

DEPRESSIVE SYMPTOMS AND COGNITIVE DISTORTIONS
ABOUT FOOD AND WEIGHT IN TWO CLINICAL GROUPS OF
WOMEN: BULIMIA NERVOSA AND MAJOR DEPRESSION

by

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ABSTRACT

This study investigated relationships and differences between depressive symptoms and cognitive distortions about food and weight among a Bulimic and a Depressed group. Also, the groups were compared to determine differences in their perceptions of food use as a coping strategy.

Three questionnaires were administered to a convenience sample of 31 females aged 24 to 57. Results indicated that 71 percent were experiencing moderately-severe to severe levels of depression. No significant relationship was found between level of depression and extent of cognitive distortions about food and weight in the Bulimics. However, a significant relationship was found between level of depression and extent of cognitive distortions about food and weight in the Depressed group. No significant difference was found between the two groups in the extent of overall cognitive distortions about food and weight. No significant difference was found between the two groups in their perception of food as a coping strategy.

CHAPTER 1

INTRODUCTION

Statement of the Problem

Both bulimia and depression are associated with food and weight-related issues. Numerous studies stress the depressive and cognitive orientation of bulimia and depression; however, no study to date has focused on maladaptive eating behaviors and/or cognitive distortions about food and weight in the depressed population.

Because depressive disorders are associated with problems in eating, generally, the individual either suffers from loss of appetite with subsequent weight loss or increased appetite with subsequent weight gain. Weight gain and/or weight loss are included among the vegetative signs in the American Psychiatric Association's DSM-III-R (1987) diagnostic criteria for depression.

Although most individuals with bulimia nervosa are within a normal weight range, some may be slightly underweight and others may be overweight. Interestingly enough, one of the most common associated features of bulimia is depressed mood. According to the American Psychiatric Association (1987) this depressed mood may be part of a depressive disorder.

Considering the magnitude of the psychological and physical problems associated with both disorders, it is important to establish viable explanations which may provide a link in understanding both the depressive component of bulimia and the cognitive orientation of depressed persons in relationship to food.

The purpose of this study was to investigate the relationships between depressive symptoms and cognitive distortions about food and weight in both a bulimic and a depressed population group. Another purpose of the study was to identify differences in cognitive distortions in these two clinical groups and to determine if there was a difference between the two groups in their perceived use of food as a coping mechanism.

This chapter presents an overview of Bulimia and Depression. Clinical characteristics and diagnostic criteria for each disorder is also presented. Chapter one also substantiates the need for research by focusing on Bulimia and Affective disorders and cognitive distortions in Bulimia and Depression. The conceptual framework and the Cognitive Distortion theory of depression are presented. The operational definitions of the concepts and constructs of the theoretical framework are also defined.

Overview of the Problem: Bulimia Nervosa

Within the past decade, an understanding of bulimia Nervosa has advanced rapidly, particularly since this disorder was first recognized as a distinct diagnostic entity in 1980. The two systems most commonly used for diagnosing purposes are the American Psychiatric Association's DSM-III-R and a system originally proposed by Russell in 1979, which describes a syndrome with considerable clinical overlap. The DSM-III-R is used commonly in the United States and Russell's criteria is used in England (Mitchell & Pyle, 1988; Russell, 1990; Turnbull, Freeman, Barry & Henderson, 1989).

Patients with the more severe forms of bulimia nervosa often give a history of a previous episode of anorexia nervosa which may be fully manifest or present in an attenuated form only. There is often, but not always, a history of an earlier episode of anorexia nervosa. Because the term bulimia is used to simply indicate binge-eating episodes, most researchers and clinicians currently favor the term bulimia nervosa which indicates a more severe form of the disorder (Hsu, 1988).

No clear demarcation exists between bulimia and eating binges or great variations in dietary intake (Pyle, Mitchell & Eckert, 1983). Binge eating occurs in nearly half of all anorexia patients (Pyle et al., 1983; Hsu,

Crisp & Harding, 1979; Casper, Eckert & Halmi, 1980) and in 30% of obese patients who seek treatment (Gormally, Black & Daston et al., 1982). Binges also occur sporadically in many normal-weight subjects, particularly in those dieting to control weight (Hawkins & Clement, 1980). Thus, to define bulimia nervosa as a syndrome, the frequency criterion is included. Moreover, the criterion to a normal body weight is specified so as to exclude the obese and anorexic populations from the diagnosis (Hsu, 1988).

For purposes of this study, Bulimia Nervosa will follow the operational definition set forth by the American Psychiatric Association. According to the APA (DSM-III-R, 1987), the diagnostic criteria are as follows:

- 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.

(p. 68-69)

Debate still continues on whether anorexia nervosa and bulimia nervosa are separate, distinct syndromes. According to Hsu (1988), existing evidence suggests that the "consistency of the association of the cardinal features, and the course and outcome of the two disorders, form relatively distinct aggregates" (p. 237). Also, the treatment focus of the two disorders is distinct: for anorexia nervosa, the emphasis aims to restore weight, while for bulimia nervosa the emphasis is on control of the maladaptive, abnormal eating behaviors.

Prevalency of Bulimia

Because comorbidity and mortality is high in the bulimic population, researchers are continually investigating the prevalency and etiology of this devastating disorder. Most of the research on the epidemiology of bulimia nervosa has focused largely on the distribution of the disorder. Generally, the populations investigated are those in which bulimia nervosa is thought to be most common, namely, caucasian females between 14 and 40 years of age (Herzog & Copeland, 1985; Fairburn, Phil & Beglin, 1990).

Bulimia is not exclusively a feminine disorder. Clinical evidence suggests that the syndrome of bulimia does occur in men with a very similar symptom picture and course as in women. Though it is generally agreed that the incidence of bulimia in males is significantly lower than females, most of the research literature is confounded by a complete exclusion of male subjects. The male to female incidence has been estimated as between 1:10 and 1:16 (Campbell & Ellis, 1991). Theoretical explanations for males with eating disorders are significantly sparse in the literature.

Some theorists view men as displaying similar psychodynamic conflicts as their female counterparts (Drenowski, Hopkins, & Kessler, 1988; Mitchell & Goff, 1984; Pyle, Neuman, Halvorson & Mitchell, 1991). Males and females share more features than they have dissimilar features in regards to their eating disorders. However, males are distinctive in their increased probability of a past history of obesity, dieting in relationship to sports, homosexual orientation (2- to 5-fold increase above the general population), and dieting defensively to avoid medical illness even when it is inappropriate (Andersen, 1992; Rodin & Larson, 1992).

Studies which attempt to establish the prevalence of bulimia syndrome in the general population obtain very high

rates of the disorder. Bushnell, Wells, Hornblow, Brown and Joyce (1990) reported a 10 percent lifetime prevalence of the DSM-III syndrome in female adults aged 18-64. The prevalency rose to 26 percent among those women in the 18-44 year age group. According to Mitchell and Pyle (1988) women in their 40's and 50's with this disorder have been found to be actively bulimic for more than 20 years.

Reports of the frequency of bulimia nervosa vary according to the stringency of the diagnostic criteria employed; however, less severe constellations of symptoms that fail to meet diagnostic criteria are far more common between narrowly defined bulimia nervosa and bulimia-like syndromes. Kendler et al., (1991) report symptoms exist and affect approximately one in 25 women at some point in their lives.

Clinical Characteristics

The hallmark of bulimia nervosa is binge eating. In addition, those suffering from bulimia experience dysphoric mood, low self-esteem and preoccupations with food and body size (Smith & Thelen, 1984). Many bulimics often report an intense fear of weight gain. Because of this fear, self-induced vomiting is a frequent behavior and is most commonly employed as soon as possible after eating to minimize the absorption of food (Mitchell, Specker & de Zwaan, 1991). Bulimic individuals also report an intense

fear of loss of control of their eating; a pathological pursuit of weight loss; excessive exercising; and disparagement of various parts of the body (Fairburn & Cooper, 1984).

Research indicates that bulimia nervosa is associated with selective impairment in processing of information related to eating, shape and weight (Fairburn, Cooper, P., Cooper, M., McKenna & Anatsiades, 1991). Studies have shown (Freeman et al., 1991) that bulimics tend to focus on those parts of their body with which they are dissatisfied, and display alterations in body image assessment (Horne, Vactor & Emerson, 1991). Moreover, recent evidence suggests the core psychopathology of bulimia is hypothesized to be represented in organized and cognitive structures that unite views of the self with beliefs about weight (Vitousek & Hollon, 1990).

One consistent finding that does seem to emerge in the literature is the undue importance that bulimics attach to shape and weight (Wilson & Smith, 1989). Sensory, cognitive and affective components are consistently reflected in their responses to body image appraisal (Freeman et al., 1991); it is the dysfunctional attitude toward shape and weight that are of primary importance in the maintenance of the bulimic eating disorder (Fairburn et al., 1991; Phelan, 1987).

In some bulimics, the fear of weight gain is so severe that they resort to abusing the drug Ipecac. Ipecac is a syrup (sold over the counter) containing an emetine base; it promotes emesis and can cause gastrointestinal, cardiovascular and neuromuscular toxicity. Unfortunately, there is a tolerance effect to vomiting as individuals ingest increasing doses. Since the half life of Ipecac is 56 hours, multiple regular doses are cumulative and with time may become toxic (Tolston, 1990).

Another abnormal eating-related behavior practiced by bulimics is laxative abuse (Fitcher, 1988; Hall & Beresford, 1989; Kreuger, 1988). The amounts of laxatives ingested are usually in excess of the recommended dosage and patients who become tolerant of the effects may use several hundred times the recommended dosage. Other abnormal behaviors include diuretic abuse, excessive use of enemas and chewing and spitting out food without swallowing it to prevent weight gain (Mitchell, Pyle, 1988; Turnbull, Freeman, Barry & Henderson, 1989). Other maladaptive behaviors include taking appetite suppressants, stimulants and misusing saunas as a weight-loss measure (Mitchell, Hatsukami & Eckert, 1985).

Signs and symptoms of bulimia nervosa include lethargy, weakness, impaired concentration, non-focal abdominal pain, a bloated feeling, dizziness, faintness,

sore muscles, chills, cold sweats, frequent sore throats, diarrhea or constipation. The presence of abrasions on the fingers or back of the hand may reflect the use of manually induced vomiting (Fitcher, 1990; Mitchell, Specker & de Zwaan, 1991). "Puffy cheeks" or hypertrophy of the salivary glands is common and usually bilateral and painless. Dental complications are common and are caused by the highly acidic gastric contents eroding the enamel and secondarily causing decalcification. Laxatives, diuretics, binging and starvation leading to electrolyte imbalance, also have serious dental implications by affecting the saliva. Qualitative and quantitative changes of saliva decreases the buffering effect and remineralization capacity thereby increasing risk for decay and erosion (Levinson, 1988).

Medical Complications

Of the medical implications, most frequently encountered are fluid and electrolyte disturbances. Nearly 50% of bulimia patients demonstrate fluid or electrolyte abnormalities due to vomiting, laxative or diuretic abuse or low salt intake and the resulting dehydration (Mitchell & Pyle, 1988; Mitchell, Specker & de Zwaan, 1991). Dehydration results in volume depletion which leads to secondary hyperaldosteronism and to reflex peripheral edema (Mitchell, Pomperoy & Seppala, 1988).

Hypokalemia occurs in about 14 percent of patients with bulimia nervosa (Kaplan, 1987). Low potassium levels are also responsible for cardiac arrhythmias, muscular paralysis, renal impairment, urinary infection and epileptic seizures (Russell, 1985). There is evidence that severe hypokalemia may directly cause a type of myocardial necrosis called hypokalemic cardiomyopathy which results in tetany. Metabolic alkalosis and metabolic acidosis are frequent occurrences among bulimics; however, other electrolyte abnormalities include hypomagnesia (Hall, Hoffman & Beresford, 1988), hypocalcemia and in rare cases, hypophosphatemia (Mitchell et al., 1991).

Gastrointestinal complications are also a major source of morbidity for eating disorders. Laxative abuse can cause constipation, and in rare cases permanent impairment of colonic functioning owing to degeneration of the ganglion cells of Auerbach's plexi; more commonly known as cathartic colon. Other medical complications include delayed gastric emptying, gastrointestinal bleeding, gastric and duodenal ulcer, malabsorption syndromes, and the development of steatorrhea and protein-losing gastroenteropathy. Loss of the gag reflex from frequent mechanical stimulation may also occur, as well as relaxation of the lower esophagus with subsequent reflex regurgitation. A rare but serious side effect is esophageal tearing accompanied by bleeding

or perforation due to the ingestion of large amounts of food during a binge (Mitchell & Pyle, 1987). It is likely that many cases of esophageal rupture involved bulimic persons, but the diagnosis is not suspected or made because the patients in their secretiveness do not mention an eating disorder (Mitchell, Seim, Colon & Pomeroy, 1987).

Some bulimics suffer from severe abdominal pain, abdominal distention, fever and increased heart rate which results from abrupt pancreatic stimulation during frequent binge episodes (Gavish, Eisenberg & Berry, 1987). Another complication that is rare, but quite serious when it occurs is gastric dilatation. Saul and associates (1981) reviewed 66 cases of spontaneous rupture of the stomach and felt that half of the cases were related to the ingestion of large amounts of food and/or gastric dilatation.

Neuroendocrine symptoms have also been reported in patients with eating disorders. Most of the endocrine abnormalities remit with recovery and it is likely they result from caloric deprivation, weight loss and starvation states (Fitcher, Pirke & Poellinger, 1988).

Amenorrhea is an infrequent symptom in bulimia nervosa. However, irregular menses is quite common (Pirke, 1990). Many patients with normal weight bulimia nervosa demonstrate gonadotropin patterns similar to those of anorexia nervosa.

Patients with bulimia nervosa may display enlarged external cerebrospinal fluid spaces and ventricular dilatation. (Pomeroy & Colon, 1990; Mitchell & Pyle, 1988; Mitchell et al., 1991). This is known as pseudoatrophy and is reversible to a certain degree (Kreig, Lauer & Pirke, 1989). Other neurologic findings in bulimic patients such as abnormal sleep EEG patterns (Mitchell, Hostfield & Pyle, 1983) and abnormal EEG tracings (Rau & Green, 1975) have also been found.

Comorbidity

Bulimia nervosa has been shown to be associated with a high rate of comorbidity with several forms of psychopathology in women. In general, there is a positive relationship between chemical abuse, stealing behaviors and poor impulse control in bulimics (Kassett et al., 1989; Pyle, Mitchell & Eckert, 1981; Sohlberg, Norring, Holmgren & Rosmark, 1989). The substance abuse rate in bulimics exceeds substantially the lifetime risk for substance abuse disorders in the general population at 6.1 percent. The higher frequency is congruent with the impulse-related symptoms in bulimia which characterizes the chaotic eating pattern indicative of poor impulse and out-of-control behavior (Garner, Garfinkel & O'Shaughnessy, 1985; Laessle, Wittchen, Fitchen & Pirke, 1989).

Bulimia is also more likely to be associated with the Axis II personality disorders; cluster B includes the dramatic, emotional or erratic (borderline, histrionic, narcissistic and antisocial) disorders (Swift & Wonderlich, 1988; Yates, Sielini, Reich & Brass, 1989). Borderline personality disorder shows a moderate level of comorbidity in the subgroups of bulimia (Mitchell et al., 1991).

The DSM-III-R cluster C anxious-fearful personality disorders (avoidant, dependent, obsessive compulsive and passive aggressive) have been reported in the bulimia population (Bornstein & Greenberg, 1991; Powers, Coovert, Brightwell & Stevens, 1988). Avoidant personality disorder has been diagnosed in 30 percent to 50 percent of the cases and appears to be the most common of the cluster C among bulimic individuals (Mitchell et al., 1991).

The abnormalities and medical complications which have been demonstrated in bulimia nervosa are of interest not only because of the morbidity and mortality of the patients; some are of utmost importance because they may serve as clues to pathophysiology of the disorder. It seems reasonable to speculate that the vicious cycle of binge-eating, purging and extended starvation periods which characterize the eating pattern of bulimics may engender secondary physiological disturbances which tend to

perpetuate or exacerbate the behavior (Mitchell et al., 1990).

For example, depression and other affective disorders are seen commonly in patients with bulimia; however, the relationship between these disorders is not clear. Affective disorder symptomatology may theoretically develop because of the social and psychological consequences of bulimia. One hypothesis is that chronic bingeing and purging may cause bulimic individuals to enter a vicious cycle in which the effects of overeating or malnutrition may cause secondary effects in the neurotransmitters norepinephrine and serotonin (Fitcher & Pirke, 1990).

Neurotransmitters

Because norepinephrine and serotonin are among the neurotransmitters that regulate hunger, satiety and mood, it is possible that disturbances of the neurochemical integrity may maintain and perpetuate pathologic feeding behavior, disturbances of mood and depressive symptomatology (Kaye & Weltzin, 1991).

Depression and other affective disorders share a biological basis by involving dysfunction in both adrenergic and serotonergic neurotransmitter systems. Changes in eating behavior and the state of relative starvation may also cause neurotransmitter changes that are responsible for depressive symptoms. The difficulty arises

in sorting out the depressive symptoms that are related to weight loss (decreased concentration, insomnia, fatigue) from those of primary affective disorder (Mitchell et al., 1991).

A study by Laessle, Kittl & Fitcher (1987) viewed the course of these combined problems. The results indicated that affective disorder improvement paralleled eating disorder improvement in populations with both problems. Bulimics experience major mood disturbances after the onset of bulimia nervosa, suggesting that depression may be secondary to bingeing behavior; however, because disturbances in one biological system may spill over into other systems, cause and effect relationships in bulimia are not yet clear (Kaye & Weltzin, 1991; Pirke, 1990).

Overview of Depression

Epidemiologic surveys demonstrate that depression is the most common psychiatrically diagnosed mental disorder in primary care, mental health and community health settings (Jarrett, 1990; Sorenson, Rutter & Aneshensel, 1991). The estimated cost to Americans is approximately \$16.3 million annually (Jarrett, 1990). Statistics indicate that major depressive illness will affect from three (Jarrett, 1990) to 10 percent (Laraia, et al., 1990) of the population sometime during their lifetime. There is a substantially higher rate of the disorder found among women

than among men (Hoecksema, 1990; Sorenson, et al., 1991). The female-to-male ratio is approximately 2:1 (Stuart, Laraia & Ballenger, 1990) and women between 18 to 44 years of age are at a higher risk for developing Major Depression (Stuart, Laraia, Ballenger & Lydiard, 1990).

The most common sociodemographic factors related to the occurrence of depressive symptomatology include low income, education and social class (Sorenson, et al., 1991).

Depression has been the subject of much research for a number of decades and the literature often reflects the psychosocial aspects of the disorder. The attributable factors most commonly cited include thinking, personality, coping style, family, relationships, employment and life events (Katschnig & Nutzinger, 1988; Jarrett, 1990). The nonpsychosocial aspects of depression include the psychopathological and biological factors contributing to the disorder (Katschnig & Nutzinger, 1988). Although the psychosocial and nonpsychosocial factors have been considered antecedents to, concomitants of, and consequences of depression, the specific function that these variables serve in the course of depressive illness is highly controversial (Jarrett, 1990).

However, there is general agreement that depressed patients are more prone than non-depressed controls to

attribute the cause of negative events to internal, global and stable causes and view themselves, the world and the future with extreme negativity (Beck, 1976; Jarrett, 1990).

Coping Style

Whether depressed or nondepressed, the individual's coping style is influenced by their personality, types of life experiences, social support systems and environmental influences (Jarrett, 1990). According to Jarrett (1990) coping style can be defined as "An individual's ability to marshal internal and external resources that reduce the impact of stress" (p. 27). In other words, adaptive coping consists of an effective set of skills that regulate emotions and behaviors that function to allay or remove stress (Jarrett, 1990; Sacco & Beck, 1985). According to Jarrett (1990), there is evidence that the coping style of symptomatic depressed patients differs from the nondepressed person in the following ways. First, depressed people use more emotionally-focused coping strategies such as anger, emotional release and emotional-seeking support than the nondepressed population. Second, depressed people employ fewer active strategies, such as problem-solving and third, they use more avoidance than directly confronting their stressors or problems (Jarrett, 1990).

Diagnostic Criteria

For purposes of this study, depressed individuals will be those who meet the American Psychiatric Association's (DSM-III-R, 1987) criteria for Major Depression. It is important to understand some terminology specific to Major Depression. A mood syndrome is defined as "a group of mood and associated symptoms that occur together for a minimal duration of time" (DSM-III-R, 1987, p. 213). A major depressive mood episode is a "Mood syndrome that is not due to a known organic factor and is not part of a nonmood psychotic disorder" (DSM-III-R, 1987, p. 213). The diagnosis of Major Depression is made when it has been determined that an individual has suffered one or more major depressive episodes.

The symptoms of a major depressive episode usually last several days to several weeks; however, in some cases the onset may be sudden; for example, if an individual has been traumatized or has suffered a severe psychosocial stressor. In some cases, prodromal symptoms such as anxiety, phobias or panic attacks may accompany mild depressive symptoms and develop over a period of several months. The duration of a Major Depressive Episode also varies. Generally, there is complete remission of symptoms and the individual's functioning returns to the premorbid level; however, in a vast number of cases, some symptoms of

depression persist for as long as two years. If, during this two-year period, symptoms persist without at least a two-month interruption, then the Depressive Episodes are specified as Chronic Type.

The diagnostic criteria for Major Depressive Episodes are as follows:

A. At least five of the following symptoms have been present during the same two-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood, or (2) loss of interest or pleasure.

(1) depressed mood (or can be irritable mood in children and adolescents) most of the day, nearly every day, as indicated either by subjective account or observation by others

(2) markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated either by subjective account or observation by others of apathy most of the time)

(3) significant weight loss or weight gain when not dieting (e.g., more than 5% of body weight in a month), or decrease or increase in appetite nearly every day (in children, consider failure to make expected weight gains)

(4) insomnia or hypersomnia nearly every day

- (5) psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down)
- (6) fatigue or loss of energy nearly every day
- (7) feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick)
- (8) diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others)
- (9) recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt of a specific plan for committing suicide

B. (1) It cannot be established that an organic factor initiated and maintained the disturbance

(2) The disturbance is not a normal reaction to the death of a loved one

NOTE: Morbid preoccupation with worthlessness, suicidal ideation, marked functional impairment or psychomotor retardation, or prolonged duration suggest bereavement complicated with Major Depression.

C. At no time during the disturbance have there been delusions or hallucinations for as long as two weeks in the absence of prominent mood symptoms (i.e., before the mood symptoms developed or after they have remitted).

D. Not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder. (Diagnostic and Statistical Manual of Mental Disorders [DSM-III-R, 1987, p. 222-223]).

Bulimia and Affective Illnesses

The possibility of a close relationship between bulimia nervosa and major affective illness has been the subject of considerable recent interest. Many authorities have noted the frequent association of depression with bulimia nervosa (Hatsukami, Mitchell & Eckert, 1984; Laessle, Kittl, Fitcher, Wittchen & Pirke, 1987; Swift, Andrews & Barklage, 1986). Moreover, several studies have shown the rate of familial major affective disorder significantly greater in bulimic probands who had a history of major affective disorder themselves than in bulimic probands without such a history (Hudson, Laffer & Pope, 1982; Hudson, Pope, Jonas & Todd, 1983; Hudson, Pope, Jonas, Todd & Frankenberg, 1987; Mitchell, Hatsukami, Pyle & Eckert, 1986).

The high frequency of depressive symptoms found among bulimics in the acute stages of their illnesses suggests that the symptoms of depression may result from the eating disorder (Hatsukami et al., 1984; Williamson et al., 1987). Sabine et al, (1983) found a relationship between mood and the presence of binge eating and vomiting among bulimic

patients. They found a significant increase in the negative mood scores on days when subjects reported binge eating and vomiting. Unfortunately, it is unclear whether the negative mood antedated or followed the bulimic behaviors.

In other studies, women with bulimia report a more negative affective state during and after the binge-eating and vomiting episodes (Johnson & Larson, 1982; Johnson, Stuckey, Lewis et al., 1982; Russell, 1979). Laessle et al., (1987) assessed 52 eating disordered patients and found that 44.2% had a lifetime diagnosis of DSM-III major affective disorder; it was found that bulimics had a higher rate of depressive symptomatology than the anorectic restrictors. Moreover, in the patients whose eating disorder was in remission, the rate of depressive symptoms was lower than those in the acute stages. The findings, combined with recent studies on biological changes in eating disorders and psychological theories of depression, suggest that in most cases the two conditions are associated, and the depression is secondary to the eating disorder (Laessle et al., 1987).

However, in some cases, affective disorder or more generically, a depressive diathesis, whether due to a biogenetic vulnerability or psychogenic vulnerability could predispose or contribute in conjunction with other predisposing factors to the emergence of an eating disorder

(Swift et al, 1986). Alternatively, a depression could act to directly precipitate an eating disorder which would then mitigate a dysphoric affect. Another possibility is the emergence of a mood disturbance during the course of an already established eating disorder. In this instance, the depression would lead to exacerbations of the maladaptive eating behaviors. Although the depression may surface as a secondary consequent of the eating disorder, it may become autarchic over time; unfortunately, the patients' problems would then double. The key point is that a variety of relationship patterns may be shared between eating disorders and disturbances of mood.

In summary, the phenomenology of depression in bulimic syndromes is abundantly clear, and the assumption that bulimic syndromes may be a variant of depressive disorders implies a congruent course for both disorders. According to Laessle (1988), depressive disorders occur far more frequently in bulimic patients than in those without any psychological illnesses or disorders. However, the analysis of the symptom patterns indicates substantial differences between bulimic and primary depressive patients in that the discontinuity of the remissions patterns of both syndromes tend to argue against a common etiological process for the affective and bulimic disorders in spite of the phenomenological similarities which exist at certain times.

This view is supported by the results of studies of the prevalence of eating disorders in young people admitted for treatment of depression. If a common aetiology were assumed, the likelihood of developing bulimia should be high in this group. However, in several follow-up studies Strober and Katz (1987) found no indication of increased incidence of bulimia up to four years later (Laessle, 1988). In this study, potential similarities between depression and bulimia will be explored through an examination of relationships between depressive symptoms and cognitive distortions about food and weight-related issues.

Conceptual Framework

The conceptual framework for this study is based upon cognitive theory and cognitive distortion theory of depression. Personal clinical experience of this writer suggests that there is a phenomenon of either chronic overeating and/or undereating that is associated with depression, and further, that cognitive distortions about food and weight may exist in depressed individuals. Moreover, appetite changes appear to be closely linked to the severity of the depressive episode.

Cognitive theorists usually trace their philosophical ancestry to the first and second centuries A.D., in particular to the slave Epictetus and the emperor Marcus

Aurelius. According to history, Epictetus is quoted as saying, "Men are disturbed not by things but by the views they take of them." Furthermore, Marcus Aurelius wrote, "If some external object distresses you, it is not the object itself, but your judgment of it which causes pain." Thus, one can deduce that both Epictetus and Marcus Aurelius stressed the importance of interpretations and perceptions of events and one's ability to change the interpretation of events (Blackburn and Davidson, 1989).

Of more recent thinkers, Freud (1900/1953) initially presented the concepts that symptoms and affect are based on unconscious ideas. Alfred Adler (1919) a forerunner of modern cognitive theory, focused on attempting to understand how the person perceived and experienced the world. The interpretation or perception that is attached to events determines the individual response and behaviors. The work of Albert Ellis (1962) offered major contributions to the historical development of cognitive-behavioral therapies. Rational-emotive psychotherapy (Ellis, 1971) aims at increasing an individual's awareness of irrational beliefs and the subsequent, inappropriate consequences of those beliefs.

Cognitive Distortion Theory of Depression

The cognitive model of depression evolved from systematic clinical observations and testing by Aaron T.

Beck, primarily in 1963, 1964 and 1967. Beck (1963) uncovered evidence for what is now known as the cognitive theory of depression. The core of this model targets specific errors in the content and form of depressed thinking which indicates a general negative bias. During the processing of information, three classes of cognitive variables intervene between stimuli and responses (moods and behaviors). These are schemata, cognitive processes and contents of thoughts. Depressed and bulimic individuals display negative biases in all three classes of cognitive variables (Blackburn & Davidson, 1990; Lehman, 1985).

One major ingredient in the model consists of the concept of schemas. According to Beck (1976) the schema is the basis for molding data into cognitions. Thus, for purposes of this study, schema will be defined as "structures used for coding and evaluating impinging stimuli" (Davis & Casey, 1990, p. 2). Schemas are formed early in life and are based on how an individual has conceptualized different life experiences.

The cognitive theory of depression represents a diathesis-stress model of psychopathology; it proposes that individuals who are prone to depression have acquired a psychological predisposition toward depression through early experiences that shape the development of cognitive schemas in a negative, self-referential manner. Beck et al.

(1979) further explains that these depressogenic cognitive schemas remain latent for long time periods but can be activated and energized by specific environmental inputs; for example, stressful situations. The schemas activated in a particular situation directly determine how the individual responds. In psychopathological states such as depression and bulimia, the patient's conceptualization of specific situations are distorted to fit the proponent dysfunctional schemas (Lehman, 1985).

Beck's cognitive distortion theory of depression was developed in 1979. In this theory of depression, emphasis is placed on the cognitive aspects of depression. First, one may ask, what is cognition? This term is typically used to describe both the processes involving thinking and perceiving, and the content or product of such a process" (Hammen & Krantz, 1985).

Before beginning an explanation of Beck's theory, it is important to point out that the theoretical terms "distortion," "error" and "bias" are commonly used interchangeably. Cognitive error or distortion require ongoing, persistent beliefs (generally negative or self-defeating) in spite of overt or strong evidence to the contrary (Hammen & Krantz, 1985; Sacco & Beck, 1985). For purposes of this study, cognitive error will be defined as, "systematic errors in thinking, reasoning and perceiving

and the content or product of such a process" (Hammen & Krantz, 1985, p. 432). Beck (1976) reports that depression is the result of the tendency to view the self, the future and the world in an unrealistically negative manner. This distorted view of self, future and world is termed the negative triad (Beck, 1967).

The concept of the cognitive triad consists of three major cognitive patterns that impel the depressed individual to regard the self, the future and life's experiences in an idiosyncratic manner. The first component of the triad involves the patient's negative view of the self as inadequate and defective in some manner. This tendency is toward attributing unpleasant experiences to a moral, psychological, or physical defeat in the self. In this view, the individual believes that because of presumed defects, one is both undesirable and worthless.

The second component of the cognitive triad consists of depressed individuals' tendency to interpret ongoing life experiences in a negative way. They see the world as placing inordinate demands on them and placing unsurmountable obstacles to reaching their life's mission. They misinterpret their interaction with others and misinterpret events in their environment which result in their feeling defeated, deprived or left out.

The third component of the triad consists of a negative view of the future. For example, when a depressed person conjures up visions of the future, or attempts to make long-range plans, there is anticipation that the present (negative) situation or suffering will continue indefinitely. One expects that difficulties, disappointments and deprivation will last indefinitely (Beck, Rush, Shaw & Emery, 1979).

Depressed persons typically view the self as inadequate, unworthy and incapable. They expect failure, rejection and perceive most experiences as confirming these expectations. According to cognitive theory, these perceptions result in the development and maintenance of the affective somatic, motivational and behavioral symptoms associated with depression (Sacco & Beck, 1985).

The core of this theory purports that the depressed individual's negative views are usually a distortion of reality. According to Beck et al., (1979) the distorted information processing and negative thoughts of depressed persons can be linked to a more fundamental set of beliefs or schemas that consist of excessively inflexible and inappropriate rules for governing one's life and activities. These negative cognitive schemas or dysfunctional attitudes are considered to be a stable aspect of an individual's personality and to exist even

when the person is not depressed. In this way, negative cognitive schemas constitute a predisposition or vulnerability to depression (Beck et al., 1979).

Depression and Food Cognitions

One particular study by Weissenburger, Rush, Giles and Stunkard (1986) supports the clinical observation that cognitions about eating are related to depression. Their study was designed to elucidate the relationship between eating behavior traits and weight change during clinical depression. One important finding revealed a tendency toward periodic loss of control of eating behavior and the tendency to eat to relieve emotional states. Moreover, this tendency was significantly related to the reported direction (loss or gain) of weight change during clinical depression (Weissenburger, et al., 1986).

Several other studies measuring appetite changes during depression attempt to indicate what variables determine the direction and extent of weight change in depression (Paykel, 1977; Stunkard, et al., 1990). One particular study by Stunkard et al. (1991) investigated 68 patients with a history of recurrent depression. Their results showed a significant correlation between Body Mass Index (BMI) and weight change; in other words, heavier persons were more likely to gain weight if depressed and

persons of lean body mass were more likely to lose weight during depression.

This study by Stunkard et al. (1991) and other studies will be explored in greater detail in Chapter Two. It may be reasonable to assume that persons who develop clinical depression may exhibit underlying dysfunctional beliefs. It may also be reasonable to speculate that the distorted beliefs may have a direct bearing on cognitive aspects of depression which in turn may affect the eating patterns of depressed persons.

Miranda, Persons, and Byers (1990) offer an elaboration of cognitive theory that accounts for these negative findings with regard to the role of dysfunctional beliefs as vulnerability factors for depression. In the mood-state hypothesis, they propose that dysfunctional beliefs are vulnerability factors for depression but that reporting of the beliefs varies with current mood state. This means that when vulnerable persons are in a negative mood state, they readily endorse dysfunctional beliefs, but when they are in a positive mood state, they do not report distorted, dysfunctional beliefs (Miranda & Persons, 1988).

Bulimia and Food Cognitions

Cognitive distortion theory also implicates disturbed cognitions in the etiology and perpetuation of eating disorders. Above all, dysfunctional cognitions regarding

the evaluation of shape and weight indicate a close association with depression in bulimic patients (Laessle, 1990). Lingswiler, Crowther and Stephens (1989) found that bulimics experience significantly greater negative moods and dichotomous cognitions prior to their binge episodes.

Mizes (1990) suggests that core cognitive dysfunction is central to bulimia nervosa. So often, the bulimics' excessive emphasis on physical appearance and weight suggests the major determinant of evaluating the self-worth lies within a continuous, critical evaluation of the body. The image of a body disfigured by fat can be considered as the expression of a problem concerning personal identity cognitive structures (Guidanno & Liotti, 1983).

The fact that bulimics use food as a coping mechanism is indicative of the dysfunctional attitude they have regarding their feelings of weakness and lack of self-control. Paramount to this dysfunctional attitude is the personal sense of ineffectiveness and extreme negativity which pervades their thinking (Barnett & Gotlib, 1990; Guidano & Liotti, 1983). The negative self evaluation and irrational beliefs of bulimics are similar to the rigid and irrational attitudes of depressives. Like the bulimic, the depressed individual's thinking processes reflect extreme negativity and pessimism (Lehman, 1985).

There is no major theory of depression that hypothesizes that the essential dysfunction leading to depression is inadequate coping skills; it may be the cognitive process by which depressed individuals think and perceive that limits their ability to cope. Like the bulimic, depressed persons ascribe more negative interpretations, predictions and causal ascriptions to events, thereby curtailing their competence at problem solving. This sense of a lack of competency can exacerbate depressive symptomatology (Hammen & Krantz, 1985) in both the depressed and bulimic populations.

Depressed persons and bulimics share another common cognitive error which involves faulty information processing. For example, a bulimic who has maintained a stable weight for nine weeks might say, "I shouldn't have eaten that piece of cake last week. I'm getting fat." This distortion in reality maintains the bulimic's belief despite the presence of contradictory evidence - stable weight. Moreover, the processed information is a distortion of reality and involves faulty logic. The above example is a direct, tangible distortion of reality. Less obvious distortions of reality occur in all emotional disorders. For example, a depressed thinker may say, "Nobody in this office likes me." However, just three hours prior to this

subjective statement, a co-worker had extended a luncheon invitation.

In other instances, the individual's appraisal of reality may not be distorted, but misperceptions in the cognitive system of making inferences or drawing conclusions from observations is at fault (Beck, 1976). For example, a depressed person began to suffer tooth discomfort, discovered several grey hairs and accidentally pricked his finger with a pin. He concludes, "I'm not only getting older, I'm falling apart." However, just ten days prior, a complete physical checkup indicated excellent health. This individual made a massive overgeneralization.

In depressed thinkers, the schemas related to the self-concept tend to be global, rigid and negatively toned. When activated, these depressive schemas influence how external stimuli are interpreted, resulting in cognitive distortions (Sacco & Beck, 1985). The negative self-evaluations and irrational beliefs of bulimics are similar to the rigid and irrational attitudes of depressives (Lehman, 1985). Above all, dysfunctional cognitions regarding the evaluation of shape and weight seem to be closely associated with depression in bulimics (Laessle, 1985).

Systematic Errors in Cognitions

Beck (1967) has described several common systematic errors in the way depressed thinkers process information. For purposes of this study, the following terms will be defined. These systematic errors in logic and thinking maintain belief in the validity of negative concepts (Beck, 1979).

1. Overgeneralization refers to a pattern of drawing a general rule or conclusion on the basis of one or more isolated incidents and applying the concept across the board to related and unrelated situations.
2. Personalization refers to the individual's proclivity to relate external events to oneself when there is no basis for making such a connection.
3. Selective abstraction consists of focusing on a detail taken out of context, ignoring other more salient features of the situation and conceptualizing the whole experience on the basis of this fragment.
4. Magnification (catastrophizing) or minimization are reflected in errors in evaluating the significance or magnitude of events that are so gross as to constitute a distortion.

5. Dichotomous thinking is manifested in the tendency to place all experiences in one or two opposite categories; for example, flawless or defective, immaculate or filthy, saint or sinner. In describing oneself, the patient selects the extreme negative categorization (p. 14).

Thompson, Berg and Shatford (1987) suggest that the cognitive and affective indices of bulimic symptomatology parallels a continuum of symptomatic severity. They ascribe two other types of cognitive distortions characteristic of eating disorders, which includes superstitious and perfectionistic thinking. For purposes of this study, definitions set forth by Thompson et al., (1987) will be utilized. First, superstitious thinking is defined as "The tendency to casually relate two unrelated events, one or both of which pertains to food and weight" (p. 221). Secondly, perfectionism is defined as "The excessive personal expectations of excellence regarding diet and weight control" (p. 221). These two categories are based on those originally developed by Beck (1976) regarding depression (Thompson et al., 1987).

Food as a Coping Strategy

Up to this point, this study has stressed the affective and cognitive components of depression and bulimia. An important consideration in the study of

bulimics is the way in which the maladaptive eating behaviors are functioning for the individuals. To date, no study has focused on maladaptive eating behaviors and/or cognitive distortions about food and weight in the depressed population.

Personal clinical observations of this investigator suggests that both bulimic and depressed individuals use food as a means of coping with stressors. Furthermore, it appears that the tendency to use food as a means of coping is oftentimes directly related to the severity of the bulimic or depressive episode. Moreover, in both population groups, the tendency towards weight gain or loss appears to be closely related to the severity of either the bulimic or depressed disorder.

Hopefully, information derived from this study will be utilized to identify dysfunctional, negativistic beliefs and/or deficient coping strategies in both a Bulimic and Depressed population group. The identification of different deficits may provide clinicians with a basis for choosing particular intervention strategies developed for their patients' specific deficits.

Research Questions

The purpose of this study was to investigate the relationships between depressive symptoms and cognitive distortions about food and weight in both a bulimic and a

depressed population group. Another purpose of the study was to identify differences in cognitive distortions in these two clinical groups and to determine if there was a difference between the two groups in their perceived use of food as a coping mechanism. In order to achieve this purpose, the following research questions were investigated:

1. What is the relationship between severity of depressive symptoms and extent of cognitive distortions about food and weight among individuals diagnosed with bulimia?
2. What is the relationship between severity of depressive symptoms and extent of cognitive distortions about food and weight among individuals diagnosed with depression?
3. Is there a difference in extent of cognitive distortions about food and weight between individuals diagnosed with depression and individuals diagnosed with bulimia?
4. Is there a difference in the perceived use of food as a coping strategy between individuals diagnosed with depression and individuals diagnosed with bulimia?

Summary

This chapter provided an overview of the problems associated with Bulimia and Depression. The clinical characteristics and diagnostic criteria for both disorders was outlined. The literature suggests that although depression is common in Bulimia, substantial differences exist between Primary Depression and Bulimia indicating a distinct etiology between the two disorders.

The cognitive theory of depression identifies similar negative, systematic errors that are characteristic in the thinking styles of both Bulimics and Depressives; the most common errors were outlined and defined. The cognitive theory of depression implicates disturbed cognitions in the etiology and perpetuation of eating disorders. Next, the rationale for the study was given and finally, the purpose of the study and the four research questions were addressed.

CHAPTER 2

REVIEW OF THE LITERATURE

The review of literature for this study encompassed several fields of specialization. Inclusion of particular research articles for the review considered studies that were either theoretically, conceptually and/or clinically relevant to the purpose of the study. The literature review was presented and examined in the following areas: (a) Bulimia and Depression, (b) Eating behaviors in depression, (c) Cognitions and Bulimia, (d) Heterogeneity of Bulimia, and (e) Food as a coping strategy.

Bulimia and Depression

The results of recent research investigations alert clinicians to the possibility of the existence a close relationship between bulimia and depression. Moreover, evidence also suggests that bulimia and major depression are distinct entities (Levy, Dixon & Stern, 1989). To better understand the phenomenon of the co-occurrence of depression and bulimia, the following studies are presented.

Hudson et al. (1983), using DSM-III-R criteria, reported that fifty-nine percent of the normal-weight bulimics they studied and eighty percent of the anorexic bulimia patients (66% of the total number) experienced

major depression sometime during their lives. Among the eating disorder patients with lifetime major depression, the mood disorder preceded the onset of the eating disorder forty percent of the time.

Using DSM-III criteria, Piran et al., (1985) reported that thirty-six percent of their bulimic patients had had an episode of major depression during their lives. Similar to the finding of Hudson et al. (1983), Piran found that the onset of depression preceded the eating disorder in forty-four percent of the patients. Similarly, Walsh et al., (1985) found that the lifetime prevalence of major depression in their 50 bulimic patients was seventy-one percent which is close to the rate reported by Hudson et al., (1983).

Affective Disorder

To investigate the relationship between bulimia and affective disorder from a long-term perspective, Swift et al., (1985) conducted a study in which 30 normal weight bulimics were evaluated two to five years post hospital admission with psychometric measures and clinical interviews. Over the five year post hospital course, 26 of the 30 continued to fulfill DSM-III criteria for bulimia. One of the instruments administered at follow-up in the study was the Beck Depression Inventory (BDI) (Beck et al., 1961). The BDI is a 21-item self-report questionnaire that

measures depressive symptomatology from primarily a cognitive perspective. It has a 4-point scale, with higher scores indicating greater depression.

Each of the 21 items of the BDI attempts to access a specific symptom or attitude "which appear(s) to be specific to depressed patients and which are consistent with descriptives of the depression contained in psychiatric literature" (Beck, 1970, p. 189). Results of the study revealed that higher depression scores were associated with more intense bulimic symptomatology and attitudes and greater psychiatric disturbance at followup. The data demonstrated a relationship between bulimic symptomatology and depression at long-term followup and did not support bulimia as being a variant of an underlying affective disorder (Swift et al., 1985).

Another study by Lee, Rush and Mitchell (1985) was designed to characterize the clinical presentation of bulimia and the relationship between bulimia and affective symptomatology. In this study, 56 adult females with DSM-III criteria for bulimia were evaluated for personal and family histories of other psychopathologies. Results of the study indicated that 43 subjects (seventy-seven percent) evidenced mild depression of which 13 (twenty-three percent) reported moderate to severe symptoms by the Beck Depression Inventory - a finding confirmed with the

Hamilton Rating Scale for Depression (HRSD) (Hamilton, 1960) and the Symptom-Checklist-90-Revised (SCL-90-R) (Derogatis, Rickels, & Rock, 1976). A personal history of affective disorder was found in 52 percent while 59 percent reported first degree relatives with affective disorder.

Although data from this study suggests an association between bulimia and affective disorder, the investigators (Lee, Rush & Mitchell, 1985) concluded that the affective symptomatology found in their study was not fully accounted for because: (a) most subjects characteristically develop depressive symptoms prior to, or concurrent with the onset of bulimia; (b) for those subjects whose depressive symptoms followed the onset of bulimia, these symptoms appeared within a few months of the onset; (c) there was no relationship between the length of bulimia illness and severity of depressive symptoms; (d) there is high incidence of affective disorders in bulimic families; and, (e) the onset of bulimia is related to family history of affective disorders.

A study conducted by Williamson et al., (1987) investigated the relationship between severity of eating disorder, e.g., frequency of binge eating, purging and additional psychopathology. Indicators of additional psychopathology included depression, anxiety, personality disorders and somatization. This study was designed to

investigate this relationship by dividing bulimics into two subgroups, high and low frequency purgers, and comparing these two subgroups to a group of normal controls. Also, correlational analyses were conducted to assess the associations between frequency of purging and other types of psychopathology.

In this study, 53 women (35 bulimics and 18 normal controls) were compared on the Minnesota Multiphasic Personality (MMPI) Inventory, the Symptom Checklist-90-R, and the Beck Depression Inventory. The bulimics were separated into two groups, high (N=18) and low (N=17) frequency of purgers. Bulimics who purged less than three times per week (M=1.71) were classified as low frequency purgers, and those who purged more than three times per week (M=9.94) were classified as high frequency purgers. Results of this study revealed that comparisons of the three groups showed that both groups of bulimics differed from normals on measures of depression; however, on other measures, especially anxiety, interpersonal sensitivity and sociopathic traits, only the high frequency purgers differed from normals.

Important information provided by this investigation suggested that greater psychopathology was associated with frequency of purging, especially among bulimics who purged almost daily. The only exception to this conclusion

concerned depression. On both the MMPI and the BDI scales, both groups of bulimics experienced greater depression than the normal control group. This finding suggests that depression is a problem regardless of the severity of the eating disorder (Williamson et al., 1987). Also, positive correlations were found between three measures of depression on the MMPI, SCL-90 and BDI scales. Results indicated that as purging frequency increased, depression intensified. This finding reinforces the reports of others that depression is the single most common type of non-eating disordered psychopathology associated with bulimia (Herzog, 1984; Hudson, Laffer, & Pope, 1982; Williamson et al., 1985).

In summary, results of these studies generally indicated that bulimia and affective disorders are distinct entities. Although bulimia and depression are two diagnostically distinct categories, studies substantiate the finding that depression is problematic among bulimics. Moreover, most studies supported the finding that the severity of depression coincides with the severity of bulimic behaviors. For purposes of this study, it will be interesting to know if there is a relationship between the cognitive distortions and the severity of the depressive symptoms in the bulimic group.

Eating Behaviors in Depression

Personal observations of this investigator suggests that weight gain or weight loss is a phenomenon that occurs in clinically depressed persons. Moreover, in some patients, the severity of weight change appears to be closely linked to the severity of the depressive episode. In addition, clinical observations suggest that patients who have a negative view of the self generally employ more cognitive distortions and display more dysfunctional attitudes than non-clinically depressed persons; it appears that weight (increase or decrease) is also linked to the severity of the negative view of self and is directly related to the amount of cognitive errors and distortions that are used by particular depressed individuals. To date, this investigator has found no studies that directly investigated relationships between depressive symptoms and cognitive distortions about food and weight in the depressed population. However, the following studies will be presented in order to consider those variables and/or factors that do seem to influence weight change and eating behaviors in depression.

Factors Influencing Weight Changes

Two factors that tend to influence the direction of weight gain or weight loss in depression are: The severity of depression (Beck et al., 1961; Zung, Coppedge, & Green,

1974) and the presence of endogenous depression (Pollitt, 1965; Rosenthal & Klerman, 1966). Weight gain has been related to the mildness of depression and the presence of non-endogenous, neurotic or atypical depression (Paykel, 1977; Davidson, Miller, Turnbull, & Sullivan, 1982).

Conversely, some research has shown weight loss to be a poor predictor of endogenous depression (Kendell & Gourlay, 1970; Nelson & Charney, 1981). More recently, it has been suggested that psychological traits, mainly "restrained eating," or the tendency to restrict food intake in order to control body weight, may influence weight changes during depression (Herman & Polivy, 1980).

Weissenburger et al. (1986) investigated factors influencing the direction of weight change in 109 outpatients during the course of a depressive illness. The Eating Questionnaire (Stunkard & Messick, 1985) was utilized to formulate a relationship between eating behavior traits and weight change during depression. The Eating Questionnaire measured three primary dimensions of eating behavior: (1) cognitive restraint of food intake, (2) disinhibition, and (3) hunger. Cognitive restraint measured concerns about, and conscious control of eating behavior. Disinhibition measured the tendency toward periodic loss of control of eating behaviors and the

tendency to eat to relieve emotional states. The hunger factor measured the subjective sensation of hunger.

Results of the study revealed that weight changes ranged from -33 pounds to +50 pounds, with 40 percent of the patients reporting weight gain. Also, weight loss occurred more rapidly than did weight gain. The disinhibition factor of the Eating Questionnaire was significantly correlated with weight change during depression and differentiated weight-gaining from weight-losing patients at a high level of statistical significance ($r=0.35$; $p<0.001$). Moreover, disinhibition emerged as the only powerful discriminator of weight gain from weight loss. This study revealed that it was "disinhibition" that was highly correlated with weight change. This corrects the position that dietary restraint (Polivy & Herman, 1976) is associated with weight gain in depression (Weissenburger et al., 1986).

Stunkard et al., (1991) also conducted a study in which they measured appetite changes during depression. Efforts to establish the determinants of the direction and extent of weight change included two psychometric variables: dietary "restraint," a psychological variable that measures discriminating dieting weight-conscious individuals from non-dieters and disinhibition of such dietary restraint. The secondary measure was the Body Mass

Index (BMI) (weight in kilograms/weight in kilograms squared). This study involved 68 patients with a history of recurrent depression.

Results of this study revealed a significant correlation between BMI and weight change; in other words, heavier persons were more likely to gain weight if depressed. There was also a correlation between disinhibition and weight changes .35 ($p > 0.001$). The correlations between severity of depression and weight change ($r = -0.20$) and appetite ($r = -0.08$) did not reach statistical significance. Before control for BMI, age, and sex, "disinhibition" showed a correlation with weight change of 0.35 ($p < 0.01$). Control for these variables produced one major change: the control between "disinhibition" and weight change fell dramatically from a significant 0.35 to a nonsignificant 0.12. The correlations between appetite and both "disinhibition" and weight change were not affected by the controls and remained statistically insignificant. Results of this study are intriguing, because if not "disinhibition," what likely determines the direction and extent of weight change in depression?

Polivy and Herman (1976) postulate that depression interferes with self-control of high restraint (chronic dieting) persons and consequently high-restraint persons

will eat more during periods of depression, while low restraint persons should eat less. To test this self-control hypothesis, Frost, Goolkasian, Ely, & Blanchard (1982) conducted a study concerned with the effects of experimentally induced mood states on the eating behavior of high and low-restraint persons. In their study, 68 persons (females) were randomly assigned to one of three groups each designed to induce a different mood state (Velten, 1968) (depressed, neutral or elated). Subjects in the depressed and elated conditions read a series of 50 self-referent statements which became progressively more negative (designed to elicit a short-lived mood of depression) or progressively more positive (designed to elicit a short-lived elevation of mood). Subjects in the neutral condition read a series of 50 factual, non-self-referent statements (designed not to elicit any change in affect). Frost et al., (1982) suggests that this procedure induces depressed mood states by eliciting somatic suggestions with depression.

During the mood induction procedure, all subjects were given the opportunity to eat. Frost et al., (1982) hypothesized that the effect of depression on eating behavior would depend upon the level of restraint characterizing the participants. A second purpose of the experiment was to determine the relative importance of

different aspects of restraint in predicting amount eaten. The restraint scale (Herman, Polivy, Pliner, Threkeld, & Munic, 1976) is composed of two factors. Factor 1 is comprised of items concerned with feelings about eating and dieting. Factor 2 is concerned with items regarding typical patterns of weight fluctuation.

Interestingly enough, results of the study indicated that the high-restraint persons induced into depressed-mood state ate significantly more than the high-restraint persons induced into neutral or elated moods, and more than low-restraint persons induced into a depressed mood. This effect was most prominent among subjects who scored high on the weight-fluctuation factor of the restraint scale. There was no evidence that this effect occurred among subjects who scored high on the concern for dieting factor.

The fact that weight may either be gained or lost during depression raises the possibility that the direction and perhaps the extent of weight change may help to differentiate types of depression (Beck et al., 1961; Zung, et al., 1974). If weight change in depression is to serve this function, it must be a stable patient characteristic. In other words, patients must consistently either lose or gain weight during different episodes of depression (Stunkard et al., 1990). In order to test this stability factor, Stunkard et al., (1990) investigated the direction

and extent of weight change during two separate episodes of severe, unipolar depression in 53 outpatients.

Results of this study indicated that weight changes were consistent from one episode of depression to another. Forty five of the 53 patients were concordant for weight change. Twenty-three patients lost weight in both episodes of depression; 17 gained weight and five reported no change. Only five patients showed a different direction of weight change between episodes while three who showed no change in one episode either lost or gained weight with the other.

Results of all the aforementioned studies are impressive in that they substantiate that weight changes (gains or losses) do occur during depression. However, none of these studies reveal or review what type of coping mechanisms these individuals use during their depressive states. Hopefully, data gathered as a result of this study will shed some light on the degree (if any) to which food is used as a coping mechanisms in the depressed population.

Interestingly enough, Stunkard et al., (1991) found that the Body Mass Index (BMI) was positively correlated with weight change. The more overweight the patient, the greater the weight gain; the leaner the patient, the more likely a weight loss. Also, the extent of weight change between the two episodes were highly correlated. Changes in

appetite also paralleled those in body weight. The duration of the depressive episode and the BMI were related to weight change; however, the two features of depression with which weight loss has been associated (endogenous character and severity) were not related to absolute weight change. Stunkard et al., (1990) concluded that the direction and extent of weight change appeared to be a stable patient characteristic and may be considered an important feature of depression and may be a potential marker for subtypes of depression.

Biochemical Disturbances

Other studies indicated that mood and appetite disorders are affected by biochemical disturbances in two distinct biological systems. One system involves the hormone melatonin which affects mood and energy levels (Wurtman & Wurtman, 1989); the other involves the neurotransmitter serotonin, which regulates an individual's appetite for carbohydrate-rich foods. Disturbances in one or both of these systems creates depression, lethargy and an inability to concentrate, combined with episodic bouts of overeating and excessive weight gain (Rosenthal et al., 1984). Both systems are influenced by the earth's daily dark-light cycle (Terman, 1988; Wurtman, O'Rourke & Wurtman, 1989).

Various irregularities in serotonin (5-HT) functioning have been linked to prominent symptoms of depression. Symptomatology most frequently cited include: (a) mood, (b) appetite and sleep disturbances, (c) alterations in cognitive functioning, and (d) altered activity levels (Meltzer & Lowy, 1987). Normal or decreased levels of 5-hydroxyindoleacetic acid (5-HIAA), the major metabolite of 5-HT in the cerebrospinal fluid of depressed patients or those who have made suicide attempts further implicates diminished serotonergic activity in depressive symptomatology (Meltzer, 1989). Because serotonin regulates appetite for carbohydrate-rich foods and affects activity and energy levels (Wurtman, R.J., & Wurtman, J.J., 1989), "It may be reasonable to speculate that diminished levels of serotonin may lead to weight increases in the depressed population" (*Italics mine*).

Antidepressant Medications

Unwanted, excessive weight gain is among the side effects frequently reported by patients during treatment with antidepressant medications (Fernstrom, McConahan & Kupfer, 1989). Tricyclic antidepressants are cited as being particularly problematic (Harris, Young & Hughes, 1986; Fernstrom, Krowinski & Kupfer, 1987). Fernstrom (1989) conducted a study of 40 clinically depressed persons who were treated with the tricyclics Amitriptyline and

Imipramine. Interestingly enough, the investigator (Fernstrom, 1989) found that excessive weight gain was caused in part, at least in some persons, by a reduction in the resting metabolic rate. Results indicated that an increase in body weight resulted not only from energy intake (increased food ingestion) but also from a reduction in energy expenditure. This depressed population group had an increased energy efficiency ranging from 16-24 percent. This increase during treatment with tricyclic antidepressants could promote weight gain even in the absence of caloric intake (Fernstrom, 1988; Fernstrom, Krowinski & Kupfer, 1986).

Results of these studies indicate that weight gain can indeed occur among individuals treated with tricyclic antidepressants; however, weight gain also occurs among those who are not treated with antidepressants. Generally, during depression, the energy level is decreased thereby lowering energy expenditure. Frequently, depressed individuals complain of lack of motivation which in turn curtails their activity levels. One may speculate that weight changes may result from the combined effects of tricyclics plus the individual's particular cognitive and coping style (*Italics mine*).

Cognitions and Bulimia

The core psychopathology of bulimia nervosa is hypothesized to be represented in organized cognitive structures that unites the bulimic's view of self with beliefs about weight (Vitousek & Hollon, 1990). Several studies indicate that bulimics tend to develop organized cognitive structures (schemata) around the issues of weight and its implications for the self that influence their perceptions, thoughts, behavior and affect (Barnett & Gotlibb, 1990; Garner & Bemis, 1985; Guidano & Liotti, 1983; Vitousek & Hollon, 1990).

According to schematic theories of depression, for example, individuals remain depressed not because they desire sadness or that they have an unexplained "need to be unhappy" (*Italics mine*), but because their negative self-schemata influence their perceptions, attributions and memories in ways that tend to perpetuate depressive, sad moods (Beck, 1976, 1979; Blackburn & Davidson, 1990; Hammen & Krantz, 1985). In contrast, bulimics do want to be thin, have an altogether conscious need to lose weight and vehemently defend the symptoms they experience and endure as egosyntonic (Vitousek & Hollon, 1990).

Bulimics are profoundly self-critical and possess a fundamental negative self-image. They characterize themselves as perfectionistic, ineffective and readily

endorse irrational beliefs about the self and the world (Dritschel, Williams & Cooper, 1991; Freeman, et al., 1991; Vitousek & Hollon, 1990).

To better understand schematic processing in bulimics, the following areas will be explored: (a) cognitive distortions and bulimia, (b) the depressogenic nature of cognitions, and (c) the affective and cognitive antecedents to eating.

Cognitive Distortions and Bulimia

Schulman et al., (1986) developed a scale that measured cognitive distortions in bulimia. Subjects for the study included 55 white females between the ages of 17 and 45; the control subjects included one black and 54 white females between the ages of 18 and 40. All bulimic subjects met operationalized DSM-III criteria for bulimia as defined by the Eating Habits Questionnaire (EHQ) (Hudson, 1984). The control group subjects did not meet criteria for bulimia as measured by the EHQ and had to report never binge-eating or purging. Additionally, they were required to meet the same height and weight standards as the bulimic group and could not have been diagnosed as having had anorexia nervosa in the past year (Schulman, 1986).

Measures utilized in this study included the following scales: (1) The Irrational Beliefs Test (IRB) (Ellis,

1962); (2) the Beck Depression Inventory (BDI) (Beck, 1961); (3) the Bizarre Sensory Experiences (BSE) (Harris & Lingo, 1955); (4) the High-Self Expectations Scale (HSE) (Katzman & Walchik, 1984); and (5) the Demand for Approval Scale (DAS) (Katzman & Walchik, 1984). The final twenty five items chosen for the Bulimia Cognitive Distortions Scale (BCDS) included cognitive distortions in the areas of eating, purging, dieting, weight, appearance, and emotional triggers for bingeing and control (Schulman et al., 1985).

Data results indicated that the BCDS was of considerable usefulness with both research and clinical applications for bulimics. Moreover, the BCDS was positively correlated to the DAS, HSE and the BDI. These investigators (Schulman et al., 1985) found that the BCDS was significant in the prediction of group membership or in the prediction of severity as measured by frequency of binge eating. Factor analysis revealed two clear factors; one measuring automatic behaviors in bulimics and the second measuring cognitive distortions related to physical appearance and attractiveness. Interestingly enough, both of these characteristics have been found to be significant problem areas for bulimics in previous research (Fitcher et al., 1991; Garner & Bemis, 1985; Guidanno & Liotti, 1983; Laessle, 1990).

Antecedents to Eating Episodes

Cognitive theories attribute eating disorders to cognitive errors (Agras, Schneider, Raeburn & Telch, 1989; Steiger, Goldstein, Mongrain & Van der Feen, 1989) resembling those postulated to underlie depression (Beck et al., 1979; Strauss & Ryan, 1988). These include distorted, unrealistic stands for self-evaluation, dichotomous thinking and arbitrary beliefs (Steiger et al., 1989). Other investigators identify several causal antecedents to uncontrolled eating episodes in bulimia (Lingswiler, Crowther & Stephens, 1989; Phelan, 1987; Ogden & Wardle, 1991). Lingswiler et al., (1989) hypothesized that binge eating behaviors could be precipitated by both negative moods and polarized, dichotomous cognitions.

To test this hypothesis, their study investigated seven antecedents to the binge-purge cycle which included: restraint, stress, mood, thoughts of food, fatigue, hunger, and dichotomous cognitions (Lingswiler et al., 1989). This study compared 19 bulimics, 15 binge eaters and 20 normal control subjects. For one week, 19 bulimics, 15 binge-eaters and 20 normal control subjects recorded detailed information about these antecedents and the types and quantities of food consumed for each episode. Also, the study compared the antecedents of binge and non-binge episodes of bulimics and binge eaters with all episodes of

bulimics and binge eaters as well as differences in the antecedents of the binge and non-binge episodes of bulimics and binge eaters.

Results of the study indicated that prior to their binge episodes, bulimics reported significantly greater stress, preoccupation with food, and negative moods than did the binge-eater group and normal control group. Moreover, both bulimics and binge-eaters experienced greater dichotomous cognitions prior to binge episodes than did the normal group. With regard to mood, results indicated that bulimics experienced significantly greater negative moods prior to their binge episodes than binge eaters and normal controls. Both bulimics and binge eaters reported experiencing significantly greater negative moods prior to their non-binge episodes than the normal control groups experience prior to their eating episodes.

These results strengthen research suggesting that negative mood states may precipitate binge episodes for bulimics. However, the fact that both bulimics and binge eaters also reported negative moods prior to their non-binge episodes than did the normal control group suggests that either the negative mood states may have precipitated eating in bulimia or binge eaters, or that negative mood states may be more characteristic of these populations independent of food and eating (Lingswiler et al., 1989).

Depressogenic Nature of Cognitions

Investigators have frequently reported that the thinking style of patients with bulimia is characterized by cognitive distortions surrounding the themes of body shape and weight markedly similar to those identified in depressed patients (Lehman, 1985; Ogden & Wordle, 1991; Thompson et al., 1987; Vitousek & Hollon, 1990).

Another important study which substantiates these findings was conducted by Dritschel, Williams & Cooper (1991). The aim of their study was to assess the depressogenic cognitive distortions among a control and a bulimic population group. The questionnaire utilized for this study was the Cognitive Error Questionnaire (CEQ) developed by Lefebvre (1981). The CEQ measures an individual's tendency to make cognitive distortions of a general nature as well as an individual's tendency to make cognitive distortions associated with pain. The CEQ (Lefebvre, 1981) measures four common cognitive distortions: overgeneralization, selective abstraction, catastrophizing and personalization. Dritschel et al., (1991) utilized all four terms in Lefebvre's (1991) CEQ to measure depressogenic cognitive distortions in relation to themes concerning food, eating, shape and weight. In addition to the measure of general and specific cognitions, four additional questionnaires were completed by the

subjects: (a) the Beck Depression Inventory (BDI) (Beck, 1991), (b) the Body Shape Questionnaire (BSQ) (Cooper, Taylor, Cooper & Fairburn, 1987), a measure concerned with the experience of feeling fat; (c) the Restraint Subscale of the Three Factor Eating Questionnaire (Stunkard & Messick, 1985), an index of the cognitive and behavioral components of dietary restraint; and (d) the Rosenberg Self-Esteem Scale or SES (Rosenberg, 1965).

Dritschel et al., (1991) administered the cognitive distortion and general distortion questionnaires to three groups: (a) those established by interview to experience bulimic episodes (objective bingers), (b) those reporting bulimic episodes but not confirmed by interview, and (c) a group who denied bulimic episodes (controls). The main aim of the study was to determine whether the objective bulimics manifest cognitive distortions, and if so, whether such distortions are a general feature of their thinking or are evidenced only in relation to specific themes concerning food, eating, shape and weight. Another aim was to examine how general and specific distortions relate to certain other psychological dimensions (Dritschel et al., 1991).

Results of the study indicate that perceived bulimics and controls were similar in terms of specific distortions as well as in terms of distortions of a more general

depressogenic nature. When differences in the specific distortions were controlled, the objective bingers did not differ from the other two groups on any of the four types of general distortions examined. Conversely, after the effect of general cognition distortions were statistically removed and compared with both control groups, the objective bingers were found to engage in significantly more personalization, overgeneralization, catastrophizing, and selective abstraction on the questionnaire items concerning food, eating, shape and weight (Dritschel et al., 1991).

For each of the three groups studied, the correlations were examined between the general and specific distortion scores and measures of mood, self-esteem, dietary restraint, and body shape concern. For both the objective bingers and the perceived bingers, only the self-report measures of body shape concern remained significantly associated with the level of specific distortions once the general distortions were statistically removed. However, for perceived bingers only, once the specific distortion scale effect was removed, the general distortions remained significantly associated with the level of mood disturbance.

The pattern of correlations for the control group was more specific. In other words, the specific cognitive

distortions were unequally associated with low self-esteem (Dritschel et al., 1991). Results of this study indicated that bulimics (objective bingers) had significantly more distorted cognitions, and these cognitions played a role in the etiology and maintenance of maladaptive eating habits in that population (Dritschel et al., 1991). Lefebvre's (1981) questionnaire is particularly valuable in that it detects specific depressogenic cognitive distortions; it elucidates the depressive, cognitive features of the bulimic's behavior (Dritschel et al., 1991).

Heterogeneity of Bulimia

Some studies suggest that bulimia may be a heterogeneous disorder that exists to varying degrees in the population (Katzman & Wolchik, 1984a; Squire, 1983; Thompson, Berg & Shatford, 1987). Katzman & Wolchik (1984b) assessed several behavior and personality characteristics of women classified into groups of bulimics, binge eaters and controls. Results of their study indicated that bulimics differed from controls and binge-eaters in terms of exhibiting greater depression, lower self-esteem, poorer body image, and a higher need for approval. The only differences between the binge-eater and control groups occurred on measures of cognitive restraint and binge eating. These results indicated that perhaps several personality and behavioral characteristics coexist with

bulimia. The investigators (Katzman & Wolchik, 1984b) felt that bulimic symptomatology includes both behavioral and psychological characteristics.

Squire (1983) and Thompson (1987) postulate that bulimia may be a heterogeneous disorder in which the DSM-III-defined syndrome represents one extreme end of an extensive continuum. Squire (1983) formulated a conceptual model of eating disorders that encompassed a range of eating behaviors and attitudes concerned with depression, self-esteem, body image and need for approval. Squire (1983) categorized eating disorders along a continuum or an "eating arc." She placed normal eaters at one end of the arc and progressed through occasional overeaters/dieters, to bingers, and on to chronic dieters at midpoint. Bulimics who simply diet between binges were next on the continuum and the last category included situational purgers who used methods such as self-induced vomiting only occasionally. Next were bulimics purgers, followed by anorexics. Squire (1983) found that the severity of traits such as low self-esteem, drive for thinness, perfectionism, and difficulty in emotional expression related directly to the severity of the eating disorder.

Food as a Coping Strategy

Thompson et al., (1987) utilized findings from Squire's (1983) conceptual model and conducted a study

encompassing the behavioral, affective and cognitive indices of bulimic symptomatology. The aim of their study was to compare "Symptom-free, bulimic-like, and bulimic women on (1) the number and type of cognitive distortions they make about food- and weight-related issues, and (2) the various ways in which they used food as a coping mechanism" (p. 218-219). Instruments used to measure test results included the Eating Disorder Inventory (EDI) (Garner, Olmstead & Polivy, 1983) and the Eating Patterns Questionnaire (EPQ). The EPQ is an operationalized version of the DSM-III diagnostic criteria for Bulimia (Thompson et al., 1987). Two scales developed for the study included the Use of Food Survey (UFS) and the Food and Weight Cognitive Distortions Survey (FWCDS) (Thompson, et al., 1987). The UFS was used to measure the individual's tendency to use food as a coping mechanism. The FWCDS was used to measure the individual's cognitive distortions regarding food-and-weight-related issues.

One important consideration in the study was to ascertain the ways in which the bulimic eating behaviors were functioning for the individual. Studies suggest that bulimics use food as a coping mechanism, as a means of escaping difficult issues, as a means of alleviating anxiety and as a means of reward or punishment (Agras, et al., 1989; Kuechler & Hampton, 1988; Thompson, et al.,

1987). The cognitive dimension of bulimia was also an important factor in identifying and describing both the severity of affect and behavior in this study. The subjects in this study included 19 women who fulfilled the DSM-III diagnostic criteria for bulimia. Thirty-five of the women fulfilled an operationalized definition of an absence of bulimic symptomatology, and 41 women fulfilled some but not all bulimic criteria.

The cognitive distortion subscales of the Food and Weight Cognitive Distortion Survey included: (a) perfectionism, (b) defeatism, (c) dichotomous thinking, (d) regret, (e) worry, (f) exaggeration, (g) superstitious thinking, and (h) personalization (Thompson et al., 1987, p. 221). Results of this study revealed that the bulimic group scored significantly higher than the symptom-free group on all measures. The bulimic women were characterized by greater use of food as a coping mechanism and displayed more cognitive distortions regarding food and weight than the symptom-free group. Bulimics demonstrated more perfectionism, defeatism, dichotomous thinking, regret, worry, exaggeration, superstitious thinking and personalization. The bulimic group also scored higher than the symptom-free group on the EDI subscales which included: drive for thinness, bulimia, body dissatisfaction, ineffectiveness, perfectionism, interoceptive awareness

and modified bulimia. The bulimic group also indicated a greater discrepancy between their actual and desired weights than the symptom-free group. Thompson et al., (1987) concluded that this data suggested the coexistence of several maladaptive affective and cognitive components of bulimia.

The bulimic women were also characterized by greater use of food as a coping mechanism and made more cognitive distortions regarding food and weight than the bulimic-like group. They demonstrated more dichotomous thinking, worry, exaggeration, superstitious thinking and personalization. The bulimic group scored higher on the EDI subscales of drive for thinness, bulimia, interoceptive awareness and modified bulimia. The bulimia and bulimic-like groups scored equally on measures of perfectionism, body dissatisfaction, weight discrepancy desired, regret, defeatism, and ineffectiveness (Thompson et al., 1987).

In summary, the bulimic-like group characterized greater use of food as a coping mechanism and made more cognitive distortions regarding food and weight than the symptom-free groups. The bulimics also demonstrated greater perfectionism, defeatism, dichotomous thinking, and personalization. Finally, the bulimic-like group scored higher on weight discrepancy desired and the EDI subscales for thinness, body dissatisfaction, perfectionism,

interoceptive awareness and modified bulimia. The two groups did not differ significantly from one another on the EDI subscales bulimia and ineffectiveness. According to Thompson et al., (1987) the bulimic-like group demonstrated an intermediate level of pathology and the symptom-free group demonstrated no evidence of pathology.

Thompson et al., (1987) concluded that parallelism existed between the severity of the disturbed eating patterns and the affective and cognitive symptomatology of the three groups. Their findings suggested that cognitive distortions may play a role in developing and maintaining bulimia. In addition, the results indicated that bulimic women use food as a mechanism for coping with such feelings as loneliness, anger, anxiety or frustration. Having an impoverished outlet for appropriate emotional expression, bulimic women tend to turn their negative affect inward (Thompson et al., 1987).

Summary

Up to this point, this literature review has presented evidence substantiating the depressive component of bulimia. That cognitive distortions play a major role in bulimic thinking has also been demonstrated. Moreover, the depressogenic nature of these cognitive distortions are similar to those manifested in depressed population groups. Because bulimics report greater stress, preoccupation with

food and negative moods prior to their binge episodes, the depressogenic nature of these cognitive distortions become paramount to understanding how maladaptive eating behavior is perpetuated and maintained in bulimia. The findings suggests that weight change does occur in depressed population groups and that the direction of weight change is linked to several different factors. An interesting aspect of this study will be to discover whether or not a relationship exists between the cognitive components of depression and cognitive distortions about food and weight in a depressed population group as well as in a bulimic group.

That food serves as a primary coping mechanism in bulimics has been well-documented. However, no studies have addressed the nature of food as a coping mechanism in the depressed population. Considering the emotional suffering of the depressed population, it seems reasonable to speculate that significant weight changes may add to the psychological pain encountered by these patients. Therefore, another important purpose of this study was to learn to what degree (if any) the depressed population uses food as a coping mechanism.

CHAPTER 3

METHODOLOGY

Introduction

This study utilized a descriptive correlational design to investigate the relationship between depressive symptoms and cognitive distortions about food and weight in both a bulimic and a depressed population group. Another purpose of the study involved comparative methods to identify differences in cognitive distortions in these two clinical groups, and to determine if there were differences between the two groups in their perceived use of food as a coping mechanism.

This chapter presents the setting, sample, procedure of study, protection of human subjects and instruments selected for the study. Research questions investigated included the following:

1. What is the relationship between severity of depressive symptoms and extent of cognitive distortions about food and weight among individuals diagnosed with bulimia?
2. What is the relationship between severity of depressive symptoms and extent of cognitive distortions about food and weight among individuals diagnosed with depression?

3. Is there a difference in cognitive distortions about food and weight between individuals diagnosed with depression and individuals diagnosed with bulimia?
4. Is there a difference in the perceived use of food as a coping strategy between individuals diagnosed with depression and individuals diagnosed with bulimia?

Setting and Sample

The setting for this study was a metropolis in Southern Arizona; the population was approximately 666,800. In this particular mental health clinic, the ratio of female to male bulimics was 20:1; therefore, a convenience sample consisting only of women were asked to participate in this study. Diagnosed Bulimics and diagnosed Major Depressives were identified as participants through twelve clinicians in this Outpatient Mental Health Care setting.

Criteria for inclusion in this particular study were:

1. Subjects are female.
2. Subjects are English-speaking.
3. Subject's diagnoses are either Major Depression and/or Bulimia Nervosa.
4. Subjects are between 18-65 years of age.
5. Subjects are able to read and write English.

Protection of Human Subjects

The proposal was reviewed and accepted by the Human Subjects Committee at the University of Arizona College of Nursing. Each subject was given a written disclaimer form; this disclaimer assured the participants of confidentiality and anonymity in the reporting of results (Appendix A). By voluntarily writing their responses on the questionnaires, the subjects gave their consent to participate in the study.

Data Collection Procedure

The investigator arranged a meeting with clinicians and fully explained the proposed research project. During this meeting, clinicians offered suggestions and commented on the project; they decided to personally coordinate their subjects' participation in the study. Following this meeting, the investigator considered clinicians' input and subsequently, their suggestions were utilized to create a smoother, more efficient research study process.

Individuals who met criteria for Bulimia Nervosa and Major Depression were identified through their primary mental health therapist. The primary therapist then contacted the prospective subjects by phone or mail. Some individuals were personally contacted as they presented to the Mental Health Center for psychiatric and/or therapy appointments. Individuals who were interested in

participating were then contacted by the investigator and subsequently an interview and meeting time were scheduled according to convenience for the client.

On initial contact, each prospective participant was given a general description of the study and was assured anonymity; it was made clear that participation or lack of participation would not interfere with the individual's treatment or future health care. Prospective participants were told that they could ask questions at any time and that they could withdraw from the study at any time. Information conveyed during the first contact also included: a) a general description of the study, b) the purpose of the study, and c) a general explanation of the three questionnaires selected for the study. Prospective participants were told that completion of the questionnaires would require approximately 25-45 minutes of their time.

Questionnaires were distributed among the therapists who agreed to participate in the project. Questionnaire packets were designated Group 1 and Group 2. Group 1 identified the bulimic population and Group 2 identified the depressed population group. Each packet had a code number in the upper right hand corner of the demographic sheet; the code number assured each subject's anonymity. Questionnaire packets were sealed prior to distribution to

subjects. Each packet contained the demographic sheets, the disclaimer statement and three questionnaires. The therapists fully explained all materials in the packet. When the subjects fully understood the procedure and the questionnaires, they were led to a private room or office. There, the subjects proceeded to complete the questionnaires. Each clinician was responsible for arranging an area conducive to test taking.

The subjects were given an extra manilla envelope and instructed to seal the envelope after completing the questionnaires. The subjects were also instructed to retain the disclaimer statement for their records. They were told that their questionnaires were not part of their record at Southern Arizona Mental Health Center. After the subjects had completed the questionnaire, each clinician returned the sealed packets to the principal investigator. Information was stored in a locked file cabinet in the principal investigator's private office.

Instruments

In addition to a demographic and health-related information sheet, the following three questionnaires were utilized to collect data:

1. Beck Depression Inventory Scale (BDI) (Beck, et al., 1978).
2. Use of Food Survey (UFS) (Thompson, et al., 1987).

3. Food and Weight Cognitive Distortion Survey (FWCDS)
(Thompson, et al., 1987).

Beck Depression Inventory

The Beck Depression Inventory (BDI) (Appendix D) Scale was developed in 1961 by Aaron T. Beck, M.D. and his colleagues. Assisting Beck with development of the scale was his associates C.H. Ward, M.D., M. Mendelson, M.D., J. Mock, M.D., and J. Erbaugh, M.D. The BDI is a 21-item test presented in multiple choice format which purports to measure the presence and degree of depression in adults. Each of the inventory items corresponds to a specific category of symptom and/or attitude. Each category describes a specific behavioral manifestation of depression and consists of a graded series of four self-evaluative statements. The statements are rank-ordered from 0-4 and weighted to reflect the range of severity of the symptoms from neutral to maximum severity (Stehouwer, 1985). The original BDI was first published in 1961 (Beck et al., 1961). A revision was undertaken in 1974 and again in 1978, standardizing each item to four possible choices. Additionally, a short form of the BDI was developed; this short form consists of 13 items taken from the revised 21-item test (Reynolds & Gould, 1981).

For purposes of this study, the revised 21-item scale was utilized (Beck, 1978); the 21 items measure the following symptoms and attitudes:

1. Mood
2. Pessimism
3. Sense of Failure
4. Lack of Satisfaction
5. Guilty Feeling
6. Sense of Punishment
7. Self-hate
8. Self-accusation
9. Self-punitive wishes
10. Crying Spells
11. Irritability
12. Social Withdrawal
13. Indecisiveness
14. Body Image
15. Work Inhibition
16. Sleep Disturbance
17. Fatigability
18. Loss of Appetite
19. Weight Loss
20. Somatic Preoccupation
21. Loss of Libido (Beck, 1961, p. 562).

Subjects were asked to read each group of statements and then select the statement from each group that best describes what they had been feeling over the past week and the day of administration. There is no arbitrary score that is used as a cutoff score; however, interpretation is based on objective scoring and depending on the range of the score, the individuals are categorized into the following five levels of depression:

- 0-9 = Normal range
- 10-15 = Mild depression
- 16-19 = Mild - Moderate depression
- 20-29 = Moderate - Severe depression
- 30-63 = Severe depression (Beck, 1970).

Most of the studies of BDI reliability have been undertaken with psychiatric patients. Test-retest reliability has been studied in the case of 38 patients who were given the BDI on two occasions (Beck, 1970). Internal consistency studies demonstrated a correlation coefficient of .86 for the test items and the Spearman-Brown correlation for the reliability of the BDI yielded a coefficient of .93 (Stehouwer, 1985).

Food and Weight Cognitive Distortions Survey

The Food and Weight Cognitive Distortions Survey (FWCDS) (Appendix D) was developed by Thompson, Berg & Shatford (1987). The original FWCDS instrument was

developed to compare symptom-free, Bulimic-like and bulimic women on the number and type of cognitive distortions made about food-and-weight-related issues (Thompson, et al., 1987).

The FWCDs contains 8 subscales of 5 statements; each statement is followed by a 5-point Likert-type scale, the direction of which alternates from positive to negative. A total score for the FWCDs is obtained by summing the points. With reverse scoring, response options were consistent as follows: Strongly disagree = 1; Disagree = 2; Undecided = 3; Agree = 4; and Strongly agree = 5. Potential range of scores is from 20 to 200 points. Each subscale item may be examined in addition to the total scale.

Internal consistency studies demonstrated a correlation coefficient of .73 (Cronbach's Alpha). Subscale alphas ranged from .49 to .85. The average item-subscale correlation was 0.71, and the average subscale-total correlation was 0.81 (Thompson, 1987, p. 220).

The eight subscale items were adapted from Beck's (1979) cognitive distortion theory of depression. A cognitive distortion is defined as "systematic errors in thinking, reasoning, and perceiving and the content or product of such a process" (Hammen & Krantz, 1985, p. 432).

The description of the eight subscale items on the FWCDS are defined as follows:

- Perfectionism -excessive personal expectations of excellence regarding diet and weight control.
- Defeatism -the belief that one does not presently have, and cannot obtain the ability to control one's thoughts and behaviors regarding food and weight.
- Dichotomous Thinking -the tendency to categorize issues of food and weight into black-and-white or all-or-none issues.
- Regret -the tendency to dwell on the past regarding diet and weight control.
- Worry -the tendency to anticipate future problems in the areas of diet and weight control.
- Exaggeration -the tendency to magnify and catastrophize occurrences regarding food and weight.
- Superstitious Thinking -the tendency to casually relate two unrelated events, one or both of which pertains to food and weight.

Personalization -the tendency to believe that others' attention is focussed on one's personal food-and-weight related issues. (Thompson, et al., 1987, p. 221).

Use of Food Survey Scale

Thompson, Berg & Shatford also developed The Use of Food Survey Scale (UFS) (Appendix D) in 1987. The scale was used to compare symptom-free, bulimic-like, and bulimic women on the degree to which they used food as a coping mechanism (Thompson et al., 1987). The instrument contains 14 statements, each referring to a specific use of food. Each statement is followed by a five-point Likert-type scale that alternates from positive to negative. A total score for the UFS is obtained by summing the points for each response. Response options were as follows: Never = 1; Rarely = 2; Sometimes = 3; Quite often = 4; and Very often = 5. The number selected indicates either a level of agreement with a particular item or the frequency of occurrence of the item in the respondent's life. Potential range of scores is from 14 to 70 points. A .88 coefficient of internal consistency (Cronbach's Alpha) was found on the test items (Thompson et al., 1987).

Summary

This study utilized a descriptive correlational design and comparative methods to investigate the relationships between depressive symptoms and cognitive distortions about food and weight in both a Bulimic and a Depressed population group. Another purpose of the study was to identify differences (if any) in cognitive distortions about food and weight in these two clinical groups and to determine if there were differences between these two groups in their perceived use of food as a coping mechanism. The three questionnaires utilized in this study were: (a) the BDI (Beck et al., 1978), (b) the UFS (Thompson et al., 1987), and (c) the FWCDs (Thompson et al., 1987).

CHAPTER 4
PRESENTATION OF DATA

Introduction

The purpose of this study was to investigate the relationships between depressive symptoms and cognitive distortions about food and weight in both a bulimic and a depressed population group. Another purpose of the study was to identify differences in cognitive distortions in these two clinical groups. To achieve this purpose, the following research questions were investigated:

1. What is the relationship between severity of depressive symptoms and extent of cognitive distortions about food and weight among individuals diagnosed with bulimia?
2. What is the relationship between severity of depressive symptoms and extent of cognitive distortions about food and weight among individuals diagnosed with depression?
3. Is there a difference in extent of cognitive distortions about food and weight between individuals diagnosed with depression and individuals diagnosed with bulimia?
4. Is there a difference in the perceived use of food as a coping strategy between individuals

diagnosed with depression and individuals
diagnosed with bulimia?

Characteristics of the Sample

A convenience sample of 14 bulimics and 17 depressed individuals participated in this study. Subjects included individuals in an adult outpatient mental health center.

As presented in Table 1, ages of the subjects ranged from 24 to 57 years; the mean age was 36.8 (S.D.=10.4) and the median age was 33.5 years. These results included 30 individuals who reported their ages and one bulimic participant who did not report her age. Statistics indicated that (a) 12 subjects (38.7%) were between the ages of 20 to 30 years, (b) six subjects (19.4%) were between the ages of 31 to 40 years, (c) nine subjects (29.0%) were between the age of 41 to 50 years, (d) three subjects (9.7%) were between the ages of 51 to 60 years, and (e) one individual (3.2%) did not report her age.

Table 2 presents data representing marital status of the total group (N=29). Seven subjects (22.5%) were married, five (16.0%) were separated, ten (32%) were divorced, and seven (22.5%) were single. Two subjects (6.0%) did not report their marital status. The majority of the subjects (83.9%) reported their ethnicity as Caucasian.

Table 1. Characteristics of Subjects by Age (N=30)

| Age in Years | Number of Subjects | Frequency (Percent) |
|--------------|--------------------|---------------------|
| 20-30 | 12 | 38.7 |
| 31-40 | 6 | 19.4 |
| 41-50 | 9 | 29.0 |
| 51-60 | 3 | 9.7 |
| (Missing) | <u>1</u> | <u>3.2</u> |
| Total | 30 | 100.0 |

Table 2. Characteristics of Subjects by Marital Status

(N=29)

| Marital Status | Number of Subjects | Frequency (percent) |
|----------------|--------------------|---------------------|
| Married | 7 | 22.5 |
| Separated | 5 | 16.0 |
| Divorced | 10 | 32.0 |
| Single | 7 | 22.5 |
| Missing data | <u>2</u> | <u>6.0</u> |
| Total | 31 | 100.0 |

The level of education was recorded as the total number of school years completed. As presented in Table 3, the educational levels ranged from seven through 16 years; the mean educational level was 12.9 (S.D.=1.8) and the median was 14.0 years. Results for the total group (N=31)

were as follows: (a) one subject (3.2%) completed seven years of school, (b) three subjects (9.7%) completed nine to eleven years of school, (c) 22 subjects (71.0%) completed 12 to 14 years of school, and (d) five subjects (16.1%) completed 15 to 16 years of school.

Table 3. Characteristics of Subjects by Educational Level
(N=31)

| Years of School completed | Number of Subjects | Frequency (Percent) |
|------------------------------|-----------------------|------------------------|
| 7-8 | 1 | 3.2 |
| 9-11 | 3 | 9.7 |
| 12-14 | 22 | 71.0 |
| 15-16 | <u>5</u> | <u>16.1</u> |
| Total | 31 | 100.0 |

Subjects were asked to record the number of continuing days in treatment in this particular mental health clinic. The subjects chose one answer among six categories and their responses were as follows: (a) two subjects (6.5%) had 0 to 14 days of continuing treatment, (b) three (10.0%) had 15 to 30 days of continuing treatment, (c) five subjects (16.0%) had 31 to 60 days of continuing treatment, (d) two subjects (6.5%) had 61 to 90 days of continuing treatment, (e) six subjects (19.4%) had 91 to 120 days of

continuing treatment, and (f) 13 (42.0%) had 120 or more continuing days of treatment in the Outpatient Clinic.

Reliability of Instruments

Beck Depression Inventory

Twenty-seven of 31 subjects answered all questions on the Beck Depression Inventory. Their data were used to compute Cronbach's alpha coefficient of reliability for the entire scale which was .88; this internal consistency demonstrated a correlation coefficient slightly lower than the .93 which was demonstrated in Beck's (1961) original study.

Food and Weight Cognitive Distortions Survey

The alpha coefficient reliability of the Food and Weight Cognitive Distortions Survey in this (N=29) study was .93; this finding is significantly higher than that of the original study whereby an alpha reliability coefficient of .73 was demonstrated (Thompson et al., 1987).

Eight Subscales Items of the Food and Weight Cognitive Distortions Survey

Reliability was tested for the FWCDS subscale by computation of Cronbach's alpha coefficient. The reliability of the eight subscale items (N=29) were as follows: (a) Perfectionism, .60; (b) Defeatism, .72; (c) Dichotomous thinking, .45; (d) Worry, .65; (e) Regret, .64; (f) Exaggeration, .62; (g) Superstitious thinking, .80; and

(h) Personalization, .81. The Thompson et al. study (1987) revealed a .73 coefficient of internal consistency (Cronbach's alpha), with subscale alphas ranging from .49 to .85.

Use of Food Survey

The alpha reliability coefficient of The Use of Food Survey (UFS) (N=31) was .81. The Thompson et al. study (1987) revealed Cronbach's alpha reliability coefficient of .88.

Findings Related to the Beck Depression Inventory

Interpretation of the 21-item BDI was based on objective scoring and depending on the range of scores, the Bulimic and Depressed subjects were categorized according to their level of severity of depressive symptoms. The ranges of severity are categorized as follows:

- 0 - 9 = Normal range
- 10 - 15 = Mild depression
- 16 - 19 = Mild-moderate depression
- 20 - 29 = Moderate-Severe depression
- 30 - 63 = Severe depression (Beck, 1970).

The levels of severity of depressive symptoms for the total group were as follows: a) two subjects (6.4%) scored within a normal range, b) four subjects (12.9%) manifested mild levels of depressive symptoms, c) three subjects (9.7%) manifested mild-to-moderate levels of depressive

symptoms, d) ten subjects (32.3%) manifested moderate-to-severe levels of depressive symptoms, and e) twelve subjects (38.7%) manifested severe levels of depressive symptoms.

The level of severity of depressive symptomatology was also calculated for individual groups. Table 4 presents results of these scores. The bulimic population demonstrated the following scores: a) one subject (7.2%) scored within the normal range, b) one subject (7.2%) manifested mild levels of depressive symptoms, c) two subjects (14.3%) manifested mild-to-moderate depressive symptoms, d) five subjects (35.7%) manifested moderate-to-severe depressive symptoms, and e) five subjects (35.7%) manifested severe depressive symptoms.

The depressed population were categorized as follows: a) one subject (5.9%) scored within the normal range, b) three subjects (17.6%) manifested mild levels of depressive symptoms, c) one subject (5.9%) manifested mild-to-moderate levels of depressive symptoms, d) five subjects (29.4%) manifested moderate-to-severe levels of depressive symptoms, and e) seven subjects (41.2%) manifested severe levels of depressive symptoms.

Table 4. Characteristics of Individual Groups According to Levels of Severity of Depressive Symptoms (N=31)

| | Normal Range | Mild | Mild Moderate | Moderate- Severe | Severe | Percent |
|------------|-----------------|----------|------------------|---------------------|----------|-------------|
| Bulimic | 1 | 1 | 2 | 5 | 5 | 45.2 |
| Depressive | <u>1</u> | <u>3</u> | <u>1</u> | <u>5</u> | <u>7</u> | <u>54.8</u> |
| Total | 2 | 4 | 3 | 10 | 12 | 100.0 |

Scores obtained for the total group (N=31) in this study ranged from 3 to 47; the mean score was 26.2 (S.D.=10.2). Scores for the depressed group ranged from 3 to 47; the mean score was 26.1 (S.D.=11.0). Scores for the bulimic group ranged from 5 to 42; the mean score was 26.4 (S.D.=9.5) (See Table 5.)

Findings Related to the Food and Weight
Cognitive Distortions Survey

The 40-item FWCDs scale was utilized to measure the extent of cognitive distortions in both the depressed and bulimic subjects. The FWCDs has a potential score range from 20 to 200 points. Table 5 presents the range, mean and standard deviation for the total group, the depressed group and the bulimic group. The FWCDs scores for the total group (N=31) ranged from 75 to 181; the mean score was 133.4 (S.D.=25.3). Scores for the depressed group (N=17) ranged from 75 to 170; the mean score was 125.3 (S.D.=28.9). Scores for the bulimic group (N=14) ranged from 110 to 181; the mean score was 143.3 (S.D.=16.4).

Findings Related to the Use of Food Survey

The 14 item UFS scale was utilized to measure the degree to which the subjects used food as a coping mechanism. The potential range of scores on the UFS is 14 to 70. Table 5 presents the range, the means and standard deviation for the total group, the depressed group and the

Table 5. Findings Related to the BDI, FWCDs and UFS Scales for Total Group, Depressed and Bulimic Groups (N=31)

| Scales | Group Results | Range | Mean | (Standard Deviation) |
|----------------|---------------|---------|-------|----------------------|
| BDI | Total | | | |
| Range (0-63) | N=31 | 3-47 | 26.2 | (10.2) |
| | Depressed | | | |
| | N=17 | 3-47 | 26.1 | (11.0) |
| | Bulimic | | | |
| | N=14 | 5-42 | 26.3 | (9.5) |
| FWCDs | Total | | | |
| Range (20-200) | N=31 | 75-181 | 133.4 | (25.3) |
| | Depressed | | | |
| | N=17 | 75-170 | 125.3 | (29.0) |
| | Bulimic | | | |
| | N=14 | 110-181 | 143.3 | (16.4) |
| UFS | Total | | | |
| Range (14-70) | N=31 | 21-58 | 44.7 | (9.7) |
| | Depressed | | | |
| | N=17 | 21-58 | 42.2 | (11.9) |
| | Bulimic | | | |
| | N=14 | 40-56 | 47.7 | (5.0) |

bulimic group. Scores for total group (N=31) ranged from 21 to 58; the mean was 44.7 (S.D.=9.7). The UFS scores for the depressed group (N=17) ranged from 21 to 58; the mean was 42.2 (S.D.=11.9). Scores for the bulimic (N=14) ranged from 40 to 56; the mean was 47.7 (S.D.=5.0)

Analysis of Research Questions

The Pearson Product Moment Correlation Coefficient and Spearman's Rank Order Correlation Coefficient were calculated to explore research questions one and two. The first section discusses the findings as they relate to each of these research questions. The Mann Whitney U and t-tests were calculated to answer research questions three and four. The next section addresses findings as they relate to each of the questions. Finally, the last section discusses findings between study variables and select demographic variables.

Research Question One

What is the relationship between severity of depressive symptoms and extent of cognitive distortions about food and weight among the bulimic subjects?

Calculated results of the Pearson Product-Moment Correlation Coefficient indicated no significant relationship between level of depressive symptoms and

extent of cognitive distortions in the Bulimic population ($r=.15$, $p=.30$).

Research Question Two

What is the relationship between severity of depressive symptoms and extent of cognitive distortions about food and among the depressed group?

Table 6 presents statistical analysis of the Beck Depression Inventory (BDI), the Food and Weight Cognitive Distortions Survey (FWCDS) and the eight subscale items of the FWCDS. Computed results indicated that the BDI was positively and moderately correlated with the FWCDS ($r=.60$, $p=.006$) and the following subscale items: a) Perfectionism ($r=.44$, $p=.040$), b) Defeatism ($r=.60$, $p=.006$), c) Dichotomous thinking ($r=.43$, $p=.043$), d) Exaggeration ($r=.41$, $p=.049$), e) Superstitious thinking ($r=.55$, $p=.011$), and f) Personalization ($r=.54$, $p=.013$). There was also a positive strong correlation between the BDI and the subscale item Regret ($r=.68$, $p=.001$). However, no significant correlation was found between the subscale Worry and the BDI ($r=.29$, $p=.132$).

Table 6. Relationship among the BDI, FWCDs, and the eight subscale items of the FWCDs in the Depressed group (N=17)

| | BDI |
|------------------------|-------|
| BDI Total | 1.0 |
| FWCDS Total | .60* |
| Perfectionism | .44* |
| Defeatism | .60* |
| Dichotomous thinking | .43* |
| Worry | .29 |
| Regret | .68** |
| Exaggeration | .41* |
| Superstitious thinking | .55* |
| Personalization | .54* |

* $p \leq .05$

** $p \leq .001$

Research Question Three

Is there a difference in extent of cognitive distortions about food and weight between the Depressed subjects and the Bulimic subjects?

The t-test and Mann-Whitney U Tests were computed to determine differences (if any) in the extent of cognitive distortions about food and weight between the Depressed subjects and the Bulimic subjects. Table 7 presents statistical data of the FWCDs and the eight subscale items of the FWCDs. The means, standard deviations of both population groups are presented, along with the t-values of the FWCDs and the eight subscales items. The level of statistical significance was set at $p \leq .05$. The mean and standard deviations of the eight subscale items among the Bulimics and Depressed groups are presented in Table 7.

Statistical analysis revealed a significant difference between the two groups in the extent of overall cognitive distortions about food and weight ($t=2.18$, $p=.039$) with the mean score for the Bulimic group at 143.4 (S.D.=16.5), and the mean score for the Depressed group at 125.4 (S.D.=28.9). Significant differences were also found among the subscale items Perfectionism ($t=2.66$, $p=.012$); Worry ($t=2.67$, $p=.012$); and Exaggeration ($t=3.86$, $p=.001$). Calculated values of the Mann-Whitney U-test were

Table 7. Difference in Extent of Cognitive Distortions
about Food and Weight Between the Depressed
(N=17) and Bulimic (N=14) groups

| FWCDS | | | | |
|-----------------|---------------|---------------|-----------|--------|
| Cognitive | Bulimic | | Depressed | |
| Distortion | | | | |
| Subscales | Mean (S.D.) | Mean (S.D.) | t value | (df) |
| Perfectionism | 17.57 (3.1) | 14.30 (3.7) | 2.66 | (29)* |
| Defeatism | 18.40 (2.5) | 15.88 (5.0) | 1.79 | (24) |
| Dich. Thinking | 16.70 (2.6) | 15.53 (4.0) | .96 | (29) |
| Worry | 18.00 (3.0) | 14.47 (4.1) | 2.67 | (29)* |
| Regret | 17.50 (3.2) | 17.18 (4.6) | .22 | (29) |
| Exaggeration | 17.70 (3.1) | 13.00 (3.6) | 3.86 | (29)** |
| Sup. Thinking | 19.20 (3.3) | 17.76 (3.9) | 1.10 | (29) |
| Personalization | 17.93 (3.6) | 16.88 (5.7) | .60 | (29) |
| FWCDS Total | 143.40 (16.5) | 125.40 (28.9) | 2.18 | (26)* |

*p = $\leq .05$

**p = $\leq .001$

consistent with the t-value across all subscale items and the FWCDS scale.

Research Question Four

Is there a difference in the perceived use of food as a coping strategy between individuals diagnosed with depression and individuals diagnosed with bulimia?

Statistical data indicated no significant difference between the two groups in their perceived use of food as a coping mechanism ($t=1.73$, $p=.098$). Although a trend was noted, the mean score for the Bulimic group was higher at 47.7 (S.D.=5.0) than the mean score for the Depressed group which was 42.2 (S.D.=11.9). Calculated values of the Mann Whitney U-test were consistent with the values of the t-test.

Findings on this UFS scale reflect no significant difference in these two groups. It was found that both the Bulimic and Depressed groups reported "binge-eating" behaviors. The subjects were asked to record their number of weekly binge-eating episodes. The Bulimic subjects reported their weekly binge-eating episodes as follows: a) two subjects (14.3%) reported zero-to-three weekly episodes; b) five subjects (35.7%) reported four to six weekly binge-eating episodes; c) two subjects (14.3%) reported seven to ten weekly binge-eating episodes; d) three subjects (21.4%) reported eleven-to-sixteen weekly

binge-eating episodes; and e) two subjects (14.3%) reported sixteen or more weekly binge-eating episodes. The Depressed subjects reported their weekly binge-eating episodes as follows: a) nine subjects (53.0%) reported zero-to-three weekly binge-eating episodes; b) one subject (5.8%) reported four-to-six weekly binge-eating episodes; c) two subjects (11.8%) reported seven-to-ten weekly binge-eating episodes; d) two subjects (11.8%) reported eleven to sixteen weekly binge-eating episodes; and e) two subjects (11.8%) reported sixteen or more weekly binge-eating episodes. One depressed subject (5.8%) did not respond to this question.

Other Findings

The Pearson Product Moment Correlation Coefficient was used to explore relationships between study variables and selected demographic variables. Study variables included the FWCDs, the eight subscale items of the FWCDs, the BDI and the UFS. Demographic variables included age and number of school years completed, and two treatment-related variables. Table 8 presents correlations among all of these variables.

Analysis of Age

A negative relationship was found in the total group (N=31) between age of the subject and the subscales Exaggeration ($r=-.27$, $p=.077$) and Personalization ($r=.26$,

$p=.086$). A negative moderate correlation was found among the following subscales: a) Perfectionism ($r=.35$, $p=.028$), b) Defeatism ($r=-.33$, $p=.036$), c) Dichotomous thinking ($r=-.31$, $p=.046$), d) Worry ($r=-.32$, $p=.043$), and e) Superstitious thinking ($r=-.36$, $p=.026$).

Results also indicated a moderate correlation between age and extent of cognitive distortions in the total group ($N=31$). Results indicate that lower age correlated with more cognitive distortions ($r=-.35$, $p=.028$). No correlation was found between age of subjects and the BDI ($r=-.43$, $p=.410$). However, there was a correlation between age of the subjects and the UFS. Results indicated that lower age correlated with increased food use ($r=-.56$, $p=.001$).

Education

A significant correlation was also found between the number of school years completed and the extent of cognitive distortions about food and weight. Results of the FWCDS ($N=31$) indicated that lower age correlated with increased cognitive distortions about food and weight ($r=-.50$, $p=.002$). Correlations between education level and the FWCDS eight subscale items are presented in Table 8.

Table 8. Pearson's Product Moment Correlation Coefficient
between Study Variables and Demographic Variables
(N=31)

| | Age | Number of School Years Completed | Antidepressant Medication |
|------------------|--------|-------------------------------------|------------------------------|
| FWCDS Subscales: | | | |
| Perfectionism | -.35* | -.41* | -.20 |
| Defeatism | -.33* | -.45** | -.33** |
| Dic. Thinking | -.31** | -.55** | -.20 |
| Worry | -.32** | -.33** | -.23 |
| Regret | -.06 | -.60** | -.44** |
| Exaggeration | -.27* | -.28* | -.05 |
| Sup. Thinking | -.36** | -.20 | -.27* |
| Personalization | -.26* | -.41** | -.21 |
| <hr/> | | | |
| FWCDS Total | -.35* | -.50** | -.30* |
| BDI Total | -.04 | -.40** | -.16 |
| UFS Total | -.56** | -.27* | -.25* |

*p = ≤ .10

**p = ≤ .05

Treatment Related Variables in Both Groups

Two treatment-related variables were also examined; these two variables asked the following questions: a) "Are you presently taking any antidepressant medication?" and b) "How many days have you been in treatment at SAMHC?" No statistical correlations were found between number of days in treatment and the FWDCS, the eight subscale items of the FWDCS, or the BDI and the UFS. However, significant relationships were found between some subscale items, the FWDCS, the BDI and the UFS. Results of these correlations are also presented in Table 8 and are as follows:

a) Defeatism ($r=-.33$, $p=.039$), b) Regret ($r=-.44$, $p=.008$), and c) Superstitious thinking ($r=-.27$, $p=.073$).

Results of the total FWDCS ($N=31$) indicated a significant relationship between extent of cognitive distortions and treatment with antidepressant medications ($r=-.30$, $p=.051$). These data indicate that there was a decrease in certain cognitive distortions while individuals were taking an antidepressant medication. A significant correlation was also found between the UFS ($N=31$) and treatment with antidepressant medications. Statistical data indicate that the subjects' use of food (as a coping strategy) decreased while they were being treated with an antidepressant medication ($r=-.25$, $p=.088$).

Use of Food in the Depressed Group

Statistical analysis indicated a positive moderate correlation between the BDI and the use of Food Survey (UFS) ($r=.45$, $p=.034$) in the Depressed group. A positive moderate correlation was also found between the FWCDs and the UFS ($r=.61$, $p=.005$) and the following subscale items: a) Perfectionism ($r=.52$, $p=.016$), b) Defeatism ($r=.53$, $p=.014$), c) Dichotomous thinking ($r=.45$, $p=.036$), and d) Regret ($r=.53$, $p=.014$). There was a positive strong correlation between the UFS and the two subscale items Superstitious thinking ($r=.81$, $p=.000$) and Personalization ($r=.68$, $p=.001$). There was no significant correlation found between the subscale item Worry and the UFS ($r=.28$, $p=.135$). A summary of these findings are presented in Table 9.

Weight Gains and Losses

For purposes of this study, the participants were asked whether-or-not their weight had increased or decreased over the past six months. Moreover, if the subjects' weight increased and/or decreased, they were asked to record the number of pounds that were gained or lost.

The Depressed group responded to these questions in the following manner: (a) seven subjects (41.1%) reported weight increases from 5 to 66 pounds, (b) five subjects

Table 9. Relationship between the BDI, UFS, FWCDs and the eight subscale items of the FWCDs in the Depressed group (N=17)

| | UFS | BDI |
|------------------------|-------|-------|
| BDI Total | .45* | 1.0 |
| FWCDs Total | .61* | .60* |
| Perfectionism | .52* | .44* |
| Defeatism | .53* | .60* |
| Dichotomous thinking | .45* | .43* |
| Worry | .28 | .29 |
| Regret | .53* | .68** |
| Exaggeration | .26 | .41* |
| Superstitious thinking | .81** | .55* |
| Personalization | .68** | .54* |

* $p \leq .05$

** $p \leq .001$

(29.4%) reported weight decreases between 8 to 45 pounds, (c) two subjects (11.8%) reported a weight increase of 10 pounds, followed by a weight decrease of 10 pounds; (d) two subjects (11.8%) reported a stable weight; and (e) one subject (5.9%) did not respond to the question.

The Bulimics' responses to these questions were as follows: (a) five subjects (36.0%) reported weight increases from 5 to 12 pounds; (b) four subjects (29.8%) reported weight decreases from 8 to 30 pounds; (c) three subjects (21.0%) reported their weight as stable; (e) one subject (7.0%) reported an increase of 20 pounds, followed by a loss of 30 pounds; and (f) one subject (7.0%) reported a 10 pound weight increase, followed by a 20 pound weight decrease. These results indicate that the depressed participants demonstrated greater weight fluctuations. They also had a wider range of weight gains and weight losses (number of pounds) during the six month period.

Summary

Thirty-one females aged 24 to 57 participated in this research study designed to investigate the relationships between severity of depressive symptoms and extent of cognitive distortions in both a Bulimic (N=14) and a Depressed group (N=17). Another purpose of the study was to determine differences in the extent of cognitive distortions about food and weight between the two

populations. The final purpose was to determine differences (if any) in their perceived use of food as a coping strategy. The majority of participants (83.9%) were Caucasian and had completed 12 to 14 years of school (71.0%). The majority of bulimics (78.6%) and depressed individuals (82.4%) were being treated with an antidepressant medication.

The alpha reliability coefficient for the Beck Depression Inventory was slightly lower (.88) than the coefficient in the original study (.93). The alpha reliability of the FWCDs was significantly higher (.93) than the original instrument (.73); the eight subscale items compared favorably (.45 to .81) to the original subscale items (.49 to .85). The alpha reliability of the UFS was lower (.81) than that reported from the original study (.88). All correlation coefficients were within the acceptable range.

Findings related to the BDI indicated that the majority of the group (N=31) manifested moderate-to-severe (32.0%) and severe (39.0%) depressive symptoms. Statistical analyses revealed no significant relationship between the level of depressive symptoms and extent of cognitive distortions about food and weight among the Bulimic population; however, there was a significant relationship between the severity of depressive symptoms and extent of

cognitive distortions about food and weight among the Depressed group. There was also a significant difference between the two groups in the extent of cognitive distortions about food and weight. However, no statistically significant difference was found between the two groups in their perception of food as a coping strategy.

In the Depressed group, there was a correlation between the BDI and the UFS. Also, there were correlations between the FWCDS, UFS and seven of the eight subscale items of the FWCDS. Data reflected statistically significant relationships among study variables, select demographic variables and two treatment-related variables in both clinical groups. Finally, the depressed group had significant weight fluctuations over a six-month period. They reported weight gains from 5 to 66 pounds and weight losses ranged from 8 to 45 pounds.

CHAPTER 5

DISCUSSION

Introduction

This chapter will present a discussion based on the findings as presented in Chapter 4. In addition, other pertinent information will be presented in the following order: (a) Assumptions of the study, (b) Limitations of the study, (c) Conclusions of each of the four research questions, (d) Conclusions related to demographic variables, (e) Conclusions related to treatment variables, (f) Recommendations for future study, (g) The role of cognitive therapy in depressogenic thinking; and (h) Implications for Psychiatric Mental Health Nursing.

Assumptions

It was assumed that the participants in this study answered the questionnaires honestly and to the best of their ability. Further, it was assumed that the participants were alcohol-free and were not taking any drugs or medications other than prescription medications.

Limitations

Four key limitations were identified. First, there were variables that could not be controlled that may have influenced the scores either on one or more instruments and possibly the correlation between the two. Second, the sample

was not randomly selected. Third, the patients self-reports of subjective sensations and perceptions may affect the validity and reliability of certain variables of the study. Last, there may have been a co-existing mental disorder particularly in the Bulimic population. This comorbidity may influence certain variables under investigation. In view of these unavoidable limitations, the results are not generalizable beyond the study sample, and the findings are interpreted with caution.

Discussion of Findings on Research Questions

Research Question One

One main purpose of this study was to investigate the relationship between the severity of depressive symptoms and the extent of cognitive distortions about food and weight in a Bulimic population. Although 71.4 percent of the Bulimics in this study displayed moderately-severe to severe levels of depression, there was no relationship found between the level of severity of depression and the extent of cognitive distortions in this group. One explanation for this finding may be due to the small sample size; or it may be incidental to these two groups.

However, part of the problem may lie in selection of scales for this study; for example, the Food and Weight Cognitive Distortions Survey (FWCDS) is adequate because it measures items with themes about weight and appearance, body

image, control and perfectionism (Thompson, et al., 1987). However, although the Beck Depression Inventory (BDI) contains 21 items that describe specific behavioral manifestations of depression (See Appendix D), only one of those items addresses body image and appearance (Beck, 1978).

Because of the complexity of Bulimia Nervosa, it would be important to consider using other scales that measure cognitions in depression; for example, Lefebvre's (1981) Cognitive Error Questionnaire (CEQ) measures specific depressogenic cognitions as well as cognitive distortions of a general nature. Also the Dysfunctional Attitude Scale (DAS) (Weissman, 1978) extracts Ellis' views of general irrational themes in thinking as well as Beck's notions about cognitive distortions specific to depression (Weissman & Beck, 1978).

In addition, it would be important to have a more complete composite of the Bulimic's behavior; for example, the Bulimia Cognitive Distortions Scale (BCDS) measures cognitive distortions related to eating behaviors, purging and dieting behaviors, appearance and emotional triggers for food binges and control issues (Schulman, et al., 1985). The key word here is emotional triggers. It would be interesting to retest this group and/or other groups to ascertain what precipitates or triggers a binge episode.

For example, Lingswiler et al. (1989) conducted a study in which they investigated seven antecedents to a binge-purge cycle. These antecedents included restraint, stress, mood, thoughts of food, fatigue, hunger and dichotomous cognitions. It would be important to consider all of these antecedent cognitions, particularly those related to mood and food thoughts. Subsequently, one could determine if a relationship exists between these and levels of severity of depression.

Although these are valid points, there are studies which demonstrate that the high frequency of depressive symptoms in bulimics may be a direct result of their eating disorder (Hatsukami, et al., 1984; Williamson, et al., 1987). Still other studies have shown that patients whose eating disorders were in remission had lower rates of depressive symptoms than those in the acute phase of their illness (Laessle, et al., 1987; Swift, Et al., 1986). Therefore, in terms of future studies it would be important to follow up with this group or other Bulimics, preferably those whose eating disorders are in remission. It seems reasonable to infer that test validity would improve.

Research Question Two

In contrast, there was a positive relationship between the levels of depressive symptoms (BDI) and the extent of cognitive distortions (FWCDS) in the depressed group ($r=.60$,

$p=.006$). A positive relationship was also demonstrated on seven of the eight subscale items of the FWCDs. These results support clinical observations that there is a phenomenon of either chronic overeating and/or undereating in the depressed population, and that the level of severity is manifest in dysfunctional cognitions which reflect an extreme negative view of the self.

Prior to participation in this study, the Depressed subjects reported weight changes from -45 pounds to +66 pounds with 41 percent reporting weight increases. These findings are intriguing because 71 percent of this population also suffered moderately-severe to severe levels of depressive symptoms. Although the sample size in this study is small ($N=17$), the results support other research studies which demonstrate that weight changes in the depressed population appear to be closely linked to the severity of depressive symptomatology (Paykel, 1977; Stunkard, et al., 1990; Weissenburger, et al., 1986).

For future studies, it would be interesting to investigate both the cognitive and behavioral aspects of weight changes during depression to determine if there is a link between these two components and the levels of severity of depression. The Eating Questionnaire would be useful because it measures three primary dimensions of eating behaviors: (1) cognitive restraint of food intake, (2)

disinhibition and, (3) hunger. Because depressives display pervasive, negative, distorted thinking styles, it would be important to pretest this group to have baseline data that reflects the extent of their systematic errors in thinking.

In addition to the role of depressed mood in eating behavior, these data also have implications for further evaluation of depressive symptoms. Frost et al., (1982) suggest that eating behavior during depression is at least partially a function of one's prior eating history, especially level or restraint. Therefore, when evaluating individuals for depression, it would be important to examine prior eating habits along with weight changes which accompany depression. A second implication these data may have for understanding depression is the effect increased eating behavior may have on an already depressed person's mood; for example, high-restraint eaters who have a breakdown in self-control may view weight gain as one more aspect of their life over which they think they have no control (Frost et al., 1982).

Since weight loss for people concerned with dieting (high restraint) is a positive event (Frost et al., 1982) and depressed people are thought to have a negative cognitive view about themselves, the world and their future (Beck, 1979), it may be misleading to rely on self-reports of weight change as accurately reflecting actual weight

change (Frost et al., 1982). The importance of accurate history taking becomes more paramount to ascertain true weight loss and/or weight gain in depressed patients (Italics mine).

Research Question Three

There was a significant difference between the Bulimic and the Depressed groups in the extent of cognitive distortions about food and weight-related concerns ($t=2.18$, $p<.039$). There was also significant differences between the three subscale items Perfectionism, Worry and Exaggeration. Because bulimics display such perfectionistic tendencies in their personal expectations regarding diet and weight control, it is not surprising that there was a difference between the two groups on this Perfectionism item. It is not clear why there were differences on the Worry and Exaggeration items; however, because both of these items address concerns about diet and weight control, it seems reasonable to infer that the bulimics would be more preoccupied with these concerns.

Moreover, the higher scores among the Bulimics, further accentuate their pathological concern with body image and appearance; it is this pathological pursuit of thinness that most likely accounts for the differences between the two groups in their systematic thinking errors associated with food and weight-related issues.

That there are similarities in the thinking styles of Bulimics and Depressives is well-documented in the literature (Lehman, 1985; Ogden & Wardle, 1991; Vitousek & Hollon, 1990). However, it may be the depressogenic nature of the cognitions that assumes the vital role between these two groups in their distorted thinking. Bulimics are profoundly self-critical and have a fundamental extreme negative self concept. The depressed individuals' thinking is also characterized by extreme pessimism and a negative view of the self.

For future studies, it would be important to examine both groups' tendencies to make cognitive distortions of a general nature as well as their tendencies to make cognitive distortions about food and weight-related issues. Lefebvre's Cognitive Error Questionnaire (CEQ) would be particularly valuable for this assessment (1981).

Another important component for study would be to assess the depressed populations' attitudes towards shape, weight and body image and then to determine the extent to which this attitude alters or distorts thinking relative to food and weight issues. A scale that measure dysfunctional attitudes was developed by Weismann (1979); the Dysfunctional Attitude Scale, Form A (DAS) is a 40-item measure of irrational beliefs specified by the model of Beck et al. (1979). The dysfunctional responses on the DAS

correspond closely to the cognitive orientation of eating disorders (Steiger, et al., 1990). It would be interesting to administer this test to both groups and then determine if the dysfunctional attitude influences or alters cognitive responses about food and weight-related issues.

Research Question Four

Another important purpose of this study was to determine if there were differences between the Bulimic and Depressed population in their perceptions of food use as a coping strategy. It was quite remarkable that no difference was found between these two groups. That Bulimics use food as a coping mechanism is well supported in the literature; however, there is a dearth of literature which addressed food-related issues in depression. The rationale for asking the Depressed participants to report binge-eating episodes was to assess their eating behaviors and food-related coping mechanisms.

One problem (in this study) is that a "binge" or "binge-eating" (*Italics mine*) was not defined; because of this, the results may be misleading. Furthermore, to generalize the findings to other populations would be limited. However, the findings are illuminating because apparently the subjects perceived their eating behaviors or food intake as excessive or extreme. Although the Depressed group reported fewer weekly binge-eating episodes than the

Bulimic group, the results are important because there was also a positive correlation between the Beck Depression Inventory (BDI) and the Use of Food Survey (UFS) ($r=.52$, $p=.016$) in the Depressed group.

As previously mentioned, the Depressed group reported weight fluctuations ranging from -45 pounds to +66 pounds with 41 percent reporting weight increases. Moreover, 94 percent reported weekly binge-eating episodes; of those reporting ($N=16$), 29 percent reported between 4 to 16 weekly binges and 12 percent reported 16 or more weekly food-binge episodes. The findings for the Bulimic group were not surprising as 71 percent reported four to 16 weekly binge-eating episode and 14.3 percent reported 16 or more weekly binge-eating episodes. Because bulimics purge food as a means of weight control, it comes as no surprise that weight ranges and fluctuations were less in this group; 29.8 percent reported weight loss ranges from 8 to 30 pounds, while 28 percent reported stable weight. Only two subjects reported weight increases; however, in both cases, the subjects' weight loss was two times greater than their weight gained.

The literature review in this study is quite extensive and does delineate several important theories regarding weight loss and weight gain during depression. A variety of scales that measure both the cognitive and behavioral

aspects of eating were also used in these studies. However, none of the studies investigated the kinds of coping mechanisms that were utilized, particularly in respect to food issues in the depressed population. The UFS scale is unique because it measures avoidance behaviors such as procrastination and targets emotions such as loneliness, anger and frustration; it measures the individual's tendencies to use food as reward and punishment and the individual's tendencies to use food as a method to numb intense feelings. These particular emotions and behaviors are precisely those that are manifest clinically in both Depressed and Bulimic individuals.

However, for future studies, it would be important to administer this test in conjunction with other tests to gather a more comprehensive picture of the behavioral, cognitive and emotional components of food and weight-related issues. A variety of scales could be considered to achieve this goal; for example, the Self-Control Schedule (SCS) (Rosenbaum, 1980). The SCS is a 36-item questionnaire designed to assess: (a) the use of cognitions to control emotional and physical responses including depression, anxiety, boredom, hunger and pain; (b) the application of problem-solving procedures to common problems; (c) the ability to delay gratification; and (d) perceptions of self-

efficacy. Another crucial aspect of the study would be to test the stability factor of weight losses or gains.

Conclusions Related to Demographic and Study Variables

There are several interesting findings in this study; for example, research indicated that lower age correlated with more cognitive distortions about food and weight ($r=-.35$, $p=.028$) in the total group ($N=31$). Also, there was a positive correlation between ages of the subjects and the UFS scale ($N=31$) which indicated that lower age correlated with increased food use ($r=-.56$, $p=.001$). Also, inverse correlations were found between the subjects' educational level and seven of the eight subscale items of the FWCDS. (See table 8, p. 111). Presently, there are no research studies in which to compare these findings. Furthermore, the findings in this study may be incidental or unique to this population; on the other hand, there are implications for follow-up and consideration for future studies.

Interestingly enough, 87 percent of this population completed 12 to 16 years of school and their ages ranged from 24 to 57 years with the mean at 36.8 ($S.D.=10.4$). There may be important sociodemographic factors that were not considered for this study. Because the most common sociodemographic factors related to depression include low income, education and social class (Sorenson, et al., 1991), it would be important to know the subjects' occupation and

income. Also, because depression is twice as prevalent in females than in males, it would be important to include a family history to ascertain if there is a biological component to the depression. It would be equally important to know the social arena in which the individuals are reared. For example, if the individual lives in an environment where thinking styles are distorted and negative, there is a high probability that individuals will adopt and practice the pervasive depressogenic thinking styles. Further in this chapter, this investigator addresses the use of cognitive therapy and education for depressogenic thinking.

Conclusions Related to Treatment Variables

There are several treatment-related findings that are significant and may have implications for future research; for example, in this population (N=31), it was found that the extent of distorted thinking was inversely related to whether or not these individuals were taking antidepressant medications ($r=-.30$, $p=.051$). Moreover, it was also found that the subjects' use of food (as a coping strategy) was inversely related to whether or not the individuals were taking antidepressant ($r=-.25$, $p=.088$) medications. During the test-taking procedure, 81 percent of the participants were being treated with an antidepressant medication; three

Depressed subjects and three Bulimic subjects were not receiving antidepressants.

Beck's Cognitive Theory of depression places special emphasis on the cognitive components of depression (Beck, 1979). Present literature supports Beck's theory and further purports that distorted, depressogenic thinking is strikingly similar and characteristic in both Depression and Bulimia. Therefore, it seems reasonable to speculate that treatment with medications would improve mood which may subsequently alter depressogenic thinking and improve coping in both populations. However, one cannot discount the biochemical disturbance present in both Bulimia and Depression. Disturbances in either the hormone melatonin or the neurotransmitter serotonin creates depression, lethargy and an inability to concentrate combined with bouts of overeating and weight gain (Rosenthal, et al., 1984).

Moreover, various irregularities in serotonin functioning have been linked to depressive symptomatology and include mood, appetite and sleep disturbances and alterations in cognitive functioning and altered activity levels (Meltzer & Lowy, 1987). Further, depressed individuals frequently display a lack of motivation and fatigue which inadvertently alters activity levels. Antidepressants generally improve the individual's mood,

energy level and ability to concentrate; in addition, the individual usually recaptures a sense of optimism and hope.

Although the findings in this study are illuminating, it is difficult to ascertain what effect (if any) an antidepressant may have on altering specific cognitive errors. It seems highly probable that these systematic errors would remain stable between the two population groups even in the absence of an antidepressant medication. Again, it would be imperative to measure each individual's tendency to make cognitive errors of a general nature as well as cognitive errors relative to food and weight issues. As previously mentioned, Lefebvre's (1981) Cognitive Error Questionnaire (CEQ) would be an ideal instrument to test for specific depressogenic cognitions.

Relevancy to Conceptual Framework

Portions of this study support Beck's Cognitive Distortion Theory of Depression (1979) and portions of the literature review. First, 92 percent of this Bulimic population were experiencing mild to severe levels of depressive symptoms; of that 92 percent, 71.4 percent were experiencing moderately-severe to severe levels of depressive symptoms. Although no relationship was found between the level of depression and extent of cognitive distortions about food and weight in the Bulimic group, results support reports of the close relationship between

bulimia and depression and further substantiate the co-occurrence of depression in bulimia. Many investigators have cited depression as the main noneating cognitive disordered psychopathology associated with bulimia (Herzog, 1984; Hudson, Laffert & Pope, 1982; Williamson et al., 1985).

Also, findings related to the Food and Weight Cognitive Distortions Survey (FWCDS) revealed a mean score of 143.3 (S.D.=16.4). This finding supports the cognitive theory of depression which purports that part of the core psychopathology of bulimia is manifest in their negative self-schemata which influences their perceptions about food and weight-related issues (Barnett & Gotlibb, 1990; Garner & Bemis, 1985; Vitousek & Hollon, 1990). Because bulimics possess a profound negative self-image, these distorted cognitions may play a role in their maladaptive eating patterns (Dritschel et al., 1991; Thompson et al., 1987).

This data further supports the role of distorted schema that is characteristic of depressogenic thinking. There were no studies available on food and weight cognitions in depression. Therefore, comparisons from this study to other studies was not possible. However, this study illuminates the relationship between cognitive distortions and depressive symptoms, especially in the depressed group. This group demonstrated positive relationships between levels of depression and food and weight-related cognitions.

Also, there were significant relationships between the use of food (UFS) and seven of the eight subscale items of the FWCDS. Although certain variables were unaccounted for, it is interesting that the majority of this population (71%) suffered moderately-severe to severe depressive symptoms and demonstrated a positive relationship between their depressive symptoms and seven items on the FWCDS scale. The items on the FWCDS parallel the cognitive errors identified in Beck's (1979) Cognitive Distortion Theory of Depression.

Depressed persons generally view the self as inadequate and incapable. They further ascribe most situations and circumstances as extraneous and out of control. The tendency to magnify (catastrophize) the significance of events generally constitute cognitive errors in thinking; therefore, it seems likely that this dysfunctional thinking would be reflected in the ways in which these individuals think about food and weight; it seems reasonable to infer that this depressed group displayed the distorted thinking that supports Beck's Cognitive Theory of Depression.

Implications for Practice:

The Role of Cognitive Therapy in Depressogenic Thinking

The purpose of this section is to discuss the role of cognitive therapy in the treatment of depressogenic, distorted thinking that is characteristic of both Bulimics and Depressives. The goal is to emphasize the importance of

three categories of cognitive therapy that can be applied in both inpatient and outpatient mental health settings.

Although cognitive therapy is gaining recognition in the treatment of Eating Disorders, this section will not cover treatment strategies or interventions specific to maladaptive eating behaviors (in either Bulimia or Depression). However, because cognitive therapy is based on a cognitive therapy of depression, its basic techniques can be used as an adjunct to other psychotherapies, or in combination with behavior therapies to treat maladaptive behaviors.

The ultimate goal of cognitive behavioral therapy is to decrease depressive symptoms as well as to decrease the risk of relapse and recurrence of specific symptoms and/or behaviors associated with maladaptive coping. Although cognitive therapy has a unique role in fostering certain cognitive or behavioral changes, it cannot replace the therapeutic relationship between the nurse therapist and the patient; nor does it change the patient's basic personality structure or underlying psychopathology (*Italics mine*). In evaluating the patient's appropriateness for cognitive therapy, the therapist must consider the patient's ability to collaborate. In addition, a past history of treatment (if any) is important. Patients who exhibit overt psychosis, organicity, mental retardation or severe cognitive deficits

would be poor candidates for cognitive therapy (Davis & Casey, 1990).

The educational component of cognitive therapy aims to improve the accuracy and efficiency of information processing. A basic educational technique characteristic to most cognitive therapies is agenda setting. Unlike traditional therapies, the patient takes an active role in problem-solving. The therapist and patient work collaboratively and mutually agree upon a specific problem or list of problems that can be addressed over a relatively short time span. Cognitive therapy is not a collection of therapeutic techniques, but is a more general approach to therapy; it extracts heavily from the inductive method and utilizes the Socratic questioning style. This style of questioning helps patients identify and change the fallacies in their thinking and perception (Arkowitz & Hannah, 1989).

A variety of behavioral and cognitive techniques might be utilized to accomplish change. The therapist's task is to design specific, structured learning experiences to teach patients to identify and monitor dysfunctional thoughts. Several behavior techniques may be used such as role play, graded task assignments, imagery, social skills training, guided discovery and in vivo hypothesis testing (Davis & Casey, 1990).

The emphasis of cognitive therapy is upon initiating change through facilitating and testing new understandings or appraisals of emotional experiences and stressful situations. The therapist encourages patients to assume a proactive role - to assume the role of a scientist to explore and attempt to challenge their present belief system (Beutler & Guest, 1989). For example, if patients view their world as uncaring and their situation as hopeless, the goal is to assist patients to recognize the connection between their thoughts, moods and behaviors. The ultimate goal is for patients to change bleak, pessimistic thinking and to substitute more realistic interpretations of their life's experiences. Hopefully, behavior change is initiated even though patients see their world as fraught with problems and obstacles.

Patients who display negative, distorted thinking usually ascribe interpersonal failures to relatively stable defects in themselves. They ascribe interpersonal failure and lack of mastery or ability as a trait deficit (Stanley & Maddux, 1986). These individuals become easily discouraged when faced with difficulties and change; however, through repetition and practice, these individuals can develop systematic-problem solving and coping skills. Through cognitive therapy techniques, they can learn to reconceptualize their dysfunctional ideas and develop more

optimistic, practical ideas for dealing with life's stressors.

Implications for Psychiatric Mental Health Nursing

It is not without consideration that this investigator excludes the male population in this study. Albeit, more males are reporting eating disorders and more males are presenting to mental health centers for treatment. Because this study was conducted at a time when there were no male bulimics in the particular treatment facility, this investigator proceeded to utilize an all-female population; therefore, most of this discussion will address issues that are mainly (though not exclusively) unique to woman.

Since the end of World War II, our society has experienced profound changes in both the social and economic structures. Remarkable changes in family and child-rearing practices have surfaced. The institution of the nuclear family is diminishing. Alternative family structures are increasing rapidly and the traditional family is almost extinct. Due to increased geographic mobility, many families are left without the support of parents, grandparents or other relatives. Statistics show that nearly 10 times as many mothers of preschool children work now as did in 1945 (Kreismann & Straus, 1989). Women are entering the work force in increasingly large numbers and many of these women are assuming traditional male roles. To compound the

problem, women are still being judged deficient by a male-biased standard of adjustment (Stoppard, 1990).

To further accentuate the problem, women do have certain vulnerability factors which increase their propensity for depression. For example at the macro-level of analysis, the increasing rates of depression in women can be linked to their disadvantaged social class and economic status. Other sociodemographic factors include low education levels and minority group status (Sorenson, et al., 1991).

At present, the relationship between depression, eating disorders and stress can only be extrapolated from clinical impressions and patients' self-reports. However, suffice it to say that with the ever-increasing demands on women to fill multifaceted roles, it is not surprising that depression and eating disorders are on the rise. Clinicians are increasingly being challenged to provide psychotherapy compatible with the goals of problem-focused, outcome oriented treatments.

Managed care, utilization review and third-party payers are dictating short-term treatments (Davis & Casey, 1990). These short-term treatments are directed towards psychologic stabilization rather than towards structural psychologic change. Because of these constraints and recent trends in cost containment, cognitive therapy has risen in popularity.

Generally, particular therapies such as interpersonal

or psychodynamic can be combined with cognitive therapy. In any event, the nurse therapist must provide flexible, innovative treatment in a short time span. Moreover, the nurse clinician is charged with the responsibility of measuring successful outcomes. In light of this, the implications for preventive programs are paramount.

The effectiveness of cognitive behavioral treatment for depression is well-documented. However, there are several pitfalls to this therapy. It is important to be aware of these as there is potential for misdirection of treatment. First, the cognitive-behavioral therapies are based on deficit models of depression; it is important that the patients are not given the message that they are somehow deficient. This has profound implications for nurse therapists as they must be careful to avoid interpreting the patient's negative cognitions as solely a process of dysfunctional schema or thoughts; there is a possibility that the negative, depressogenic thinking is in fact reality.

The effectiveness for change would certainly be enhanced if the therapist has an adequate knowledge of the individual's social environment and support systems. Second, it is important that women receive positive feedback about their feminine-valued qualities. In other words, it is important that women not be given an implicit message that

they contribute to their depressions by acting in ways that deviate from valued qualities such as mothering and nurturing.

Another limitation of cognitive therapy is that it is here-and-now focused. There is little room for prevention of future depressive episodes or relapse (Stoppard, 1989). This has implications for nurse therapists as part of their task will be to determine if there are certain prognostic indicators that predict an individual's response to cognitive therapy (Jarrett, Giles, Guillion & Rush, 1991). Moreover, the nurse therapist must encourage women to participate in assertiveness training, effective coping strategies and self-management skills. The nurse therapist will also be charged with teaching rational thinking and learned resourcefulness to prevent relapse and reentry into treatment.

Recommendations for Further Study

Further research is needed with both the Bulimic and Depressed population groups. From a psychological perspective, research with both populations is very difficult. Comorbidity may exist in both Affective and Eating Disordered populations; this comorbidity may significantly influence particular variables under investigation. However, considering the prevalency of these disorders and the high relapse rates, future research is

imperative. Based on the results of this study, recommendations for future investigation include:

1. Replication of the study utilizing a Bulimic, Depressed, and Control group.
2. To have the patient's premorbid weight relative to their present body mass index and current weight levels.
3. To have a complete history of the patient's medical status and current laboratory values as cognitive, affective and behavioral changes may accompany altered nutritional states.
4. To gather more precise psychosocial and sociodemographic data as these may affect the outcome of the study.
5. To utilize scales with psychometric properties that measure mood states and eating attitudes.
6. Replication of the study utilizing a larger sample size.
7. Replication of the study to determine stability of weight during two or more episodes of depression.

Summary

This study has presented evidence substantiating the depressive component of bulimia. That cognitive distortions play a major role in their thinking has been demonstrated. Also, evidence suggests that cognitive errors are

characteristic of this depressed population; moreover, their weight fluctuations suggest the maladaptive coping associated with the use of food. Further, there were relationships between their levels of depression and extent of food and weight-related cognitions and their use of food.

This study has generally supported the role of cognitive theory of depression. Because cognitive therapy is based on the cognitive theory of depression, the principles of the theory can be utilized in clinical practice to treat maladaptive coping and to improve systematic errors in thinking. The cognitive theory of depression can readily be utilized with males and females and can be used with a fairly diverse population.

Cognitive therapy can propel patients forward and improve their overall level of functioning. More importantly, the patient will hopefully be equipped with a new set of tools in which to problem solve. Ideally, the dysfunctional negativistic thinking will be replaced by more realistic, optimistic thinking.

APPENDIX A
HUMAN SUBJECTS COMMITTEE

College of Nursing

THE UNIVERSITY OF
ARIZONA
HEALTH SCIENCES CENTER

Tucson, Arizona 85721
(602) 626-6154

MEMORANDUM

TO: Carolyn McDaniel, R.N., B.S.N.

FROM: Leanna Crosby, D.N.Sc., R.N. Director of Intramural Research *Leanna Crosby*

DATE: December 1, 1992

SUBJECT: Human Subjects Review: "The Relationship of Food and Weight Cognitions to Depression in Two Clinical Groups"

Your research project has been reviewed and approved by William Denny, M.D., Chairman of the University of Arizona Human Subjects Committee, and deemed to be exempt from review by their full committee. You will be receiving a confirmation letter from Dr. Denny. In addition, your project has been reviewed and approved by the College of Nursing Human Subjects Review Committee.

We wish you a valuable and stimulating experience with your research.

LC/ga

Human Subjects Committee



1690 N. Warren (Bldg. 526B)
Tucson, Arizona 85724
(602) 626-6721 or 626-7575

November 23, 1992

Carolyn McDaniel, R.N., B.S.N.
College of Nursing
Arizona Health Sciences Center

**RE: THE RELATIONSHIP OF FOOD AND WEIGHT COGNITIONS TO DEPRESSION
IN TWO CLINICAL GROUPS**

Dear Ms. McDaniel:

We received documents concerning your above cited project. Regulations published by the U.S. Department of Health and Human Services [45 CFR Part 46.101(b)(2)] exempt this type of research from review by our Committee.

Thank you for informing us of your work. If you have any questions concerning the above, please contact this office.

Sincerely yours,

William F. Denny, M.D.
Chairman,
Human Subjects Committee

WFD:sj

cc: Departmental/College Review Committee

APPENDIX B

DISCLAIMER

DISCLAIMER

Title: The relationship of food and weight cognitions to depression in two clinical groups.

You are being asked to participate in a study that will investigate issues related to the ways people think about food and weight as it relates to one's mental health and coping. The study will be conducted by asking you to voluntarily give your opinion on items which address the general areas of cognitions, depression, and food and weight. By responding to the three questionnaires, you will be giving your consent to participate in the study.

You may ask questions about the study and the questionnaires. Time for completion of the questionnaires requires approximately 25-45 minutes. You may choose not to answer some or all of the questions. You may choose to withdraw from the study at any time. Your responses will be held in strictest confidence and a code number rather than your name will be used.

Your responses will not be used for any other purpose outside this study. It is hoped that this study will contribute further knowledge to nursing research about dietary practices as related to coping among various groups of patients.

Carolyn Morris McDaniel
(Principal Investigator)

(Date)

APPENDIX C

DEMOGRAPHIC QUESTIONNAIRE FOR PARTICIPANTS

Code No. _____

Group No. _____

Background Information

1. Age, in years _____
2. Marital Status: Check one:
 1. Married _____
 2. Separated _____
 3. Divorced _____
 4. Widowed _____
3. Ethnicity: Check one:
 1. Black _____
 2. Caucasian _____
 3. Indian _____
 4. Asian _____
 5. Other _____
4. Number of years of school completed: _____
 High school = 12 years
 4 years college = 16 years
5. Have you received prior treatment for your eating disorder? Check one:
 1. Yes _____
 2. No _____
6. Are you presently taking an antidepressant medication? Check one:
 1. Yes _____
 2. No _____
7. How many days have you been in treatment at SAMHC? Check one:
 1. 0-14 days _____
 2. 15-30 days _____
 3. 31-60 days _____
 4. 61-90 days _____
 5. 91 to 120 days _____
 6. More than 4 1/2 months _____
8. How many times weekly do you "binge eat"? Check one:
 1. 0-3 _____
 2. 4-6 _____
 3. 7-10 _____
 4. 11-16 _____
 5. 17 and above _____
9. In the past 6 months, has your weight either increased or decreased? Check one:
 1. Yes _____
 2. No _____

10. If your weight has increased in the past six months, fill in the number of pounds_____.
11. If your weight has decreased in the past six months, fill in the number of pounds_____.

APPENDIX D
BECK DEPRESSION INVENTORY
(BDI)

Beck Depression Inventory

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling the **PAST WEEK, INCLUDING TODAY!** Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

- | | |
|---|--|
| <p>1 0 I do not feel sad. 1 I feel sad. 2 I am sad all the time and I can't snap out of it. 3 I am so sad or unhappy that I can't stand it.</p> <p>2 0 I am not particularly discouraged about the future. 1 I feel discouraged about the future. 2 I feel I have nothing to look forward to. 3 I feel that the future is hopeless and that things cannot improve.</p> <p>3 0 I do not feel like a failure. 1 I feel I have failed more than the average person. 2 As I look back on my life, all I can see is a lot of failures. 3 I feel I am a complete failure as a person.</p> <p>4 0 I get as much satisfaction out of things as I used to. 1 I don't enjoy things the way I used to. 2 I don't get real satisfaction out of anything anymore. 3 I am dissatisfied or bored with everything.</p> <p>5 0 I don't feel particularly guilty. 1 I feel guilty a good part of the time. 2 I feel quite guilty most of the time. 3 I feel guilty all of the time.</p> <p>6 0 I don't feel I am being punished. 1 I feel I may be punished. 2 I expect to be punished. 3 I feel I am being punished.</p> <p>7 0 I don't feel disappointed in myself. 1 I am disappointed in myself. 2 I am disgusted with myself. 3 I hate myself.</p> <p>8 0 I don't feel I am any worse than anybody else. 1 I am critical of myself for my weaknesses or mistakes. 2 I blame myself all the time for my faults. 3 I blame myself for everything bad that happens.</p> <p>9 0 I don't have any thoughts of killing myself. 1 I have thoughts of killing myself, but I would not carry them out. 2 I would like to kill myself. 3 I would kill myself if I had the chance.</p> <p>10 0 I don't cry any more than usual. 1 I cry more now than I used to. 2 I cry all the time now. 3 I used to be able to cry, but now I can't cry even though I want to.</p> <p>11 0 I am no more irritated now than I ever am. 1 I get annoyed or irritated more easily than I used to. 2 I feel irritated all the time now. 3 I don't get irritated at all by the things that used to irritate me.</p> | <p>12 0 I have not lost interest in other people. 1 I am less interested in other people than I used to be. 2 I have lost most of my interest in other people. 3 I have lost all of my interest in other people.</p> <p>13 0 I make decisions about as well as I ever could. 1 I put off making decisions more than I used to. 2 I have greater difficulty in making decisions than before. 3 I can't make decisions at all anymore.</p> <p>14 0 I don't feel I look any worse than I used to. 1 I am worried that I am looking old or unattractive. 2 I feel that there are permanent changes in my appearance that make me look unattractive. 3 I believe that I look ugly.</p> <p>15 0 I can work about as well as before. 1 It takes an extra effort to get started at doing something. 2 I have to push myself very hard to do anything. 3 I can't do any work at all.</p> <p>16 0 I can sleep as well as usual. 1 I don't sleep as well as I used to. 2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep. 3 I wake up several hours earlier than I used to and cannot get back to sleep.</p> <p>17 0 I don't get more tired than usual. 1 I get tired more easily than I used to. 2 I get tired from doing almost anything. 3 I am too tired to do anything.</p> <p>18 0 My appetite is no worse than usual. 1 My appetite is not as good as it used to be. 2 My appetite is much worse now. 3 I have no appetite at all anymore.</p> <p>19 0 I haven't lost much weight, if any, lately. 1 I have lost more than 5 pounds. I am purposely trying to lose weight 2 I have lost more than 10 pounds. by eating less. Yes _____ No _____ 3 I have lost more than 15 pounds.</p> <p>20 0 I am no more worried about my health than usual. 1 I am worried about physical problems such as aches and pains; or upset stomach; or constipation. 2 I am very worried about physical problems and it's hard to think of much else. 3 I am so worried about my physical problems that I cannot think about anything else.</p> <p>21 0 I have not noticed any recent change in my interest in sex. 1 I am less interested in sex than I used to be. // 2 I am much less interested in sex now. 3 I have lost interest in sex completely.</p> |
|---|--|

APPENDIX E
FOOD AND WEIGHT COGNITIVE DISTORTIONS SURVEY
(FWCDS)

THE FOOD AND WEIGHT COGNITIVE DISTORTIONS SURVEY

INSTRUCTIONS: The following statements ask you to consider your beliefs about food and weight. Each statement is followed by five alternative responses. Please read each statement and indicate which alternative most accurately applies to you by circling the corresponding number.

1. If I reach my target weight, I'll have to be perfect in all other areas of my life.

| | | | | |
|----------------------|----------|-----------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |

2. I can't just eat one or two cookies (Pieces of pizza, scoops of ice cream).

| | | | | |
|-------------------|-------|-----------|----------|----------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly agree | agree | undecided | disagree | strongly disagree |

3. I think of some foods as "good" or "legal" and others as "forbidden" or "illegal".

| | | | | |
|----------------------|----------|-----------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |

4. I often think "If only I hadn't gone off my diet..."

| | | | | |
|-------------------|-------|-----------|----------|----------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly agree | agree | undecided | disagree | strongly disagree |

5. I often find myself thinking "What if I go off my diet today?"

| | | | | |
|----------------------|----------|-----------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |

6. Being 10 pounds overweight would ruin my life.

| | | | | |
|-------------------|-------|-----------|----------|----------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly agree | agree | undecided | disagree | strongly disagree |

7. I think that if I were my ideal body weight, my social life would be much better.

| | | | | |
|----------------------|----------|-----------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |

8. I'm embarrassed when other people see me eat.

| | | | | |
|-------------------|-------|-----------|----------|----------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly agree | agree | undecided | disagree | strongly disagree |

9. I must follow a diet plan perfectly for it to be worthwhile.

| | | | | |
|----------------------|----------|-----------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |

10. I can't stop thinking about my weight and body size.
- | | | | | |
|----------|-------|-----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 |
| strongly | agree | undecided | disagree | strongly |
| disagree | | | | disagree |
11. If I'm not in complete control of my diet, I'll lose all control
- | | | | | |
|----------|----------|-----------|-------|----------|
| 1 | 2 | 3 | 4 | 5 |
| strongly | disagree | undecided | agree | strongly |
| disagree | | | | agree |
12. If only I had exercised more will power in the past, I wouldn't weigh this much now.
- | | | | | |
|----------|-------|-----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 |
| strongly | agree | undecided | disagree | strongly |
| agree | | | | disagree |
13. I worry about eating dinner as a guest because I think "What if I am served dessert without being asked first?"
- | | | | | |
|----------|----------|-----------|-------|----------|
| 1 | 2 | 3 | 4 | 5 |
| strongly | disagree | undecided | agree | strongly |
| disagree | | | | agree |
14. If I eat one cookie, I will eat the whole box of cookies.
- | | | | | |
|----------|-------|-----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 |
| strongly | agree | undecided | disagree | strongly |
| agree | | | | disagree |
15. I think that if I were my ideal body weight, my school and career goals would be so much easier to attain.
- | | | | | |
|----------|----------|-----------|-------|----------|
| 1 | 2 | 3 | 4 | 5 |
| strongly | disagree | undecided | agree | strongly |
| disagree | | | | agree |
16. I think people are always looking at me and thinking I am too fat.
- | | | | | |
|----------|-------|-----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 |
| strongly | agree | undecided | disagree | strongly |
| agree | | | | disagree |
17. I would not be satisfied to weigh 2 or 3 pounds above my target weight.
- | | | | | |
|----------|----------|-----------|-------|----------|
| 1 | 2 | 3 | 4 | 5 |
| strongly | disagree | undecided | agree | strongly |
| disagree | | | | agree |
18. I'm just not the kind of person who can stop eating when I'm full.
- | | | | | |
|----------|-------|-----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 |
| strongly | agree | undecided | disagree | strongly |
| agree | | | | disagree |
19. I feel either fat or thin.
- | | | | | |
|----------|----------|-----------|-------|----------|
| 1 | 2 | 3 | 4 | 5 |
| strongly | disagree | undecided | agree | strongly |
| disagree | | | | agree |
20. I would be happy if only I weighed what I want to weigh.
- | | | | | |
|----------|-------|-----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 |
| strongly | agree | undecided | disagree | strongly |
| agree | | | | disagree |

21. I worry about eating with others and think "What if they think I am eating too much or too little?"
- | | | | | |
|-------------------|----------|-----------|-------|----------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |
22. If I gain 2 or 3 pounds, I will be too fat to wear alot of the clothes in my closet.
- | | | | | |
|----------------|-------|-----------|----------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly agree | agree | undecided | disagree | strongly disagree |
23. If I eat a piece of cake, it seems to turn into fat instantly.
- | | | | | |
|-------------------|----------|-----------|-------|----------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |
24. When I hear people whispering as I walk by, I think they're probably commenting on my weight.
- | | | | | |
|----------------|-------|-----------|----------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly agree | agree | undecided | disagree | strongly disagree |
25. I feel disgusted with myself if I get more than I originally decided to.
- | | | | | |
|-------------------|----------|-----------|-------|----------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |
26. I can't even imagine eating three regular meals a day.
- | | | | | |
|----------------|-------|-----------|----------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly agree | agree | undecided | disagree | strongly disagree |
27. If I stay on my diet, I'm a good person and if I go off my diet, I'm bad.
- | | | | | |
|-------------------|----------|-----------|-------|----------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |
28. I often find myself thinking things like "If only I hadn't eaten that extra donut (piece of pizza, slice of cake, etc.)".
- | | | | | |
|----------------|-------|-----------|----------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly agree | agree | undecided | disagree | strongly disagree |
29. I frequently find myself worrying "What if I go out of control and eat too much?"
- | | | | | |
|-------------------|----------|-----------|-------|----------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |
30. If I gain one pound I worry that I'll go on and gain fifty pounds.
- | | | | | |
|----------------|-------|-----------|----------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly agree | agree | undecided | disagree | strongly disagree |
31. I know I can be happy if I am thin.
- | | | | | |
|-------------------|----------|-----------|-------|----------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |

32. When other women discuss dieting around me, I feel they probably think I should be dieting more.
- | | | | | |
|-------------------|-------|-----------|----------|----------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly agree | agree | undecided | disagree | strongly disagree |
33. If I don't achieve my ideal body weight, I'll be a failure.
- | | | | | |
|----------------------|----------|-----------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |
34. I can't refuse sweets when they're offered to me.
- | | | | | |
|-------------------|-------|-----------|----------|----------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly agree | agree | undecided | disagree | strongly disagree |
35. If I don't lose weight immediately, I won't be able to lose weight at all.
- | | | | | |
|----------------------|----------|-----------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |
36. If only I hadn't started eating too much again.
- | | | | | |
|-------------------|-------|-----------|----------|----------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly agree | agree | undecided | disagree | strongly disagree |
37. It's difficult for me to consider eating three regular meals a day because I think "What if I gain weight?"
- | | | | | |
|----------------------|----------|-----------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |
38. Gaining five pounds would push me over the brink.
- | | | | | |
|-------------------|-------|-----------|----------|----------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly agree | agree | undecided | disagree | strongly disagree |
39. I really believe the saying "Eat it today and you'll wear it tomorrow."
- | | | | | |
|----------------------|----------|-----------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly disagree | disagree | undecided | agree | strongly agree |
40. When I see someone who is extremely heavy, I worry that I will become like her.
- | | | | | |
|-------------------|-------|-----------|----------|----------------------|
| 1 | 2 | 3 | 4 | 5 |
| strongly agree | agree | undecided | disagree | strongly disagree |

APPENDIX F
USE OF FOOD SURVEY
(UFS)

USE OF FOOD SURVEY

INSTRUCTIONS: The following statements ask you to consider the ways in which you use food and eating. Each statement is followed by five alternative responses. Please read each statement and indicate which alternative most accurately applies to you by circling the corresponding number.

1. I have used eating to stifle or numb intense feelings.

| | | | | |
|-------|--------|-----------|-------------|------------|
| 1 | 2 | 3 | 4 | 5 |
| Never | Rarely | Sometimes | Quite often | Very often |
2. I have used eating to help cope with loneliness.

| | | | | |
|-------|--------|-----------|-------------|------------|
| 1 | 2 | 3 | 4 | 5 |
| Never | Rarely | Sometimes | Quite often | Very often |
3. I have used eating to feel cared for and comforted.

| | | | | |
|-------|--------|-----------|-------------|------------|
| 1 | 2 | 3 | 4 | 5 |
| Never | Rarely | Sometimes | Quite often | Very often |
4. I have avoided eating to punish myself.

| | | | | |
|-------|--------|-----------|-------------|------------|
| 1 | 2 | 3 | 4 | 5 |
| Never | Rarely | Sometimes | Quite often | Very often |
5. I have used eating to alleviate boredom.

| | | | | |
|-------|--------|-----------|-------------|------------|
| 1 | 2 | 3 | 4 | 5 |
| Never | Rarely | Sometimes | Quite often | Very often |
6. I have used eating to reward myself.

| | | | | |
|-------|--------|-----------|-------------|------------|
| 1 | 2 | 3 | 4 | 5 |
| Never | Rarely | Sometimes | Quite often | Very often |
7. I have used eating to avoid thinking about my personal problems.

| | | | | |
|-------|--------|-----------|-------------|------------|
| 1 | 2 | 3 | 4 | 5 |
| Never | Rarely | Sometimes | Quite often | Very often |
8. I have used eating to relieve tension and anxiety.

| | | | | |
|-------|--------|-----------|-------------|------------|
| 1 | 2 | 3 | 4 | 5 |
| Never | Rarely | Sometimes | Quite often | Very often |
9. I have used eating to help cope with anger and frustration.

| | | | | |
|-------|--------|-----------|-------------|------------|
| 1 | 2 | 3 | 4 | 5 |
| Never | Rarely | Sometimes | Quite often | Very often |

10. I have avoided eating to rebel or punish others.
1 2 3 4 5
Never Rarely Sometimes Quite often Very often
11. I have used eating to procrastinate and avoid other responsibilities.
1 2 3 4 5
Never Rarely Sometimes Quite often Very often
12. I have used eating to punish myself.
1 2 3 4 5
Never Rarely Sometimes Quite often Very often
13. I have used eating to give me energy to do other tasks.
1 2 3 4 5
Never Rarely Sometimes Quite often Very often
14. I have used eating to rebel and punish others.
1 2 3 4 5
Never Rarely Sometimes Quite often Very often

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