervosa and bulimia nervosa are particularly alike. Research has produced inconsistent results regarding similarities and differences between

anorexia nervosa and bulimia nervosa as well as among subcategories, such as restricting anorexia nervosa, bulimic anorexia nervosa, bingeing bulimia nervosa, binge-purging bulimia nervosa, and bulimia nervosa with and without a history of anorexia nervosa (Beumont et al., 1976; Calloway, Fonagy, & Wakeling, 1983; Garner, Olmsted, & Garfinkel, 1985; Mickalide & Anderson, 1985; Saunders, 1985; Strober, 1981b; Vanderheyden & Boland, 1987; Wonderlich & Swift, 1988).

Several researchers have challenged the traditional anorexia nervosa-bulimia nervosa distinction. The history of anorexia nervosa of some bulimics and the development of binge-purging in anorexia nervosa in the later stages have suggested to some writers that bulimia nervosa may evolve from anorexia nervosa (Anderson, 1984; Casper et al., 1980; Gross, 1982; G. Russell, 1979; Slade, 1982). Others have considered bulimic anorexia nervosa more similar to bulimia nervosa than restricting anorexia nervosa (Calloway et al., 1983; Garner, Olmsted, & Garfinkel, 1985; Orleans & Barnett, 1984). There is considerable overlap between anorexia nervosa and bulimia nervosa and the same individual may meet the criteria for both disorders, at different stages or at the same time (Abraham & Beumont, 1982; Holmgren et al., 1983; Pope, J. Hudson, Yurgelun-Todd, & M. Hudson, 1984). Anorexia nervosa and bulimia nervosa have been conceptualized by some writers as two manifestations of the

same syndrome (Ehrensing & Weitzman, 1970; Guiora, 1967; Holmgren et al., 1983). Guiora (1967) suggested the term "dysorexia" to describe the alternation of anorexic and bulimic behaviors and Holmgren and colleagues (1983) proposed a model of "anorectic bulimic conflict".

Currently, most researchers continue to classify anorexic and bulimic behaviors and attitudes into two categories. The term anorexia nervosa is widely accepted and is often subgrouped into restricting and bulimic types. Labels and criteria for bulimic features are less uniform, with the terms bulimia and bulimia nervosa the most commonly and consistently employed.

Other Disorders. The relationship of anorexia nervosa to a variety of other psychological disorders has been discussed, including affective disorders (Cantwell, Sturzenberger, Burroughs, Salkin, & Green, 1977; Hudson, Pope, Jonas, & Yurgelun-Todd, 1983; Winokur, March, & Mendels, 1980), schizophrenia (Binswanger, 1958; G. Lyketsos, Paterakis, Beis, & C. Lyketsos, 1985), hysteria (Hobhouse, 1938; Laseque, 1873), obsessive-compulsive disorder (Hecht, Fichter, & Postpischil, 1983; Solyom, Thomas, Freeman, & Miles, 1983), phobias (Crisp, 1970, 1980; Hallsten, 1965; Schnurer, Rubin, & Roy, 1973), psychosomatic disorders (Minuchin et al., 1978; Sours, 1980), addictive disorders (Szmukler & Tantam, 1984), and borderline personality disorder (Bram, Eger, & Halmi, 1983; Small,

Teagno, Madero, Gross, & Ebert, 1982). Bulimia nervosa has been related primarily to affective disorders (Hudson et al., 1983; Hudson, Pope, Yurgelun-Todd, Jonas, & Frankenburg, 1987; Walsh et al., 1982), obsessive-compulsive disorder (Gormally, 1984; Ordman & Kirschenbaum, 1985), addictive disorders (Brisman & Siegal, 1984; Bulik, 1987; Cauwells, 1983; Hatsukami et al., 1982), and borderline personality disorder (Cauwells, 1983; Cooper et al., 1988; Pope, Frankenburg, Hudson, Jonas, & Yurgelun-Todd, 1987).

There has been considerable debate concerning the relationship between eating disorders and affective disorders (Cantwell et al., 1977; Eckert et al., 1982; Hudson et al., 1983; Hudson et al., 1987; Lee, Rush, & Mitchell, 1985; Viessleman & Roig, 1985; Winokur et al., 1980). Some writers have suggested that eating disorders represent a variant of major depression, based on high rates of depressive symptoms for individuals with eating disorders, high rates of family affective disorders, and improvements with antidepressant medication in some cases (Cantwell et al., 1977; Hudson et al., 1983; Hudson et al., 1987; Winokur et al., 1980). However, there are a number of arguments against this position (see Altshuler & Weiner, 1985; Fairburn et al., 1985; Gandour, 1984; Garfinkel et al., 1983; G. Russell, 1979; Swift, Andrews, & Barklage, 1986). Individuals with eating disorders evidence less depressive symptomatology and different personality features

than those with primary affective disorders (Ben-Tovim et al., 1979; Eckert et al., 1982; Strober, 1981a). Cognitive disturbances and low self-esteem are tied to weight and appearance for individuals with eating disorders (Garfinkel et al., 1983). Some of the depressive features of individuals with eating disorders result from food deprivation (Fairburn et al., 1985; Garner, Rockert, Olmsted, Johnson, & Coscina, 1985; G. Russell, 1979). The eating disorder may precede depression (Fairburn, 1985). Familial depression may be related to the patient's disorder and family interaction patterns (Garfinkel & Garner, 1982). The efficacy of antidepressants in eating disorders is equivocal and effects of antidepressants do not provide evidence for common etiology (Gandour, 1984; Garner, Rockert, Olmsted, Johnson, & Coscina, 1985).

Eating disorders are generally distinguished from most other psychological disorders by the cluster of excessive pursuit of thinness and related fear of weight gain, attempts to control eating, preoccupations with food and weight, and body focus and disturbance (see Garfinkel, Garner, Kaplan, Rodin, & Kennedy, 1983; Leichner, 1985). Differentiation may also be made on the basis of inclusion criteria for other disorders, such as the marked perceptual and thought disturbances evident in schizophrenia (Bruch, 1973; Crisp, 1977b; Garfinkel et al., 1983). However, features of other disorders are seen in eating disorders and

occasionally criteria for another disorder may be met (Halmi, 1983; Leichner, 1985).

A number of somatic diseases, such as hypothalamic disturbances or tumors, tuberculosis, pituitary tumors, Addison's disease, Prader-Willi syndrome, and gastrointestinal disease may be confused with eating disorders (Anderson, 1984; Dally & Gomez, 1979; Gross, 1982; Leichner, 1985). In addition to various confirmable symptoms present in these disorders, the primary features of eating disorders, such as attempts to control food intake despite normal appetite, overconcern with weight and body shape, preoccupations with eating and food, and body image disturbances, are rarely present. Physical causes of weight loss, binge eating, and vomiting can thus usually be distinguished from eating disorders through physical examination, psychological symptoms, and behavior.

Assessment

Eating disorders are generally assessed through interviews, self-monitoring forms, self-report diagnostic surveys, scaled self-report questionnaires, and physical examination (Brownell, 1981; Gandour, 1984; Johnson, 1985; Johnson & Pure, 1986; Leichner, 1985; Orleans & Barnett, 1984). Assessment may involve diagnosis, evaluation of clinical and personality features, formulation of possible etiological factors, and behavior analysis of eating and weight related behaviors and attitudes. Interviews may be

unstructured or structured and often include diagnostic surveys as guidelines.

A number of researchers have employed scaled questionnaires to assess eating behaviors and attitudes related to anorexia nervosa and bulimia nervosa. However, many of these scales were designed to operationalize DSM-III (APA, 1980) criteria for individual studies and have unknown psychometric properties (e.g., Gray & Ford, 1985; Halmi, Falk, & Schwartz, 1981; Healy, Conroy, & Walsh, 1985; Nevo, 1985; Pope, J. Hudson, Yurgelun-Todd, & M. Hudson, 1984). Others require prolonged observation or were developed for use in hospital settings (Goldberg et al., 1980; Slade, 1973). Several scales assess only partially the symptoms of anorexia nervosa or bulimia nervosa and are not comprehensive inventories (Dunn & Ondercin, 1981; Herman & Polivy, 1975; Hawkins & Clement, 1980, 1984; Ruggiero, Davis, Schlundt, & Carey, 1988), or were developed for use with other populations (Gormally, Black, Daston, & Rardin, 1982; O'Neil et al., 1979).

A widely employed self-report inventory for the assessment of symptoms of anorexia nervosa is the Eating Attitudes Test (EAT; Garner & Garfinkel, 1979). The EAT is a 40-item self-report questionnaire that assesses a range of behaviors and attitudes associated with anorexia nervosa. The authors reported that total EAT score and 38 of the 40 items correlated significantly with criterion group

membership, suggesting high levels of concurrent validity. There was little overlap in the frequency distributions of anorexic and female normal control subjects. Female obese, male, and recovered anorexic subjects scored in the normal range. The EAT was not significantly correlated with measures of dieting and personality, suggesting discriminant validity. An alpha reliability coefficient of .94 for the pooled control and anorexia nervosa sample indicated a high degree of internal consistency.

Factor analysis of the EAT on the original cross-validation sample suggested seven factors (Garner & Garfinkel, 1979). However, subsequent factor analysis with a larger sample (Garner, Olmsted, Bohr, & Garfinkel, 1982) indicated three primary factors relating to food restriction and weight preoccupation, food preoccupation and bulimia, and self-control of eating and perceived pressure from others to gain weight. Based on the factor analysis, an abbreviated EAT consisting of 26 items was proposed (EAT-26) (Garner, Olmsted, Bohr, & Garfinkel, 1982).

The Eating Disorders Inventory (EDI; Garner, Olmsted, & Polivy, 1983) was devised to assess psychological and behavioral traits associated with anorexia nervosa and bulimia nervosa. The 64-item EDI consists of eight clinically derived subscales assessing drive for thinness, bulimia, body dissatisfaction, ineffectiveness, perfectionism, interpersonal distrust, interoceptive

awareness, and maturity fears. The EDI is less empirically based than the EAT and is designed to reflect characteristics theoretically related to eating disorders. Employing several samples of anorexic women, the authors reported high internal consistency coefficients for the subscales and several indices of validity which suggested adequate criterion-related, convergent, and discriminant validity. The EDI was subsequently administered to women with bulimia nervosa, who scored in expected directions. The structure and validity of the EDI have not yet been firmly established (C. Eberly & B. Eberly, 1985; Welch, Hall, & Walkey, 1987).

The Bulimia Test (BULIT; Smith & Thelen, 1984) is a 36-item self-report questionnaire that assesses bulimic symptoms based on DSM-III (APA, 1980) criteria for bulimia. The authors reported that total BULIT score and individual item scores significantly differed between bulimic and control subjects and scores were significantly correlated with criterion group membership (Smith & Thelen, 1984). Test-retest reliability over a two month period was .87. The BULIT was highly correlated (r = .93) with another measure of bulimia, the Binge Scale (Hawkins & Clement, 1980). Factor analyses of the BULIT have identified six primary factors relating to bingeing, vomiting, feelings regarding overeating, menstruation problems, preference for

high calorie food, and weight fluctuations (Smith & Thelen, 1984; Thelen, Mann, Pruitt, & Smith, 1987).

Reflecting the overlap in the constructs of anorexia nervosa and bulimia nervosa, researchers have reported that bulimics often score in the clinical range on the EAT, although mean group scores are often lower than those of anorexics (Fairburn & Cooper, 1982; Garner, Olmsted, & Garfinkel, 1985; Lewis & Johnson, 1985; Smith & Thelen, 1984; Yates & Sambrailo, 1984). Similarly, a proportion of anorexics with bulimic behaviors score in the clinical range on the BULIT (Smith & Thelen, 1984). Several investigators have found bulimics and bulimic anorexics to have similar profiles on the EDI (Garner, Olmsted, & Garfinkel, 1985; Mickalide & Anderson, 1985).

Epidemiology

Despite methodological issues associated with epidemiological studies of eating disorders (e.g., varying definitions, populations, and referral and selection procedures), several findings have been fairly well established (Leichner & Gertler, 1986; Szmukler, 1985). Anorexia nervosa and bulimia nervosa are differentially distributed according to sex, age, socioeconomic status (SES), and ethnic group and reports of eating disorders have been increasing. In this section, research on the demographic distribution and incidence and prevalence of anorexia nervosa and bulimia nervosa will be summarized.

Demographic Variables

Anorexia nervosa and bulimia nervosa occur primarily among women, with reports of female proportions ranging from 85% to 97% (Boskind-Lodahl, 1976; Bruch, 1973; Crisp & Toms, 1972; Duddle, 1973; Garfinkel & Garner, 1982; Hall, Delahunt, Ellis, 1985; Halmi et al., 1981; Hasan & Tibbetts, 1977; G. Russell, 1979; Stangler & Printz, 1980). Onset of eating disorders is most frequently between the ages of 15 and 25 (Abraham & Beumont, 1982; Bruch, 1973; Gandour, 1984; Garfinkel & Garner, 1982; Johnson, Stukey, Lewis, & Schwartz, 1983; Kay & Leigh, 1954; Theander, 1970). Treatment generally is received in adolescence to the early twenties for anorexia nervosa and the early to middle twenties for bulimia nervosa (Gandour, 1984; Garfinkel & Garner, 1982; Johnson, Stukey, Lewis, & Schwartz, 1983; Jones et al., 1980; Schlesier-Stropp, 1984).

Anorexia nervosa has been reported to predominate in the middle and upper socioeconomic classes (Bruch, 1973; Crisp, 1980; Dally & Gomez, 1979; Fenwick, 1880; Garfinkel et al., 1980; Jones et al., 1980; Sours, 1980), and bulimia nervosa may show a similar social class distribution (Boskind-White & White, 1983; Fairburn et al., 1986). Racial and cultural differences in the distribution of eating disorders have also been found. Eating disorders occur in economically advantaged cultures and are most prevalent among Caucasians in Western countries (Garfinkel &

Garner, 1982; Jones et al., 1980; Nevo, 1985; Robinson & Anderson, 1985; Selvini Palazzoli, 1985; Thomas & Szmukler, 1985). The Westernization of Japan has been proposed to be related to increasing rates of anorexia nervosa in that country (Ikemi et al., 1974; Suematsu, Ishikawi, Kuboki, & Ito, 1985).

Demographic data thus indicate that eating disorders have consistently been found to be most prevalent among young, middle and upper SES, white women in Western cultures. However, there have been reports of eating disorders among males and among females of all ages, social classes, and ethnic groups. It is possible that detection, selection, and referral biases may account for some of the differences in distribution. Several investigators have described trends toward increased age of onset, more equal distribution among social classes, and increased prevalence in non-Caucasian populations (Crisp, 1980; Garfinkel & Garner, 1982; Szmukler, 1985).

Incidence and Prevalence

Several large-scale hospital case registry studies have found a progressive rise in the incidence of anorexia nervosa over the past five decades with marked increases during the last 20 years in North America and Europe (Jones, et al., 1980; Kendall, Hall, Hailey, & Babigian, 1973; Theander, 1970; Willi & Grossman, 1983). Theander (1970) evaluated the incidence of anorexia nervosa in two

university hospitals in Sweden from 1931 to 1960 and found an overall rate of .24 new cases per 100,000 population per year, with a rate of .45 for the years 1951 to 1960. Kendall and associates (1973) reported incidence rates from .37 to 1.6 (per 100,000 population per year) for 1960 to 1971 in Scotland, New York, and London, with a twofold increase in incidence over the ten years studied. Jones and colleagues (1980) found an increase in incidence from .35 for 1960 to 1969 to .64 for 1970 to 1976 in New York. Willi and Grossman (1983) reported a progressive rise in incidence from .38 for 1956 to 1958 to 1.12 for 1973 to 1975 in Switzerland. Szmukler (1985) found an incidence rate of 4.06 for 1978 to 1982 in Scotland and Hoek and Brook (1985) reported a rate of 5.0 for 1974 to 1982 in the Netherlands. Reported incidence rates and increases in rates are highest among young women. Rates of .55 to 37.1 among women 15 to 34 have been reported for 1960 to 1982 (Hoek & Brook, 1985; Jones et al., 1980; Kendall et al., 1973).

Bulimia nervosa has been studied for a briefer period of time than anorexia nervosa and large-scale epidemiological studies for the general population have not been reported. However, bulimia nervosa is emerging as a relatively prevalent disorder that appears to be rapidly increasing in occurrence (Boskind-White, 1985; Pyle, Halvorson, Neuman, & Mitchell, 1986; Striegal-Moore, Silberstein, & Rodin, 1986). A recent longitudinal study

with female college students, which assessed the incidence of bulimia nervosa over the course of one year using mail surveys, reported a rate of 2.1 new cases per 100 population per 6 months or 4.2% per year (Drewnowski et al., 1988).

Several studies have attempted to assess the prevalence of anorexia nervosa and bulimia nervosa in particular population groups. Prevalence rates of 3.6% for anorexia nervosa and 7.3% for bulimia nervosa were reported in a sample of Scottish psychiatric inpatients (Kutcher, Whitehouse, & Freeman, 1985). A survey of women shoppers found that .7% met or had met diagnostic criteria for anorexia nervosa and 10.3% met or had met criteria for bulimia nervosa (Pope, Hudson, & Yurgelun-Todd, 1984). Cooper and Fairburn (1983) reported a prevalence rate of bulimia nervosa of 1.9% to 3.5% among women attending a family planning clinic. A mail survey of 139 female banking employees revealed that only 2 (1.0%) met restrictive criteria for bulimia nervosa (Hart & Ollendick, 1985).

Prevalence rates of anorexia nervosa among female high school and university students in the United States, England, Scotland, and Sweden have ranged from .05% to 4.2%, with an average of approximately 2.0% (Crisp, Palmer, & Kalucy, 1976; Duddle, 1973; Nylander, 1971; Pope, J. Hudson, Yurgelun-Todd, & M. Hudson, 1984; Sheldrake, Cormack, & McGuire, 1976; Stangler & Printz, 1980). Rates tend to be higher for private than public educational facilities.

There have been increasing numbers of studies reporting prevalence rates of bulimia nervosa among college and high school students (Crowther, Post, & Zaynor, 1985; Gray & Ford, 1985; Halmi et al., 1981; Hart & Ollendick, 1985; Healy et al., 1985; Katzman, Wolchik, & Braver, 1984; Pope, J. Hudson, Yurgelun, & M. Hudson, 1984; Nevo, 1985; Pyle et al., 1983; Pyle, et al., 1986; Segal & Figley, 1985; Stangler & Printz, 1980; Thelen et al., 1987). Prevalence rates of bulimia nervosa among female students have ranged greatly from 2.0% to 25.0%, with an average of approximately 9.5%, whereas rates for males are generally below 5.0%. Pyle and colleagues (Pyle et al., 1983; Pyle et al., 1986) reported marked rises in the occurrence of several bulimic symptoms and an increase of 1.0% to 3.2% in the prevalence of weekly binge-purging among female college students from 1980 to 1983. Varying rates reflect differences in definitions and assessment methods. While binge eating has been found to be very common, rates are considerably reduced with consideration of frequency criteria and restitutive behaviors.

Several groups have been found to have disproportionately high rates of anorexia nervosa. Prevalence rates of 5.0% to 8.0% have been reported for female professional dance students (Garner & Garfinkel, 1979, 1980; Katz, 1986; Szmukler, Eisler, Gillies, & Hayward, 1985) and a rate of 7.0% was found for female

modelling students (Garner & Garfinkel, 1980). Based on clinical descriptions, the occurrence of bulimia nervosa among dancers and models has also been speculated to be high (Striegal-Moore et al., 1986). Several authors have commented on eating and weight pathology among athletes, although prevalence studies of anorexia nervosa and bulimia nervosa have not been reported (Crago, Yates, Butler, & Arizmendi, 1985; Katz, 1986; Smith, 1980; Yates, Leehey, & Shisslak, 1983).

There is a general consensus that the rapid rise in reported cases of eating disorders over the last 10 to 20 years is reflective of an actual increase in the occurrence of the syndromes (Anderson, 1984; Boskind-White, 1985; Bliss, 1982; Bruch, 1978; Duddle, 1973; G. Russell, 1985; Schwartz, Thompson, & Johnson, 1982; Selvini Palazzoli, 1985; Striegal-Moore et al., 1986). However, various factors may have contributed to increased reports, such as rising professional and public awareness, resulting in greater detection and referrals (Leichner & Gertler, 1986; Schwartz et al., 1982; Szmukler, 1985).

Eating Disorders as Continuous

A number of writers have maintained that the features of eating disorders are present in varying degrees throughout the nonclinical population (Button & Whitehouse, 1981; Chernin, 1981; Fries, 1974, 1977; Lawrence, 1984a; Polivy & Herman, 1983; Loeb, 1964; Nevo, 1985; Nylander,

1971; Rodin et al., 1985; Shefer, 1987; Sours, 1980; Swift & Stern, 1982; Thompson & Schwartz, 1982). Increases in anorexia nervosa and bulimia nervosa have occurred within the context of less extreme pervasive weight and eating concerns. A number of studies have indicated rising weight concerns, body dissatisfaction, and dieting among women over the last 20 years (Dweyer, Feldman, Seltzer, & Mayer, 1965; Huenemann, Shapiro, Hampton, & Mitchell, 1966; Jakobovits, Halstead, Kelley, Roe, & Young, 1977; Nielson, 1979; Nylander, 1971; Shefer, 1987; Thompson & Schwartz, 1982; S. C. Wooley & O. W. Wooley, 1984). As the majority of women are not satisfied with their bodies, "feel fat," and have dieted to lose weight, weight concerns and dieting may be considered socially "normative" despite physiological and psychological abnormality (Chernin, 1981; Rodin et al., 1985; Polivy & Herman, 1983). It has been noted that "normal" dieting often precedes eating disorders and involves similar but less extreme behavioral and attitudinal features, suggesting a continuum of eating disorders (Polivy & Herman, 1985; Smead, 1984, 1988).

Several studies have documented clear symptoms of anorexia nervosa and bulimia nervosa in the absence of a full syndrome. Researchers have described "subclinical anorexia nervosa" (Button & Whitehouse, 1981)," mild anorexia nervosa" (Nylander, 1971), a "partial syndrome" of anorexia nervosa (Mann et al., 1983), a "forme fruste" of

anorexia nervosa (J. Russell, 1972), "anorexic-like behavior" (Thompson & Schwartz, 1982), features "psychologically similar" to anorexia nervosa (Heilbrun & Putter, 1986), "pseudobulimia" (Mintz, 1982), "near bulimia" (Gray & Ford, 1985), and "fad bulimia" (Cesari, 1986).

Research with the Eating Attitudes Test (EAT; Garner & Garfinkel, 1979) has found that from 6% to 22% of female high school and college students score above clinical cut-off points, indicating abnormal eating and weight behaviors and attitudes similar to those in eating disorders (Button & Whitehouse, 1981; Clarke & Palmer, 1983; Garner & Garfinkel, 1979; Hamilton, Meade, & Gelwick, 1980; Hawkins & Clement, 1984; Johnson-Sabine, Wood, Mann, & Wakeling, 1985; Leichner, Arnett, Rallo, Srikameswaran, & Vulcano, 1986; Mann et al., 1983; Shefer, 1987). Subgroups obtaining particularly high EAT scores include dancing and modeling students and women in sororities (Garner & Garfinkel, 1980; Svendson & Cusin, 1980).

Binge eating has been found to be common among normal weight female high school and college students, with rates of 30.4% to 85% reported (Crowther et al., 1985; Halmi et al., 1981; Hawkins & Clement, 1980, 1984; Healy et al., 1985; Katzman et al., 1984; Nagelberg et al., 1984; Nevo, 1985; Ondercin, 1979; Shefer, 1987). Vomiting is less prevalent but not uncommon, with from 3.5% to 11.2% of female students reporting that they use vomiting as a method

of weight control (Crowther et al., 1985; Halmi et al., 1981; Hawkins & Clement, 1980, 1984; Nagelberg et al., 1984; Shefer, 1987). In their survey of women attending a family planning clinic, Cooper and Fairburn (1983) reported rates of 26.4% for a history of binge eating, 20.9% for current binge eating, 6.8% for weekly binge eating, and .5% for daily binge eating. They reported rates of 6.5% for a history of vomiting for controlling weight, 2.9% for current vomiting, .5% for weekly vomiting, and .5% for daily vomiting were reported.

The notion of eating disorders as continuous rather than discrete syndromes has been the subject of some controversy (Button & Whitehouse, 1981; Polivy & Herman, 1987; Garner, Olmsted, & Garfinkel, 1983; Garner et al., 1984; Rodin et al., 1985). From the conventional discrete syndrome view, there are qualitative differences, usually related to individual psychopathology, between clinical and nonclinical symptoms and motivating factors (Polivy & Herman, 1987; Garner et al., 1984). Several writers have argued that eating disorders involve distinct disturbances in psychological functioning that are not present in nonclinical weight preoccupations (Bruch, 1973; Crisp, 1965b; Palmer, 1980; Selvini Palazzoli, 1978). In contrast, weight preoccupied and dieting individuals are viewed as possessing positive desires for physical attractiveness,

social approval, and self-esteem (Garner et al., 1984; Herman & Polivy, 1987).

A number of studies have produced data regarding psychological characteristics of women with eating disorders, with weight preoccupations, and without weight and eating concerns. Using a questionnaire developed for their study, Huon and Brown (1984) found anorexia nervosa patients to score in a more symptomatic direction on a global measure which included behavioral control, self-esteem, criticism about eating, and self-presentation than both frequent and infrequent weighers. Although frequent weighers had scores intermediate between patients and infrequent weighers, suggesting a continuum of symptoms, differences between the two nonpatient groups were not significant.

The Eating Attitudes Test (EAT) has been employed in several studies investigating psychological characteristics in eating disorder and weight preoccupied groups. Garner and Garfinkel (1980) reported a positive relationship between EAT scores and psychological symptomatology as measured by the Hopkins Symptom Checklist (HSCL; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) for anorexia nervosa patients and dancers. A positive relationship between EAT and HSCL scores was found only for depression for normal controls. Using the EAT to identify anorexic-like individuals, Thompson and Schwartz (1982) found

problem-free, anorexic-like, and anorexic groups to vary along a continuum of psychological distress, as measured by the HSCL (Derogatis et al., 1974) and the Beck Depression Inventory (BDI; Beck, 1967). However, the anorexic group was markedly less socially adjusted, as assessed by the Weissman Social Adjustment Scale (Weissman, 1975) and interviews. Clarke and Palmer (1983) reported differences in neurotic symptoms, using the Crown Crisp Experiential Index (CCEI; Crown & Crisp, 1979), between nonclinical groups with low and high scores on the EAT. Scores on the CCEI for the high EAT group were similar to those for an independent anorexic sample.

In a study designed to address the continuum issue, the 8-scale Eating Disorders Inventory (EDI) (Garner, Olmsted, & Polivy, 1983), was employed to compare weight preoccupied and anorexic women in weight and eating related behaviors as well as psychological symptoms common to eating disorders (Garner, Olmsted, & Garfinkel, 1983; Garner et al., 1984). Weight preoccupied women were selected on the basis of scores comparable to those of anorexic women on the Drive For Thinness scale. On six of the other seven scales, the weight preoccupied subjects scored in a more symptomatic direction than the non-weight preoccupied subjects. The anorexic group scored higher than the weight preoccupied group on three scales and did not differ from the weight preoccupied group on four scales. These results suggest a

continuum of eating and weight as well as psychological symptoms. However, cluster analysis of the weight preoccupied group indicated two subgroups. One weight preoccupied subgroup demonstrated high scores on all EDI scales and the other subgroup showed elevated scores on three scales most closely related to weight and eating attitudes (Bulimia, Body Dissatisfaction, Perfectionism) and non-elevated scores on four scales assessing psychological attributes (Ineffectiveness, Interpersonal Distrust, Interoceptive Awareness, Maturity Fears).

The authors (Garner et al., 1984) concluded that although some weight preoccupied women may resemble patients with anorexia nervosa, others are similar only in eating and weight related concerns. These writers and others have speculated that there are two components to the symptomatology of eating disorders (Polivy & Herman, 1987). One component is related to weight, appearance, body shape, and eating and the other component involves the ego deficits and perceptual disturbances referred to by Bruch (1973) and Selvini Palazzoli (1978). It has been further suggested that most weight preoccupied women may be "normal dieters" who are attempting to achieve attractiveness and social approval as opposed to the struggles of anorexic women for psychological organization (Garner et al., 1984; Garfinkel & Kaplan, 1986; Garfinkel, Garner, & Goldbloom, 1987).

Psychological symptomatology for individuals with bulimic features has also been investigated. Data reported by Katzman and Wolchik (1984) indicate a trend toward differences in degree among bulimic, binge eating, and normal groups on a number of psychological measures. However, differences between bulimics and binge eaters were more marked and consistent than between binge eaters and controls. Hawkins and Clement (1984) found that women who reported binge eating scored higher on measures of neuroticism and depression than women who reported no binge eating. Gray and Ford (1985) reported that self-identified depression was more likely for bulimics than "near bulimics" and more likely for near bulimics than nonbulimics.

In summary, many weight and eating related and psychological features are shared by women who demonstrate eating disorders, weight preoccupations, and normative dieting. There are indications that some psychological symptoms parallel the eating disturbance continuum while others do not. The continuum issue may be further addressed by investigating other factors proposed to differentiate between eating disorders and weight preoccupations, such as motives of social approval and attractiveness.

Overview of Theoretical and Treatment Approaches

Dominant Models

Theory and research regarding the etiology and treatment of eating disorders have often reflected

prevailing perspectives of human behavior. Early writers, such as Gull (1874) and Laseque (1873), regarded anorexia nervosa as related to nonspecific psychological factors. A revision in thought and intervention approaches followed a report by Simmonds in 1914 of destructive lesions in the pituitary gland of an extremely emaciated woman (Dally & Gomez, 1979; Lucas, 1981). For several decades, most cases of unexplained weight loss were diagnosed as primary endocrine illness until the link between Simmonds disease and anorexia nervosa was refuted (Berkman, 1930, 1948; Sheehan & Summers, 1949).

In recent years, there has been a resurgence of interest in physiological factors, such as pre-existing metabolic, endocrine, and neurological defects, biologically based primary affective disturbance, and genetic predisposition in eating disorders (e.g. Barry & Klawans, 1976; Cantwell et al., 1977; Dickens, 1970; Hudson et al., 1983; Mawson, 1974; Rau & Green, 1984; R. Wurtman & J. Wurtman, 1984). A wide range of pharmacological treatments have been employed in eating disorders, including endocrine products (Dally, 1969), anticonvulsants (Green & Rau, 1974; Rau & Green, 1984), antidepressants (Cantwell et al., 1977; Pope, Hudson, Jonas, & Yurgelun-Todd, 1983), antipsychotics (Dally & Sargant, 1960), and lithium (Barcai, 1977). There have been occasional reports of electroconvulsive therapy

(Bernstein, 1964) and prefrontal leucotomy (Crisp & Kalucy, 1973; Dally & Gomez, 1979).

Another current approach that considers physiological factors emphasizes the role of restraint or dieting in the disregulation of weight and eating (Polivy & Herman, 1983, 1987; Polivy et al., 1984; Smead, 1984, 1988; Ruderman & Grace, 1987; Spencer & Fremouw, 1979; S. C. Wooley & O. W. Wooley, 1980). Restraint may result in physiological compensations such as reduced metabolic rate, increased hunger, food preoccupations, and episodes of overeating, initiating a cycle of increasingly stringent weight control attempts. Polivy and colleagues (Polivy et al., 1984; Polivy & Herman, 1983, 1987) have proposed a boundary model of eating behavior which emphasizes cognitive and emotional factors in the relationship between restraint and eating difficulties, particularly binge eating. The effects of restraint are especially salient for women due to biological predispositions toward lower metabolic rate and greater proportion of adipose tissue than men (Rodin et al., 1985). This perspective focuses on re-regulating eating and weight.

Classical psychoanalytic interpretations of anorexia nervosa and bulimia nervosa predominated throughout the 1940's and 1950's (Benedek, 1936; Berlin, Boatman, Sheimo, & Szurek, 1951; Blitzer, Rollins, & Blackwell, 1961; Masserman, 1941; Szyrnski, 1973; Thoma, 1967; Waller, Kaufman, & Deutsch, 1940). Such drive conflict theories

rest on Freud's basic assumption that eating behavior is directly related to the sexual instinct and sexual conflicts (Freud, 1900/1955, 1918/1955). The focus is on unconscious oral impregnation fears or fantasies, oral sadistic and cannibalistic fantasies, and oral ambivalence which are dealt with by defence mechanisms such as reaction formation, fixation, and regression. Sexual/oral conflicts are viewed as related to a seductive relationship with the father and unconscious aggression toward the mother which interfere with the appropriate establishment of femininity. (Reports or indications of sexual abuse in early psychoanalytic case histories were generally attributed to patient fantasies.) Treatment involves gaining insight into unconscious conflicts and resolving them through psychoanalysis.

More modern psychoanalytic and psychodynamic formulations of eating disorders, focusing on disturbances in ego development or object relations, were presented by several writers in the 1960's and 1970's (Bruch, 1965, 1973, 1986; Crisp, 1980; Selvini Palazzoli, 1974, 1978; Sours, 1980). These theories remain influential in most current intrapsychically based perspectives of eating disorders. Several writers have further incorporated the theory of self-psychology (e.g., Goodsitt, 1985; Lerner, 1983).

Bruch's (1962, 1970, 1973, 1978, 1985) ego psychological perspective of anorexia nervosa has probably been the most enduring and widely cited psychodynamic

approach. Her model refers to three core areas of conceptual and perceptual disturbances in primary anorexia nervosa: Body image and body concept distortions; interoceptive disturbances, such as inaccurate perception and interpretation of nutritional and emotional states; and a deeply rooted sense of ineffectiveness. Bruch asserts that the anorexic's ego deficits are related to early interactional patterns in which there is little confirmation of the child's identity or recognition of the child's emotional needs. The parents also often overvalue the child and expect obedience and superior performance in return. Anorexia nervosa is viewed as a late manifestation of attempts to gain an adequate self-concept and sense of control. The therapist's task is to collaborate with the patient in developing accurate self-perceptions, self-awareness, sense of competence, and self-directed identity.

During the 1970's, behavioral models and treatments of anorexia nervosa became widely accepted and were subsequently also applied to bulimia nervosa. Behavioral approaches generally involve the analysis and modification of specific eating and weight related affective responses, behaviors, and attitudes. Behavioral formulations and intervention methods encompass respondent conditioning (e.g., Hallsten, 1965; Kenny & Solyom, 1971; Rosen & Leitenberg, 1982), operant conditioning (e.g., Agras, Barlow, Chapin, Abel, & Leitenberg, 1974; Bachrach, Irwin, &

Mohr, 1965; Brady & Reiger, 1975; Scrignar, 1971), and cognitive-behavioral (e.g., Fairburn, 1981; Garner & Bemis, 1982) models. Intervention methods include response delay, response prevention, exposure, relaxation training, systematic desensitization, stimulus control, positive and negative reinforcement procedures, token systems, contracting, and cognitive restructuring. Multi-component approaches, which incorporate behavioral concepts and strategies from multiple frameworks, have been increasingly employed (e.g., Fundudis, 1986; Hauserman & Lavin, 1977; Mavissakalian, 1982; Mizes & Lohr, 1983; Monti, McCrady, & Barlow, 1977; Ollendick, 1979; Posobiec & Renfrew, 1988; Yates & Sambrailo, 1984).

Family system theories and therapy in eating disorders also became popular in the 1970's. Family system writers have focused on the dysfunctional familial structure and relationships that have been described in the families of individuals with anorexia nervosa and bulimia nervosa (e.g., Barcai, 1971; Combrinck-Graham, 1974; Dare, 1985; Minuchin et al., 1978; Root et al., 1986; Sargent, Liebman, & Silver, 1985; Schwartz et al., 1985; Selvini Palazzoli, 1978; Strober & Humphrey, 1987). The predominant family model in the area of eating disorders has been the structural model of Minuchin and colleagues (Minuchin, 1974; Minuchin et al., 1978; Rosman, Minuchin, & Liebman, 1975). Minuchin and colleagues identified five major characteristics of anorexic

families that interfere with the functioning of the family as well as the healthy development of individual family members. These characteristics include enmeshment or overinvolvement, overprotectiveness, rigidity, lack of conflict resolution, and involvement of the child in parental conflict. The overall treatment goal is to directly assist family members to recognize, challenge, and modify dysfunctional family relationships and interactional patterns so that the symptom is no longer necessary.

Sociocultural Perspectives

Dominant theoretical and treatment approaches to eating disorders focus on the individual, the family, and the immediate environment and tend to minimize the broader sociocultural context. The striking overrepresentation of women vs. men, the differential distribution according to age, socioeconomic status, ethnic group, and geographic location, the rapid increase in prevalence, and the presence of widespread nonclinical eating and weight concerns suggest strong sociocultural influences in eating disorders. Whereas sociocultural aspects of eating disorders were rarely referred to in early reports and studies, they have been increasingly acknowledged by writers of various theoretical orientations in recent years (e.g., Boskind-White, 1985; Bruch, 1985; Crisp, 1980; Garfinkel & Garner, 1982; Hawkins & Clement, 1984; Root et al., 1986; Selvini Palazzoli, 1985; Sours, 1980). Several writers have

presented analyses of eating disorders as "culture-bound syndromes," influenced by an interplay of economic resources, political system, and social attitudes toward illness, non-conformity, psychological symptoms, and social subgroups (Prince, 1985; Ritenbaugh, 1982; Swartz, 1985a, 1985b). A primary category of sociocultural factors linked to eating disorders concerns female sex role expectations and indoctrination, which will be discussed in more detail subsequently.

In placing eating disturbances within a sociocultural context, individual pathology is minimized and the continuous nature of the syndromes is stressed. Societal changes are sought through examining and challenging norms, facilitating public awareness, and confronting social institutions.

Eating Disorders as Multidetermined

The onset and maintenance of eating disorders are likely related to an interaction of many variables. There has been a growing trend toward pathway and risk factor theoretical models (e.g., Garfinkel & Garner, 1983; Hawkins & Clement, 1984; Lucas, 1981; Schwartz et al., 1982; Slade, 1982) and multicomponent treatment paradigms (e.g., Garner, Garfinkel, & Bemis, 1982; Hedblom, Hubbard, & Anderson, 1981; Lacey, 1983; O'Keefe & Castaldo, 1985). Multidimensional models generally attempt to incorporate individual personality, physiological, behavioral, family,

and sociocultural perspectives. The degree to which particular elements are included and emphasized varies among models.

Female Sex Roles and Eating Disorders

Sex roles may be generally defined as societal expectations regarding positions, responsibilities, conduct, attributes, and attitudes of women and men (Beere, 1979; Spence, 1985; Spence & Helmreich, 1978). Sex roles are expressed in terms of "femininity" and "masculinity," with a "feminine" individual demonstrating qualities more typically expected of women and a "masculine" individual showing qualities more often expected of men in the particular culture.

The conceptualization and definition of femininity and masculinity have undergone major revisions over the past 20 years and several assumptions have been challenged (Bem, 1974, 1976; Block, 1973; Carlson, 1971; Constantinople, 1973; Pleck, 1975; Deaux, 1984; Kelly, 1983; Kelly & Worell, 1977; Lips & Colwill, 1978; Pleck, 1975; Spence, 1985; Spence & Helmreich, 1978; Spence, Helmreich, & Stapp, 1975; Taylor & Hall, 1982). Current formulations view femininity and masculinity as comprising two independent conceptual categories rather than a single bipolar dimension. The term "androgyny" has been adopted to refer to the presence of both feminine and masculine qualities (Bem, 1974). The status of femininity and masculinity as global unified

concepts embracing a wide variety of qualities has also shifted. Distinctions have been made among different sex role domains, such as gender identity, sex stereotypes, sex role attributes or characteristics, sex role attitudes, sex role identity or orientation, sex role preference, sex role ideology, and sex role behavior or adoption (Beere, 1979; Bem, 1976; Orlofsky, 1981; Spence & Helmreich, 1978; Storms, 1979). Further, there are various particular aspects of sex role attributes, attitudes, behavior, etc.

As femininity and masculinity may refer to a multitude of qualities, broad references to the femininity and masculinity of individuals or groups often convey little useful information. Conceptual confusion and invalid conclusions may arise from varying implicit assumptions and definitions. For example, operational definitions of sex role qualities may not adequately reflect the facets of feminine and masculine sex roles implicated in theoretical and clinical presentations.

In the following sections, sex role factors that have been associated with eating disorders are considered, measurement of sex role qualities is discussed, and research providing data relevant to the relationship between sex roles and eating disorders is reviewed.

Emphasis on Physical Appearance

Despite apparent changing values and roles for women and men, society continues to identify women to a large

extent by their physical appearance (Boskind-White & White, 1983; Brownmiller, 1984; Chernin, 1981; Orbach, 1978a, 1985b; Rodin et al., 1985; Steiner-Adair, 1986; Striegal-Moore et al., 1986; S. C. Wooley & O. W. Wooley, 1980, 1985). The emphasis on the decorative role is reflected in media and fashion presentations of narrow, uniform, unrealistic ideals of women and femininity, which are strongly tied to external looks. Thus, conforming to societal dicta for appearance is integrally related to the self-identity and self-esteem of many women.

Several writers have provided historical and cultural perspectives regarding societal emphases on the physical appearance of women and changing attitudes toward various body sizes and shapes (Boskind-White, 1985; Boskind-White & White, 1986; Brownmiller, 1984; Chernin, 1981; Ehrenreich & English, 1978; Garland, 1970; Powers, 1980; Ritenbaugh, 1982). Throughout history, cultural attitudes toward physical appearance have contributed to uncomfortable and dangerous fashions and customs, such as foot-binding in prerevolutionary China, wearing of corsets in the Victorian era, breast binding in the 1920's, stiletto heels in the 1950's, and the current trends of increased cosmetic surgery and widespread dieting that began in the 1960's (Boskind-White, 1985; Brownmiller, 1984; Chernin, 1981; Garfinkel & Garner, 1982; Garland, 1970; Lurie, 1981). Attempts to

accomplish cultural appearance goals have taken precedence over physical comfort and health.

Particular illnesses have been more prevalent during various periods of history and the looks associated with several diseases have been glamorized, such as the pallor of tuberculosis in the nineteenth century (Chernin, 1981; Ehrenreich & English, 1978; Sontag, 1978). The fashionable thin body ideal of the 1920's was associated with extreme weight concerns, food restriction, over-exercising, and other symptoms of eating disturbances (Silverstein, Peterson, & Perdue, 1986). Many writers have referred to the contribution of contemporary thin standards to the development of weight preoccupations and eating disorders (e.g., Boskind-White, 1985; Garner & Garfinkel, 1980; Rodin et al., 1985; Schwartz et al., 1982). It has been noted that anorexia nervosa, which was termed the "Golden Girl Disease" by Playgirl magazine in 1975, has often been romantized in the popular media (Garfinkel & Garner, 1982; S. C. Wooley & O. W. Wooley, 1985).

A trend toward an increasingly thin body ideal for women over the last 20 years has been well documented in ratings and media presentations of desirable female beauty and weight (Garner et al., 1980; Ritenbaugh, 1982; Silverstein, Perdue, Peterson, & Kelly, 1986). Thinness as well as restrained eating are currently linked to both attractiveness and femininity (Chaiken & Pliner, 1987; Guy,

Rankin, & Norvell, 1980; Mori, Pliner, & Chaiken, 1987). The discrepancy between ideal and real weight is actually widening, as average weights have increased over the past 20 years due to improved nutrition (Garner et al., 1980). Most women are biologically predisposed toward a heavier body size than the current standard. Several writers have noted that the thinner ideal for women than men stands in contrast to the female predisposition toward lower metabolic rates and proportionately greater fat composition (Boskind-White & White, 1986; Rodin et al., 1985).

Women (and to a lesser extent, men) who weigh above the standard are harshly penalized and generally portrayed negatively by the media (Ritenbaugh, 1982; Rodin et al., 1985; S. C. Wooley & O. W. Wooley, 1980; O. W. Wooley, S. C. Wooley, & Dyrenforth, 1979). Children and adults attribute more negative characteristics to individuals who are overweight than average weight or underweight. Several authors have suggested that the health risks of mild to moderate excess weight have been exaggerated to conform with cultural ideals (Boskind-White, 1985; Chernin, 1981; Ritenbaugh, 1982; Rodin et al., 1985; O. W. Wooley & S. C. Wooley, 1982; O. W. Wooley et al., 1979; S. C. Wooley & O. W. Wooley, 1980).

Increasing professional and media interest and financial expenditures have been directed toward weight reduction (Garner et al., 1980; Ritenbaugh, 1982; O. W.

Wooley & S. C. Wooley, 1982). Messages regarding dieting are directed principally toward women and women comprise the majority of participants in weight control programs (Silverstein, Perdue, Peterson, & Kelly, 1986; S. C. Wooley & O. W. Wooley, 1980). The increase in the number of diet articles in women's magazines from 1960 to 1980 reported by Garner and colleagues (1980) paralleled the emergence of widespread weight concerns, dieting, and body dissatisfaction as well as the increase in the frequency of eating disorders. It has been noted that the nonprofessional weight control industry often advocates anorexic and bulimic behaviors and attitudes through programs such as the Beverly Hills Diet (Mazel, 1981), which markets disturbed eating patterns, food myths, self-starvation, binge eating, and self-induced diarrhea (Mirkin & Shore, 1981; O. W Wooley & S. C. Wooley, 1982).

Further evidence for the influence of the cultural premium on thinness in eating disorders consists of the higher rates of clinical and nonclinical eating disturbances in groups that are particularly subject to pressures to be slender. Young, Caucasian, middle SES women in Western cultures, among whom eating disorders are most common, may be the most susceptible to societal expectations regarding appearance (Garfinkel & Garner, 1982; Striegal-Moore et al., 1986). Features of eating disorders and weight preoccupations have been reported to be especially prevalent

among women who encounter marked social demands for thinness, such as dancers, models, and athletes (Garner & Garfinkel, 1979, 1980; Katz, 1986; Szmukler et al., 1985; Crago et al., 1985; Smith, 1980; Yates et al., 1983).

Numerous social and economic factors contribute to cultural preferences in physical appearance. Ideal body size and shape in Western societies have altered with the types of societal positions desired for women, the emergence of a middle class, economic prosperity, immigration patterns, and political and social upheavals (Boskind-White, 1985; Chernin, 1981; Ritenbaugh, 1982). Theorists have related the current emphasis on thinness to its association with wealth and self-control, the devaluation of interrelatedness in favor of independence, societal biases against women, and the limiting of women's power (Brown, 1985; Chernin, 1981; Polivy & Herman, 1987; Silverstein, Peterson, & Perdue, 1986; Steiner-Adair, 1986; S. C. Wooley & Kearney-Cooke, 1986). It has been proposed that current standards represent oppression in encouraging women to occupy little space, possess little physical strength, deny themselves nurturance, and remain consumed with maintaining weight (Brown, 1985; Chernin, 1981).

Regardless of the particular cultural preference, females are socialized to focus on appearance yet be unaccepting of their bodies (Steiner-Adair, 1986; Striegal-Moore et al., 1986). The female decorative role directs the

source of problems toward the body and absorbs the individual in outer appearance. With increasing awareness of sociocultural pressures in weight preoccupations and eating disorders, there are indications of shifts in the professional literature and media toward negative evaluations of thin body size. It has been noted that exchanging one set of narrowly defined cultural ideals for another does not address the issue of societal emphases and expectations and their effects on women's weight control and eating behavior, body image, and self concept (Smead, 1983).

To summarize, women continue to be societally evaluated to a large extent by their physical appearance. Within the context of the current thin body ideal, weight control strategies of varying degrees are employed to achieve societally defined attractiveness. As these strategies often are contrary to physiological needs, they may be largely ineffective, leading to escalating and more extreme efforts to control weight.

Communion, Agency, and Sex Role Conflict

Numerous writers have referred to societal expectations and indoctrination of roles and qualities that are communion-based for women and agency-based for men (Bakan, 1966; Chodorow, 1978; Gilligan, 1982; Miller, 1986; Parson & Bale, 1955). Communion involves an emphasis on inter-relatedness or a sense of others and is seen in concern for others, a desire to be in contact and union with others, and

expressiveness. Agency involves a focus on individuation or a sense of self and is seen in the assertion, protection, and expansion of self and instrumentality.

There has been some controversy concerning the most "psychologically healthy" qualities for women and men. Conventional expressive feminine qualities have been associated with various psychological difficulties whereas androgynous qualities as well as traditional instrumental masculine qualities have been related to psychological well-being in current Western society (Baucom, 1980; Bem, 1975, 1976; Bernard, 1980; Frank, McLaughlin, & Crusco, 1984; Kelly, 1983; Marecek, 1979; Taylor & Hall, 1982). There are several positive aspects of a communal focus, including emotional warmth, empathy, and cooperativeness. However, relationship-based qualities are accorded low status within patriarchal individualistic societies, which may result in self-degradation and conflict. Further, unmitigated communion is associated with personally limiting characteristics such as over-reliance on others, self-subordination, deference, and self-denial, rather than positive emotional sensitivity (Bakan, 1966; Spence, Helmreich, & Holahan, 1979). At the same time, positive self-enhancing "masculine" instrumental attributes, such as self-assertiveness and initiative may be societally discouraged for women. The focus toward relatedness and accommodation and away from individuation and

instrumentality may reflect and perpetuate women's less powerful societal position.

Individuals who attempt to incorporate feminine and masculine qualities may encounter societal sanctions and experience sex role conflict (Kelly & Worell, 1977; Tilby & Kalin, 1980). The double standard (or double bind) of mental health refers to the association of femininity with healthy female functioning and the paradoxical association of masculinity with healthy adult functioning (I. Broverman, D. Broverman, Clarkeson, Rosenkrantz, & Vogel, 1970; Nowacki & Poe, 1973). Further sex role stresses and conflicts for women may result from increasing demands for occupational and economic performance, which require instrumental skills, despite continuing conventional expectations, few changes in socialization patterns and social and economic inequalities.

Feminist and socialization perspectives of eating disorders often stress the societal focus on communion, the discouragement of instrumentality, and the resulting sex role conflict. Struggles to achieve societally defined feminine ideals have been proposed to be common among women with eating disorders (Boskind-Lodahl, 1976; Boskind-White & White, 1983, 1986; Lawrence, 1984a; Root et al., 1986). Personal control and options are viewed as restricted by conventional sex role characteristics such as unassertiveness, dependence, helplessness, deference, self-denial, and self-definition through others (Boskind-Lodahl,

1976; Boskind-White & White, 1983; Brown, 1985; Orbach, 1978a, 1985a). More instrumental qualities relating to self-expression, initiative, and confidence are not developed or denied, suppressed, and displaced (Boskind-White & White, 1983). Conflicts between accepting restrictive sex-appropriate roles and adopting "unfeminine" self-assertive qualities as well as attempts to maintain multiple roles in "superwoman" and "bionic" lifestyles among women with eating disorders have been frequently noted (Boskind-White & White, 1986; Lawrence, 1984b; Root et al., 1986; Steiner-Adair, 1986). Within the context of societal emphases on appearance and thinness, eating disorders have been viewed as partially stemming from attempts to address feelings of powerlessness and conflict engendered by societal expectations and female socialization processes within a socially acceptable venue (Boskind-White & White, 1986; Chernin, 1981; Lawrence, 1979; Orbach, 1978a, 1985a; S. C. Wooley & Kearney-Cooke, 1986).

Boskind-White was one of the first theorists to focus on socialization and sex role issues in eating disorders and she subsequently further developed her analysis (Boskind-Lodahl, 1976, 1977; Boskind-Lodahl & Sirlin, 1977; Boskind-Lodahl & White, 1978; Boskind-White, 1985; Boskind-White & White, 1983, 1986; White & Boskind-White, 1981, 1984). She coined the term "bulimarexia," which is basically equivalent to DSM-III-R's definition of bulimia nervosa (APA, 1987).

Bulimarexia is viewed as related to female socialization rituals that encourage body obsessions and stereotypic conventional characteristics and attitudes. Boskind-White has observed clinically that women with bulimarexia accept assumptions that appearance, intimacy with men, and motherhood comprise their identity. They usually are overly concerned with appearance, accept prevailing body ideals, and tend to view their bodies as a means of gaining approval. Boskind-White has found that bulimarexics often demonstrate feminine sex role attributes such as passivity, dependence, and need for approval and they lack masculine sex role characteristics such as independence, self-reliance, and assertiveness.

Boskind-White maintains that bulimarexic women have been socialized to define themselves by the perceived reactions of others and they are suggestible and vulnerable to rejection. They are seen as focusing on seeking approval from men, to whom they accord a great deal of power. When the expected rewards from devotion to the feminine ideal do not materialize or real or perceived rejection occurs, increased efforts are made to achieve the ideal, often through excessive preoccupation with appearance. Disillusionment may develop when social success and fulfillment remain out of reach. Resentment of societal pressures is often experienced but seldom expressed. Boskind-White and White (1986) have found that increased

career demands for women are incorporated by bulimarexics as additional "shoulds" without reduced pressures regarding conventional roles, resulting in increasingly stressful life styles.

Boskind-White has referred to commonalities in socialization factors for bulimarexia and anorexia nervosa (Boskind-Lodahl, 1976; Boskind-White & White, 1983). However, she has also suggested that anorexics are more dependent on their families and socially isolated and that they may retreat from the challenges and responsibilities of being an adult woman (Boskind-White & White, 1983).

Another writer who has emphasized the role of societal expectations of women in eating disorders is Orbach (1978a, 1978b, 1985a, 1985b, 1986). She has presented a "feminist psychoanalytic" perspective on compulsive eating and anorexia nervosa, which are viewed as rooted in the social inequality of women. Women learn to accept a powerless role through the family; in particular, through the mother who prepares her daughter to defer to others, anticipate and meet the needs of others, and define herself through others and to hold back desires to be autonomous, self-directed, and productive. Women are taught to conform to societal ideals to achieve greater values. Their bodies, which are within prescribed boundaries, are focused on, regarded as commodities, and employed as vehicles for a range of expressions.

Orbach's description of compulsive eating is similar to bulimia nervosa; however, her theories regarding compulsive eating are based primarily on work with overweight women. She maintains that by becoming overweight, compulsive eaters partially rebel against the constraints of the female role. However, they experience conflict regarding the adoption of a body image at variance with societal values. Women with anorexia nervosa also demonstrate ambivalence about the female role. Their bodies simultaneously represent a rejection and an exaggeration of the feminine image: a minimization of secondary sexual characteristics together with fragility and slimness. Orbach refers to a variety of specific messages and conflicts concerning self-image, self-definition, and control that may be expressed through eating and weight disturbances.

S. C. Wooley and O. W. Wooley have also related eating disorders to sex role conflicts stemming from the nature of the female societal position as well as the transmission of discord from mother to daughter and parental identification dilemmas (S. C. Wooley & Kearney-Cooke, 1986; S. C. Wooley & O. W. Wooley, 1980, 1985). Their analysis focuses on women with bulimia nervosa, who are viewed as often experiencing difficulties negotiating the passage into the adult female role. Bulimic women's maturational conflicts result partially from current cultural standards regarding appearance, societal attitudes toward women, and changing

sex role demands. They are unable to integrate increasing expectations of autonomy and achievement with the traditional feminine values of interrelatedness and nurturance of others, partially due to a polarization of parental traits. Bulimics are ambivalent in their pursuit of a lean body, which represents independence but isolation, and in their rejection of an ample body, which connotes demands for nurturance of others as well as a sense of connectedness. These writers speculate that women with anorexia nervosa may be less dependent on cultural appearance ideals and sex role issues than those with bulimia nervosa (S. C. Wooley & Kearney-Cooke, 1986).

Several other authors have similarly addressed the influences of cultural attitudes toward women and female socialization processes in the development of eating disorders (Barnett, 1986; Brown, 1985; Chernin, 1981; Friedman, 1985; Lawrence, 1979, 1984a, 1984b; Steiner-Adair, 1986). Eating disorders are generally viewed as representing uneasiness or conflict regarding women's societal roles. Women with eating disorders are often presented as attempting to gain some degree of control and self-nurturance while remaining dutiful and "feminine". Some writers have emphasized the conflicts engendered by cultural rejection of feminine relational values (Friedman, 1985; Steiner-Adair, 1986).

Measurement of Sex Role Qualities

Research in the area of sex roles and eating disorders has focused on sex role attributes, with some discussion of sex role attitudes, and occasional reference to sex role behaviors. Sex role conflict among women with eating disorders has also been of growing interest. Validated "sex role" instruments as well as measures developed for individual studies to assess particular facets of interest have been employed. As the operational definition of sex role factors is central to interpreting the results of the research, some of the major types of sex role measures will be described in the remainder of this section.

Sex role qualities are sometimes assessed with global unidimensional measures, such as the Minnesota Multiphasic Personality Inventory (MMPI) Masculinity-Femininity (Mf) scale (Hathaway & McKinley, 1967). Several studies investigating sex role qualities and eating disorders have used the MMPI Mf scale. The Mf scale, which is comprised of a heterogeneous variety of traits, interests, preferences, behaviors, and attitudes, has been viewed as one of the weakest MMPI scales (Constantinople, 1973). The items were primarily designed to differentiate homosexual from heterosexual males, therefore relating to sexual orientation in males rather than sex role qualities. Further, the scale is bipolar, assuming masculinity and femininity constitute opposite ends of a single dimension. Thus, results from the

MMPI Mf scale are difficult to interpret in terms of sex role qualities.

The most common type of sex role quality measures employed in research are sex role attribute scales. Sex role attribute measures generally consist of empirically selected items that describe personality characteristics judged more typical of females or males (Bem, 1974; Berzins, Welling, & Wetter, 1978; Heilbrun, 1976; Spence, Helmreich, & Stapp, 1974). The most frequently employed attribute measures have been the Bem Sex Role Inventory (BSRI; Bem, 1974) and the Personal Attributes Questionnaire (PAQ; Spence et al., 1974), which will be discussed in some detail.

The Bem Sex Role Inventory (BSRI; Bem, 1974) is comprised of a femininity scale, a masculinity scale, and a social desirability or neutral scale. Characteristics were selected on the basis of sex-typed social desirability. Feminine characteristics were those rated more desirable for women than men, masculine characteristics were those rated more desirable for men than women, and neutral characteristics were those rated equally desirable for women and men.

Scales can be retained as continuous measures or used to classify respondents into sex role categories. Bem (1974) originally employed a t-ratio scoring method to categorize individuals but soon adopted a median split technique in response to criticisms that the t-ratio method

did not distinguish individuals who scored high on both femininity and masculinity from those who scored low on both (Pedhauzer & Tetenbaum, 1979; Spence et al., 1975; Strahan, 1975). In the median split method, respondents are classified as either above or below the median of their comparison group (Bem, 1977, 1981). Respondents are grouped into feminine (high femininity, low masculinity), masculine (high masculinity, low femininity), high androgynous (high masculinity, high femininity), and low androgynous or undifferentiated (low masculinity, low femininity) categories. The terms sex role "identity" or "orientation" are often used to refer to scale scores or classification.

Bem (1981) also developed an abbreviated version of the BSRI which excluded feminine items that were low in social desirability and masculine items that were redundant. However, Bem subsequently found the shortened version of the BSRI to be incomparable to the original and recommended against its use (Frable & Bem, 1985).

Psychometric studies have demonstrated the internal consistency and test-retest reliability of the BSRI (Bem, 1974, 1981). However, several writers have referred to validity issues for the BSRI (Beere, 1979; Kelly & Worell, 1977; Lips & Colwill, 1978). Bem (1974, 1975, 1976) has commented on the BSRI as an assessment of two separate, rather broad dimensions of femininity and masculinity that relate to many sex role facets. However, she and others

have also referred in a more narrow sense to the femininity scale in terms of certain expressive/communal attributes and the masculinity scale in terms of certain instrumental/agentic characteristics (Bem, 1976; Helmreich, Spence, & Holahan, 1979; Lippa, 1977; Wiggins & Holzmuller, 1978). Factor analyses have generally not supported the BSRI as measuring single independent femininity and masculinity dimensions (Gaa, Liberman, & Edwards, 1979; Pedhauzer & Tetenbaum, 1979; C. Waters, L. Waters, & Pincus, 1977; Whetton & Swindells, 1977).

The Personal Attributes Questionnaire (PAQ; Spence et al., 1974) consists of masculinity (M), femininity (F), and masculinity-femininity (M-F) scales. The items were largely drawn from previous research on sex role stereotypes (Rosenkrantz, Vogel, Bee, I. Broverman, & D. Broverman, 1968). The M scale consists of items that describe certain instrumental, self-assertive characteristics that are socially desirable for both sexes but judged most typical of males. The F scale is comprised of items that represent certain expressive, interpersonally oriented characteristics that are socially desirable for both sexes but judged most typical of females. The bipolar M-F scale contains items that reflect instrumentality and emotional vulnerability, which are socially desirable for one sex but not the other. In the abbreviated version of the PAQ, items were retained

that showed the strongest relationship with item totals and that best illustrated instrumental and expressive traits.

Similarly to the BSRI, the PAQ scales can be used as continuous measures or to categorize individuals as masculine (above median on M, below on F), feminine (above median on F, below on M), androgynous (above median on M and F), or undifferentiated (below median on M and F). The four-way classification can be expanded into eight categories by dividing individuals in each of the four cells into those above or below the overall median of the M-F scale. The authors refer to the loss of data and diminished precision that occurs with classification and suggest that researchers consider analyses that retain the scales as continuous variables when appropriate (Spence & Helmreich, 1978, 1984).

Factor analyses with the PAQ suggest that the M and F scales measure more homogeneous dimensions than the corresponding BSRI scales (Gaa et al., 1979; Helmreich, Spence & Wilhelm, 1981; Spence & Helmreich, 1979). The instrumental and expressive characteristics assessed with the PAQ are two specific constellations of gender differentiating attributes that have been associated with masculinity and femininity concepts. However, Spence and Helmreich have repeatedly emphasized that particular types of instrumental and expressive attributes do not fully define masculine and feminine qualities and the PAQ is not a

global measure of masculinity and femininity (Spence, 1985; Spence & Helmreich, 1978, 1979, 1980).

Most sex role attribute measures contain principally positive or socially desirable items. However, descriptions of sex role attributes based solely on positive items may be insufficient (Holahan & Spence, 1980; Kelly, Caudell, Hathorn, & O'Brien, 1977; Spence et al., 1979). A few researchers have incorporated negative characteristics into sex role attribute measures (K. Heilbrun, 1976, cited by Spence et al., 1979; Kelly, Caudell, Hathorn, & O'Brien, 1977). Spence and colleagues (1979) noted that attempts to include negative traits usually involved describing the absence or opposite of desirable characteristics. They developed the Extended Personal Attributes Questionnaire (EPAQ) by adding independent negatively valued masculinity (M-) and femininity (F-) scales to the PAQ. The (M-) scale consists of negative agentic/instrumental attributes judged to be more typical of males. The authors were unable to find satisfactory corresponding negative communal/expressive items but presented two scales consisting of attributes related to self-subordination, which they labeled negative communion (Fc-), and verbal passive-aggressiveness (Fva-) judged to be more typical of females.

Test-retest reliability and internal consistency were established for the PAQ and EPAQ (Spence et al., 1974; Spence et al., 1979; Spence et al., 1975). Significant

correlations of each item with total scale score have been reported for the positive scales (e.g., Spence et al., 1975). Internal reliability (alpha) coefficients have ranged from .61 to .91 for the positive scales and .41 to .70 for the negative scales (Helmreich et al., 1981; Spence et al., 1974; Spence and Helmreich, 1984). Test-retest reliabilities for the positive scales of .65 to .91 have been reported (Spence et al., 1974).

The Adjective Check List (ACL; Gough & Heilbrun, 1980) is a 300-item self-report instrument that assesses a number of personality variables, including masculinity (M) and femininity (F) (Heilbrun, 1976). Adequate test-retest reliability and internal reliability were reported by the authors. The theoretical rationale underlying item selection for the ACL M and F scales differs from measures such as the BSRI and the PAQ as reflected by validity evidence in terms of sexual orientation and relationships with sex role attitudes. It is not clear to what extent the ACL measures current conceptions of masculine and feminine attributes. Heilbrun has employed the ACL in a number of research studies on eating disorders (e.g., Heilbrun & Bloomfield, 1986; Heilbrun & Harris, 1986; Heilbrun & Putter, 1986).

Whereas sex role attributes concern personal characteristics, sex role attitudes usually involve prescriptive beliefs regarding the roles and behaviors of

women and men. Prescriptive attitudes may range from conservative or traditional to liberal or feminist (Beere, 1979; Spence & Helmreich, 1972). Several studies have indicated that sex role attitudes and attributes are not necessarily strongly related (Orlofsky, Cohen, & Ramsden, 1985; Spence et al., 1975; Spence & Helmreich, 1978). A number of sex role attitude measures have been developed, such as the Attitudes Toward Women Scale (Spence & Helmreich, 1972), the Feminism Scale (Dempewolf, 1974), the Sex-Role Ideology Scale (Kalin & Tilby, 1978), and the Sex-Role Egalitarianism Scale (C. Beere, D. King, D. Beere, & L. King, 1984). Adequate discriminant validity, internal reliability, and test-retest reliability for these scales were reported by the authors. The content and particular domains measured by sex role attitude scales vary. The Sex-Role Ideology Scale (assessing ideological positions regarding sex roles) and the Sex-Role Egalitarianism Scale (measuring beliefs about the equality or inequality of women and men) have been employed in eating disorder research.

Overt sex role behavior and interests may vary with situational factors and may differ from sex role attributes and attitudes (Beere, 1979; Helmreich et al., 1979; Orlofsky, 1981; Orlofsky et al., 1985; Spence & Helmreich, 1978). Experimental situations are sometimes designed to directly observe sex role behavior (e.g., see Bem, 1985). There have been few self-report scales available for

assessing sex role behavior, although a notable exception is the Sex Role Behavior Scale (SRBS) which assesses male-valued, female-valued, and sex-specific recreational, vocational, social interaction, and marital behaviors (Orlofsky, 1981; Orlofsky, Ramsden, & Cohen, 1982; Orlofsky & O'Heron, 1987). The few researchers who have referred to sex role behaviors among women with eating disorders have employed questions or self-report scales designed for the particular study.

There has been increasing interest in the concept of sex role conflict, which may refer to various types of discrepancies, uncertainties, and ambivalence. Traditionally, "sex conflict" has been assumed on the basis of qualities that are not typical of the individual's sex (Beckman, 1978). Sex role conflict has also been related to conscious and unconscious levels of sex role qualities, which are generally assessed through objective and projective tests (Miller & Swanson, 1960). Another category of sex role conflict involves variations among attributes, attitudes, and behaviors (Biller, 1971). Sex role conflict or "sex role strain" has also been used to refer to the difference between real and ideal self-concept (Garnets & Pleck, 1979) and the discrepancy between sex role expectations and professional demands (Barnett, 1986). Real-ideal differences are typically determined through actual and ideal self ratings of sex role attributes. Sex

role conflict may also represent ambivalence regarding desired roles, uncertainty concerning role expectations, or the perception of contradictory demands. Few studies have included measures specifically designed to assess sex role conflict.

Review of Research

Socialization based theories suggest that sex role issues will be particularly salient for women with weight preoccupations and eating disorders. Clinical presentations by writers of various orientations have frequently described certain stereotypically feminine qualities and sex role conflict among women with eating disorders (e.g., Boskind-White & White, 1983; Bruch, 1973; Cauwells, 1983; Crisp, 1980; Selvini-Palazzoli, 1978; Sours, 1980). Research interest in the relationship between eating disorders and sex role issues developed fairly recently and has been growing over the last few years. Although studies to date provide some indication that sex role issues may be important, few unequivocal and consistent results have been established.

MMPI. Several studies using the Mf scale of the MMPI have reported moderately low T scores (high femininity) for women diagnosed with anorexia nervosa and bulimia nervosa (Hatsukami et al., 1982; Norman & Herzog, 1983; Orleans & Barnett, 1984). However, other research has found low-normal range T scores and no significant differences in

femininity between bulimic and control subjects (Williamson et al., 1985; Williamson et al., 1987). As previously noted, it is difficult to interpret results from the MMPI in terms of sex role factors due to validity issues, heterogeneous types of qualities, and the bipolarity of the scale.

Bem Sex Role Inventory (BSRI). Most studies have employed the BSRI (Bem, 1974) or the Personality Attributes Questionnaire (PAQ; Spence et al., 1974) to examine sex role factors among women with eating disturbances, with varying results. In one of the first studies to address sex role factors in eating disturbances, Dunn and Ondercin (1981) reported no differences in BSRI F or M self-perceptions between female university students who were classified as high or low compulsive eaters based on the Compulsive Eating Scale (Ondercin, 1979). However, the compulsive eaters expressed a higher M ideal and a greater discrepancy between self and ideal M ratings than the non-compulsive eaters. The authors speculated that, given other characteristics found for the compulsive eating group (e.g., emotional instability, inner tension, feelings of low control and guilt, need for approval), instrumental masculine ideals may generate considerable conflict.

Four studies have employed the BSRI with clinical eating disorder samples. Sitnick and Katz (1984) compared the BSRI responses of women diagnosed with anorexia nervosa

according to the criteria of Garfinkel et al. (1980) with those of female university controls. Anorexics did not differ from normal controls on the F scale of the BSRI but did score lower on the M scale. The authors suggested that the lack of incorporation of instrumental masculine traits may lead to sex role confusion in modern Western society.

Lewis and Johnson (1985) administered the short form of the BSRI (Bem, 1981) to bulimics, who met DSM-III criteria and engaged in binge eating at least once a week, and female student and secretary controls. They reported lower F ratings and a nonsignificant trend toward lower M ratings for bulimics than controls, resulting in bulimics comprising a greater proportion of the undifferentiated sex role classification and a lower proportion of the androgynous classification. The authors related the results to low self-esteem and lack of self-definition, partially stemming from conflicts regarding sex role expectations. Direct comparison of results with other studies using the BSRI is somewhat limited, as the abbreviated form is not equivalent to the original (Frable & Bem, 1985).

Cantelon, Leichner, and Harper (1986) used BSRI M and F actual-ideal differences and sex role satisfaction ratings to examine sex role conflict among anorexics, bulimics, and female university controls. Anorexics and bulimics met DSM-III criteria. Statistical analyses of "sex role identity" was precluded due to small subject numbers; however, there

was a trend for bulimics to comprise a greater proportion of the feminine sex role identity classification (low M, high F) and lower proportion of the androgynous category (high M, high F) than anorexics and controls. No significant differences among groups were found in actual-ideal conflict or overall sex role satisfaction, although the bulimic group responded more symptomatically to one direct question regarding discrepancy between actual and ideal qualities. The authors suggested that inadequate instrumental characteristics and subjective sense of sex role conflict may precipitate eating disorders for predisposed individuals.

A recent study by Pettinati, Franks, Wade, and Kogan (1987) attempted to determine the relative influence of depression in masculine and feminine self-concept, using the BSRI. The authors compared self and ideal BSRI ratings among eating disorder patients fulfilling DSM-III criteria for anorexia nervosa or bulimia, depressed patients with no history of eating disorders, and normal high school and university students. Results indicated lower self M scores for both eating disorder and depression groups than the control group and higher ideal F scores for the eating disorder than the control group. Hierarchial regression analyses showed that lower self M ratings were primarily related to severity of depression, as measured by the Beck Depression Inventory (BDI; Beck, 1967). Higher ideal F

ratings were associated with severity of eating disturbance, as assessed by the EAT (Garner & Garfinkel, 1979), independent of depression.

To summarize research with the BSRI, there have been reports of high M ideal for compulsive eaters (Dunn & Ondercin, 1981), low M self-concept for anorexics (Sitnick & Katz, 1984), low M self-perception and high F ideal for anorexics and bulimics (Pettinati et al., 1987), low F self-concept and undifferentiated sex role identity for bulimics (Lewis & Johnson, 1985), and feminine sex role identity for bulimics, but not anorexics (Cantelon et al., 1986). Research with the BSRI has thus not identified a consistent pattern for women with eating disturbances, although one trend appears to be a lack of adequate instrumental masculine attributes. In addition, most researchers have referred to implications of their results in terms of sex role conflict and Cantelon et al. (1986) provided some empirical support for the notion of sex role conflict among bulimics.

Personality Attributes Questionnaire (PAQ). Two studies have employed the PAQ (Spence et al., 1974) and one study has used the Extended PAQ (EPAQ; Spence et al., 1979) in examining sex role factors in eating disturbances. Katzman and Wolchik (1984) found no differences among bulimic, binge eating, and control groups in the proportions classified as feminine, masculine, androgynous, and

undifferentiated by scores on the PAQ M and F scales. Group differences on the scales as continuous measures were not reported. It is unclear whether the bulimics in this study, who were identified through responses to a DSM-III-based questionnaire, are comparable to women with clinical disorders.

Hawkins, Turell, and Jackson (1983) used the Extended PAQ to investigate relationships between sex role attributes and eating disturbances among undergraduate students. Findings of interest to the current discussion were that, for females, restraint (restrictive dieting) was positively related to F, dissatisfaction with weight was positively related to Fc- and negatively related to M, and subscales of the EAT were positively related to F and Fc- and negatively related to M. These results suggest that mild to moderate eating disturbances are associated with high levels of positive and negative feminine expressive/communal attributes and low levels of positive masculine instrumental attributes. Comparability with other research is limited by the inclusion of overweight subjects and lack of information regarding possible eating disorder history.

In contrast to the associations found by Hawkins and colleagues (1984), Timko, Striegal-Moore, Silberstein, and Rodin (1987) reported no significant relationships between EAT scores and PAQ M or F self ratings among female university students. These authors also assessed the

importance of PAQ M and F attributes, self-perception and importance of physical appearance, and number of roles viewed as central to sense of self. They found that importance of appearance and importance of masculine attributes (M-F) predicted disordered eating, as assessed by the EAT. Subjects who reported that many roles were primary to self-definition obtained higher scores on the EAT than those reporting that few roles were central. The authors related results to the "superwoman" ideal, in which women aspire to physical attractiveness, aspects of traditional feminine and masculine traits, and numerous roles. Interpretation of results is somewhat restricted by the inclusion of appearance items within the PAQ, which may have influenced responses to the measures. The same research group elsewhere (Striegal-Moore et al., 1986) cited an unpublished study (Striegal-Moore, Silberstein, & Rodin, 1985) in which bulimic women endorsed sociocultural norms, such as "attractiveness increases the likelihood of professional success" to a greater extent than nonbulimic women.

In summary, associations of masculine and feminine self-perceptions with disordered eating were reported for nonclinical subjects by Hawkins et al. (1984), using the EPAQ. However, no such relationships were found for nonclinical subjects by Timko et al. (1987) or for bulimic

and binge eating subjects by Katzman and Wolchik (1984), employing the PAQ.

Other Sex Role Issues. Timko and colleagues' (1987) study suggests that other aspects of sex role issues may be relevant for women with eating disturbances, such as the importance of instrumental attributes, sex role strain, and appearance-related variables. The relationship between the importance of appearance and disordered eating was also examined by Huon and Brown (1984). The authors found hospitalized anorexia nervosa patients (diagnostic criteria were not provided) to score significantly more symptomatically on a composite measure of self-presentation, self-esteem, behavioral control, and criticism about eating than frequent and infrequent weighers. However, although the scores of anorexics on the appearance-related items were highest, those of frequent weighers were midrange, and those of infrequent weighers were lowest, differences among groups were not significant.

Preoccupation with sex role distinctions among women with anorexic characteristics was investigated by Heilbrun and Putter (1986). Women psychologically similar to anorexics (PSA) and controls were identified by scores on the Eating Disorders Inventory (EDI; Garner, Olmsted, & Polivy, 1983). Concern with sex role distinctions was determined through a gender schematic task (Bem, 1985), which involved memory for sex-typed (M and F) Adjective

Check List items (Gough & Heilbrun, 1980). Results indicated that preoccupation with sex role distinctions was lower for PSA subjects than controls. However, when concern was high, it was associated with greater stress for PSA than control subjects. Interpretation of results in terms of sex roles is unclear due to the indirect assessment of sex role issues and the previously discussed indeterminate nature of the M and F ACL items. The authors suggested that, for some women, anorexic features may be related to sex role conflict involving traditional ideas and contemporary expectations. They also cited unpublished research (Diller, 1986) which found that college females who espoused contemporary ideals yet admitted conflict regarding career and marital/maternal roles obtained the highest average anorexia score on the EDI.

Sex Role Ideology. The research reviewed thus far addresses primarily attributes and personal attitudes. Broader sex role attitudes or ideology have also been examined. Srikameswaran, Leichner, and Harper (1984) contrasted the responses of anorexics, bulimics, and university controls to the Sex Role Ideology Scale (Kalin & Tilby, 1978). Eating disorder subjects met DSM-III criteria, with the exception of the weight criterion for anorexia nervosa. Neither patient group differed significantly from the control group, although they did differ with each other, with anorexics expressing more

traditional attitudes than bulimics. Krueger and Bornstein (1987) also did not find bulimics to have particularly conventional sex role views. They reported that bulimics, binge eaters, and controls, as classified by the BULIT (Smith & Thelen, 1984), did not vary in their expressed egalitarianism of female and male roles on the Sex-Role Egalitarianism Scale (Beere et al., 1984).

Multiple Sex Role Aspects. In an early study examining several sex role domains, Rost, Neuhaus, and Florin (1982) compared the responses of bulimarexics and controls to measures of sex role attitudes, sex role behavior, and sex role locus of control. Sex role scales were developed for the study on the basis of face validity and no psychometric information is reported. Bulimarexic subjects, who were recruited by newspaper advertisements, appeared to present symptoms of varying severity. Controls were students and various types of employees. In contrast to the results of other studies which did not find conventional sex role attitudes for bulimics (Krueger and Bornstein; Srikameswaran et al., 1984), bulimarexics reported more traditional attitudes and even more traditional behaviors, showed a wider discrepancy between attitudes and behavior, and had a higher fatalistic and external locus of control and lower internal locus of control than controls. This study suggests sex role issues and conflict for women with

bulimic-like features, although results must be tempered by the unknown reliability and validity of the measures.

The issue of sex roles in eating disorders was examined by Steiner-Adair (1986) through interviews with adolescents attending a private girls' school. The interviews focused on perceptions of cultural and individual values and images of women. The author reported two distinct patterns in interview responses, which she labelled Wise Woman and Super Woman. Wise Women identified contemporary societal values of autonomy but a separated themselves from these values and tended to maintain ideals that focus on interrelatedness. Super Women less fully recognized cultural pressures toward independence yet described more autonomous ideals for themselves. All of the 20 Wise Women scored in the nonclinical range of the EAT whereas 11 of 12 Super Women scored in the clinical range, which was not specified but presumably corresponded to the upper limit score of 30 recommended by Garner and Garfinkel (1979). Steiner-Adair proposed that eating disorders are related to the conflict between female development, which emphasizes relational values and contemporary societal ideals, which demand independence. Although Steiner-Adair's theoretical presentation is comprehensive, empirical results are limited by the subjective nature of the interview procedure and lack of independently identified eating disorder subjects.

Summary and Comments. The research reviewed suggests that sex role issues may be especially salient for women with eating disorders and nonclinical eating disturbances, although inconsistencies and indeterminate results are evident. The most constant finding emerging from research employing the BSRI and PAQ is that perceived deficits in masculine instrumental characteristics appear to be associated with varying levels and types of eating difficulties (Cantelon et al., 1986; Dunn & Ondercin, 1981; Hawkins et al., 1983; Lewis & Johnson, 1985; Pettinati et al., 1987; Sitnick & Katz, 1984; Timko et al., 1987).

Research has also supported the relevance of other aspects of sex roles to eating disturbances. A few studies have related the importance of physical appearance to disordered eating (Huon & Brown, 1981; Timko et al., 1987). Sex role ideology has been found to be more conventional for anorexics than bulimics (Srikameswaran et al., 1984) and more traditional for bulimarexics than controls (Rost et al., 1982), although other research has reported no differences in ideology among bulimics, binge eaters, and controls (Krueger & Bornstein, 1987). Speculations by most investigators in the area regarding sex role conflicts among women with eating disturbances have received some empirical support (Cantelon et al., 1986; Steiner-Adair, 1986; Timko et al., 1987).

Some of the apparent research inconsistencies in the area of sex roles and eating disturbances are likely due to methodological and conceptual issues. Methodological factors include varying selection and diagnostic procedures (e.g., interview or questionnaire, restrictiveness of criteria), population base (e.g., severity, stage of disorder, treatment history), and matching variables (e.g., age, socioeconomic status). It is possible that, in some cases, results may be obscured by combining women with differing severity or types of eating disorders. Few studies have included both eating disorder and weight preoccupied subjects or differentiated between restricting and bulimic anorexics.

A primary source of difficulty in research investigating the relationship between sex role issues and eating disorders may relate to inadequate conceptualizations and operationalizations of "femininity". As previously noted, current measures of sex role qualities do not necessarily correspond to the facets of sex roles that are of theoretical interest. In the area of eating disorders, sex role attribute measures assessing largely positive expressive and instrumental characteristics and sex role attitude instruments only partially capture theoretical presentations and clinical descriptions. Most researchers initially set out to investigate sex role hypotheses with the "femininity" scale of measures such as the BSRI and PAQ.

Lack of associations between F scales and eating disorders have been interpreted as not supporting sex role theories in eating disorders (e.g., Dunn & Ondercin, 1981; Katzman & Wolchik, 1984; Sitnick & Katz, 1984). However, the positive expressive qualities apparently assessed by BSRI and PAQ feminine scales have not been a primary focus in theoretical and clinical accounts of eating disorders.

In the course of their investigations, researchers found that deficits in masculine instrumental characteristics relating to self-assertiveness and independence may be more related to eating disorders than positive expressive traits such as emotional warmth. The additional possibility that women with eating disorders may be "feminine" by virtue of negative, rather than positive, expressive or communal characteristics has received little consideration.

Other sex role aspects of theoretical interest in eating disturbances may also require greater empirical examination. While a few studies have addressed appearance concerns in eating disturbances, further investigation of appearance-related variables and attention to other types of compliance with societal messages is necessary. For example, women with eating disturbances have often been presented as susceptible to the media and approval-seeking in their pursuit of a thin body size. Investigations of sex role conflict among women with eating disturbances has

usually been indirect and based on self-ideal rating of expressive and instrumental attributes. More comprehensive methods may be required to assess the sex role ambivalence and uncertainty proposed to occur for women with eating disorders. There are a number of other major areas of "femininity" frequently referred to in the literature that have not been researched. Some of these aspects include self-deference, denial of needs, definition of self through others, and emphasis on relationships with men.

Current Study and Hypotheses

The current study was designed to further investigate the relationship between eating disturbances and sex roles by comparing responses among women with clinical eating disorders, weight preoccupations, and no eating disturbances to measures assessing several theoretically implicated sex role factors. Facets of compliance with societal appearance norms, positive and negative expressiveness and instrumentality, self-definition, and sex role conflict were evaluated with three measures developed for the study and the Extended Personality Attributes Questionnaire (EPAQ; Spence et al., 1979). Eating disorder and weight preoccupied subjects were also subclassified to examine possible differences in sex role-related responses among women with restricting anorexic, bulimic anorexic, and bulimic features.

The hypotheses for the study consisted of a pattern of more symptomatic responses for women with eating disorders than women with weight preoccupations, and more symptomatic responses for women with weight preoccupations than women without weight preoccupations. More specifically, it was hypothesized that aspects of appearance compliance, difficulties with self-definition, sex role conflict, and EPAQ negative communion (self-subordination) (Fc-) and verbal passive-aggressiveness (Fva-) would be (a) greater for women with eating disorders than those without weight preoccupations, (b) greater for women with eating disorders than those with weight preoccupations, and (c) greater for women with weight preoccupations than those without weight preoccupations. It was hypothesized that EPAQ positive and negative instrumentality (M, M-, M-F) would be (a) lower for women with eating disorders than those without weight preoccupations, (b) lower for women with eating disorders than those with weight preoccupations, and (c) lower for women with weight preoccupations than those without weight preoccupations. Differences in positive expressiveness, as assessed by the EPAQ F scale, were not hypothesized. No predictions were made with respect to sex role-related responses among subtypes of eating disorders and weight preoccupations.

METHOD

Subjects

Nonclinical Subjects

A total of 355 female students from Introductory Psychology classes at the University of Manitoba were initially recruited for the nonclinical sample. Data were excluded for 15 subjects who did not return for the second session and six subjects with missing or multiple responses. In addition, data for 15 subjects were eliminated in order to match nonclinical and eating disorder groups for socioeconomic status (SES) using the Hollingshead Two-Factor Index of Social Position method with parental education and occupation (Hollingshead, 1957). Of the remaining 319 subjects, 31 (9.7%) reported previous or current eating disorders or behavior that indicated possible eating disorders and were not included in the nonclinical groups. Eleven of the 31 students reporting eating disturbances were interviewed and five met DSM-III-R (American Psychiatric Association, 1987; see Tables 1 and 2) criteria for anorexia nervosa or bulimia nervosa and were included in the clinical groups for the study.

The remaining sample consisted of 288 students ranging in age from 17 to 37 (M = 19.4). Average weight subjects

were selected for the non-weight preoccupied and weight preoccupied groups to mitigate possible effects of eating disturbances related to being underweight or overweight and to facilitate comparisons with other studies. As reported weights and scaled weights were not significantly different for the 148 subjects who were weighed (approximately every second subject, 51.4% of the sample), $t(147) = 1.57$, $p < .120$, reported weights were used in determining weight status. (Differences between reported weight and scaled weight ranged from -9 to +9 lbs. with a mean difference of .392 lbs.) Of the 288 subjects, 227 (78.8%) were within 15% of average weight for their height and age (M = 128.5 lbs.) whereas 27 (9.4%) were 15% below average weight (M = 105.5 lbs.) and 34 (11.8%) were 15% above average weight (M = 164.1 lbs.) based on 1983 Metropolitan Life Insurance Company Weight Tables.

Of the 227 average weight subjects, 106 were classified into a non-weight preoccupied group (n = 51) or one of three weight preoccupied subgroups (n = 55) based on their responses to the eating attitude measures. The other 121 average weight subjects were not considered in group comparisons of responses to measures, but were included in the total university sample in assessing psychometric characteristics of questionnaires developed for the study. Group classification is discussed in more detail in the Results section.

Clinical Subjects

A total of 51 women referred from clinical settings and private referrals and 55 female university students identifying themselves as having eating disorders were contacted for the clinical sample. An attempt was made to solicit subjects who would meet DSM-III-R criteria and who would comprise a sample similar in age and SES to the nonclinical groups. Subjects' interview responses, weight, and current diagnosis and additional information when available (for example, from therapists) were considered in assessing whether DSM-III-R criteria were fulfilled. Each DSM-III-R criterion for each subject was coded as absent or present by the author and a research assistant independently, with an agreement rate of 96.5%. Subjects who did not meet all DSM-III-R criteria for anorexia nervosa or bulimia nervosa as assessed by both scorers were not included in the study.

Of the 51 subjects recruited from the Health Sciences Centre, the Anorexia Nervosa and Bulimia Foundation (ANAB), and private referrals and treatment, 29 (61.7%) were included in clinical groups. Two subjects did not attend scheduled appointments and two subjects decided not to participate. Data were excluded for 10 subjects who did not meet DSM-III-R criteria for anorexia nervosa or bulimia nervosa, one subject who denied symptoms on the eating disorder measures, one subject with missing responses, and

one subject of above average weight. Data for an additional five subjects were eliminated in order to match eating disorder and nonclinical groups for age. Of the 55 university students who responded to requests for subjects with eating disorders, 15 were judged not eating disordered in telephone contacts. Of the remaining 40 subjects, only seven (17.5%) met DSM-III-R criteria for anorexia nervosa or bulimia nervosa and were included in clinical groups. The five students identified during recruitment of nonclinical subjects as having eating disorders were also included in clinical groups.

The final clinical sample consisted of 41 women ranging in age from 17 to 34 ($\underline{M}$ = 19.6) who met DSM-III-R criteria for anorexia nervosa ($\underline{n}$ = 20) or bulimia nervosa ($\underline{n}$ = 21). Of the 20 subjects with anorexia nervosa, 11 were pure "restrictors" and nine also had bulimic features. In the current sample, anorexic women with bulimic features also met DSM-III-R criteria for bulimia nervosa. The three eating groups (restricting anorexia nervosa, bulimic anorexia nervosa, and bulimia nervosa) were proportionately represented among the four recruitment settings (Health Science Centre, ANAB, private referral, and university), X^2 (6) = 3.58, $\underline{p} < .74$.

Materials

Demographic Questionnaire

Information regarding age, weight and height, occupation and education, parental occupation and education, and marital status was obtained from a self-report questionnaire (see Appendix A).

Selection Measures

Eating Attitudes Test (EAT). As previously discussed, the EAT (Garner & Garfinkel, 1979) is a validated self-report instrument designed to measure a range of behaviors and attitudes characteristic of anorexia nervosa (see Appendix B). Participants' responses to each of the 40 EAT items along a 6-point Likert-type rating scale are scored 0 for the three least symptomatic responses and 1 to 3 for the three most symptomatic responses.

In the initial validation study for the EAT (Garner & Garfinkel, 1979), means of 58.9 for women with anorexia nervosa and 15.6 for female university students were reported, with 13% of subjects scoring over the suggested clinical cut-off score of 30. In identifying "anorexic-like" individuals, upper cut-off scores of 32 (e.g., Button & Whitehouse, 1981), 30 (e.g., Clarke & Palmer, 1983), 25 (Thompson & Schwartz, 1982), and 17 (Lewis & Johnson, 1985) have been employed. "Problem-free" comparison groups have consisted of unselected control subjects (e.g., Button & Whitehouse, 1981), subjects scoring below the upper limit

(e.g., Lewis & Johnson, 1985) and subjects scoring 10 or below (Thompson & Schwartz, 1982). In the absence of established norms for non-weight preoccupied and weight preoccupied subjects, the present study adopted Thompson and Schwartz's (1982) upper and lower limit scores of 25 and 10, which corresponded to the 85th and 36th percentiles respectively for the current sample.

Bulimia Test (BULIT). As previously discussed, the BULIT (Smith & Thelen, 1984) is a validated self-report test which is based on DSM-III (American Psychiatric Association, 1980) criteria for bulimia (see Appendix C). Responses along a 5-point rating scale to 32 of the 36 items are summed to produce a total BULIT score whereas responses to four additional items provide information regarding laxative and diuretic use and menstrual cycles.

The authors (Smith & Thelen, 1984) reported means of 124.0 for bulimic women and 60.3 for university control subjects, with 4% of control subjects scoring over the suggested clinical cut-off score of 102 and 13% scoring over the suggested screening score of 88. The BULIT has been included in several recent studies of bingeing and other bulimic characteristics in nonclinical populations (e.g., Irving, McCluskey-Fawcett, & Thissen, 1988; Krueger & Bornstein, 1987; Ruderman & Grace, 1987; Thelen, Mann, Pruitt, & Smith, 1987). Irving et al. (1988) divided their sample into equal numbers of high (M = 103.4), medium (M =

59.4), and low (M = 42.3) risk subjects on the basis of BULIT scores. Krueger and Bornstein (1987) classified subjects as bulimic (> 102), binge-eating (88-101), and normal (< 88). The current study established upper and lower limit scores of 85 and 53 which corresponded to the 85th and 36th percentiles that were employed for the EAT.

Weight Scales. A floor model digital SOEHNLE scale was employed to weigh subjects. A standard upright medical scale was used to establish the accuracy of the digital scale.

Interview. A semistructured individual interview was conducted with each eating disorder subject not screened out in telephone contacts. The interview was designed to obtain information regarding eating and weight behaviors and attitudes, other psychological difficulties, history, treatment, menstrual cycles, and general health. As previously described, interview responses were considered in determining whether DSM-III-R criteria were fulfilled.

Sex Role-Related Measures

Appearance Compliance Questionnaire (ACQ). A 20-item self-report questionnaire with a 5-point Likert-type rating scale was developed for the study to assess adherence to societal appearance norms (see Appendix D). The items were based on attitudes and behaviors toward personal physical appearance that were referred to as socially conforming in the eating disorder literature. Items were intended to

represent the importance of appearance, susceptibility to the media, motive of attractiveness in the pursuit of thinness, and motive of social approval in the pursuit of thinness.

Extended Personality Attributes Questionnaire (EPAQ). As previously discussed, the 40-item EPAQ (Spence et al., 1979) consists of three positive (M, F, M-F) and three negative (M-, Fc-, Fva-) scales assessing expressive feminine and instrumental masculine attributes (see Appendix E). The scales include items for which significant differences in ratings of typical men and women were found (Spence et al., 1974; Spence et al., 1979). The M-F scale contains items that are socially desirable for one sex and not the other whereas the M and F scales consist of items that are socially desirable for both sexes, and the negative scales are comprised of items that are socially undesirable for both sexes. Subjects' responses to each EPAQ item along a 5-point rating scale are scored from 0 to 4 and are summed to produce total scale scores. The EPAQ scales were retained as continuous measures in the current study.

Self-Definition Questionnaire (SDQ). The 16-item SDQ was developed for the study to assess several characteristics related to self-definition and self-awareness that have been referred to in discussions of sex role issues in eating disorders (see Appendix F). Subjects responded to each SDQ item along a 5-point rating scale.

Items were intended to assess three content areas: Denying own needs, definition of self through others, and emphasis on relationships with men.

Sex Role Conflict Questionnaire (SRCQ). A 16-item questionnaire with a 5-point rating scale was developed for the study to assess several aspects of sex role conflict (see Appendix G). Items were intended to reflect real-ideal conflict, ambivalence regarding desired roles, uncertainty regarding roles, and perception of contradictory expectations.

Post-Experimental Questionnaire (PEQ). The 5-item PEQ assessed subjects' perceptions of the study and questioned nonclinical subjects concerning current or previous eating disorders or eating disturbances (see Appendix H).

Procedure

Nonclinical subjects were recruited from Introductory Psychology classes at the University of Manitoba and received experimental credits for their participation. Subjects selected one of eight sets of three sessions. In the first session, the general nature of the study (completion of a number of questionnaires concerning personal attitudes and characteristics) was described and consent was obtained (see Appendix I). The Demographic Questionnaire, EAT, and BULIT were then completed, and approximately every second subject was weighed (n = 181, 51.0%). In the second session 1 week later, the Appearance

Compliance Questionnaire (ACQ), Extended Personality Attributes Questionnaire (EPAQ), Self-Definition Questionnaire (SDQ), and Sex Role Conflict Questionnaire (SRCQ) were administered. In the third session, which was conducted 3 weeks following the second session, the ACQ, EPAQ, SDQ, and SRCQ were readministered, subjects completed the post-experimental questionnaire (PEQ), verbal and written feedback was provided (see Appendix I), and questions were addressed.

The first and second sessions were combined and measures were not readministered for 35 university subjects who were unable to attend the first session at the appointed time. There were no significant differences in demographic variables or on any of the measures between subjects attending separate or combined first and second sessions (*t*-tests, $p > .05$).

Requests for eating disorder participants were made through the Eating Disorders Clinic of the Health Sciences Centre, the Anorexia and Bulimia Foundation (ANAB), private referral and treatment sources, and Introductory Psychology classes. University students received experimental credits. Due to concerns by referral sources regarding subject time commitments, eating disorder subjects were seen individually in one session and questionnaires were not readministered (with the exception of the five eating disorder subjects identified during recruitment of nonclinical subjects). During the session, the study was first introduced and

consent was obtained (see Appendix I). The Demographic Questionnaire was then administered followed by the EAT and BULIT, the ACQ, EPAQ, SDQ, and SRCQ, and the PEQ. After completion of the measures, subjects were interviewed, feedback was provided, and questions were addressed. Subjects were then weighed. There were no significant differences on any of the variables between the five eating disorder subjects who were recruited from the university sample and the other eating disorder subjects (*t*-tests, $p > .05$).

Although attempts were made to maintain consistency in experimental procedures among groups, it was not possible to standardize all procedural variables. Recruitment, location, and number and length of sessions differed between eating disordered and non-eating disordered (weight preoccupied and non-weight preoccupied) respondents. However, the findings that the responses to all measures of subjects who deviated from regular procedures were similar to those of other subjects mitigates the possibility of procedural contributions to group differences. The data of university subjects who completed measures in one session, similar to eating disorder subjects, did not differ from that of other university subjects and the data of university subjects who participated in three sessions and were subsequently found to have eating disorders did not differ from other eating disordered subjects.

RESULTS

This chapter begins with a brief description of subjects' perceptions of the study, followed by a discussion of eating attitude responses and group classification of nonclinical subjects. In the next sections, descriptive data for the non-weight preoccupied (NWP), weight preoccupied (WP), and eating disorder (ED) groups and subgroups are provided and the representativeness of the samples are considered. Psychometric characteristics of the Appearance Compliance Questionnaire (ACQ), Self-Definition Questionnaire (SDQ), and Sex Role Conflict Questionnaire (SRCQ) and intercorrelations among the 13 scales and subscales employed in the study are then discussed. The final section addresses the major research hypotheses and questions. All data analyses employed the programs of SPSS^{X} (SPSS Inc., 2nd edition, 1986).

Subjects' Perceptions of the Study

Participants' responses to the Post-Experimental Questionnaire (PEQ) suggested that most subjects understood the instructions and questions and their responses were genuine. The majority of subjects (98.3%) accurately perceived that the general interests of the study were women's eating behaviors and/or their feelings and attitudes

toward themselves. Most respondents reported that procedures and directions (98.6%) and questionnaire items (91.7%) were clear and that they answered the questions as honestly as possible (98.6%). No subjects provided responses that appeared to indicate lack of cooperation or highly unusual perceptions of the study. A substantial proportion of participants (17.2%) wrote additional comments on the PEQ regarding their eating behaviors and personal characteristics.

Eating Attitude Responses and Classification of Subjects

Mean Eating Attitude Test (EAT) and Bulimia Test (BULIT) scores were 15.7 and 63.3 respectively for the 288 university subjects of all weights with no history of eating disturbances and 16.3 and 63.8 respectively for the 227 average weight subjects with no history of eating disturbances. One hundred and six of the 227 average weight subjects were categorized into non-weight preoccupied (NWP) and weight preoccupied (WP) groups on the basis of their EAT and BULIT scores. Lower and upper limit scores of 10 and 25 on the EAT and 53 and 85 on the BULIT were selected based on previous research (Garner & Garfinkel, 1979; Smith & Thelen, 1984; Thompson & Schwartz, 1982). Cut-off scores corresponded to the 36th and 85th percentiles for the normal weight sample. The NWP group was comprised of 51 subjects scoring at or below the 36th percentile for the sample on both the EAT and BULIT. The WP group, consisting of 55

subjects, was subclassified into anorexic-like (WPA), bulimic-like (WPB), and anorexic- and bulimic-like (WPAB) groups, as illustrated in Table 3. Subjects scoring above the 85th percentile on both the EAT and BULIT were categorized as WPAB, whereas those scoring above the 85th percentile on the EAT only were classified as WPA and those

Table 3
Group Classification of Nonclinical Subjects

		BULIT	
	53 or lower (36th percentile)	54-84	85 or higher (85th percentile)
10 or lower (36th percentile)	NWP n = 51		WPB n = 17
EAT 11-24		(Midrange n = 121)	
25 or higher (85th percentile)	WPA n = 18		WPAB n = 20

note. NWP=Non-Weight Preoccupied; WPA=Anorexic-Like; WPB=Bulimic-Like; WPAB=Anorexic- and Bulimic-Like.

scoring above the 85th percentile on the BULIT only were classified as WPB. One hundred and twenty-one other average weight subjects who scored in the midrange on the EAT and the BULIT were not considered in group comparisons on dependent measures but were included with other university subjects in assessing structure and reliability of measures developed for the study.

The eating disorder (ED) group consisted of 41 subjects subclassified into anorexia nervosa-restricting (EDA), anorexia nervosa-bulimic (EDAB), and bulimia nervosa (EDB)

groups based on DSM-III-R criteria, as previously discussed. Mean EAT and BULIT scores of 62.9 and 103.1 respectively for anorexia nervosa (restricting and bulimic) subjects and 46.8 and 113.0 respectively for bulimia nervosa subjects were found. Scores for nonclinical and clinical groups are similar to those reported in the initial validation studies of the EAT (Garner & Garfinkel, 1979) and BULIT (Smith & Thelen, 1984) and in subsequent research (e.g., Button & Whitehouse, 1981; Irving et al., 1988; Shefer, 1987; Yates & Sambrailo, 1984).

Mean EAT and BULIT scores and standard deviations for the NWP, three WP, and three ED groups are presented in Table 4. As would be expected, scores significantly differed among groups for the EAT, $F(6,140) = 79.3$, $p < .0001$, and the BULIT, $F(6,140) = 105.2$, $p < .0001$. Specific pairwise comparisons (Tukey HSD procedure) indicated that EAT and BULIT means were generally significantly higher for the WP groups than the NWP groups and, in turn, for the ED groups than the WP groups (see Table 4). Both restricting and bulimic anorexics (EDA and EDAB) had significantly higher scores on the EAT than bulimics (EDB) and both bulimic anorexics and bulimics (EDAB and EDB) had significantly higher scores on the BULIT than restricting anorexics (EDA). These differences indicate concurrence between the identification of clinical groups by diagnosis

Table 4
Eating Attitude Responses of Non-Weight Preoccupied (NWP), Weight Preoccupied (WPA, WPAB, WPB), and Eating Disorder (EDA, EDAB, EDB) Groups

	Non-Weight Preoccupied	Weight Preoccupied			Eating Disorder		
	(n=51)	WPA (n=18)	WPAB (n=20)	WPB (n=17)	EDA (n=11)	EDAB (n=9)	EDB (n=21)
EAT[a]							
M	6.8	35.2	36.2	16.4	65.5	59.8	46.8
SD	2.0	9.0	9.6	4.4	21.0	20.0	16.5
BULIT[b]							
M	46.6	69.3	96.4	89.1	95.3	113.8	113.0
SD	4.3	13.2	11.8	4.6	22.4	23.2	17.4

note. WPA=Anorexic-like; WPAB=Anorexic- and Bulimic-like; WPB=Bulimic-like; EDA=Anorexia Nervosa, Restricting; EDAB=Anorexia Nervosa, Bulimic; EDB=Bulimia Nervosa.
[a]NWP < WPB < WPA = WPAB < EDB < EDAB = EDA, Tukey HSD test, $p < .05$
[b]NWP < WPA < WPB = WPAB = EDA < EDB = EDAB, Tukey HSD test, $p < .05$

and test scores. However, overlap in the constructs of anorexia nervosa and bulimia nervosa is reflected by the high EAT scores of the bulimic group and the high BULIT scores of the anorexic groups relative to nonclinical groups.

Profiles of eating attitude scores for the weight preoccupied groups, for which the EAT and the BULIT were criterion measures, were similar to those for the eating disorder groups. These patterns provide some validation for the identification of nonclinical eating disturbance subgroups that parallel eating disorder subtypes in terms of eating and weight behaviors and attitudes.

Descriptive Characteristics

Demographic Data

The majority of the 355 research participants were young (M = 19.4), single (91.3%), Caucasian (92.4%), and of middle SES (Hollingshead parental M = 42.1). Average weight for the total sample was 129.2 lbs. Demographic characteristics were similar among the 147 ED, WP, and NWP groups and subgroups, with no significant differences in age, education, and SES of parents (F tests, $p > .05$) (see Table 5). There were also no significant NWP, WP, and ED group differences in marital status (89.8% single), or race (94.6% Caucasian) (X^2 tests, $p > .05$). Weight varied significantly among groups, $F(6,140) = 14.9$, $p < .0001$. By nature of the definition and diagnosis of anorexia nervosa, the average weights of restricting and bulimic anorexics were below average and significantly lower than each of the other groups (Tukey HSD procedure, $p < .05$) (see Table 5).

Clinical Characteristics of Eating Disorder Subjects

The eating disorder sample was heterogeneous concerning age of onset of disorder (11 to 24 years, M = 16.4) and duration of disorder (1 to 20 years, M = 3.2) (see Table 6). Most of the clinical respondents (82.9%) had received treatment at some time and 24 (58.8%) were currently in treatment. Eight subjects (19.5%) had been hospitalized in the past and three (7.3%) were inpatients at the time of the study. There were no significant differences in age of

Table 5
Demographic Data for Non-Weight Preoccupied (NWP), Weight Preoccupied (WPA, WPAB, WPB), and Eating Disorder (EDA, EDAB, EDB) Groups

	Non-Weight Preoccupied	Weight Preoccupied			Eating Disorder		
	(n=51)	WPA (n=18)	WPAB (n=20)	WPB (n=17)	EDA (n=11)	EDAB (n=9)	EDB (n=21)
Age							
M	20.0	19.2	18.8	18.8	18.7	19.7	20.0
SD	4.5	3.3	1.4	1.6	1.4	3.5	3.8
Weight (lbs.)[a]							
M	125.4	130.1	129.1	135.1	99.8	107.9	126.5
SD	13.7	11.8	10.5	9.3	12.2	10.9	8.6
Education[b]							
M	3.0	3.0	3.0	3.0	3.2	3.0	2.9
SD	.0	.0	.0	.0	.7	1.2	.8
SES[bc] (father)							
M	39.2	34.9	44.1	42.9	32.8	31.5	34.2
SD	16.0	20.5	11.2	15.0	15.0	14.9	14.8
SES[bd] (mother)							
M	42.3	41.0	48.1	46.8	38.9	45.3	39.8
SD	17.4	18.5	12.7	16.6	19.1	19.0	18.6

note. WPA=Anorexic-like; WPAB=Anorexic and Bulimic-like; WPB=Bulimic-like; EDA=Anorexia Nervosa, Restricting; EDAB=Anorexia Nervosa, Bulimic; EDB=Bulimia Nervosa.
[a]EDA = EDAB < NWP = EDB = WPAB = WPA = WPB, Tukey HSD test, $p < .05$
[b]Hollingshead (1957) educational and parental social position scales
[c]$n = 136$
[d]$n = 100$

onset, duration of disorder, current and previous treatment, type of treatment, and length of treatment among eating disorder subgroups (F and X^2 tests, $p > .05$).

Extreme food restriction and fasting regularly occurred among 17 (81.0%) of the bulimics and all of the anorexics, although several anorexics did not view their food abstinence as unusual or deliberate. Vomiting was employed as a purging and weight control method by eight (88.9%) of

Table 6
Clinical Characteristics of Eating Disorder Subjects[a]

	Anorexia Nervosa, Restricting (EDA) (n = 11)	Anorexia Nervosa, Bulimic (EDAB) (n = 9)	Bulimia Nervosa (EDB) (n = 21)
Age of Onset			
M	15.5	16.8	16.8
SD	1.4	3.3	2.1
Duration of Disorder			
M	3.3	2.8	3.3
SD	2.4	1.5	4.3
Currently in Treatment			
n	7	6	11
(%)	63.6	66.7	52.4
Length of Treatment (months)[b]			
M	7.5	6.9	6.7
SD	7.1	6.0	6.2

[a]no differences were statistically significant, F and X^2 tests, p >.05
[b]n = 24

the bulimic anorexics and 15 (71.4%) of the bulimics. Four (36.4%) of the restricting anorexics reported vomiting once a month or less due to abdominal discomfort. Frequent laxative use (43.9%) and excessive exercise (70.7%) occurred among all groups. Six (28.6%) of the bulimics reported a history of anorexia nervosa. Relationships between anorexia nervosa and bulimia nervosa are evident in the findings of anorexic histories for bulimics and fulfillment of diagnostic criteria for both bulimia nervosa and anorexia nervosa by bulimic anorexics.

Representativeness of Current Samples

Demographic characteristics and EAT and BULIT responses for the current eating disorder and nonclinical samples were

comparable to those reported in previous research (e.g., Button & Whitehouse, 1981; Garner & Garfinkel, 1979; Irving et al., 1988; Shefer, 1987; Smith & Thelen, 1984; Yates & Sambrailo, 1984). Clinical features of the eating disorder subjects were also consistent with other reports (e.g., see Bemis, 1978; Gandour, 1984; Garfinkel & Garner, 1982; Schlesier-Stropp, 1984). Similarity of demographics, eating attitudes, and clinical features to other studies facilitates research comparisons and enhances generalizability. However, as in much of the eating disorder research, respondents were primarily young, single, Caucasian, middle SES women and caution should be exercised in generalizing results beyond this population.

Psychometric Characteristics of the ACQ, SDQ, and SRCQ

Principal components analyses, internal reliability analyses (alpha), and test-retest correlations were conducted to examine the structure and reliability of the ACQ, SDQ, and SRCQ. Principal components analyses employed only the university sample due to the small size of the eating disorder sample. Internal reliability analyses were done separately for university (n = 314) and eating disorder (n = 41) subjects. Test-retest reliability information was available only for university subjects.

Appearance Compliance Questionnaire (ACQ)

The 20 items of the ACQ (see Appendix D) were analyzed with a principal components extraction and varimax rotation.

On the basis of size of eigenvalues (> 1) and scree analysis, five components, which accounted for 54.4% of the variance, were rotated. Using a loading criterion of .40 (16% of variance in common with a component), 19 of the 20 items loaded on only one of the three components, suggesting distinct subareas. Three components, accounting for 42.7% of the variance, were interpreted. The component matrix with salient (> .40) loadings is reproduced in Table 7.

Component 1, accounting for 25.3% of the variance, included seven of the eight items intended to reflect the motives of attractiveness and social approval in the pursuit of thinness and two Importance of Appearance items which involved a focus on body appearance. Component 1 was labelled Appearance and Social Approval. Component 2, accounting for 10.5% of the variance,reproduced the six items relating to susceptibility to the media and was labelled Media Susceptibility. Component 3, accounting for 6.8% of the variance, included two items pertaining to the importance of appearance as opposed to health and comfort. Although two variables are often insufficient to define a component, the component may be considered reliable if the items are correlated with each other and not with other variables (Tabachnick & Fidell, 1983). Since the two Component 3 items were primarily and significantly correlated with each other ($\underline{r}$ = .31, $\underline{p}$ < .0001), with lower

correlations with other items, they were retained as representative of Looks vs. Health/Comfort.

Table 7
Component Loadings > .40 for Principal Components Analysis of Appearance Compliance Questionnaire (ACQ)

	Component				
Item	1	2	3	4	5
A ACQ5	.77				
A ACQ11	.69				
I ACQ14	.66				
S ACQ12	.65				
S ACQ3	.64				
S ACQ16	.62				
S ACQ8	.54				
A ACQ15	.43				
I ACQ9	.40				
M ACQ10		.79			
M ACQ2		.77			
M ACQ20		.70			
M ACQ17		.67			
M ACQ4		.61			
M ACQ7		.48			
A ACQ18			.79		
I ACQ19			.68		
I ACQ13				.83	
I ACQ1				.48	.60
I ACQ6					.52
Percent of Variance	25.3	10.5	6.8	6.2	5.6
Label	Appearance and Social Approval	Media Susceptibility	Looks vs. Health/ Comfort	not interpreted	

note. Intended Content of Items:
A = Motive of Attractiveness in Pursuit of Thinness
S = Motive of Social Approval in Pursuit of Thinness
I = Importance of Appearance
M = Susceptibility to Media

Component 4, accounting for 6.2% of the variance and consisting of one primary item, was not considered interpretable as the item was weakly correlated with other items and total score and was not seen as representative of any sole important dimension. Component 5, accounting for 5.6% of the variance, included two items relating to general concern with appearance. Component 5 items were not interpreted as they had a significant but fairly low correlation with each other ($r = .14$, $p < .005$), as well as low correlations with other factors and the total scale, possibly due to the minimal variability of the scores.

As the principal components analysis suggested three empirically and conceptually distinct areas of the ACQ, three subscales based on the components were devised and employed as measures in major analyses. Subscale scores consisted of summed scores of items with primary salient loadings. This method was considered the most directly interpretable and appropriate as variability did not differ greatly among the items, components were distinct with fairly high loadings, and scores were to be employed for a subsample of the subjects as well as a separate sample (Comrey, 1973; Gorsuch, 1974; Tabachnick & Fidell, 1983).

Internal reliabilities of the subscales were assessed with Cronbach alpha coefficients for university and eating disorder samples separately. Alpha coefficients for the Appearance and Social Approval (Component 1) and Media

Susceptibility (Component 2) subscales were .81 and .79 respectively for the university sample and .83 and .74 respectively for the eating disorder sample, indicating a satisfactory degree of internal consistency that is similar for both samples. Low to moderate alpha coefficients for the two-item Looks vs. Health/Comfort subscale (Component 3) (.49 for the university sample and .61 for the eating disorder sample) reflected the less adequate moderate correlation between these items. A reliability analysis of all retained ACQ items indicated high internal consistency for the scale as a whole, with alpha coefficients of .84 for university subjects and .85 for eating disorder subjects.

Test-retest reliability was assessed for the university sample by the correlation between the first and second administrations of the ACQ. A Pearson product-moment correlation coefficient of .86 ($p < .0001$) was obtained, indicating high stability of responses over the 3 week period.

Self-Definition Questionnaire (SDQ)

The 16 items of the SDQ (see Appendix E) were analyzed with a principal components extraction and varimax rotation. On the basis of size of eigenvalues (> 1) and scree analysis, five components, accounting for 58.1% of the variance, were rotated. Items with loadings of .40 and above were considered meaningful for a particular component. Three components, accounting for 45.0% of the variance were

interpreted. Salient (> .40) loadings for the SDQ are presented in Table 8.

Component 1, accounting for 24.0% of the variance, included the four items intended to reflect a reliance on others for definition of self and one item relating to attempts to please men (this item also had a moderate secondary loading of .37 on Component 2). Component 1 was labelled Defining Self by Others. Component 2, which accounted for 12.2% of the variance, consisted of items designed to reflect emphasis on men and heterosexual relationships and was given the label of Relationships with Men. Of the six items intended to assess denial of needs, four items loaded on Component 3 and two items loaded on Component 4. Component 3, which accounted for 8.8% of the variance, was retained as representative of Denying Needs. Component 4 items were not interpreted as they had a significant but fairly low correlation with each other (r = .15, p < .003) as well as low correlations with other factors and with the total scale. Component 5, which consisted of one item accounting for 6.4% of the variance, was not considered interpretable as it was weakly correlated with other items and the total scale and was not seen as representative of any sole important dimension.

As the principal components analysis suggested three empirically and conceptually distinct areas of the SDQ, three subscales were devised by summing responses to items

loading at least .40 on Components 1 to 3. Internal reliabilities of the subscales were assessed with Cronbach alpha coefficients for university and eating disorder samples separately. Alpha coefficients for the Defining Self by Others (Component 1) and Relationships with Men

Table 8
Component Loadings > .40 for Principal Components Analysis of Self-Definition Questionnaire (SDQ)

	Component				
Item	1	2	3	4	5
S SDQ3	.78				
S SDQ6	.77				
S SDQ13	.67				
S SDQ10	.61				
R SDQ14	.48				
R SDQ9		.77			
R SDQ15		.76			
R SDQ8		.73			
R SDQ5		.64			
N SDQ16			.76		
N SDQ7			.64		
N SDQ1			.57		
N SDQ11			.48		
N SDQ2				.74	
N SDQ4				.67	
R SDQ12					.89
Percent of Variance	24.0	12.2	8.8	6.8	6.4
Label	Defining Self by Others	Relationships With Men	Denying Needs	Not interpreted	

note. Intended Content
S = Definition of Self Through Others
R = Emphasis on Relationships With Men
N = Denying Own Needs

(Component 2) subscales were .75 and .74 respectively for the university sample and .77 and .83 respectively for the eating disorder sample, indicating satisfactory internal consistency for both samples. Internal reliability for the Denying Needs subscale was satisfactory for the eating disorder sample (.73) and less adequate for the university sample (.57). A reliability analysis of all retained SDQ items indicated that the SDQ was internally reliable as a total scale, with alpha coefficients of .79 for university subjects and .83 for eating disorder subjects.

Test-retest reliability was assessed for the university sample by the correlation between the first and second administrations of the SDQ. A Pearson product-moment correlation coefficient of .81 ($p < .0001$) was obtained, indicating high reliability over the 3 week period.

Sex Role Conflict Questionnaire

The 16 items of the SRCQ (see Appendix F) were analyzed with a principal components extraction and varimax rotation. On the basis of size of eigenvalues (> 1) and scree analysis, three components, which accounted for 49.3% of the variance, were rotated. However, eight (one-half) of the SRCQ items loaded (> .40) on more than one component and loadings were approximately equal for three items, indicating complexity of structure. Further, the loadings did not appear to be consistent with distinct conceptual dimensions of sex role conflict. As components were not

clearly defined and the SRCQ had a high degree of internal consistency, the SRCQ was retained as a single general measure of sex role conflict. Alpha coefficients were .86 for both the university sample and the eating disorder sample.

Test-retest reliability for the SRCQ was assessed for the university sample by the correlation between the first and second administrations of the SRCQ. A Pearson product-moment correlation coefficient of .76 ($p < .0001$) was obtained, indicating adequate stability over the 3 week period.

Intercorrelations of Sex Role-Related Measures

Pooled within-group correlations among the 13 sex role-related scales for the seven non-weight preoccupied, weight preoccupied, and eating disorder groups were examined to determine the degree to which the measures were related. As seen in Table 9, correlations ranged from very low to moderately strong. Of the 78 correlation coefficients, 39 (50%) were low (.00 to .20, 0 to 4% shared variance, $p > .01$), indicating weak relationships. Twenty-eight of the correlations (36%) were indicative of low to moderate associations (coefficients of .21 to .39 , 4 to 15% shared variance, $p < .01$), and 11 correlations (14%) suggested moderately strong relationships (coefficients of .40 to .53, 16 to 28% of the variance, $p < .001$).

The strongest correlations involved ACQ Scales 1 (Appearance and Social Approval) and 2 (Media

Susceptibility), SDQ Scales 1 (Defining Self by Others) and 2 (Relationships with Men), ACQ Scale 1 and SDQ Scale 1, SDQ Scale 3 (Denying Needs) and SRCQ (Sex Role Conflict), PAQ MFp (Masculinity-Femininity) and SDQ Scale 1, PAQ Mp

Table 9
Intercorrelations Among Measures for Non-Weight Preoccupied (NWP), Weight Preoccupied (WPA, WPAB, WPB), and Eating Disorder (EDA, EDAB, EDB) Subjects

	ACQ Scale 1	ACQ Scale 2	ACQ Scale 3	SDQ Scale 1	SDQ Scale 2	SDQ Scale 3	SRCQ
ACQ Scale 2	.47						
ACQ Scale 3	.29	.18					
SDQ Scale 1	.49	.38	.26				
SDQ Scale 2	.36	.28	.15	.44			
SDQ Scale 3	.18	-.04	.08	.37	.12		
SRCQ	.27	.02	.07	.34	.04	.53	
PAQ MFp	-.38	-.21	-.17	-.52	-.37	-.30	-.26
PAQ Mp	-.22	.06	-.10	-.30	-.18	-.45	-.29
PAQ Mn	.02	-.01	-.00	-.03	.00	-.10	-.11
PAQ Fp	.03	.16	-.04	.05	.23	-.03	.05
PAQ Fvan	.24	.23	.20	.24	.21	.06	.19
PAQ Fcn	.20	.15	.13	.35	.31	.22	.17

Table 9 (cont.)

	PAQ MFp	PAQ Mp	PAQ Mn	PAQ Fp	PAQ Fvan
PAQ Mp	.47				
PAQ Mn	.33	.12			
PAQ Fp	-.32	.08	-.53		
PAQ Fvan	-.15	-.20	.44	-.18	
PAQ Fcn	-.53	-.42	-.20	.26	.21

note. ACQ Scale 1=Appearance and Social Approval; ACQ Scale 2=Media Susceptibility; ACQ Scale 3=Looks vs. Health/Comfort; SDQ Scale 1= Defining Self By Others; SDQ Scale 2=Relationships with Men; SDQ Scale 3=Denying Needs; SRCQ=Sex Role Conflict; PAQ MFp=Masculinity-Femininity; PAQ Mp=Masculinity; PAQ Fp=Femininity; PAQ Mn=Negative Masculinity; PAQ Fvan=Verbal Aggressiveness; PAQ Fcn=Negative Communion.

(Positive Masculinity) and SDQ Scale 3, PAQ MFp and PAQ Mp, PAQ MFp and PAQ Fcn (Negative Femininity, Communion), PAQ Mp and PAQ Fcn, PAQ Fp (Positive Femininity) and PAQ Mn (Negative Masculinity), and PAQ Mn and PAQ Fvan (Negative Femininity, Verbal Aggressiveness). Intercorrelations indicate that, although not all of the scales were correlated, the measures share variance and some of the scales may assess related or overlapping constructs.

Group Differences in Sex Role-Related Responses

The primary research questions regarded comparisons among the responses of eating disorder (ED), weight preoccupied (WP), and non-weight preoccupied (NWP) subjects to sex role-related measures. It was hypothesized that ED subjects would respond in a more symptomatic direction than NWP and WP subjects and that WP subjects would respond more symptomatically than NWP subjects on measures of all sex role-related variables, with the exception of positive expressive femininity. Secondary research questions concerned sex role-related differences among ED (EDA, EDAB, EDB) and WP (WPA, WPAB, WPB) subgroups.

The research hypotheses and questions were addressed with planned complex and pairwise multivariate and univariate contrasts. Primary predictions involved ED (EDA + EDAB + EDB), WP (WPA + WPAB + WPB), and NWP groups and secondary questions concerned EDA, EDAB, and EDB subgroups and WPA, WPAB, and WPB subgroups. The data were first

analyzed with multivariate F-tests of mean differences between groups or subgroups in scores on combined measures. The relative importance of individual measures was evaluated with univariate F-tests and stepwise discriminant analyses with measures as predictor variables of group membership.[3] Means and standard deviations for all groups are presented in Table 10.

Evaluation of normality, linearity, and multicollinearity prior to major analyses indicated no major violations of assumptions. Testing for homogeneity of variance-covariance matrices for the seven groups was not possible due to the small sample sizes of the EDA and EDAB groups relative to the number of dependent measures (Tabachnick & Fidell, 1983). However, homogeneity of variance among groups was established for each dependent measure (Bartlett-Box F-tests, $p > .05$) and homogeneity of covariance was found when the EDA and EDAB subgroups were combined and when the data were classified into NWP, WP, and ED groups (Box's M tests, $p > .05$). As the subject numbers of the EDA and EDAB groups were small for analysis of

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[3]An alternative approach would involve an omnibus analysis, such as multivariate analysis of variance (MANOVA), followed by univariate analyses of variance (ANOVAs) and other procedures to evaluate the contributions of individual measures, and post-hoc comparisons. Such an approach is less relevant and appropriate than planned contrasts when particular comparisons are of a priori interest as it considers all possible sources of differences among groups and may result in increased Type I errors or decreased power (Harris, 1985; Tabachnick & Fidell, 1983).

Table 10
Means and Standard Deviations of Measures for Non-Weight Preoccupied (NWP), Weight Preoccupied (WPA, WPAB, WPB), and Eating Disorder (EDA, EDAB, EDB) Groups

		Non-Weight Preoccupied	Weight Preoccupied			Eating Disorder		
		(n=51)	WPA (n=18)	WPAB (n=20)	WPB (n=17)	EDA (n=11)	EDAB (n=9)	EDB (n=21)
ACQ Scale 1 (Appearance and Social Approval)	M	21.8	30.0	30.6	29.8	35.7	34.7	34.0
	SD	5.5	7.4	6.2	6.0	6.7	8.3	6.9
ACQ Scale 2 (Media Susceptibility	M	20.4	22.3	23.0	21.3	19.4	25.2	21.8
	SD	4.9	5.4	3.9	6.2	7.0	3.1	4.3
ACQ Scale 3 (Looks vs. Health/Comfort)	M	3.5	3.6	3.9	3.5	4.3	4.7	5.3
	SD	1.6	1.7	2.0	1.8	1.7	2.0	2.1
SDQ Scale 1 (Defining Self By Others)	M	13.4	14.4	15.3	14.8	15.7	19.3	16.7
	SD	2.9	3.9	3.7	4.1	3.1	4.5	4.3
SDQ Scale 2 (Relationships With Men)	M	12.9	13.4	14.5	13.9	10.2	15.8	14.4
	SD	3.4	4.6	4.2	3.6	3.2	3.3	3.3
SDQ Scale 3 (Denying Needs)	M	8.2	9.2	9.9	9.2	14.1	15.4	13.0
	SD	2.1	2.8	2.4	2.6	3.4	3.3	3.4
SRCQ (Sex Role Conflict)	M	41.1	42.5	50.2	48.1	57.4	58.9	52.4
	SD	9.1	11.2	9.0	11.4	6.7	12.4	11.5
PAQ MFp (Masculinity-Femininity)	M	13.5	14.5	12.1	12.8	11.4	7.7	10.4
	SD	3.9	4.2	3.8	4.2	3.2	2.1	3.7
PAQ Mp (Masculinity)	M	20.1	21.1	18.0	18.9	17.4	13.0	16.1
	SD	4.5	3.2	4.6	4.6	4.2	4.1	3.0
PAQ Fp (Femininity)	M	24.2	25.2	24.3	24.7	25.4	25.1	24.1
	SD	3.8	3.7	4.4	5.5	6.2	3.2	4.8
PAQ Mn (Negative Masculinity)	M	11.5	11.4	11.0	12.9	8.1	11.2	10.4
	SD	3.9	5.2	4.8	5.1	3.9	5.0	4.8
PAQ Fvan (Verbal Aggressiveness)	M	8.4	6.9	7.7	8.4	6.5	9.1	7.8
	SD	2.3	3.2	3.5	2.8	3.1	3.6	2.1
PAQ Fcn (Negative Communion)	M	7.3	7.3	7.3	7.6	8.8	8.9	8.6
	SD	2.2	2.2	2.0	2.9	1.7	2.0	2.0

note. WPA=Anorexic-like; WPAB=Anorexic and Bulimic-like; WPB=Bulimic-like; EDA=Anorexia Nervosa, Restricting; EDAB=Anorexia Nervosa, Bulimic; EDB=Bulimia Nervosa.

multiple dependent measures, conclusions regarding contrasts involving the EDA and EDAB subgroups are considered tentative.

Eating Disorder (ED), Weight Preoccupied (WP), and Non-Weight Preoccupied (NWP) Group Contrasts

Visual inspection of the patterns of group means of the measures in Table 10 suggests that the major differences in scores on measures among groups corresponded to the study's primary interests involving eating disorder (ED), weight preoccupied (WP), and non-weight preoccupied (NWP) groups. Mean scores and standard deviations for the measures for the ED (combined EDA, EDAB, EDB subgroups), WP (combined WPA, WPAB, and WPB subgroups), and NWP groups are provided in Table 11.

Differences in the scores for the linear combination of measures among ED, WP, and NWP groups were first investigated. Three complex contrasts were tested: EDA + EDAB + EDB vs. NWP; EDA + EDAB + EDB vs. WPA + WPAB + WPB; and WPA + WPAB + WPB vs. NWP. A setwise Type I error rate ($p < .05$) was employed to adjust for multiple nonorthogonal contrasts (Harris, 1985; Marascuilo & Serlin, 1988). Results of F-tests for multivariate group contrasts, using Wilks Lambda as the criterion for statistical inference, are summarized in Table 12. For all three of the ED, WP, NWP contrasts, F-tests were statistically significant for the combination of measures. Assessments of strength of

Table 11
Means and Standard Deviations of Measures for Non-Weight Preoccupied (NWP), Weight Preoccupied (WP), and Eating Disorder (ED) Groups

		Non-Weight Preoccupied (n = 51)	Weight Preoccupied (n = 55)	Eating Disorder (n = 41)
ACQ Scale 1 (Appearance and Social Approval)	M	21.8	30.2	34.6
	SD	5.5	6.5	7.0
ACQ Scale 2 (Media Susceptibility	M	20.4	22.3	21.9
	SD	4.9	5.1	5.3
ACQ Scale 3 (Looks vs. Health/Comfort)	M	3.6	3.7	4.9
	SD	1.6	1.8	2.2
SDQ Scale 1 (Defining Self By Others)	M	13.4	14.8	17.0
	SD	2.9	3.9	4.2
SDQ Scale 2 (Relationships With Men)	M	12.9	14.0	13.6
	SD	3.4	4.1	3.8
SDQ Scale 3 (Denying Needs)	M	8.2	9.4	13.8
	SD	2.1	2.6	3.4
SRCQ (Sex Role Conflict)	M	41.1	47.0	55.2
	SD	9.1	10.9	10.8
PAQ MFp (Masculinity-Femininity)	M	13.5	13.1	10.0
	SD	3.6	4.2	3.6
PAQ Mp (Masculinity)	M	20.1	19.3	15.8
	SD	4.3	4.4	3.9
PAQ Fp (Femininity)	M	24.2	24.7	24.7
	SD	3.8	4.5	4.9
PAQ Mn (Negative Masculinity)	M	11.6	11.7	10.0
	SD	3.9	5.0	4.7
PAQ Fvan (Verbal Aggressiveness)	M	8.4	7.7	7.8
	SD	2.3	3.2	2.9
PAQ Fcn (Negative Communion)	M	7.3	7.4	8.7
	SD	2.2	2.3	1.9

association (n^2) further indicated that membership in ED, WP, and NWP groups accounted for a substantial proportion of variance in the combined scores (see Table 12).

Table 12
Results of Multivariate F-tests and n^2 for Group Contrasts

Contrast	Multivariate F(13,128)	n^2
ED (EDA + EDAB + EDB) vs. NWP	13.17***	.57
ED (EDA + EDAB + EDB) vs. WP (WPA + WPAB + WPB	5.83***	.37
WP (WPA + WPAB + WPB) vs. NWP	4.83***	.33
WPA vs. WPAB	1.16	.11
WPA vs. WPB	.74	.07
WPB vs. WPAB	.47	.05
EDA vs. EDAB	2.78**	.22
EDA vs. EDB	2.23*	.18
EDB vs. EDAB	1.23	.11

note. NWP=Non-Weight Preoccupied; WP=Weight Preoccupied; WPA=Anorexic-like; WPAB=Anorexic- and Bulimic-like; WPB=Bulimic-like; ED=Eating Disorder; EDA=Anorexia Nervosa, Restricting; EDAB=Anorexia Nervosa, Bulimic; EDB=Bulimia Nervosa.

* statistically significant at the setwise .05 alpha level
** statistically significant at the setwise .01 alpha level
*** statistically significant at the setwise .001 alpha level

Multivariate results indicate that scores on the combined measures significantly differed among ED, WP, and NWP groups. Inspection of group means in Table 11 suggests a general pattern of more symptomatic scores for the ED group than the WP group, and more symptomatic scores for the

WP group than the NWP group. The contributions of individual measures to group differences for each contrast were examined with univariate F-tests of mean differences, assessments of strength of association (n^2), and stepwise discriminant analyses with measures as predictors of group membership.

As summarized in Tables 13 to 15, univariate F-tests for the ED vs. NWP and ED vs. WP contrasts were statistically significant for 8 of the 13 measures and F-tests for the WP vs. NWP contrast were significant for three of the 13 measures. The ED group differed significantly from both the WP and the NWP groups on ACQ Scale 1, ACQ Scale 3, SDQ Scale 1, SDQ Scale 3, SRCQ, PAQ Fcn, PAQ MFp, and PAQ Mp. Women with eating disorders reported significantly greater motives of appearance and social approval in body focus, emphasis on appearance vs. health, definition of self through others, denial of needs, sex role conflict, and negative feminine communion characteristics than women with weight preoccupations and women with no weight preoccupations. Women with eating disorders also reported significantly lower positive masculine instrumental characteristics, whether desirable for men (PAQ Mp) or both men and women (PAQ MFp) than women with weight preoccupations or no weight preoccupations.

Differences between the WP and NWP groups reached statistical significance for ACQ Scale 1, SDQ Scale 3, and

SRCQ. Reports of motives of appearance and social approval in body focus, denial of needs, and sex role conflict were greater for women with weight preoccupations than women with no weight preoccupations. As seen in Tables 13 to 15, the associations between significant measures and group membership were nontrivial to moderately strong. Thus, group differences account for enough of the variance in scores on the measures to be meaningful as well as statistically significant.

No significant differences among ED, WP, and NWP groups were found on five measures: ACQ Scale 2, SDQ Scale 2, PAQ Mn, PAQ Fp, and PAQ Fvan. Women with eating disorders, weight preoccupations, and no weight preoccupations did not vary significantly in their reports of media susceptibility, focus on relationships with men, negative masculine instrumental characteristics, positive feminine communion characteristics, and negative feminine verbal aggressive characteristics.

As measures were interrelated (see Table 9), group differences and associations with group membership are not independent for the individual measures. In order to obtain an assessment of the relative contribution to group differentiation of measures when adjustments for shared variability are made, stepwise discriminant function analyses for each contrast were conducted with measures serving as predictors of group membership. Data were

Table 13
Results of Univariate F-tests, n^2, and Discriminant Function Analysis for Eating Disorder (EDA + EDAB + EDB) vs. Non-Weight Preoccupied (NWP) Contrast

Measure	Univariate F	n^2 (>.05)	Stepwise Discriminant Function Analysis: Step Entered	Stepwise Discriminant Function Analysis: Change in Rao's V
ACQ Scale 1 (Appearance and Social Approval)	87.46***	.38	2	80.50***
ACQ Scale 2 (Media Susceptibility)	2.37			
ACQ Scale 3 (Looks vs. Health/Comfort)	8.86*	.05	8	.58
SDQ Scale 1 (Defining Self By Others)	22.41***	.14	5	3.96
SDQ Scale 2 (Relationships With Men)	.39			
SDQ Scale 3 (Denying Needs)	99.40***	.41	1	99.40***
SRCQ (Sex Role Conflict)	47.59***	.25	3	10.64**
PAQ MFp (Masculinity-Femininity)	20.05***	.12	6	1.87
PAQ Mp (Masculinity)	24.85***	.15	7	1.61
PAQ Mn (Negative Masculinity)	2.71			
PAQ Fp (Femininity)	.47			
PAQ Fvan (Verbal Aggressiveness)	.84			
PAQ Fcn (Negative Communion)	10.01**	.06	4	6.41*

note. EDA=Anorexia Nervosa, Restricting; EDAB=Anorexia Nervosa, Bulimic; EDB=Bulimia Nervosa.

Table 14
Results of Univariate F-tests, n^2, and Discriminant Function Analysis for Eating Disorder (EDA + EDAB + EDB) vs. Weight Preoccupied (WPA + WPAB + WPB) Contrast

Measure	Univariate F	n^2 (>.05)	Stepwise Discriminant Function Analysis: Step Entered	Stepwise Discriminant Function Analysis: Change in Rao's V
ACQ Scale 1 (Appearance and Social Approval)	11.40**	.07	5	2.08
ACQ Scale 2 (Media Susceptibility)	.13			
ACQ Scale 3 (Looks vs. Health/Comfort)	8.19*	.06	2	7.10*
SDQ Scale 1 (Defining Self By Others)	9.46*	.06	4	3.05
SDQ Scale 2 (Relationships With Men)	.39			
SDQ Scale 3 (Denying Needs)	64.04***	.31	1	64.04***
SRCQ (Sex Role Conflict)	18.61***	.12	8	.48
PAQ MFp (Masculinity-Femininity)	16.74***	.11	6	1.02
PAQ Mp (Masculinity)	17.50***	.11	7	.87
PAQ Mn (Negative Masculinity)	3.09			
PAQ Fp (Femininity)	.04			
PAQ Fvan (Verbal Aggressiveness)	.04			
PAQ Fcn (Negative Communion)	8.33*	.06	3	6.11*

note. EDA=Anorexia Nervosa, Restricting; EDAB=Anorexia Nervosa, Bulimic; EDB=Bulimia Nervosa; WPA=Anorexic-like; WPAB=Anorexic- and Bulimic-like; WPB=Bulimic-like.

Table 15
Results of Univariate F-tests, n^2, and Discriminant Function Analysis for Weight Preoccupied (WPA + WPAB + WPB) vs. Non-Weight Preoccupied Contrast

Measure	Univariate F	n^2 (>.05)	Stepwise Discriminant Function Analysis: Step Entered	Stepwise Discriminant Function Analysis: Change in Rao's V
ACQ Scale 1 (Appearance and Social Approval)	51.02***	.24	1	51.02***
ACQ Scale 2 (Media Susceptibility)	3.37			
ACQ Scale 3 (Looks vs. Health/Comfort)	.02			
SDQ Scale 1 (Defining Self By Others)	4.08			
SDQ Scale 2 (Relationships With Men)	1.93			
SDQ Scale 3 (Denying Needs)	6.95*	.05	3	2.02
SRCQ (Sex Role Conflict)	8.86**	.06	2	6.53*
PAQ MFp (Masculinity-Femininity)	.27			
PAQ Mp (Masculinity)	.95			
PAQ Mn (Negative Masculinity)	.08			
PAQ Fp (Femininity)	.33			
PAQ Fvan (Verbal Aggressiveness)	1.57			
PAQ Fcn (Negative Communion)	.03			

note. WPA=Anorexic-like; WPAB=Anorexic- and Bulimic-like; WPB=Bulimic-like.

analyzed using both minimization of Wilk's Lambda and maximization of Rao's V as stepping methods, with similar results. Both methods produce the largest group difference at each step. Change in Rao's V at each step was employed to evaluate the contribution of each measure after adjustment for the variability associated with preceding measures.[4] Results of stepwise discriminant analyses are summarized in Tables 13 to 15.

For the ED vs. NWP contrast, SDQ Scale 3 (Denying Needs) entered into the discriminant function analysis first as the variable that produced the greatest separation between groups, followed by ACQ Scale 1 (Appearance and Social Approval), which was found to add significant unique discriminatory power after adjustment for the variability associated with SDQ Scale 3. Significant increases in discrimination were also demonstrated for SRCQ (Sex Role Conflict) after adjustments for SDQ Scale 3 and ACQ Scale 1, and for PAQ Fcn (Negative Femininity, Communion) after adjustments for ACQ Scale 1, SDQ Scale 3, and SRCQ. No significant additional information regarding group

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[4]Change in Rao's V in stepwise discriminant function analysis is similar to stepdown F as a criterion for significance of variables after adjustment for shared variability with preceding variables. Stepwise discriminant function analysis was selected as it employs statistical criteria for determining order of entry whereas stepdown analysis requires entry of variables according to a predetermined priority which may influence which variables are found to make significant contributions.

differentiation was provided by SDQ Scale 1 (Defining Self by Others), PAQ MFp (Masculinity-Femininity), PAQ Mp (Positive Masculinity), and ACQ Scale 3 (Looks vs. Health/Comfort) after consideration of preceding variables.

The measure most clearly separating ED and WP groups was also SDQ Scale 3 (Denying Needs). The next measure entering the analysis was ACQ Scale 3 (Looks vs. Health/Comfort), which added significant discriminating power after adjustment for SDQ Scale 3. PAQ Fcn (Negative Femininity, Communion) also provided significant unique contributions to group differentiation after adjustments for SDQ Scale 3 and ACQ Scale 3. The other measures that significantly predicted ED and WP group membership on a univariate basis--SDQ Scale 1 (Defining Self by Others), ACQ Scale 1 (Appearance and Social Approval), PAQ MFp (Masculinity-Femininity), PAQ Mp (Positive Masculinity), and SRCQ (Sex Role Conflict)--did not significantly add to discrimination between groups after SDQ Scale 3, ACQ Scale 3, and PAQ Fcn had been considered.

For the WP vs. NWP contrast, ACQ Scale 1 (Appearance and Social Approval) entered the analysis first as the primary variable discriminating between groups. Significant additional discrimination was provided by SRCQ (Sex Role Conflict) after adjustment for ACQ Scale 1. SDQ Scale 3 (Denying Needs), which showed significant univariate group differences did not significantly add to group

discrimination after adjustments for the variability associated with ACQ Scale 1 and SRCQ had been made.

Results of discriminant function analyses indicate that a few of the measures made significant independent contributions to the prediction of group membership for each contrast. Other measures that significantly differentiated groups on a univariate basis did not produce significant increases in discrimination following adjustment for the variability associated with the more powerful measures.

Eating Disorder (ED) and Weight Preoccupied (WP) Subgroup Contrasts

In comparing responses to measures of women in ED and WP subgroups, two sets of three pairwise multivariate contrasts were first tested: EDA vs. EDAB, EDA vs. EDB, and EDAB vs. EDB; and WPA vs. WPAB, WPA vs. WPB, and WPB vs. WPAB. A setwise Type I error rate ($p < .05$) was employed. Results of multivariate subgroup contrasts, using Wilks Lambda as the criterion for statistical inference, are summarized in Table 12. The F-tests for the EDA vs. EDAB and EDA vs. EDB contrasts were significant for the combination of scores and associations between scores and subgroup membership were moderately strong (Table 12). There were no significant differences found among WPA, WPAB, and WPB subgroups.

A pattern of less symptomatic scores for the EDA group than the EDAB group is suggested by the ED subgroup means in

Table 10. Univariate F-tests for the EDA vs. EDAB and EDA vs. EDB contrasts were conducted to determine which measures showed significant subgroup differences. As summarized in Table 16, significant differences between the EDA and EDAB groups were found for four measures: ACQ Scale 2, SDQ Scale 2, PAQ MFp, and PAQ Mp. Women with restricting anorexia nervosa (EDA) reported significantly lower susceptibility to the media, less focus on relationships with men, and greater positive instrumental masculinity than women with bulimic anorexia nervosa (EDAB). Associations between measures and group membership were fairly weak, but not trivial.

A discriminant function analysis with the four significant measures entered as predictor variables was conducted to determine the relative contribution of the measures to EDA, EDAB group differentiation. SDQ Scale 2 (Relationships with Men) entered into the analysis first as the variable most clearly discriminating the EDA and EDAB subgroups. No significant additional discriminating power occurred with the entry of ACQ Scale 2 (Media Susceptibility), PAQ MFp (Masculinity-Femininity), and PAQ Mp (Positive Masculinity) after adjusting for SDQ Scale 2 (Change in Rao's Vs, $p < .05$).

Significant differences between the EDA and EDB groups were found only for SDQ Scale 2 (see Table 16). Women with restricting anorexia nervosa (EDA) reported significantly

Table 16
Results of Univariate F-tests and n^2 for EDA vs. EDAB and EDA vs. EDB Contrasts

Contrast	EDA vs. EDAB		EDA vs. EDB	
Measure	Univariate F	n^2 (>.05)	Univariate F	n^2 (>.05)
ACQ Scale 1 (Appearance and Social Approval)	.14		.50	
ACQ Scale 2 (Media Susceptibility)	6.71*	.05	1.64	
ACQ Scale 3 (Looks vs. Health/Comfort)	.22		2.10	
SDQ Scale 1 (Defining Self By Others)	4.70		.46	
SDQ Scale 2 (Relationships With Men)	11.21**	.07	9.21*	.06
SDQ Scale 3 (Denying Needs)	1.18		1.12	
SRCQ (Sex Role Conflict)	.10		1.83	
PAQ MFp (Masculinity-Femininity)	6.10*	.05	.48	
PAQ Mp (Masculinity)	6.65*	.05	.63	
PAQ Mn (Negative Masculinity)	2.33		.63	
PAQ Fp (Femininity)	.03		1.89	
PAQ Fvan (Verbal Aggressiveness)	4.30		1.52	
PAQ Fcn (Negative Communion)	.00		.06	

note. WPA=Anorexic-like; WPAB=Anorexic- and Bulimic-like; WPB=Bulimic-like; EDA=Anorexia Nervosa, Restricting; EDAB= Anorexia Nervosa, Bulimic; EDB=Bulimia Nervosa.

less focus on heterosexual relationships with men than women with bulimia nervosa (EDB).

It should be noted that sample sizes for the EDA and EDAB subgroups are smaller than desirable for analysis of multiple dependent variables. Thus, results of ED subtype differences are presented tentatively.

DISCUSSION

In this chapter, the results of the study are first considered in terms of the study's hypotheses and research questions. Theoretical and research implications are then discussed in regard to major sex role aspects, the continuity of eating disorders, and eating disorders subtypes. Broader etiological and treatment implications are next suggested. The final section addresses limitations of the study and provides recommendations for future research.

Hypotheses and Research Questions: Summary of Major Findings

Results of the current study confirmed the general hypothesized relationships between eating disturbances and sex role issues. The combination of sex role-related measures showed significant and strong group differences in predicted directions. Sex role responses were most symptomatic for women with eating disorders, intermediate for women with nonclinical weight preoccupations, and least symptomatic for women without weight preoccupations. However, this pattern was not consistent for all individual sex role aspects. Some sex role issues appeared to primarily characterize women with eating disorders and

several factors did not show differences among groups. Reflecting interrelationships among scales, only some of the sex role aspects showing significant group differences provided unique contributions.

Hypotheses regarding more prominent sex role issues for women with eating disorders than women without weight preoccupations were supported for the majority of the scales. Eating disordered women were most strongly differentiated by their greater appearance compliance in terms of emphasis on appearance and social approval in body focus, negative communal characteristics (Fc-), self-definition issues as regards denial of needs, and sex role conflict. Eating disordered women also reported more emphasis on appearance vs. health/comfort, lower positive instrumentality (M, M-F), and greater definition of self through others. However, these differences were redundant with those demonstrated by stronger related factors.

Most of the hypothesized differences were also confirmed between women with eating disorders and those with weight preoccupations. Eating disordered women were primarily distinguished by their greater appearance compliance in regard to emphasis on appearance as opposed to health and comfort, self-definition issues in terms of denial of needs, and negative communal characteristics (Fc-). Other aspects that were more prominent for eating disordered than weight preoccupied women included appearance

and social motives in body focus, positive instrumentality (M, M-F), definition of self through others, and sex role conflict. However, these factors did not uniquely differentiate between groups after consideration of more primary related aspects.

Fewer hypothesized differences were supported between women with weight preoccupations and those without weight preoccupations. Weight preoccupied women were principally differentiated by their greater appearance compliance in terms of emphasis on appearance and social approval in body focus and their conflicts regarding sex roles. Although denial of needs was also greater for weight preoccupied than non-weight preoccupied women, it did not discriminate between groups independently from appearance emphases and sex role conflict.

As expected, no significant group differences were found for positive expressiveness (F). Hypothesized differences were not corroborated for reported susceptibility to the media, emphasis on relationships with men, negative instrumentality (M-), and verbal aggressiveness (Fva-). These sex role aspects did not vary significantly among women with eating disorders, weight preoccupations, and no weight preoccupations.

However, women with restricting anorexia nervosa were strongly differentiated from those with bulimic anorexia nervosa by less emphasis on relationships with men.

Restricting anorexics also reported less media susceptibility and greater desirable masculine instrumentality (M, M-F) than bulimic anorexics but these factors did not discriminate between restricting and bulimic anorexics independently from emphasis on relationships with men. Women with restricting anorexia nervosa significantly differed from those with bulimia nervosa in their reports of less emphasis on relationships with men. No differences in sex role factors were found among weight preoccupied subgroups.

Theoretical and Research Implications

Appearance Compliance

As has been discussed, societal emphases on appearance and the current thin body ideal for women have been increasingly associated with eating disorders (e.g., Boskind-White, 1985; Garner & Garfinkel, 1980; Rodin et al., 1985; Schwartz et al., 1982). However, several writers have proposed that attempts to achieve physical attractiveness and social approval may motivate women with nonclinical weight preoccupations to a greater extent than women with eating disorders (Garner et al., 1984; Garfinkel & Kaplan, 1986; Garfinkel et al., 1987). The current data contradict suggestions of lower appearance-related social conformity by women with eating disorders than those with weight preoccupations. Appearance and social approval motives in body focus were reported by both women with weight

preoccupations and those with eating disorders. Further, reports of a greater emphasis on appearance than on health and comfort were distinctly characteristic of eating disordered women, suggesting that weight preoccupied women may be less likely to pursue ideal appearance to the same extremes as eating disordered women.

Although women with eating disorders and those with weight preoccupations evidently incorporated societal emphases on appearance and ideal body size, they did not report greater media susceptibility. Perhaps media messages regarding fashion and beauty products are less salient than those focused on actual physical body and appearance. Alternatively, individuals are not aware of media influences on their behavior and ideals. There was a suggestion that restricting anorexics may be less susceptible to the media than bulimic anorexics. However, media susceptibility did not contribute independently to group differences in the context of other factors. In addition, small sample sizes preclude definitive conclusions regarding subtypes of eating disorders.

Current results extend the findings of Timko and colleagues (1987), who found that importance of appearance was related to disordered eating in a nonclinical sample. Results also augment the report by Huon and Brown (1984) of a nonsignificant increasing trend for importance of self-presentation ratings among infrequent weighers, frequent

weighers, and anorexia nervosa patients. Despite recognition of societal emphases on appearance for women, the trend toward an increasingly thin body ideal for women, and clinical reports of appearance focus for women with eating disorders, appearance-related considerations in eating disturbances have received little research attention to date.

Expressiveness and Instrumentality

Most researchers initially operationalized sex role factors in eating disturbances in terms of the "femininity" scale and later also the "masculinity" scale of measures such as the BSRI (Bem, 1974) and the PAQ (Spence et al., 1974). However, the positive interpersonally oriented attributes related to emotional warmth and empathy that primarily characterize the BSRI and PAQ F scales have not been a focus of theoretical and clinical presentations of eating disorders. As expected and consistent with most other research employing the BSRI or PAQ (Dunn & Ondercin, 1981; Pettinati et. al, 1987; Sitnick & Katz, 1984; Timko et al., 1987), the current study did not find a relationship between positive expressiveness (EPAQ F) and eating disturbances.

The present study is further in agreement with several investigations with the BSRI in supporting theories that women with eating disorders demonstrate deficits in masculine instrumental characteristics related to

assertiveness and initiative (Pettinati et al., 1987; Sitnick & Katz, 1984). Eating disordered women provided significantly lower ratings on the EPAQ M and M-F scales than both weight preoccupied and non-weight preoccupied women, indicating low positive instrumentality, whether valued for females and males or males only. However, the contribution of positive instrumentality to group differences was not independent from other factors.

The present results suggested greater positive instrumentality for women with restricting anorexia nervosa than those with bulimic anorexia nervosa. However, EPAQ M and M-F did not provide independent group differentiation and subgroup results are tentative due to small sample sizes.

Results of the present study are in contrast to Lewis and Johnson's (1985) finding of low femininity among bulimics, employing the short form of the BSRI. Lewis and Johnson's results are limited by the use of the abbreviated BSRI version, which possesses unclear content areas and is not comparable to the original form (Frable & Bem, 1985). Also contradictory to the current research, Cantelon and associates (1986) found a trend toward a greater proportion of BSRI feminine sex role identity--which requires both high femininity and low masculinity scores--for bulimics than anorexics and controls. However, statistical analysis of sex role categories was not possible due to small subject

numbers and scores on the separate F and M BSRI scales were not reported in the Cantelon et al. (1986) study. In the only other study to employ the PAQ with an eating disordered sample, Katzman and Wolchik (1984) found no differences in sex role orientation among controls, binge eaters, and bulimics. Comparability with the current study is restricted by identification of bulimics by questionnaire responses and the sex role classification approach to analyzing responses. (For example, respondents with low positive masculine and medium positive feminine characteristics would not be represented in feminine, masculine, androgynous, or undifferentiated sex role orientation categories.)

The present study extended investigation of expressiveness and instrumentality in eating disorders to negative characteristics, as assessed by the EPAQ. Results suggest that undesirable feminine communion characteristics (Fc-), relating primarily to self-subordination, are strongly related to eating disorders. Within the context of the 13 sex role aspects, negative communion independently distinguished eating disordered women from both weight preoccupied and non-weight preoccupied women. Thus, women with eating disorders may be particularly identified by subordination of self. That undesirable communal attributes are not simply reflective of a negative bias is evident in

the lack of significant group variations in negative instrumentality (M-) or verbal aggressiveness (Fva-).

Weight preoccupied and non-weight preoccupied women did not significantly differ in expressiveness or instrumentality in the present investigation. Dunn and Ondercin (1981) reported comparable results for the BSRI feminine and masculine scales between women high and low in compulsive eating symptoms. Also in line with the present results, Timko and colleagues (1987) found no significant relationships between PAQ feminine and masculine self-perception ratings and disordered eating among nonclinical subjects. In contrast, Hawkins and associates (1983) reported that disturbed eating was related to EPAQ positive and negative expressiveness and positive instrumentality in their nonclinical samples. The inclusion of overweight respondents in the Hawkins et al. study (1983) may have influenced results. In addition, eating and weight symptoms or history for the subjects were not reported.

Research to date has not produced consistent results concerning responses of women with eating disorders and weight preoccupations to BSRI and PAQ expressive and instrumental scales. Some of the research contradictions may reflect varying methodology. For example, the association between eating disturbances and expressive and instrumental characteristics may be influenced by diagnostic criteria and procedures, clinical features, and demographic

variables. Inconsistent findings also lead to questions regarding the reliability and strength of differences in positive expressiveness and instrumentality as a function of eating and weight symptomatology. The strongest finding of the present study identifies EPAQ negative communion (self-subordination) as distinctive of women with clinical eating disorders. Additional research investigating negative communal characteristics among women with eating disturbances is required to replicate and extend current results.

Self-Definition Issues

There are several aspects of female sex role socialization that are not represented sufficiently by standard measures focusing on expressiveness and instrumentality. Issues related to self-definition have received primary focus in theoretical and clinical presentations of sex role factors in eating disorders. Frequent references have been made to the incorporation by women with eating disorders of female sex role prescriptions regarding reliance on others for definition of self, denial and suppression of individual needs, and emphasis on relationships with men (e.g., Boskind-Lodahl, 1976; Boskind-White & White, 1983; Brown, 1985; Lawrence, 1984a; Orbach, 1978a, 1985a; Root et al., 1986). The current study attempted to empirically investigate the relationship of these sex role aspects to eating disturbances.

Denial of needs emerged as the strongest of the study's 13 sex role aspects in uniquely differentiating between eating disordered women and both non-weight preoccupied and weight preoccupied women. Denying needs was also significantly greater for weight preoccupied than non-weight preoccupied women, although it did not contribute strongly to group differences after consideration of other factors. These data identify disavowal and lack of awareness of individual needs as an issue of particular importance for women with eating disorders. Results are consistent with theoretical and clinical reports of low self-awareness and lack of self-nurturance among women with eating disorders.

Women with eating disorders also reported significantly greater definition of self through others than both women without weight preoccupations and those with weight preoccupations in the current study. This finding supports theoretical and clinical presentations that women with eating disorders tend to rely on other people in perceiving and appraising themselves. However, defining self by others did not provide an independent contribution to group discrimination within the context of other stronger related sex role aspects.

Women with eating disorders have been presented as focusing on relationships with men in self-evaluation (e.g., Boskind-Lodahl, 1976; Boskind-White & White, 1983; Lawrence, 1984b; Orbach, 1985a). The current data did not reveal a

significantly greater emphasis on relationships with men by women with eating disorders or weight preoccupations than those without eating disturbances. However, restricting anorexics emphasized relationships with men to a lesser extent than bulimic anorexics and bulimics. Emphasis on relationships with men was a primary contributor to differentiation between restricting anorexics and both bulimic anorexics and bulimics. Although caution in interpretation is necessary due to small sample sizes, this finding is consistent with reports of less heterosexual interest and greater avoidance of intimacy among women with restricting than bulimic eating disorders (e.g., Abraham & Beumont, 1982; Beumont et al., 1976; Boskind-White & White, 1983; Garfinkel & Garner, 1982).

Sex Role Conflict

Theoretical expositions and clinical descriptions have increasingly referred to the struggles of women with eating disorders to cope with escalating and contradictory sex role demands (e.g., Barnett, 1986; Boskind-White & White, 1986; Lawrence, 1984b; Root et al., 1986). Eating disordered women have also been presented as particularly susceptible to attempts to fulfill "superwomen" roles (Boskind-White & White, 1986; Lawrence, 1984b; Steiner-Adair, 1986).

Previous research has provided some empirical support for the association between eating disturbances and sex role conflict. Dunn and Ondercin (1981) described a discrepancy

between high BSRI masculine ideals and lower self-perceptions for compulsive eaters. The results of Pettinati and colleagues (1987) of low BSRI masculine self-perceptions as well as high feminine ideals for women with eating disorders also suggest ideal-self conflict. Although Cantelon and associates (1986) found no significant differences among anorexics, bulimics, and controls in BSRI ideal-self ratings or role satisfaction, bulimics did report more sex role conflict in response to one direct question.

In Rost and associates' (1982) study, women with bulimic features reported considerable discrepancy between their sex role attitudes and their more traditional sex role behaviors. Heilbrun and Putter's (1986) results indicated that concern with sex role distinctions may be a moderator of stress for women with anorexic-like characteristics. The research of Timko and colleagues (1987) indicated that importance of PAQ masculine characteristics and aspiring to multiple roles may be related to disordered eating for university women. Steiner-Adair's (1986) interviews with adolescent women also suggested that attempts to fulfill "Super Women" roles may be related to disordered eating.

The current research attempted to obtain a comprehensive assessment of sex role conflict. Results confirmed suggestions of considerable conflict, ambivalence and uncertainty regarding desired and expected sex roles among women with eating disorders and nonclinical weight

preoccupations, as compared with women with no eating disturbances. Research to date thus identifies conflict concerning societal prescriptions and the adoption of societal roles for women as a major personal issue among women with eating disturbances. Suggestions by Cantelon and colleagues (1986) of greater sex role conflict for anorexics than bulimics were not corroborated in the present study.

Continuity of Eating Disorders

The current study found that several sex role issues were prominent for women with eating disorders. Some of these issues were also salient to a lesser degree for women with nonclinical weight preoccupations. Certain sex role aspects, such as appearance and social motives in body focus, denial of needs, and sex role conflict appeared to occur along a continuum corresponding to eating disorder severity. Other sex role issues, including importance of appearance vs. health/comfort, negative communion (Fc-), positive instrumentality (M, M-F), and definition of self by others, were primarily distinctive of women with eating disorders.

Findings of the present study are comparable to those of research assessing a variety of psychological features. Whereas some features present in eating disorders have been identified in non-clinical weight preoccupations, others appear to be particular to clinical eating disorders (e.g.,

Clarke & Palmer, 1983; Garner et al., 1984; Katzman & Wolchik, 1984; Thompson & Schwartz, 1982).

To some extent, issues particularly or most strongly distinguishing eating disordered women primarily relate to the possession of self-limiting qualities (subordination, defining self through others, denial of self) along with the relative lack of self-enhancing qualities (low instrumentality). These qualities are not inconsistent with the ego or self deficits and autonomy disturbances in eating disorders referred to by many theorists and therapists (e.g., Bruch, 1973, 1986; Crisp, 1980; Garner, Garfinkel, & Bemis, 1982; Goodsitt, 1985; Selvini Palazzoli, 1974).

Subtypes of Eating Disorders

The degree to which diagnostic eating disorder groupings based on eating attitudes and behaviors actually represent distinct, stable syndromes that are clinically meaningful in terms of psychological functioning, course and prognosis, and treatment has not been established (e.g., Beumont et al., 1976; Calloway et al., 1983; Garner, Olmsted, & Garfinkel, 1985; Mickalide & Anderson, 1985; Wonderlich & Swift, 1988). As previously discussed, there has been some support for the conceptualization of anorexia nervosa and bulimia nervosa as expressions of the same syndrome, with anorexic and bulimic features present to varying degrees (e.g., Guiora, 1967; Holmgren et al., 1983).

Psychological differences among eating disorder subgroups would suggest more enduring and distinctive types. One frequently reported finding is that restricting anorexics demonstrate less extreme psychopathology than other eating disorder subtypes (e.g., Calloway et al., 1983; Mickalide & Anderson, 1985; Robinson et al., 1983; Strober, 1981b), although this pattern has not been consistently reported (e.g., Ben-Tovim et al., 1979; Strauss & Ryan, 1987; Wonderlich & Swift, 1988). Results of the current study were congruent with findings of less symptomatic features for restricting anorexics and of greater similarity between bulimic anorexics and bulimics (Calloway et al., 1983; Casper et al., 1980; Garner, Olmsted, & Garfinkel, 1985; Orleans & Barnett, 1984). However, restricting anorexics were most strongly differentiated from bulimic anorexics and bulimics by less focus on relationships with men, which may reflect a greater tendency toward avoidance of sexuality and intimacy (e.g., Abraham & Beumont, 1982; Beumont et al., 1976; Boskind-White & White, 1983; Garfinkel & Garner, 1982) rather than lack of over-reliance on others. Restricting anorexics also reported significantly less media susceptibility, and greater positive instrumentality (M, M-F) than bulimic anorexics, although these factors were not strong independent contributors to group differences.

Although they did not distinguish between restricting and bulimic anorexics, Cantelon and associates' (1986)

results suggested greater sex role conflict for bulimics than anorexics. However, Srikameswaran and colleagues (1984) reported more conventional sex role ideology, which may suggest greater sex role symptomatology for anorexics than bulimics. In the only other study to examine sex role differences among restricting anorexic, bulimic anorexic, and bulimic subtypes, Pettinati and colleagues (1987) found no group differences in BSRI ratings.

It should be noted that all three eating disorder groups showed similar patterns of responses in relation to the nonclinical groups for most variables. In addition, interpretation of subtype results is constrained by small subgroup sample numbers. Current results provide preliminary indications of eating disorder subtype variations in sex role issues that may be of interest to pursue in further research.

Broader Etiological Implications

As previously discussed, epidemiological patterns and sociohistorical analyses strongly suggest sociocultural influences in the development of eating disorders. Eating disorders have been presented as "culture-bound syndromes" which are representative of social issues and which cannot be understood adequately apart from the sociocultural context (Prince, 1985; Ritenbaugh, 1982; Swartz, 1985a, 1985b). A primary category of sociocultural factors that has been implicated in eating disorders involves societal

expectations and indoctrination regarding female roles and qualities.

Societal expectations are generally viewed as creating reduced status and restricted control for women through the related avenues of economic and political discrimination and the female socialization process. These societal conditions may engender internalized barriers that limit effective functioning (e.g., Butler, 1985; Gilbert, 1980; Greenspan, 1983; Sturdivant, 1980). Eating disorders have been primarily related to societal emphases on appearance and the current thin body ideal, expectations of self-restriction and prohibitions against self-enhancement, and escalating, contradictory role demands (e.g., Boskind-Lodahl, 1976; Boskind-White & White, 1983, 1986; Brown, 1985; Orbach, 1978a, 1985a; S. C. Wooley & Kearney-Cooke, 1986).

It may be speculated that the female socialization process leaves many young women ill-equipped to successfully negotiate developmental tasks related to self-identity and separation-individuation. Further, contemporary expectations for economic and occupational success--which require instrumental, assertive skills--have supplemented traditional roles, resulting in increased sex role-related pressures and conflicts. The control of weight and eating has been presented as partially an attempt to address sex role difficulties within a societally encouraged venue (e.g., Boskind-White & White, 1986; Chernin, 1981; Lawrence,

1979, 1984a; Orbach, 1978a, 1985a, S. C. Wooley & Kearney-Cooke, 1986).

An implication of feminist theories is that sex role issues relating to appearance compliance, self-definition, lack of independence, and sex role conflict will be particularly salient for women with eating disturbances. Research such as the present study, which compares sex role factors among women with differing degrees of eating disturbances is clearly correlational and cannot directly address theoretical expositions regarding causative influences. Nevertheless, such cross-sectional research does provide one line of support for feminist theories in confirming the prominence of certain sex role concerns that have been theoretically linked to eating disturbances. Retrospective data regarding the premorbid compliance, unassertiveness, dependence, and approval-seeking of women with eating disorders are consistent with speculations that some sex role characteristics are antecedent to clinical onset. Longitudinal data would present more definitive information regarding the nature of the association between sex role issues and eating disturbances.

Sociocultural analyses of eating disorders were developed partially in response to narrow individually-based models which were viewed as "medicalizing" and "psychologizing" social phenomena (Swartz, 1985a, 1985b). However, it has been noted that linear causal approaches

based on sociocultural factors may also be inadequate in explaining complex syndromes such as eating disturbances (Swartz, 1985b). Although individual differences in responses to sociocultural pressures partially reflect extent of exposure to societal expectations by virtue of subculture, family, occupation etc., they also may represent variations in stressful experiences, personality, family dynamics, and physiology. Societal pressures and other factors, such as predisposition to heavier body weight, enmeshed family system, and history of abuse, may interact to place certain individuals at risk for eating disorders.

Comprehensive sociocultural analyses may provide a framework for understanding social influences and social meanings of eating disturbances within the additional context of the individual and family (Swartz, 1985a, 1985b). Growing recognition of multiple variables in the genesis of eating disorders is reflected in the trend toward pathway and risk factor models, which attempt to incorporate elements of various orientations (Garfinkel & Garner, 1983; Hawkins & Clement, 1984; Lucas, 1981; Schwartz et al., 1982; Slade, 1982; Striegal-Moore et al., 1986).

Relevance for Intervention

The findings of the current study are consistent with clinical observations and theoretical speculations concerning sex role issues among women with eating disorders. Results suggest the importance of therapeutic

attention to the acceptance of the decorative role, the poorly defined sense of self, and the relative lack of self-directed activity of many women with eating disorders. Further, the conflicts regarding sex role demands commonly experienced by women with eating disorders warrant consideration in therapeutic situations. Treatment programs that address societal and personal expectations and attitudes regarding female roles and conduct may assist women to explore and challenge oppressive societal, as well as internalized, values (Boskind-White & White, 1983; Garner, Rockert, Olmsted, & Johnson, 1985; Johnson, Conners, & Stukey, 1983; S. C. Wooley & O. W. Wooley, 1985).

Reflecting the general acceptance of multiple influences in the genesis and maintenance of eating disorders, multicomponent treatment programs have been developed (e.g., Garner, Garfinkel, & Bemis, 1982; Hedblom et al., 1981; Lacey, 1983; O'Keefe & Castaldo, 1985). The incorporation of feminist therapies, which focus on facilitating awareness of social roles and socialization processes, assisting the client in developing greater self-awareness, self-direction, and self-nurturance, and supporting a sense of personal power, may be particularly beneficial for women with eating disorders (e.g., Boskind-Lodahl & White, 1978; Boskind-White & White, 1983; Brown, 1985; Lawrence, 1984a; Orbach, 1978a, 1985a; S. C. Wooley & O. W. Wooley, 1980; White & Boskind-White, 1984). The

current findings that women with weight preoccupations also demonstrated some sex role issues suggests that similar intervention approaches may be effectively applied in working with women with non-clinical eating disturbances.

Self-help groups and networks, which offer information and support for women with eating disorders, weight preoccupations, or other eating and weight difficulties, often address societal factors in women's weight and eating concerns. Although many professionals are cautious regarding self-help for women with eating disorders, it has been noted that self-help organizations often have access to comprehensive resources and contacts with professionals (Enright, Butterfield, & Berkowitz, 1985; Orbach, 1986). Further, some women seeking self-help support are casualties of the mental health care system or are extremely resistant to professional treatment (Enright et al., 1985; Hall, 1985; Orbach, 1986).

Although a causal sequence for the development of eating disorders has not been established, a number of risk factors have been suggested. Prevention approaches, which have received little attention to date, have the potential to reach a broad base of women and girls who demonstrate less severe or pre-clinical eating disturbances (Moreno & Thelen, 1988; Shisslak, Crago, Neal, & Swain, 1987). A few prevention programs have been described which incorporate elements such as body awareness and attitudes, nutrition and

effects of dieting, personal identity and interpersonal issues, stereotypes and attitudes toward women, and coping with stress, adapted for different age groups (Moreno & Thelen, 1988; Shisslak et al., 1987).

Accumulating support for the influence of sociocultural factors in eating disturbances suggests that broader societal changes should be considered in formulating solutions. Sociocultural change is difficult to effect due to the far-reaching and entrenched nature of societal expectations and institutions. However, prevention programs at the school, family, and community level may counteract destructive societal messages and increase public information, indirectly resulting in societal change. Further societally-directed interventions require the development of strategies to further enhance professional and public awareness of societal influences and to place pressure on the dieting and fashion industries and popular media regarding female stereotypes and ideals. Finally, an ultimate solution to disorders related to sex roles may be based in changes in political power relations and institutionalized discrimination.

Limitations of the Current Study and Recommendations for Further Research

As previously discussed, contemporary formulations of sex role qualities and "femininity" and "masculinity" have shifted from global concepts encompassing a variety of

behaviors, attributes, and attitudes to multiple, less broad dimensions and aspects (e.g., Constantinople, 1973; Spence, 1985). The present study addressed certain facets of sex role-related self-perceived personal characteristics and attitudes that have been theoretically and clinically related to eating disturbances. Further research is necessary to replicate and extend current findings. For example, the salience of appearance among women with eating disorders and weight preoccupations may be pursued with more comprehensive assessments of the focus on physical appearance. More specific information regarding sex role conflicts would also be of interest. In addition, replication and further exploration of negative self-limiting qualities and investigation of additional aspects of self-enhancing qualities may be elucidative.

There have been indications that ideals, desirability, and importance of expressive and instrumental qualities may be as relevant to eating disturbances as self-perceived qualities (e.g., Dunn & Ondercin, 1981; Pettinati et al., 1987; Timko et al., 1987). It would be of interest to investigate these elements for other sex role aspects, such as those relating to self-definition.

Additional research of other sex role domains, such as sex role ideology, interests, and behaviors, is also required. Results have been contradictory regarding sex role ideology of women with eating disturbances (Krueger &

Bornstein, 1987; Rost et al., 1982; Srikameswaran et al., 1984). Sex role behavior has been assessed in only one study to date, which used a self-report measure developed for the investigation (Rost et al., 1982).

Most of the research in the area of sex roles and eating disorders, including the present study, is limited to self-reported characteristics and attitudes, which may not correspond to actual internal states or behavior. It may be argued that the self-perceptions of individuals with eating disorders are particularly subject to denial or distortion (Vandereycken & Vanderlinden, 1983). Mitigating against concerns about the veracity of responses are the clinical range eating attitude responses and the positive and accurate comments regarding the study on the post-experimental questionnaire. However, investigations incorporating more behavioral assessment measures or multiple data sources would provide information beyond the self-reports of respondents.

A major consideration in the current research concerns the measurement of appearance compliance, self-definition issues, and sex role conflict. The ACQ, SDQ, and SRCQ items were conceptually based; that is, they reflected clinical and theoretical statements regarding sex role issues in eating disturbances. The measures and subscales were found to be temporally and internally reliable. However, no attempts were made toward empirically demonstrating the

construct validity of the measures. One issue concerns the validity of the measures in terms of the concepts of self-perceived appearance compliance, self-definition, and sex role conflict. This concern is tempered somewhat by the correspondence between the manifest and intended content of the items.

Another issue involves the validity of the ACQ and SDQ as assessing qualities that are sex role-related. Establishing the ACQ and SDQ as "sex role measures" would require much additional investigation of the items. For example, female and male self-perceptions could be compared and stereotypic ratings of females and males could be obtained using procedures similar to those employed with the PAQ (Spence et al., 1974; Spence & Helmreich, 1978). However, the content of the ACQ and SDQ items reflect attributes and attitudes that are widely accepted as societally encouraged for females and as more characteristic of females than males (e.g., Chodorow, 1978; Gilligan, 1982; Keller, 1974; Miller, 1986; Orbach, 1978a, 1985a; Steiner-Adair, 1986; Sturdivant, 1980; Timko et al., 1987). There is also some general empirical support for these issues as more representative of female than male socialization, stereotypes, and self-perceptions (e.g., see Benedek, 1979; Block, 1973, 1983; W. McGuire & C. McGuire, 1982; Rodin et al., 1985; Rosenkrantz et al., 1968; Striegal-Moore et al., 1986).

There are several other issues concerning the relationship between sex role issues and eating disturbances that should be identified. As previously addressed, the cross-sectional nature of the current research precludes definitive statements regarding the causative sequence of sex role-related issues and eating disturbances. Longitudinal data would provide additional information regarding the relationship between sex role factors and eating disturbances. It should also be noted that sex role issues are not specific to eating disorders. In fact, they have been associated with a number of psychological syndromes that are diagnosed more commonly for women than men, such as depressive disorders, anxiety disorders, and histrionic, borderline, dependent, and self-defeating personality disorders (e.g., see Brodsky & Hare-Mustin, 1980; Franks & Rothblum, 1983; Rosewater, 1987; Rosewater & Walker, 1985).[5]

A related issue concerns the possibility that differences in sex role factors among women with varying degrees of eating disturbances in the current study reflect the influence of other psychological features, such as

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[5]Diagnostic labelling of behavior patterns commonly associated with sex role socialization has been particularly controversial. Several writers have maintained that such syndromes may be more accurately referred to as societally fulfilled roles or reactive responses to oppression than as psychological disorders (e.g., Kaplan, 1983; Rosewater, 1987).

depression or anxiety. For example, the findings of Pettinati and associates (1987) suggest that low instrumentality may be more strongly related to depression than eating attitudes. Current results cannot be unequivocally attributed to eating disturbance, independent of other factors. The interrelationships of sex role issues, eating attitudes, and other psychological variables warrant additional research consideration. Further research may also clarify the nature of sex role factors in varying disorders and the variables that are related to the manifestation of the particular features of one disorder as opposed to another.

It is also possible that other unanticipated subject or procedural variables influenced sex role differences in the current study. Attempts were made to control for several demographic variables and to standardize experimental procedures as much as feasible in the current study. Recruitment, location, and number and length of sessions differed between eating disordered and non-eating disordered respondents. However, these differences would not account for responses of weight preoccupied subjects. Further, the data of eating disordered and non-eating disordered subjects who deviated from regular procedures were found not to differ from that of other subjects in the same groups. There were no significant differences on any variables between university students completing measures in one or

two sessions. Nor were there differences between women who participated in the university sessions and were subsequently identified as eating disordered and other eating disorder subjects.

Research employing criteria or selection procedures that differ from the present study may yield varying results. Definitions of anorexia nervosa and bulimia nervosa vary in content and restrictiveness. The current eating disorder respondents met the criteria of the most recent revision of the widely-employed Diagnostic and Statistical Manual (DSM-III-R; APA, 1987). There has also been some variation in the definition of "weight preoccupations" (e.g., Button & Whitehouse, 1981; Irving et al., 1988; Krueger & Bornstein, 1987; Thompson & Schwartz, 1982). The present study selected weight preoccupied respondents on the basis of upper and lower limit scores on the EAT and BULIT and excluded women who were not of average weight or who viewed themselves as having weight and eating difficulties. It has been suggested that there are several categories of weight preoccupations, which may be more or less similar to eating disorders (Garner et al., 1984; Herman & Polivy, 1987). It would be of interest in future research to investigate sex role factors for weight preoccupied subgroups varying in severity of eating attitudes or self-perception of eating difficulties.

As has been discussed, current findings that some sex role issues are less extreme for restricting anorexics than bulimic anorexics and bulimics are preliminary due to small subject numbers. However, as considerable research has amassed suggesting eating disorder subgroup differences in personal characteristics, distinguishing among subtypes is advisable. Further investigation of possible subtype variations is required. Future research might also examine subgroups based on other variables such as vomiting and previous eating disorder history (Mickalide & Anderson, 1985; Vanderheyden & Boland, 1987; Wonderlich & Swift, 1988).

Lastly, the results of the current study suggest that there are sex role issues of relevance to women with eating disorders and weight preoccupations beyond the positive expressive and instrumental characteristics that are the typical focus of research investigation. Continued conceptually directed research may be productive in further examining the association between sex roles and eating disturbances.

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APPENDICES

APPENDIX A

DEMOGRAPHIC QUESTIONNAIRE

Instructions: Please circle the appropriate alternative or specify where indicated.

Age_____

Ethnic Group

1. White
2. Black
3. Asian
4. East Indian
5. West Indian
6. North American Indian
7. Other (specify) _____

Marital Status

1. Presently in first marriage
2. Divorced and remarried
3. Divorced, not remarried
4. Widowed, remarried
5. Widowed, never remarried
6. Never married
7. Cohabiting

Educational Background	Check for each person: Self	Mother	Father	Spouse
1. Graduate degree				
2. Some graduate school				
3. University graduate				
4. Some university				
5. Trade school or community college				
6. High school graduate				
7. Some high school				
8. Grade school completion				
9. Some grade school				

Occupation	Check and specify for each person: Self	Mother	Father	Spouse
1. Unemployed				
Specify occupation when employed				
2. Part time student				
3. Full time student				
4. Part time employment				
Specify occupation				
5. Full time employment				
Specify occupation				
6. Full time homemaker				
7. Retired				
Specify occupation when employed				

Height (Feet and inches) _____

Weight (lbs.) _____

APPENDIX B

EATING ATTITUDES TEST

Subject No.: | | | | |

Please circle the appropriate number which applies best to each of the statements. Most of the questions directly relate to food or eating, although other types of questions have been included. Please answer each question carefully and as accurately as possible. Thank you.

		Always	Very Often	Often	Sometimes	Rarely	Never
1.	I like eating with other people.	1	2	3	4	5	6
2.	I prepare foods for others but do not eat what I cook.	1	2	3	4	5	6
3.	I become anxious prior to eating.	1	2	3	4	5	6
4.	I am terrified about being overweight.	1	2	3	4	5	6
5.	I avoid eating when I am hungry.	1	2	3	4	5	6
6.	I find myself preoccupied with food.	1	2	3	4	5	6
7.	I have gone on eating binges where I feel that I may not be able to stop.	1	2	3	4	5	6
8.	I cut my food into small pieces.	1	2	3	4	5	6
9.	I am aware of the caloric content of foods that I eat.	1	2	3	4	5	6
10.	I particularly avoid foods with a high carbohydrate content. e.g., bread, potatoes, rice, etc.	1	2	3	4	5	6
11.	I feel bloated after meals.	1	2	3	4	5	6
12.	I feel that others would prefer if I ate more.	1	2	3	4	5	6
13.	I vomit after I have eaten.	1	2	3	4	5	6
14.	I feel extremely guilty after eating.	1	2	3	4	5	6
15.	I am preoccupied with a desire to be thinner.	1	2	3	4	5	6
16.	I exercise strenuously to burn off calories.	1	2	3	4	5	6
17.	I weigh myself several times a day.	1	2	3	4	5	6

		Always	Very Often	Often	Sometimes	Rarely	Never
18.	I like my clothes to fit tightly.	1	2	3	4	5	6
19.	I enjoy eating meat.	1	2	3	4	5	6
20.	I wake up early in the morning.	1	2	3	4	5	6
21.	I eat the same foods day after day.	1	2	3	4	5	6
22.	I think about burning up calories when I exercise.	1	2	3	4	5	6
23.	I have regular menstrual periods.	1	2	3	4	5	6
24.	I feel that other people think I am too thin.	1	2	3	4	5	6
25.	I am preoccupied with the thought of having fat on my body.	1	2	3	4	5	6
26.	I take longer than others to eat my meals.	1	2	3	4	5	6
27.	I enjoy eating at restaurants.	1	2	3	4	5	6
28.	I take laxatives.	1	2	3	4	5	6
29.	I avoid foods with sugar in them.	1	2	3	4	5	6
30.	I eat diet foods.	1	2	3	4	5	6
31.	I feel that food controls my life.	1	2	3	4	5	6
32.	I display self-control around food.	1	2	3	4	5	6
33.	I feel that others pressure me to eat.	1	2	3	4	5	6
34.	I give too much time and thought to food.	1	2	3	4	5	6
35.	I suffer from constipation.	1	2	3	4	5	6
36.	I feel uncomfortable after eating sweets.	1	2	3	4	5	6
37.	I engage in dieting behaviour.	1	2	3	4	5	6
38.	I like my stomach to be empty.	1	2	3	4	5	6
39.	I enjoy trying new rich foods.	1	2	3	4	5	6
40.	I have the impulse to vomit after meals.	1	2	3	4	5	6

APPENDIX C

The BULIT[2]

Answer each question on the following pages by filling in the appropriate circles 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. Do you ever eat uncontrollably to the point of stuffing yourself (i.e., going on eating binges)?
   (a) Once a month or less (or never)
   (b) 2–3 times a month
   (c) Once or twice a week
   (d) 3–6 times a week
   +(e) Once a day or more
2. I am satisfied with my eating patterns.
   (a) Agree
   (b) Neutral
   (c) Disagree a little
   (d) Disagree
   +(e) Disagree strongly
3. Have you ever kept eating until you thought you'd explode?
   +(a) Practically every time I eat
   (b) Very frequently
   (c) Often
   (d) Sometimes
   (e) Seldom or never
4. Would you presently call yourself a "binge eater"?
   +(a) Yes, absolutely
   (b) Yes
   (c) Yes, probably
   (d) Yes, possibly
   (e) No, probably not
5. I prefer to eat:
   +(a) At home alone
   (b) At home with others
   (c) In a public restaurant
   (d) At a friend's house
   (e) Doesn't matter
6. Do you feel you have control over the amount of food you consume?
   (a) Most or all of the time
   (b) A lot of the time
   (c) Occasionally
   (d) Rarely
   +(e) Never

X 7. I use laxatives or suppositories to help control my weight.
   (a) Once a day or more
   (b) 3–6 times a week
   (c) Once or twice a week
   (d) 2–3 times a month
   (e) Once a month or less (or never)

8. I eat until I feel too tired to continue.
   +(a) At least once a day
   (b) 3–6 times a week
   (c) Once or twice a week
   (d) 2–3 times a month
   (e) Once a month or less (or never)
9. How often do you prefer eating ice cream, milk shakes, or puddings during a binge?
   +(a) Always
   (b) Frequently
   (c) Sometimes
   (d) Seldom or never
   (e) I don't binge
10. How much are you concerned about your eating binges?
   (a) I don't binge
   (b) Bothers me a little
   (c) Moderate concern
   (d) Major concern
   +(e) Probably the biggest concern in my life
11. Most people I know would be amazed if they knew how much food I can consume at one sitting.
   +(a) Without a doubt
   (b) Very probably
   (c) Probably
   (d) Possibly
   (e) No
12. Do you ever eat to the point of feeling sick?
   +(a) Very frequently
   (b) Frequently
   (c) Fairly often
   (d) Occasionally
   (e) Rarely or never
13. I am afraid to eat anything for fear that I won't be able to stop.
   +(a) Always
   (b) Almost always
   (c) Frequently
   (d) Sometimes
   (e) Seldom or never
14. I don't like myself after I eat too much.
   +(a) Always
   (b) Frequently
   (c) Sometimes

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[2] The following item notations are used in the BULIT: X denotes new questions whose answers are not added to determine the total BULIT score; + denotes the most strongly symptomatic response, which receives a score of five points; S denotes new questions not originally included among the 75 preliminary items given to Stage I subjects.

(d) Seldom or never
(e) I don't eat too much

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

16. Which of the following describes your feelings after binge eating?
(a) I don't binge eat
(b) I feel O.K.
(c) I feel mildly upset with myself
(d) I feel quite upset with myself
+(e) I hate myself

17. I eat a lot of food when I'm not even hungry.
+(a) Very frequently
(b) Frequently
(c) Occasionally
(d) Sometimes
(e) Seldom or never

18. My eating patterns are different from eating patterns of most people.
+(a) Always
(b) Almost always
(c) Frequently
(d) Sometimes
(e) Seldom or never

S 19. I have tried to lose weight by fasting or going on "crash" diets.
(a) Not in the past year
(b) Once in the past year
(c) 2–3 times in the past year
(d) 4–5 times in the past year
+(e) More than 5 times in the past year

20. I feel sad or blue after eating more than I'd planned to eat.
+(a) Always
(b) Almost always
(c) Frequently
(d) Sometimes
(e) Seldom, never, or not applicable

21. When engaged in an eating binge, I tend to eat foods that are high in carbohydrates (sweets and starches).
+(a) Always
(b) Almost always
(c) Frequently
(d) Sometimes
(e) Seldom, or I don't binge

22. Compared to most people, my ability to control my eating behavior seems to be:
(a) Greater than others' ability
(b) About the same
(c) Less
(d) Much less
+(e) I have absolutely no control

23. One of your best friends suddenly suggests that you both eat at a new restaurant buffet that night. Although you'd planned on eating something light at home, you go ahead and eat out, eating quite a lot and feeling uncomfortably full. How would you feel about yourself on the ride home?
(a) Fine, glad I'd tried that new restaurant
(b) A little regretful that I'd eaten so much
(c) Somewhat disappointed in myself
(d) Upset with myself
+(e) Totally disgusted with myself

24. I would presently label myself a "compulsive eater" (one who engages in episodes of uncontrolled eating).
+(a) Absolutely
(b) Yes
(c) Yes, probably
(d) Yes, possibly
(e) No, probably not

25. What is the most weight you've ever lost in 1 month?
+(a) Over 20 pounds
(b) 12–20 pounds
(c) 8–11 pounds
(d) 4–7 pounds
(e) Less than 4 pounds

26. If I eat too much at night I feel depressed the next morning.
+(a) Always
(b) Frequently
(c) Sometimes
(d) Seldom or never
(e) I don't eat too much at night

27. Do you believe that it is easier for you to vomit than it is for most people?
+(a) Yes, it's no problem at all for me
(b) Yes, it's easier
(c) Yes, it's a little easier
(d) About the same
(e) No, it's less easy

28. I feel that food controls my life.
+(a) Always
(b) Almost always
(c) Frequently
(d) Sometimes
(e) Seldom or never

29. I feel depressed immediately after I eat too much.
+(a) Always
(b) Frequently
(c) Sometimes
(d) Seldom or never
(e) I don't eat too much

(Appendix continued)

S 30. How often do you vomit after eating in order to lose weight?
(a) Less than once a month (or never)
(b) Once a month
(c) 2–3 times a month
(d) Once a week
+(e) 2 or more times a week

31. When consuming a large quantity of food, at what rate of speed do you usually eat?
+(a) More rapidly than most people have ever eaten in their lives
(b) A lot more rapidly than most people
(c) A little more rapidly than most people
(d) About the same rate as most people
(e) More slowly than most people (or not applicable)

32. What is the most weight you've ever gained in 1 month?
+(a) Over 20 pounds
(b) 12–20 pounds
(c) 8–11 pounds
(d) 4–7 pounds
(e) Less than 4 pounds

X 33. *Females only*. My last menstrual period was
(a) Within the past month
(b) Within the past 2 months
(c) Within the past 4 months
(d) Within the past 6 months
(e) Not within the past 6 months

X 34. I use diuretics (water pills) to help control my weight.
(a) Once a day or more
(b) 3–6 times a week
(c) Once or twice a week
(d) 2–3 times a month
(e) Once a month or less (or never)

35. How do you think your appetite compares with that of most people you know?
−(a) Many times larger than most
(b) Much larger
(c) A little larger
(d) About the same
(e) Smaller than most

X 36. *Females only*. My menstrual cycles occur once a month:
(a) Always
(b) Usually
(c) Sometimes
(d) Seldom
(e) Never

APPENDIX D

(Appearance Compliance Questionnaire)

PERSONAL ATTRIBUTES QUESTIONNAIRE 1

Instructions: Please indicate your response to each statement by filling in the appropriate circle on the answer sheet. Use the scale provided. It is important that you respond to each item as honestly as possible.

A	B	C	D	E
Agree	Agree Slightly	Neither Agree nor Disagree	Disagree Slightly	Disagree

I- 37. I am not very concerned with physical appearance.

M+ 38. I like to keep up with current trends in clothes.

S+ 39. I would like to be thinner to gain friends.

M- 40. I am not interested in trying new beauty products; e.g., make-up, nail care products.

A+ 41. I diet to become more attractive.

I+ 42. I feel better when I look good.

M+ 43. I admire and copy the look of certain media figures.

S- 44. What others think of me is not a consideration in my desire to lose weight.

I- 45. I'm not willing to put up with physical discomfort to look good.

M- 46. I have no patience for trivia such as the latest fashions.

A+ 47. I try to limit what I eat so that I will have a slimmer, more attractive body.

S+ 48. Being thinner means I will "fit in" to society better.

I+ 49. I would not go out looking "dowdy".

I+ 50. If I had the ideal body, I would have a lot less to worry about.

A- 51. My attempts to become thinner have little to do with physical attractiveness.

S- 52. Being slimmer will make no difference in my social life.

M+ 53. It is important for me to strive for a fashionable image.

A- 54. Dieting is desirable for reasons other than appearance, e.g. health.

I- 55. How I feel is more important than how I look.

M- 56. The fashions and styles of actresses and models are of no interest to me.

I = Importance of Appearance

M = Susceptibility to Media

A = Motive of Attractiveness in Pursuit of Thinness and Dieting

S = Motive of Social Approval in Pursuit of Thinness

APPENDIX E

(EPAQ)

PERSONAL ATTRIBUTES QUESTIONNAIRE 2

INSTRUCTIONS

All the questions are to be answered on the printed answer sheet.

REMEMBER TO ANSWER QUICKLY: YOUR FIRST IMPRESSION IS THE BEST

The items below inquire about what kind of a person you think you are. Each item consists of a pair of characteristics, with the letters A - E in between. For example:

Not at all artistic A.....B.....C.....D.....E Very artistic

Each pair describes contradictory characteristics--that is, you cannot be both at the same time, such as very artistic and not at all artictic.

The letters form a scale between the two extremes. You are to choose a letter which describes where you fall on the scale. For example, if you think you have no artistic ability, you would choose A. If you think you are pretty good, you might choose D. If you are only medium, you might choose C, and so forth.

Now, go ahead and answer the questions on the answer sheet. Be sure to answer every question, even if you're not sure, and use a #2 pencil.

SCALE

$M\text{-}F^{+}$ 1. Not at all aggressive A.....B.....C.....D.....E Very aggressive

F_{VA}^{-} 2. Very whiny A.....B.....C.....D.....E Not at all whiny

M^{+} 3. Not at all independent A.....B.....C.....D.....E Very independent

M^{-} 4. Not all all arrogant A.....B.....C.....D.....E Very arrogant

F^{+} 5. Not at all emotional A.....B.....C.....D.....E Very emotional

$M\text{-}F^{+}$ 6. Very submissive A.....B.....C.....D.....E Very dominant

M^{-} 7. Very boastful A.....B.....C.....D.....E Not at all boastful

$M\text{-}F^+$	8.	Not at all excitable in a major crisis	Very excitable in a major crisis
		A.....B.....C.....D.....E	
M^+	9.	Very passive	Very active
		A.....B.....C.....D.....E	
M^-	10.	Not at all egotistical	Very egotistical
		A.....B.....C.....D.....E	
F^+	11.	Not at all able to devote self completely to others	Able to devote self completely to others
		A.....B.....C.....D.....E	
F_C^-	12.	Not at all spineless	Very spineless
		A.....B.....C.....D.....E	
F^+	13.	Very rough	Very gentle
		A.....B.....C.....D.....E	
F_{VA}^-	14.	Not at all complaining	Very complaining
		A.....B.....C.....D.....E	
F^+	15.	Not at all helpful to others	Very helpful to others
		A.....B.....C.....D.....E	
M^+	16.	Not at all competitive	Very competitive
		A.....B.....C.....D.....E	
F_C^-	17.	Subordinates oneself to others	Never subordinates oneself to others
		A.....B.....C.....D.....E	
$M\text{-}F^+$	18.	Very home oriented	Very worldly
		A.....B.....C.....D.....E	
M^-	19.	Very greedy	Not at all greedy
		A.....B.....C.....D.....E	
F^+	20.	Not at all kind	Very kind
		A.....B.....C.....D.....E	
$M\text{-}F^+$	21.	Indifferent to other's approval	Highly needful of others
		A.....B.....C.....D.....E	
M^-	22.	Very dictatorial	Not at all dictatorial
		A.....B.....C.....D.....E	
$M\text{-}F^+$	23.	Feelings not easily hurt	Feelings easily hurt
		A.....B.....C.....D.....E	
F_{VA}^-	24.	Doesn't nag	Nags a lot
		A.....B.....C.....D.....E	

F^+	25.	Not at all aware of feelings of others	A.....B.....C.....D.....E	Very aware of feelings of others
M^+	26.	Can make decisions easily	A.....B.....C.....D.....E	Has difficulty making decisions
F_{VA}^-	27.	Very fussy	A.....B.....C.....D.....E	Not at all fussy
M^+	28.	Give up very easily	A.....B.....C.....D.....E	Never gives up easily
M^-	29.	Very cynical	A.....B.....C.....D.....E	Not at all cynical
$M\text{-}F^+$	30.	Never cries	A.....B.....C.....D.....E	Cries very easily
M^+	31.	Not at all self-confident	A.....B.....C.....D.....E	Very self-confident
M^-	32.	Does not look out only for self; principled	A.....B.....C.....D.....E	Looks out only for self; unprincipled
M^+	33.	Feels very inferior	A.....B.....C.....D.....E	Feels very superior
M^-	34.	Not at all hostile	A.....B.....C.....D.....E	Very hostile
F^+	35.	Not at all understanding of others	A.....B.....C.....D.....E	Very understanding of others
F^+	36.	Very cold in relations with others	A.....B.....C.....D.....E	Very warm in relations with others
F_C^-	37.	Very servile	A.....B.....C.....D.....E	Not at all servile
$M\text{-}F^+$	38.	Very little need for security	A.....B.....C.....D.....E	Very strong need for security
F_C^-	39.	Not at all gullible	A.....B.....C.....D.....E	Very gullible
M^+	40.	Goes to pieces under pressure	A.....B.....C.....D.....E	Stands up well under pressure

APPENDIX F

(Self-Definition Questionnaire)

PERSONAL ATTRIBUTES QUESTIONNAIRE 3

Instructions: Each item consists of a pair of contradictory characteristics or attitudes. The letters form a scale between two extremes. Please fill in the letters for each item on the answersheet according to where you fall.

N- 97. I usually know what I want. ..... I seldom know what I want.
A.....B.....C.....D.....E

N+ 98. I try to control my desires. ..... I do not try to control my desires.
A.....B.....C.....D.....E

S+ 99. I rely on the reactions of others for information about myself. ..... I do not rely on the reactions of others for information about myself.
A.....B.....C.....D.....E

N+ 100. I am more comfortable "giving" than "receiving". ..... I am more comfortable "receiving" than "giving".
A.....B.....C.....D.....E

R+ 101. I am not satisfied when I do not have a man in my life. ..... Whether or not I am satisfied is not related to having a man in my life.
A.....B.....C.....D.....E

S- 102. My view of myself is not influenced by others' comments or opinions of me. ..... My view of myself is very much influenced by others' comments or opinions of me.
A.....B.....C.....D.....E

N- 103. I usually know what I am feeling. ..... I seldom know what I am feeling.
A.....B.....C.....D.....E

R+ 104. I think about romantic relationships a lot. ..... I seldom think about romantic relationships.
A.....B.....C.....D.....E

R+ 105. Having a good heterosexual relationship is my primary goal. Having a good heterosexual relationship is not an important goal for me.

A.....B.....C.....D.....E

S+ 106. I don't know "who I am" without the feedback of others. I know "who I am" without the feedback of others.

A.....B.....C.....D.....E

N+ 107. I sometimes feel I do not Have a "right" to have my needs satisfied. I feel I have the "right" to have my needs satisfied.

A.....B.....C.....D.....E

R- 108. I am influenced by vocational or academic success whether or not I have a serious heterosexual relationship. I am influenced little by vocational or academic success if I do not have a serious heterosexual relationship.

A.....B.....C.....D.....E

S- 109. I put more store in what I think about myself than what others say about me. I put more store in what others say about me than what I think about myself.

A.....B.....C.....D.....E

R- 110. Few of the things I do are to attract or please men. Many of the things I do are to attract or please men.

A.....B.....C.....D.....E

R- 111. I am not concerned about getting married (or was when single). I am very concerned about getting married (or was when single).

A.....B.....C.....D.....E

N- 112. I am good to myself. I am not good to myself.

A.....B.....C.....D.....E

N = Denying Own Needs

S = Definition of Self Through Others

R = Emphasis on Relationships with Men.

APPENDIX G

(Sex Role Conflic t Questionnaire)

PERSONAL ATTRIBUTES QUESTIONNAIRE 4

Instructions: These items relate to your personal feelings regarding different aspects of being a woman. Please indicate your response to each item using the scale provided. Fill in your response on the answer sheet.

A	B	C	D	E
Agree	Agree Slightly	Neither Agree nor Disagree	Disagree Slightly	Disagree

U+ 113. I am often uncertain about what is expected of me as a woman.

R+ 114. My "real" self and my "ideal" self as a woman differ.

C- 115. What is expected of me in my career or academically is in line with what is expected of me in my social relationships.

A+ 116. I waiver back and forth between "traditional" and "liberated" qualities and behaviour.

A- 117. I am fairly certain of the roles I desire to adopt as a woman.

R+ 118. I experience conflict between the qualities I possess and the qualities I think I should possess as a woman.

A+ 119. I don't know what I want as a woman.

U- 120. I feel that current role expectations for women are clear.

C+ 121. I experience little confusion about which characteristics, behaviours, and roles I would like to have as a woman.

C+ 122. It is difficult for me to keep up with both "modern" and "traditional" expectations for women.

R- 123. I possess the characteristics I most admire in women.

U- 124. My roles as a woman are quite clear.

U+ 125. I am confused regarding what I "should" be like as a woman.

U+ 126. I feel contradictory demands are made on me as a woman.

R- 127. I pretty much behave the way I think I should behave as a woman.

C- 128. The various expectations of me as a woman are usually consistent.

R = Real-Ideal Conflict

A = Ambivalence Regarding Desired Roles

U = Uncertainty Regarding Roles

C = Perception of Contradictory Expectations

APPENDIX H

POST-EXPERIMENTAL QUESTIONNAIRE

1. What is your understanding of the purpose of this study?

2. Were the directions the experimenter gave clear?

3. Were the items on the questionnaires clear?

4. Did you attempt to answer the questions as honestly as possible? If not, why?

5. Have you ever had or do you currently have an eating disorder? If "yes", please complete the following:

	Yes	No
Had anorexia nervosa	_____	_____
Have anorexia nervosa	_____	_____
Had bulimia	_____	_____
Have bulimia	_____	_____
Had another eating disorder- Please indicate	_____	
Have another eating disorder - Please indicate	_____	
Received treatment for anorexia nervosa	_____	_____
Currently in treatment for anorexia nervosa	_____	_____
Received treatment for bulimia	_____	_____
Currently in treatment for bulimia	_____	_____
Received treatment for another eating disorder - please indicate	_____	
Currently in treatment for another eating disorder - please indicate	_____	

APPENDIX I

Subject Information and Consent Forms

Information and Consent Forms for University Subjects

Participant Information

We are from the University of Manitoba's Department of Psychology. We are conducting a study which involves attitudes toward food and eating and personality characteristics. We would like you to fill out a number of questionnaires over three sessions. The sessions will last one to one and one-half hours. All responses will be completely confidential. We request that you answer all questions as honestly as possible and attend all three sessions. However, if you prefer not to answer a question, you are free to omit it. Similarly, you may withdraw from the study at any time without loss of experimental credit. After the study has been completed, we will describe the study in greater detail and give you an opportunity to receive results of the study.

Consent

I, _____, have read the
print name
participant information and understand what is expected of me. I understand that I may decline to respond to questions and may withdraw from the study at any time without loss of experimental credit.

_____ _____
Witness Date

_____
Signature

Example of Request for Participation and Information Form for Eating Disorder Subjects

Information on Questionnaire Study

We are from the University of Manitoba's Department of Psychology. We are conducting research that involves attitudes toward food and eating and personality characteristics. We are asking women [e.g., in the Eating Disorders program] to participate. If you agree to participate, an appointment of one to one and one-half hours will be arranged at your convenience to complete several questionnaires. Completion of the questionnaires will take place [e.g., in the Adult Psychiatric building]. All responses and information will be confidential.

You are not obligated to participate in the study and if you agree to participate, you may withdraw at any time without influence on any treatment you are receiving.

We feel that this type of research is important in developing better ways to identify, prevent, and treat eating disorders.

If you would like to participate or would like further information, please provide your name and phone number below or phone Shelly Turcotte at 255-5299.

Name (please print) _____

Phone Number _____

Best time to call _____

Consent Form for Eating Disorder Subjects

Questionnaire Study

Consent Form

This study involves attitudes toward food and eating and personality characteristics. We would like you to complete several questionnaires which will take approximately one to one and one-half hours. All responses and information will be confidential. We request that you answer all questions as honestly as possible. However, you are free to omit questions and you may withdraw from the study at any time without influence on your treatment.

I, _____, have read the above
(print name)
information, understand what is expected of me, and agree to participate in this study.

_____
Date

_____
Signature

Feedback to Participants

This study involves the personal characteristics and attitudes of women with eating disorders (anorexia nervosa and bulimia) and women with weight preoccupations. Many of you are probably familiar with the terms anorexia nervosa and bulimia. They are eating disorders which may involve extreme food restriction, weight loss and/or bingeing. Weight preoccupations involve less severe food, eating, and weight concerns.

The basic questions in this study focus on the issues of sociocultural compliance and sex roles in eating disorders and weight preoccupations. We are asking women in an eating disorder program and women in University classes to complete several questionnaires. The questionnaires assess eating and weight concerns, sociocultural compliance (for example, importance of appearance and suceptibility to the media), sex role characteristics (that is, stereotypic "feminine" attributes), and sex role conflict (that is, conflict about women's roles in society today). Responses for women with eating disorders, women with weight preoccupations, and women without eating and weight concerns will be compared. We believe that this type of research will help in identifying, preventing, and treating eating disturbances.

This study is not designed to provide individual feedback regarding your responses to the questionnaires. However, if you feel you have problems with eating or weight, there are several sources of information or help available including the University Counselling Centre (Phone: 474-8592, the Health Sciences Center Eating Disorder Program (Phone: 947-1517), and the Anorexia Nervosa and Bulimia Foundation (Phone: 783-6786).

*** Thank you for your participation ***