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**AN EXAMINATION OF DEPRESSION IN A SUBCLINICAL
EATING DISORDER FEMALE POPULATION**

by

Christine Hill-Melton

**A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Doctor of Education
Department of Counselor Education
and Counseling Psychology**

**Western Michigan University
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AN EXAMINATION OF DEPRESSION IN A SUBCLINICAL EATING DISORDER FEMALE POPULATION

Christine Hill-Melton, Ed.D.

Western Michigan University, 1993

This study examined depression and disordered eating symptoms in a population at high risk for the development of eating disorders. The level and prevalence of depression were compared between three groups of women with increasing severity of eating disordered symptoms.

Female undergraduate college students enrolled in psychology courses at four small colleges and one mid-sized university in Michigan completed a Biographical Questionnaire, the Beck Depression Inventory (BDI), and an Eating Assessment Rating Scale (EARS). Participants were placed into one of three groups according to severity of disordered eating symptoms based on their responses on the EARS. The three groups were: suspected eating disorder, subclinical eating disorder, and a control group reporting little or no eating disorder symptoms.

The data were analyzed in three ways. First, the mean BDI scores of each group were compared. Second, the prevalence of women in each group with at least a mild depression was compared. Third, the subclinical eating disorder group was divided into those with anorexic-like symptoms and those with bulimic-like symptoms. The level of depression between these two subgroups was compared.

In this study, both the level of depression and the number of women in each group with at least mild depression significantly

increased as severity of eating disorder symptoms increased. It was also found that the women in the subclinical eating disorder group with bulimic-like symptoms reported significantly higher levels of depression than did women from the same group with anorexic-like symptoms.

Clinicians need to be aware of the possibility of disordered eating symptoms coexisting with depressive symptoms for some women so that the disordered eating symptoms can be addressed, possibly preventing them from progressing along the continuum toward more severe pathology. These findings also suggest the need for consideration of subclassifications of eating disorders based on a more qualitative approach which may include the presence or absence of depression.

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female population**

Hill-Melton, Christine A., Ed.D.

Western Michigan University, 1993

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TABLE OF CONTENTS

ACKNOWLEDGMENTS	ii
LIST OF TABLES	vii
CHAPTER	
I. INTRODUCTION.....	1
Purpose of the Study	2
Background of the Problem	3
Incidence of Eating Disorders	3
Eating Disorder Continuum	5
Definitions	5
Research Questions	7
Hypotheses	7
Overview of Methodology	9
Limitations	9
II. REVIEW OF THE LITERATURE	11
Views of the Relationship Between Depression and Eating Disorders	11
Typology	13
Eating Disorders Continuum	14
Anorexia and Depression	16
Prevalence	16
Prevalence of Family Member Depressive Disorder	17
Depressive Symptoms Associated With Anorexia ..	18
Age and Depression Associated With Anorexia	19

Table of Contents--Continued

CHAPTER

Weight Loss and Depression Associated With Anorexia	20
Anorexia With and Without Depression	20
Bulimic Anorexics and Depression	21
Prevalence	21
Bulimic Anorexics as Compared to Restrictor Anorexics With Regard to Depression	22
Bulimia and Depression	23
Prevalence	23
Prevalence of Family Member Depressive Disorder	24
Bulimia as Compared to Anorexia With Regard to Depression	25
Depressive Symptoms Associated With Bulimia	26
Depression and Food	26
Cognitions	27
Depression and Severity of Bulimia	29
Family Characteristics	30
Family Systems Theory	30
Families of People With Bulimia	31
Families of People With Anorexia	35
Family Dynamics of People With Eating Disorders	37
Psychological Environment	37
Anorexia as Compared to Bulimia	39
Intrapersonal Dynamics	40

Table of Contents--Continued

CHAPTER		
	Introduction	40
	Anorexia	40
	Bulimia	42
	Sociocultural Issues	43
	Introduction	43
	Physical Changes	44
	Psychological Changes	45
	Women's Development Versus Cultural Expectations	46
	Psychological Concern About Weight	47
	Conclusion	49
III. DESIGN		50
	Introduction	50
	Sample	50
	Instrumentation	51
	Introduction	51
	Biographical Questionnaire	51
	Beck Depression Inventory	52
	Eating Assessment Rating Scale	52
	Method	54
	Data Collection	54
	Data Analyses	56
IV. FINDINGS		59
	Sample Description	59

Table of Contents--Continued

CHAPTER	
	Quantitative Data 59
	Biographical Questionnaire Data 60
	Qualitative Data From Biographical Questionnaire 64
	Results 65
V. SUMMARY, DISCUSSION, AND CONCLUSIONS	71
	Summary 71
	Interpretation of Analyses 72
	Hypothesis 1 72
	Hypothesis 2 74
	Hypothesis 3 75
	Discussion 75
	Limitations 79
	Suggestions for Future Research 80
	Summary and Conclusions 82
APPENDICES	83
A. Letter of Approval From the Human Subjects Institutional Review Board	84
B. Biographical Questionnaire	86
C. Letter of Permission	90
D. Eating Assessment Rating Scale	92
E. Instruction and Information Sheet	96
BIBLIOGRAPHY	99

LIST OF TABLES

1. Total Participants and Percentage of Participants From Each School and in Each Group	60
2. Mean Age and GPA of Participants in Each Group	61
3. Parental Marital Status	61
4. Race of Participants	62
5. Parents' Annual Income in Thousands of Dollars	62
6. Frequency of Weight Monitoring	63
7. Weight Fluctuation of Participants	63
8. Percentage of Participants Above, Within, and Below IBW Ranges	64
9. Means and Standard Deviations of BDI for each Group	66
10. Results of Independent t Tests Between Groups	66
11. Results of Multiple Regression Analysis	68
12. Means and Standard Deviations of BSI Scores for Each School	68
13. Total Number of Participants and Mean BDI Scores for Subgroups of Group 2 SUB ED	70

CHAPTER I

INTRODUCTION

People with clinical eating disorders have been extensively examined with regard to symptomology, family dynamics, and cultural factors that may contribute to the onset of such disorders. An increasing number of researchers have suggested a relationship between eating disorders and depression. Analysis of this relationship has focused on the frequency of depressive symptoms in patients who have eating disorders, the positive response of some people with an eating disorder to antidepressive medication, and the frequency with which comparable physiological abnormalities occur in both disorders. Studies have also shown a higher incidence of major depression in families of eating disorder patients (Altshuler & Weiner, 1985). Strober and Katz (1987) argued convincingly that depression is one important predisposing factor for approximately half of those with eating disorders.

The prevalence of depression found among people with an eating disorder has been well documented in the literature. Depression experienced by people with anorexia has been found to be as high as 74% (Rollins & Piazza, 1978) and as high as 79% in people with bulimia (Wilson & Lindholm, 1987).

Garfinkel and Garner (1982) proposed a model of the etiology of eating disorders as a product of the reciprocal interplay of biological, psychological, familial, and sociocultural factors. In an effort to explain

the high incidence of the coexistence of eating disorders and depression in some people, other researchers have suggested that these disorders involve certain shared psychodynamic vulnerabilities, increasing the likelihood that an eating disorder and an affective disorder would occur within the same individual (Katz et al., 1984).

Literature on the depression found among people with an eating disorder supports the idea that the disordered eating behavior may be a defense against the experience of depression which has been caused by development in a pathogenic family environment.

Purpose of the Study

This study examined the incidence and level of depression experienced by women with a subclinical eating disorder, defined as the experience of eating disordered behaviors which do not fulfill the criteria for a diagnosable eating disorder. In this study, eating disorders refers to anorexia and bulimia. The criteria referred to are presented in the Diagnostic and Statistical Manual III-Revised (DSM III-R) (American Psychiatric Association [APA], 1987). This study provides additional data germane to the psychological characteristics of women at points along an eating disorder continuum, the parameters of which are no concern with weight, accompanied by unrestricted eating, to anorexia or bulimia, as described in the DSM III-R (APA, 1987), at the other extreme (Mintz & Betz, 1988; Polivy & Herman, 1987).

Studying the nature of the association between eating disorders and depression has important implications for psychologists' assessment, understanding, and treatment of people who experience both

concerns. People with symptoms that are less severe than those required for diagnosis of an eating disorder are at high risk for developing an eating disorder and should be evaluated for treatment even in the absence of the full clinical syndrome (Williamson, 1990). Williamson also noted that prognosis for people with a subclinical eating disorder is much better than that of more chronic eating disordered cases. It is also meaningful to differentiate between weight-preoccupied women for whom pursuit of thinness is associated with depression from those for whom the pursuit is apparently unrelated to a depression. Classification based on psychological dimensions like depression and the magnitude of these disturbances provides a useful basis for classifying people with an eating disorder that augments classification based on weight and behavioral dimension alone (Norrington, 1990). This study suggests that depression is one dimension that should be considered as a factor when differentiating between classification of subgroups of eating-disordered disturbances.

Background of the Problem

Incidence of Eating Disorders

Diagnosed cases of eating disorders have dramatically increased in the past 20 years. There are several possible explanations for this occurrence. Mental health professionals, physicians, dietitians, and the general population are much more familiar with the problem. This increased familiarity would certainly account for part of the increase in eating disorder diagnoses. Previous inadequate records, lack of

agreement regarding diagnosis, and inconsistent criteria for diagnosis of eating disorders also contribute to the inability to assess accurately the changes in incidence. There is no estimation of the number of individuals who experience these disorders and do not come to the attention of psychologists and physicians. Nevertheless, the evidence that does exist reveals a significant increase, and health service providers widely hold that eating disorders have increased in their actual frequency (Neuman & Halvorson, 1983).

The Anorexia Nervosa and Related Eating Disorders Organization estimates that approximately 1 in every 100 white females between the ages of 12 and 18 suffer from anorexia (Neuman & Halvorson, 1983). There is far more knowledge about the incidence of anorexia than about bulimia, since bulimia has only recently been recognized as a separate entity. Yet it is bulimia that is believed to be more widespread. Although its actual incidence has not been clearly established, evidence exists that bulimia is alarmingly prevalent, certainly far more than anorexia. Estimates of the college population that fit the criteria for bulimia range from 7% to as high as 20% (Halmi, Falk, & Schwartz, 1981; Katzman & Wolchik, 1984; Klemchuk, Hutchinson, & Frank, 1990; Neuman & Halvorson, 1983; Pope, Hudson, Yurgelun-Todd, & Hudson, 1984).

A major cause of discrepant reports of the incidence of people with eating disorders such as anorexia and bulimia is the wide array of operationalized criteria used to define eating disorders. However, estimates of prevalence indicate that thousands of college students today struggle with eating disorders.

The scope of the problem, however, is not limited to these extreme instances. Health service professionals need to focus adequate attention and serious concern to the subject of eating disturbances in young women who do not fulfill the criteria for diagnosis of an eating disorder (Surrey, 1991). These women are considered to make up the subclinical eating disorder population.

Eating Disorder Continuum

Examining the etiology of eating disorders has raised the question of an eating disorder continuum (Polivy & Herman, 1987; Striegel-Moore, Silberstein, & Rodin, 1986). Observing similarities between dieters and people who suffer from a diagnosed eating disorder, Polivy and Herman (1987) suggested that dieting and eating disorders represent different points along a continuum of eating pathology. Despite the prevalence of dieting and weight concerns among women in general, only a minority develop the clinical syndrome of eating disorder. The factors which contribute to the movement along this continuum toward the clinical manifestation of a diagnosable eating disorder are unclear.

Definitions

The following definitions are provided to clarify the meaning and the use of certain terms used in this study:

Bulimic anorexic: A bulimic anorexic is a person who has been diagnosed with anorexia nervosa as outlined in the DSM III-R (APA, 1987) and who specifically maintains low weight through binge eating and purge behaviors.

Depression: For purposes of this study, depression is defined by scores on the Beck Depression Inventory (BDI) which range from zero to 39 (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961).

Eating disorders: For the purpose of this study, reference to eating disorders is limited to the disorders of anorexia nervosa and bulimia nervosa as described in the DSM III-R (APA, 1987).

Eating disorder continuum: The concept of an eating disorder continuum characterizes a dimension ranging from no concern with weight, accompanied by unrestricted eating, to anorexia or bulimia, as described in the DSM III-R (APA, 1987), at the other extreme (Mintz & Betz, 1988; Polivy & Herman, 1987). For this research, three categories of eating behaviors are defined: suspected eating disorder, subclinical eating disorder, and no eating disorder or control group.

Levels of depression: Levels of depression are defined according to scores on the BDI as follows: 0 to 4, no or minimal depression; 5 to 7, mild depression; 8 to 15, moderate depression; greater than 16, severe depression.

Prevalence of depression: Prevalence of depression is the percentage of women with at least a mild level of depression within each of the three categories of eating behavior, which are suspected eating disorder, subclinical eating disorder, and no eating disorder.

Restrictor anorexic: A person who has been diagnosed with anorexia nervosa as outlined in the DSM III-R (APA, 1987) and who specifically maintains a low weight through dietary restriction.

Subclinical eating disorder: A person whose eating behaviors do not fulfill the operational version of the DSM III-R diagnostic criteria for

anorexia or bulimia because one or more features are not present or are not of sufficient severity. For instance, this person might purge or use laxatives but not on a regular basis or she might binge eat less than two times per week.

Suspected eating disorder: For purposes of this study a suspected eating disorder was determined by average scores of 4.5 or higher on the Eating Assessment Rating Scale (EARS) (Williamson, 1990).

Research Questions

Three research questions were addressed:

1. Is there a significant difference in the level of depression among a suspected eating disorder group of women, a subclinical eating disorder group of women, and a control group of women with no eating disorder or problem?
2. Is there a difference in the prevalence of experienced depression between a suspected eating disorder group of women, a subclinical eating disorder group of women, and a control group of women with no eating disorder or eating problem?
3. Do the women in the subclinical group who have qualified for this group because of anorexic-like symptoms have a significantly different level of depression than the women in the subclinical group who have qualified for this group because of bulimic-like symptoms?

Hypotheses

It was hypothesized that there would be a significant difference between the level of depression in the suspected eating disorder group

of women, the subclinical eating disorder group of women, and the control group of women. The level of depression was expected to be lowest in the control group of women and highest in the suspected eating disorder group of women.

It was also hypothesized that the prevalence of depression would be significantly different between the control group of women and both the suspected eating disorder and the subclinical eating disorder groups of women. The prevalence of depression was expected to be lowest in the control group of women and highest in the suspected eating disorder group of women.

Lastly, it was hypothesized that the anorexic-like subgroup of the subclinical eating disorder group of women would have a significantly lower level of depression than the subgroup of women with bulimic-like symptoms from that same group. This hypothesis was based on other research which has shown that generally women with anorexia experience less depression than those with bulimic behaviors. This hypothesis supports the idea that the extreme control of the anorexic is an attempt to ward off the depressive experience.

If it could be shown that the level and prevalence of depression experienced by the subclinical eating disorder group of women was intermediate to that experienced by the suspected eating disorder group of women and the control group of women, this would support the idea of an eating disorder continuum, at least on this one factor of depression. Improved understanding of the characteristics of women in a subclinical population of eating disorders as being similar to the characteristics of women with an eating disorder would clarify the factors

involved in the progression across the continuum from simple dieting to clinical eating disorders.

These hypotheses are stated in null form in Chapter III.

Overview of Methodology

A sample of female undergraduate college students completed a biographical questionnaire, the Beck Depression Inventory (BDI) and an Eating Assessment Rating Scale (EARS). Each participant was placed into one of three categories according to answers from the Eating Assessment Rating Scale: suspected eating disorder, subclinical eating disorder, and a control group reporting no eating disorder symptoms.

The data were analyzed in three ways: (1) The level of depression as measured by the Beck Depression Inventory was compared between groups; (2) the prevalence of depression as measured by the Beck Depression Inventory was compared between groups; and (3) the sub-clinical eating disorder group was divided into those with anorexic-like symptoms and those with bulimic-like symptoms, and the level of depression of these two subgroups was compared.

Limitations

The use of self-report measures in this study may be considered a limitation. The accuracy of both the reporting of eating problems and the reporting of weight may be questioned. Also the reliability and validity of the EARS used in this study to assess eating disordered symptoms has not been studied. Instruments which can be used to study women with subclinical eating disorders need to be developed. The subjective

experience of eating disordered symptoms and depression and how they may effect each other was not considered. Interviews with women to understand the subjective experience of their disordered eating symptoms and their depression may have made it possible to understand the interrelatedness of these two experiences.

CHAPTER II

REVIEW OF THE LITERATURE

Views of the Relationship Between Depression and Eating Disorders

Many authorities have attempted to explain the relationship between depression and eating disorders. In the past, the consensus has been that the mood disturbance is secondary to the eating disorder (Bruch, 1973; Crisp, 1980). In the case of anorexia, it is generally believed that the observed depressive symptoms result from the physiological and psychological distortions that characterize this disorder. In a similar vein, Fairburn (1983) contended that depression in bulimia is secondary to the loss of control over eating and that it lifts as control over eating behaviors is established.

This traditional viewpoint has been challenged over the past decade by many researchers. The revisionist position (Cantwell, Sturzenberger, Burroughs, Salkin, & Green, 1977; Hudson, Laffer, & Pope, 1982; Pope & Hudson, 1984) asserts that anorexia nervosa and bulimia may be variant expressions of a primary depressive disturbance and that the striking eating and weight-related symptoms are secondary phenomena.

In contrast to these two views a third perspective is the multi-dimensional model proposed by Garfinkel and Garner (1982). This model suggests that eating disorders are a product of the reciprocal interplay of

a number of biological, psychological, familial, and sociocultural variables influencing the individual. In other words, anorexia nervosa and bulimia do not each possess a single pathogenesis but, rather, their clinical pictures represent a final common pathway for a multiplicity of variables. The delineation of subgroups based on the type and the magnitude of psychological disturbance may help to augment the present classification based on weight and behavioral dimensions (Norrington, 1990). Such increased specificity in classification of eating disorders may be important in both clinical research and practice. This model may be a more useful approach to understanding and researching the relationship between depression and both anorexia and bulimia.

Other researchers have suggested several possible models for the coincidence that eating disorders and depression do apparently co-exist in at least some women (Katz et al., 1984). Among these models is the possibility that some forms of eating disorder and depression involve certain shared psychodynamic vulnerabilities, increasing the likelihood of an eating disorder and depression occurring together.

This research utilized assessment data about depression and eating disordered behaviors to examine the potential relationship between these factors. An attempt was made to draw from the literature possible psychodynamic explanations to make sense of these data. The factors examined in the literature include early life experiences of future eating disorder people due to family interaction patterns, and the meanings they make of those experiences, that suggest a vulnerability to a depressive disorder.

Typology

Before reviewing studies a discussion of some aspects of the typology of eating disorders will be presented. Anorexia nervosa has been considered a distinct syndrome as outlined in the Diagnostic and Statistical Manual III-Revised (DSM III-R) (APA, 1987) (Diagnostic Code: 307.10). Characteristic features of this disorder include refusal to maintain body weight over a minimal normal weight for age and height, intense fear of becoming fat, a distorted body image, and amenorrhea. However, bulimic behaviors (i.e., binge eating and purging) have been noted in 16% to 50% of patients with anorexia nervosa (Casper, Eckert, Halmi, Goldberg, & Davis, 1980; Garfinkel, Moldofsky, & Garner, 1980; Mitchell & Pyle, 1982). Therefore, researchers have more recently attempted to divide anorexia nervosa into two subgroups: anorexics who experience bulimic symptoms, known as bulimic anorexics, and those who restrict their intake of food and do not binge eat, known as restrictor anorexics (Casper et al., 1980; Garfinkel et al., 1980; Strober, 1981). The possibility of these two subtypes of anorexia nervosa are now being considered for inclusion in the DSM-IV (DaCosta & Halmi, 1992; Wilson & Walsh, 1991).

Another category of eating disorders is bulimia nervosa. Bulimia nervosa as outlined in the DSM III-R (Diagnostic Code: 307.51) is characterized by uncontrollable binge eating, negative affect following the binge, and self-induced vomiting or some other purgative methods for preventing weight gain (Williamson et al., 1987). Consideration of the clinical features of bulimia nervosa suggests that three elements

constitute the core of the syndrome: first, the subjective loss of control over eating and the associated bulimic episodes; second, the behavior designed to control the body weight; and third, the characteristic extreme concerns about shape and weight (Fairburn & Garner, 1986).

A determining diagnostic criteria which differentiates between bulimic anorexia and bulimia nervosa is the weight variable. Someone with bulimic symptoms who is underweight will fit criteria for bulimic anorexia. Whereas, a person who is overweight or maintains an average weight while experiencing bulimic symptoms will fit criteria for a diagnosis of bulimia nervosa.

Eating Disorders Continuum

Polivy and Herman (1987) suggested that eating disordered behaviors occur along a continuum. An eating disorder continuum ranges from no concern with weight to anorexia or bulimia. Intermediate on the continuum are unhealthy eating behaviors such as bingeing or purging, consuming large amounts of high fat or carbohydrate foods, fasting, or chronic dieting (Mintz & Betz, 1988). Chronic dieting, or an excessive concern with restricting food intake, can clearly be associated with some of the pathology accepted as a core feature of the eating disorders (Polivy & Herman, 1987). Available evidence has suggested that adolescent dieters are much more likely to develop an eating disorder than nondieting adolescents (Hsu, 1990).

Mintz and Betz (1988) studied college women for the prevalence and correlates of eating disorder behaviors occurring along a continuum. Their study was designed to examine bulimics using the Weight

Management, Eating and Exercise Habits Questionnaire, the Body Parts Satisfaction Scale, the Self-Esteem Scale, and the Beliefs About Attractiveness Scale. They found that 64% of their subjects fell in the categories between normal and bulimic; 82% of subjects reported one or more dieting behaviors (e.g., fasting or taking appetite control pills) daily; and 33% reported more serious forms of weight control (e.g., purging and laxative use) at least once a month. Mintz and Betz (1988) noted that although bulimics were clearly the least healthy and normals the most healthy in terms of overall self-esteem, body image, and beliefs about attractiveness, consistently intermediate values along the continuum of eating behaviors provide further support for the idea of an eating disorder continuum.

Button and Whitehouse (1981) tested students using the Eating Attitudes Test to assess its usefulness in the identification of subclinical cases of anorexia nervosa. Interviews following the testing concluded that a substantial proportion of postpubertal females (5%) develop a subclinical form of anorexia nervosa. These data are consistent with a continuum hypothesis of eating disorders. Cases of anorexia nervosa fulfilling strict diagnostic criteria may be regarded as the tip of the iceberg with respect to excessive weight concerns among young females.

Klemchuk et al., (1990) studied female undergraduate students using the Eating Disorder Inventory (EDI) to identify factors that could be associated with high-risk groups for eating disorders. Body dissatisfaction was the strongest discriminating factor to emerge on the EDI between the clinical eating disorder group and the nonclinical group. These researchers suggested further research to identify factors

associated with the vulnerability to the progression from body dissatisfaction to an eating disorder for some individuals.

Anorexia and Depression

Prevalence

As noted earlier, various studies have reported a high incidence of depression in people with anorexia. Hendren (1983) evaluated case histories of DSM-III diagnosed anorexic patients and found 56% to meet research diagnostic criteria for major depressive disorder. Rollins and Piazza (1978) described depression in 74% of their anorexic sample. Gershon et al. (1983) found major or minor depression in 22 of 24 anorexic patients. Others have reported a similarly striking association between anorexia and depression (Ben-Tovin, Marilov, & Crisp, 1979; Stonehill & Crisp, 1977).

Cantwell et al. (1977) retrospectively determined premorbid depression in patients diagnosed as having primary anorexia nervosa and found that 61% of the patients manifested depressed mood. Hudson, Pope, Jonas, and Yurgelun-Todd (1983b) found that 49% of anorexic patients with a lifetime diagnosis of major affective disorder experienced major depression prior to the onset of their eating disorder. Toner, Garfinkel, and Garner (1988) found 50% of their anorexic group who met criteria for major depression had at least one depressive episode prior to the onset of anorexia. Regardless of clinical outcome, anorexic groups have been found to have a higher lifetime prevalence of depression compared with a nonclinical comparison group (Toner et al., 1988).

However, the results of this research must be interpreted with caution as the method of data collection was retrospective recall of symptoms.

Several researchers have evaluated the prevalence of postmorbidity depression in patients recovered from anorexia. Warren (1968) found depressive symptoms in 48% of recovered anorexics. Halmi, Brodland, and Loney (1973) found 93% of patients with persistent anorexia and 37% of recovered anorexics had depressive traits.

Cantwell et al. (1977) also found postmorbidity depression in 45% of their group of patients at a 4 to 9 year follow-up. Hsu, Crisp, and Harding (1979) found 38% of anorexic patients with depression 4 to 8 years after initial presentation. Other investigators have reported significant postmorbidity depression in anorexic patients at follow-up (Crisp, 1965; Hsu et al., 1979; Morgan & Russell, 1975). These studies, unfortunately, do not compare anorexic symptoms in those postmorbidity patients who experience depression versus the nondepressed patients.

This evidence suggests that depressive symptoms persist in anorexics at follow-up. Studies have shown a higher frequency of depressive symptomatology in anorexics who did not recover after an average of 7 years compared with those anorexics who demonstrated improvement (Halmi et al., 1973). However, even anorexics who improved showed significant levels of depressive symptoms.

Prevalence of Family Member Depressive Disorder

Strober (1981) divided anorexics into bulimic and restrictor subgroups and examined family history using the Schedule for Affective

Disorder and the Schizophrenia and Research Diagnostic Criteria to determine the psychiatric status of the parents. He found affective disorder was more frequent in the mothers of bulimic anorexics than in the mothers of restrictor anorexics (32% versus 9%) and more frequent in the fathers of bulimic anorexics (14% versus 5% in fathers of restrictors). Although these differences were found to be not significant, with mothers and fathers combined, there was a significantly higher prevalence of depression in the family history of bulimic anorexics compared with restrictors (41% versus 14%). These studies suggest a familial link between depression and eating disorders, particularly in patients who experience bulimic symptoms. However, family studies do not control for the effects of the environment.

Depressive Symptoms Associated With Anorexia

Many authors have commented on the depression frequently experienced by people with anorexia. Symptoms noted in both depression and anorexia include insomnia, depressed mood, loss of libido, concentration disturbance (Levy & Dixon, 1985), low self-esteem, hopelessness, suicidal ideation, social and emotional withdrawal, and pathological guilt and self-deprecation (Hsu, 1990). Depressed people often feel a general sense of worthlessness, while the low self-esteem in anorexia is more often specifically tied to body weight and appearance (Garfinkel & Kaplan, 1986). Hsu (1990) suggested that anorexia may be a form of suicide. Bulimic anorexics have been found to manifest greater anxiety, depression, and guilt than restrictor anorexics (Casper et al., 1980; Strober, 1981).

Eckert, Goldberg, Halmi, Casper, and Davis (1982) compared depressed anorexics with nondepressed anorexics, using psychiatrist and self reports. Depressed anorexics were found to have a more thin ideal than nondepressed anorexics. They were more bothered by their self-image, perceived themselves as having a larger and less attractive body, and were judged by psychiatrists as having a greater fear of becoming fat than nondepressed anorexics. The more depressed anorexics also showed a greater distortion of body image in the direction of overestimating actual body size and tended to abuse laxatives as compared to the nondepressed anorexics.

Depressed anorexics also have more bizarre food habits than nondepressed anorexics. They are more selective in their appetite and more bothered by the approach of mealtime, by eating, and by feeling their stomach distended by food than are nondepressed anorexics. Depressed anorexics admit to a strong appetite and have a greater fear of compulsive eating and becoming fat than nondepressed anorexics. They tend to have more bulimic behaviors, a greater disturbance of body image, and more denial of illness by self-report than do nondepressed anorexics (Eckert et al., 1982).

Age and Depression Associated With Anorexia

The association between age of people with anorexia and depression remains controversial. In an early study, Kay (1953) found an increased incidence of depression in older anorexics, a patient group shown to have a longer duration of illness and greater likelihood of

previously failed psychiatric treatment. In contrast, Hendren (1983) found no correlation between age of anorexics and depression.

Weight Loss and Depression Associated With Anorexia

The relationship between weight loss and depression in people with anorexia is also controversial. Eckert et al. (1982) found that those anorexic patients with the greatest depression were also at the lower end of the weight distribution at pretreatment, posttreatment, and during current weight loss episodes. Those patients who gained the most weight also experienced greater improvements in depression. However, Hendren (1983) did not find a correlation between weight and depression, and Stonehill and Crisp (1977) reported no significant change in depression after weight restoration. Others have reported an increase in depression in anorexic patients with weight gain (Crisp, 1965).

Weight change in anorexia appears to be a multidetermined variable. The apparent correlation between weight gain and reduced depression may be influenced more by early detection and intervention and by successful treatment of underlying psychopathology than by simple refeeding.

Anorexia With and Without Depression

Attempts have been made to quantify clinical differences between subtypes of anorexic patients. One approach proposed by Biederman, Habelow, Rivinus, Harmatz, and Wise (1986) stratifies anorexic patients into those with and those without a current episode of major depressive disorder. These researchers studied these two groups using Minnesota

Multiphasic Personality Inventory (MMPI) profiles. Anorexic patients with depression significantly differed from anorexic patients without depression in all but two MMPI clinical scales, Masculinity/Femininity and Hypomania. Anorexic patients with depression had six MMPI scales, Depression, Hysteria, Psychopathic Deviate, Paranoia, Psychasthenia, and Schizophrenia, with mean T scores greater than two standard deviations ($T > 70$) from the norm and the anorexic patients without depression had no mean T scores with comparable elevations. The MMPI profiles of anorexic patients with depression suggest that these patients have a broader range of psychopathology than is evident in anorexic patients without depression (Biederman et al., 1986).

Bulimic Anorexics and Depression

Prevalence

Researchers have noted that anorexic patients with bulimic behavior are more frequently given diagnoses of depression and are more suicidal than nonbulimic patients with anorexia (Casper et al., 1980; Garfinkel et al., 1980; Levy, Dixon, & Stern, 1989; Strober, 1981). Hudson et al. (1983b) found that 80% of their bulimic anorexic patients experienced major depression sometime during their lives. Studies have found bulimic anorexics to have a more severe eating disorder, as judged by severity of symptoms and resistance to treatment, than either normal weight bulimics or restrictor anorexics (Mickalide & Andersen, 1985; Norman & Herzog, 1983; Rosen, Murkofsky, Steckler, & Skolnick, 1989; Yager, Landsverk, & Edelstein, 1987).

Bulimic Anorexics as Compared to Restrictor
Anorexics With Regard to Depression

Piran, Kennedy, Garfinkel, and Owens (1985) compared restrictor anorexics and bulimic anorexics. They found 61% of bulimic anorexics had a positive family history of depression while only 23% of restrictors had a positive family history of depression. This rate of 61% is similar to rates cited in previous reports (Hudson et al., 1982; Hudson, Pope, Jonas, & Yurgelun-Todd, 1983a; Pyle, Mitchell, & Eckert, 1981; Strober, Salkin, Burroughs, & Morrell, 1982).

Piran et al. (1985), using clinician-rated and self-rated measures, found the depressive experience of these two groups to be equally intense. These results concur with the results of Herzog (1984) and Hudson et al. (1983b) but differ from the findings of other researchers who reported more intense symptoms of depression in bulimics (Casper et al., 1980; Garfinkel & Garner, 1982).

The number of binges and purges per week among those in the bulimic anorexic group were related to observer-rated measures of depression and anxiety but not to the subjective experience of depression (Piran et al., 1985). This finding suggests that bingeing and vomiting could serve as a way of modulating the subjective experience of depression. Johnson and Larson (1982) arrived at a similar conclusion from an analysis of daily eating behavior and affect states in a group of bulimic women.

Bulimia and Depression

Prevalence

Numerous investigators, using various diagnostic methods, have described substantial concurrent or lifetime depression in their bulimic subjects. In interviews, Viesselman and Roig (1985) found concurrent depression in 79% of their bulimic subjects. The percentage of bulimic patients who met the Research Diagnostic Criteria (RDC) for concurrent major depressive disorder was found to be 24% (Herzog, 1984) and 30% (Walsh, Roose, Glassman, Gladis, & Sadik, 1985). Wilson and Lindholm (1987) found that 79% of their bulimic subjects showed at least mild depression and 28% experienced severe depression as measured by the Beck Depression Inventory (BDI). Using the BDI, the Hamilton Rating Scale for Depression, and the Symptoms Checklist-90 (SCL-90), Lee, Rush, and Mitchell (1985) found 78% of bulimic subjects showed at least mild depression (BDI > 9) and 23 scored at least 25 on the BDI. Fifty-two percent were found to have moderate depression with a score of over 18 on the Hamilton Rating Scale and 36% fell at least two standard deviations above norms for the depression subscale of the SCL-90. Lifetime prevalence for major depressive disorder among bulimic patients ranges from 36% to 71% (Hudson et al., 1983b; Piran et al., 1985; Walsh et al., 1985).

Among bulimic patients who have experienced major depression at some time in their life, the mood disorder was found to precede the onset of the eating disorder from 26% to 50% of the time (Hudson et al., 1983b; Lee et al., 1985; Piran et al., 1985; Walsh et al., 1985).

Since patients had been ill for an average of 7 years prior to interviews with them, there are significant questions about the accuracy of the patient's estimates of the time of onset of the depressive disorder.

Swift, Kalin, Wambolt, Kaslow, and Ritholz (1985) found low levels of depression in bulimic patients who were assessed 2 to 5 years following initial presentation, despite persistence of binge eating and purging. Keller et al., (1986) found that although 60% of bulimic patients met criteria for depression upon entering their study, only one patient had recovered from both disorders at a 6-month follow-up. This suggests that the recovery process for these syndromes may be independent. It also suggests a lack of effective treatment modalities for the particular needs of patients with both depression and bulimia.

Samples of bulimic subjects are generally drawn from patients seeking treatment, which may create a skew toward bulimic subjects with greater depression and thus these results may not be generalizable to the bulimic population as a whole. Hudson et al. (1983b) found that lifetime rates of major affective disorder were significantly greater for bulimic inpatients compared to bulimic outpatients (93% versus 68%).

Prevalence of Family Member Depressive Disorder

In an initial investigation of the prevalence of affective disorder in the families of bulimics, Hudson et al. (1982) found that 60% of their subjects had a positive family history of depression in at least one first-degree relative. Other studies have indicated that between 34% and 60% of patients with bulimia report having at least one first-degree relative with depression (Biederman et al., 1985; Hudson et al., 1983a; Lee

et al., 1985).

A positive family history of depression has been found to be related to an earlier onset of bulimia (Lee et al., 1985; Wilson & Lindholm, 1987). Bulimic patients with a positive family history of depression were more likely to have been treated for depression themselves (Mitchell, Hatsukami, Pyle, & Eckert, 1986). They were also more likely to endorse reasons for binge eating which are suggestive of depressive symptoms, including unhappiness, inability to sleep, and feeling tense (Mitchell et al., 1986).

Bulimia as Compared to Anorexia With Regard to Depression

Bulimic patients were found to be significantly more depressed, have an increased incidence of depression at some time in their lives, and be more likely to have attempted suicide than anorexic patients (Casper et al., 1980; Garfinkel et al., 1980; Katz et al., 1984; Laessle, Kittle, Fichter, Wittchen, & Pirke, 1987; Schlundt & Johnson, 1990; Walsh et al., 1985). Herzog (1984) assessed the frequency of depressive syndrome and severity of depressive symptoms in a sample of outpatients with anorexia and bulimia using the Schedule for Affective Disorder and Schizophrenia (SADS) and an unstructured interview. Contrary to the above studies, Herzog (1984) found that 56% of the anorexics and 24% of the bulimic patients met DSM III criteria for major depressive disorders using the SADS. In the psychiatric interview, 74% of the anorexics and 49% of the bulimics met DSM III criteria for major depressive episode. However, when the anorexic patients in this study were separated into those who restricted intake (restrictors) and those

with bulimic symptoms (bulimic anorexics), no significant differences were found on any of the measures. It seems that the presence of bulimic symptoms in anorexic patients coincides with an increase in the incidence of depression in that group.

Depressive Symptoms Associated With Bulimia

Literature has documented that depressive symptoms commonly occurring in patients with bulimia include depressed mood, feelings of guilt, sleep disturbances, anxiety, and suicidal thoughts (Hudson & Pope, 1987). Clinical observation indicates that women with bulimia are often unable to express intense painful emotions. To cope with these emotions, the bulimic begins a binge to numb herself from feeling (Brouwers, 1988), to symbolically control the pain.

Pope, Hudson, and Yurgelun-Todd (1989) used the Hamilton Rating Scale for Depression to compare the characteristics of depressive symptoms in subjects with bulimia, subjects in treatment for major depression, and control subjects. No difference was found between bulimic and depressed subjects in the characteristic of their depressive symptoms. Both groups were sharply distinguishable from controls in the degree of depression reported.

Depression and Food

Hinz and Williamson (1987) found that bulimics typically suffer from depressed mood following eating binges which concurs with the required diagnostic criteria of the DSM III-R of depressed mood and self-deprecating thoughts following binge eating. However, depressed mood

is not limited to the time following eating binges (Davis, Freeman, & Solyom, 1985; Fairburn & Cooper, 1982; Herzog, 1982; Johnson, Stuckey, Lewis, & Schwartz, 1982; Lee et al., 1985; Mitchell, Hatsukami, Eckert, & Pyle, 1985). Davis et al. (1985) monitored eating behavior and mood and found that bulimic subjects experienced significant depression in the hour prior to bulimic episodes, which worsened still further in the hour following the binge. Negative moods and mood changes were strong predictors of the initiation of bulimic bouts. Studies have found that subjects were most likely to binge eat when experiencing unpleasant emotions or feelings, particularly anxiety or loneliness, feelings of unhappiness, depression, hostility, frustration, boredom, and hating oneself (Lee et al., 1985; Schlundt & Johnson, 1990). Johnson and Larson (1982) suggested that bingeing is an attempt to reduce tension in those predisposed to depression. However, binge episodes seldom, if ever, provide relief of dysphoric emotions.

Johnson-Sabine, Wood, and Wakeling (1984) believed that dysphoric mood in bulimic people is not primary but is related to the presence of abnormal eating. They observed that dysphoric ratings increased on the days that bulimic subjects engaged in binge/purge behaviors. It seems that investigators may observe the same phenomenon (worsening of depression on binge days) but differ about what they consider primary.

Cognitions

Using the Beck Depression Inventory (BDI), Brouwers (1988) compared women with bulimia to controls to determine whether women

with bulimia could be characterized by specific thought content associated with depression. The three highest scores found for women with bulimia were body image distortion, self-dislike, and self-blame. Self-dislike and self-blame are also features associated with depression.

Schlesier-Carter, Hamilton, O'Neil, Lydiard, and Malcolm (1989) studied the link between bulimic cognitions and depressive cognitions and the extent to which either set of cognitions is dependent on depression. Results suggest that the typically high incidence and level of depression in bulimia is related to depressive cognitive patterns. However, depression is independent of the extreme food and weight related cognitions that characterize bulimia. Bulimics differed from controls on measures of cognitive patterns hypothesized to be central to the psychopathology of eating disorders including dysfunctional thoughts regarding weight gain, guilt, and self-deprecating attributions centered on feeling out of control (Schlesier-Stropp, 1984). These differences were not related to level of depression. The significant differences between bulimics and controls on these cognitive measures disappeared when the level of depression was controlled statistically. This suggests that maladaptive cognitions reflect a distinct disorder, bulimia, with a distinct pattern of thought process. The differentiation is the specificity of the depressive thought content. Generally, the content is self-denigrating; specifically, it is about food and weight issues. This combination leads to the distinct pathology.

Depression and Severity of Bulimia

Goebel, Spalthoff, Schulze, and Florin (1989) used the BDI, Dysfunctional Attitudes Scale, Attributional Style Questionnaire, and the Eating Disorders Questionnaire to examine differences between a control group of women and women with bulimia. The findings showed that dysfunctional thoughts were particularly pronounced in bulimic women. These were composed of negative views of one's self, one's experiences, and one's future. This study was not able to show a correlation between the dysfunctional thoughts and the severity of the bulimic syndrome. It was not possible to predict the severity of the eating abnormality on the basis of the bulimic women's dysfunctional thoughts.

However, Williamson et al. (1987) examined groups of bulimics differentiated according to high and low purgers using the BDI and the MMPI. Both bulimic groups differed significantly from normals on the BDI and the Depression scale of the MMPI but did not differ from one another. This suggests that depression is a problem very common among bulimics, regardless of the severity of the eating disorder behavior. A positive correlation was found between the measures of depression and purging frequency. These researchers surmised that as purging increases depression intensifies. This concurs with findings by Lee et al. (1985) that high frequency bingers reported more depressive symptomology than less frequent bingers. These findings reinforce the reports of others that depression is the single most common type of noneating disorder psychopathology associated with bulimia (Hudson et

al., 1982; Katzman & Wolchik, 1984; Williamson, Kelley, Davis, Ruggiero, & Blouin, 1985).

Family Characteristics

Family Systems Theory

One approach to the problem of eating disorder has been proposed by the family systems theorists who have offered formulations that relate family structure to the syndrome. From this perspective the patient's symptoms can be thought of as being evoked, supported, and reinforced by certain transactions in the family system, and as playing a part in the family's entire psychological economy (Yager, 1982). These family systems formulations do not leave much room for considering the intrapsychic capacities and vulnerabilities of the individual child.

Yager's (1982) preliminary studies of a group of more than 30 bulimic and restrictor anorexic patients, revealed great diversity within both groups with regard to how they view their families. Each person within a family experiences a very different family environment. Still, family theorists believe the examination of whole families by standardized means is necessary because of their view of family member's interactions as being part of one unit. It is not this researcher's intent to ignore individual experience by examining systems theorist's views, but only to offer a broad range of perspectives for examining the highly complex eating disorders.

Views vary widely about the role of the family in the pathogenesis of eating disorders. Support for examining family relationships is derived

from Bruch's (1981) developmental model, which suggests that early deficits in autonomy due to specific parental attitudes may account for the battle for control which typifies women with eating disorders. Other researchers hypothesize that the attitudes and characteristics of the parents and the type of relationship that the child has with the parents play an important role in precipitating or perpetuating eating disorders (Kent & Clopton, 1988).

Families of People With Bulimia

Disturbances in the family environment appear to be somewhat distinct for the subtypes of anorexia and bulimia. Studies of relationships in families of bulimic patients appear to indicate patterns of a chaotic type of disturbance. Bulimic women perceive their families as less cohesive, less encouraging of independent behavior, less expressive, and less oriented toward recreational pursuits than is the case in families in which there is no eating-disordered person (Blouin, Zuro, & Blouin, 1990; Ordman & Kirshenbaum, 1986). Other studies have found that bulimics perceive their families to be more oriented toward achievement and more controlling with higher levels of negative and conflicted relationships than do women with no eating disorder (Blouin et al., 1990; Johnson & Flach, 1985). In comparison to families of restrictor anorexic patients, families of normal weight bulimics are reported to exhibit greater hostility, conflict, isolation, and disorganization, with less nurturance, support, and understanding (Garner, Garfinkel, & O'Shaugnessey, 1985; Pole, Waller, Stewart, & Parker-Feigenbaum, 1988). This profile of family functioning reported by bulimic women

appears to be one in which the members of the family place a high premium on achievement, providing neither closeness and freedom of expression, nor permitting self-direction and independence. Such a profile is very similar to that described as typical of distressed families having at least one family member requiring psychiatric treatment (Blouin et al., 1990).

Because up to 70% of bulimics are reported to suffer from major affective disorder (Blouin, McAffer, Blouin, & Perez, 1986; Hudson et al., 1983b; Walsh et al., 1985), it is unclear whether the reported family distress is associated directly with the development of bulimia or perhaps secondary to the known relationship between affective disorder and abnormal family functioning (Miller, Kabacoff, Keitner, Epstein, & Bishop, 1986). Stuart, Laraia, Ballenger, and Lydiard (1990) compared family dynamics in families of women with bulimia, women with depression, and a control group of women. They found that bulimics perceived their mothers to be less emotionally warm and more rejecting as compared with the normal controls. They felt emotionally distanced from their mothers and overcontrolled by their fathers. Women with bulimia described a family characterized by problems, tension, threats, and physical coercion. Both bulimics and depressives experienced significant levels of childhood separation anxiety, although they did not experience more actual losses or separations than did the control group. The profile of a bulimic person in this study was one of a child in a conflictual family environment that is not demonstrably supportive or self-enhancing and who expresses her anxiety and unhappiness in a range of maladaptive behaviors.

In comparison, the depressives also perceived both their mothers and their fathers to be more rejecting than the normal controls, but it was their fathers who were thought to be less warm emotionally. The profile for women with depression in this study was found to be one of a child growing up in a family with fewer interpersonal resources and more chronic physical illness, who cognitively perceives her world as minimally reinforcing and interactive (Stuart et al., 1990).

Another study by Blouin et al. (1990) examined differences between family environment factors for bulimics with a history of major depression, bulimics lacking a history of depression, and normal controls. Discriminate function analysis revealed no differences between the depressed and nondepressed bulimic groups with respect to the severity and frequency of bulimic symptoms. This is consistent with findings of Mitchell et al. (1986). The previously described family profile has been found to be evident only in the depressed bulimic group (Blouin et al., 1990; Wonderlich & Swift, 1990). These researchers found that only eating disordered subjects with high scores on the dysthymia scale of the Millon Clinical Multiaxial Inventory differed from control subjects on ratings of their relationship with their parents (Wonderlich & Swift, 1990). The nondepressed eating disorder subjects could not be differentiated from the control group by their perceptions of their family environment. The family distress typically reported in studies of family environment in bulimics appears to be associated more closely with depressive symptoms than with bulimic symptoms. One interpretation of this is that eating disorder subjects with a history of hostile parental relationships may be particularly prone to develop depressive mood

states. This is consistent with family theories of depressives and eating disorders that highlight the transmission of depressogenic communication in an eating disordered person's family (Root, Fallon, & Friedrich, 1986).

Compared to studies of the depressed individuals' perceptions of their family environment, the only family characteristic revealed in the Blouin et al. (1990) study that may be unique to the bulimic group was the perceived greater emphasis on achievement within the family. Perhaps the family's promotion of excessive expectations for achievement in their daughters is expressed by these young women through desperate attempts to control their body size or shape.

One methodological consideration when examining this research lies with the population often studied. The preponderance of studies focusing on families with a bulimic daughter in treatment prevents a clear interpretation of family patterns of interaction which may be altered by the admission of the daughter into treatment (Kent & Clopton, 1988). Also, researchers often have based their studies on bulimics who are in treatment for their eating disorder, but those bulimics may be atypical of the population of people with bulimia. In support of this, Johnson et al. (1982) found that over 50% of the bulimics they identified from the general population had never sought treatment for their eating problems, even though 50% of them were bingeing at least daily and 60% of them were vomiting at least daily.

Kent and Clopton (1988) studied differences in psychological adjustment and familial dynamics among individuals who exhibit differing levels of bulimic symptoms using a nonclinical sample. Despite the

self-report of increased psychological distress, nonclinical bulimics did not differ from controls in their description of family dynamics. This research suggests that the interaction pattern seen in bulimics and their families may be a reflection of their clinical status, instead of an indication of a preexisting family pattern. Perhaps it is the case that the actual family functioning of these groups cannot be differentiated from the bulimic's perception of family functioning, which, in turn, may be influenced by higher levels of depression.

Families of People With Anorexia

System theory's concepts regarding families in which there is a person with anorexia have been especially espoused by Minuchin, Rosman, and Baker (1978). These researchers have identified a group of family systems' characteristics that they believe typify the families of patients with anorexia, where pathological family interactions appear to evoke and sustain the child's symptoms. One characteristic, enmeshment, is likely to result in family members developing poorly differentiated perceptions of one another and of themselves. Other characteristics include overprotectiveness by both parents and children, rigidity expressed as a need to maintain appearances and conventional social rules, a tendency to avoid overt conflict within the family, and a hyper-appearance consciousness (Madanes, 1981; Minuchin et al., 1978; Saba, Barrett, & Schwartz, 1983; Schwartz, 1982; Wonderlich & Swift, 1990). Family members exhibit an aversion to disorder (Sours, 1980). These transactional family patterns encourage somatization because they encourage repression of affect, discourage verbalization, and prevent

affective discharge (Sours, 1980).

Empirical studies have generally upheld theoretical predictions that families, in which there is a person with anorexia, display evidence of boundary pathology and parent-child enmeshment patterns (Goldstein, 1981; Kog & Vandereycken, 1989). Often the parental couple, with its own pathology, sabotages the basic needs of the anorexic person's ego, especially the feeling that she is unique, capable, and worthy of respect (Palazzoli, 1978). Sours (1980) described the father of the restrictor anorexic as passive, frightened, and distant from the family.

Comparing families of bulimics with families of restrictor anorexics, Johnson and Connors (1987) suggested that in contrast to the underinvolvement of the parents of bulimics, the parents of anorexic persons are perceived by the anorexic as overinvolved. Humphrey (1986a) further theorized that members of families of bulimics also experience more pervasive deficits in nurturance than the members of families of restrictor anorexics.

The prognosis for the eating disorder patient appears to be related to the initial level of psychoneurotic status of the parents. A high level of morbidity in parents, particularly in respect to depression, was associated with poor outcome of the child's anorexia 6 months later (Crisp, Harding, & McGuinness, 1974).

Family Dynamics of People With Eating Disorders

Psychological Environment

In families of people with eating disorders, little attention is paid to the child's expression of needs, wants, and feelings. Absence of regular and consistently appropriate responses to the infant's needs, particularly to the need for food, deprives the developing child of the essential groundwork for body identity, with accurate perceptual and conceptual awareness of her own function. Instead, the child will grow up confused about differences between disturbances in her biological experiences and her emotional and interpersonal experience (Bruch, 1985).

During infancy, the mother, in families where eating disorders occur, derives no pleasure from nursing the child. The ritual aspect of feeding takes precedence over the emotional relationship with the child. Control prevails over tenderness and joy. Parental stimulation serves to stifle any of the child's own initiatives. During childhood and the latency period, an insensitive parent constantly interferes, criticizes, suggests, takes over vital experiences, and prevents the child from developing feelings of her own (Palazzoli, 1978).

Humphrey (1990) proposed that members of families in which there is a person with an eating disorder have experienced certain failures in the early parental holding environment. Winnicott's (1965) metaphor of the holding environment refers to the total empathic care that the "good-enough mother" gives the infant during the first years of life. The failures in the holding environment occur across generations

leading to development of adaptations that result in the use of primitive defenses that require others to complete the sense of self. The holding environment of children in families where eating disorders occur seems to fail the child in nurturance, soothing and tension regulation, and empathy and affirmation of separate identities. The parents and children are starving for nurturance and genuine unconditional affection for one another. This deficit is compounded by an inadequate capacity to tolerate and regulate tension and negative affective states (Humphrey, 1990). Family members are unable to modulate frustration and anxiety. The demands of the holding environment to empathize with each member's needs to separate and individuate are experienced as dangerous threats to the stability of the family system.

Projective identification plays an important role in the intrapersonal and interpersonal dynamics of members of these families (Humphrey, 1990). Parents project the unwanted parts of themselves into the child. They perceive their daughter as greedy, demanding, incompetent, selfish, weak, dishonest, lazy, promiscuous, and so on. The daughter accepts or identifies with these projections because she fears abandonment or rejection. She is needed to fulfill a critical function for one or both parents.

Parents of children with anorexia have been described as controlling and experience-denying, using the child to defend against their own sense of inadequacy (Hsu, 1990). Mothers are experts at coercing others into submissive compliance, by making them feel guilty about their effect on her. This type of mothering favors the development of a false self on a compliance basis. It forces a surrender of autonomy and

the suppression of tendencies toward separation and differentiation (Sacksteder, 1989).

Anorexia as Compared to Bulimia

Humphrey (1990) suggested differences between the members of the family of the anorexic and the members of the family of the bulimic in the adaptations to the deficits described above. For a person with anorexia, nurturance can be lavished so long as she remains totally dependent and child-like. In families of a person with bulimia there is more likely to be a generalized experience of insatiable hunger for affection. Attempts to regulate tension and dysphoric affect within the family are also different between these two types of families. The members of the anorexic's family are quite constricted, superficial and denying, just as she is herself. The members of the bulimic's family are more chaotic, hostile, and understructured. The bulimic's mother may fluctuate between intense neediness and being overwhelmed on one hand, and cold, embittered, and withholding on the other.

Members of each type of family respond differently to separation attempts. The anorexic child's emerging self is weakened by invalidating and rejecting responses to separation. A bulimic child experiences more pervasive criticism, rejection, and self-preoccupation (Humphrey, 1990).

Mothers of children with bulimic anorexia tend not to be the seeker of absolute perfection found so often in the restrictor anorexics. These mothers, so often depressed throughout their daughter's childhood, are sometimes conspicuously nonachievers (Sours, 1980).

Intrapersonal Dynamics

Introduction

An eating disorder is not a disturbance of the eating function. The deeper psychological disorder is related to underlying disturbances in the development of the personality, with deficits in the sense of self, identity, and autonomy. Underneath the self-assertive facade of the eating disordered behavior, a person with anorexia or bulimia experiences herself as acting only in response to demands coming from others and not doing anything because she wants to (Bruch, 1981). Deficient in self-regulatory structure, she feels helpless, ineffective, overwhelmed, unreal, and empty without external support (Goodsitt, 1985). The displayed defiance is not an expression of strength and independence, but a defense against the feeling of not having a core personality of her own, of being powerless and ineffective if she gives in (Bruch, 1985).

Anorexia

Unaware of and unable to express what she wants, lacking an identity, the anorexic changes to suit others' high expectations of her while remaining isolated, self-absorbed, anxious, and unhappy (Cauwels, 1983). In her desperation she seizes upon her body to exercise some control over herself and others' reactions to her.

Perceptions of bodily and emotional sensations are often inaccurate. She does not trust herself to identify her own needs and feelings accurately. She fails to experience her body as her own, and looks upon it as something extraneous, separate from her psychological self, or as

being the possession of her parents (Cauwels, 1983).

The defenses against enmeshment and criticism are denial, negativism, and the pursuit of perfection. The strategy against intrusion is countercontrol (Sours, 1980). Obsessive perfection becomes the defense against parental criticism, entrapment, and enmeshment.

A person with anorexia who has lost the ability to experience her power in affective interpersonal relationships seeks to express it in an intrapersonal relationship with and a fight against her own body. The body of the anorexic is the bad object (Palazzoli, 1978).

At infancy there is an incorporation and repression of the bad aspects of her self, her bodily needs, because of the helplessness experienced by the infant. Her own needs are ignored while a controlled and a ritualized relationship with her mother takes precedence. During childhood and the latency period the child develops a lifestyle of passive surrender (Palazzoli, 1978). The child identifies with and internalizes the mother.

These pathogenic interpersonal experiences give rise to a paralyzing sense of ineffectiveness pervading every thought and activity. When she enters adolescence she is faced with what to her is an unbearable traumatic situation, the difficult problem of establishing new interpersonal relationships. Her body undergoes rapid changes. She must discover a new somatic self. She is no longer able to identify herself with her mother. All these problems push her fragile personality into a state of depression. She fears that her ego cannot measure up to so many new tasks. This reactivates the overwhelming sense of helplessness experienced as an infant (Palazzoli, 1978).

Separation from her internalized maternal object is impeded by the permanent increase of that object. Because of the development of her breasts and other feminine curves, she experiences her body as the maternal object from which the ego wishes to separate itself at all costs. During this transition the ego organizes a desperate defense system by splitting itself into two parts in the hopes of averting a psychic catastrophe--a state of depression (Palazzoli, 1978). The bad incorporated object is split off. She is afraid of her body and experiences food intake as an increase of the body at the expense of her ego. In order to ward off the body as the bad object, she attempts to keep it separate from the self. She projects the unacceptable parts of her own personality into her own body making it imperative that she impose controls. The ego dis-identifies itself from the real mother and identifies with an idealized object which is a desexualized, powerful image (Palazzoli, 1978). In this light anorexia can be seen as a safeguard against depression.

Bulimia

The person who binges and purges reflects the more chaotic, ambivalent style of her early experiences. Dependent conflicts can be expressed via the bingeing, while hostile repudiation and an attempt to maintain autonomy can be expressed through purging (Sugarman, 1991). The binges reveal the need for nurturance and connection with the self-object; the purges express the need for self-definition and separation for the self-object (Sands, 1991). The self-object is an ambivalent connection with an internalized significant other. Its function is necessary for the maintenance of self-experience (Strober, 1991). Binging

goes against the need to control the bad object and purging is a way to expel the bad internalized object. Alternating between bingeing and purging may serve to maintain the self-other boundary. An emphasis on the ideal body self and the bulimic's struggles to attain it can help her to avoid the more profound sense of despair and inadequacy associated with her distorted idealization of her mother (Sugarman, 1991).

It seems likely then that those who binge and purge, without the powerful control of the anorexic that sustains the split between the bad object and the good self, will more often experience the depression that the anorexic's control defends against.

Sociocultural Issues

Introduction

Culture creates, shapes, and influences psychopathology of all kinds (Cauwels, 1983). The influences of social phenomena need to be considered as part of the etiology of eating disorders. But social pressures are an intensifier not a cause (Cauwels, 1983).

Bruch (1978), observing that eating disorders had increased markedly over the past 15 to 20 years, stated that the spread must be attributed to psychosociological factors such as the emphasis that society places on slimness. Eating disorders are almost exclusively a woman's condition. The fear of obesity, the obsession with food, the hidden and furtive eating, and the interest in feeding others suggests that this behavior has origins in the social conditions of women in our society (Orbach, 1978). The obsession of the Western World with slimness, the

condemnation of any degree of overweight as undesirable and ugly, may well be considered a distorting of the body concept, which dominates present day society (Orbach, 1978). This disordered eating is a reflection of a culture that praises thinness and fragility in women. This link between social status and slimness is both real and imagined. It is real because obese people are discriminated against. It is imaginary because the thin delicate ideal image of femininity tends to increase a woman's sense of ineffectiveness.

Women are more at risk if they are white, middle or upper middle class, and come from high achieving families (Bruch, 1973). Little is reported in the literature about the prevalence of eating disorders among different races. One study of 275 people with bulimia found more than 99% to be Caucasian. Two women were American Indian (Mitchell et al., 1985).

Physical Changes

It appears that puberty and adolescence are critical times for the developing preoccupation with body weight. Important factors include the adolescent growth spurt, the normal tendency to gain weight, and the significant increase in body fat relative to overall weight associated with pubertal development in girls (Wooley & Wooley, 1982). This weight gain and the experience of the body as getting fatter seem to coincide with the psychological disturbance in body image and the tendency toward attempts at weight reduction in affluent countries where thinness is highly valued. The extensive biological changes render perceptions of the body highly salient in the adolescent's overall self-

perceptions. Coming to terms with the vital adolescent question "Who am I?" involves forming a new body image and integrating the new physical self into one's self-concept.

Studies of the relationship between depressive symptomology and body image in early adolescent girls found that girls reporting moderate to severe depression were less satisfied with their bodies and viewed their bodies as less attractive and familiar than girls experiencing no symptoms of depression (Reirdan, Koff, & Stubbs, 1988; Taylor & Cooper, 1986).

Psychological Changes

In addition to the concrete physical changes that adolescents undergo, adolescence is clearly an era filled with challenges of both an intrapersonal and an interpersonal nature.

In response to feeling insecure and in an effort to avoid negative evaluation by others, the adolescent girl becomes increasingly sensitive to and compliant with societal demands and sex-role appropriate standards. Given that attractive--thin--females are rewarded in the interpersonal and especially the heterosexual domain, the wish to be popular and the pursuit of thinness may become synonymous in the mind of the teenage girl (Striegel-Moore, Silberstein, & Rodin, 1986). Her major means of gaining approval is that of owning an attractively thin body (Cauwels, 1983).

The adolescent shift from internal to external standards is an important issue. As the emphasis on meeting rigid and extreme external standards increases, a very serious diminution in awareness of and a

lack of attention to one's own inner experience may occur (Surrey, 1991). The loss of the inner voices, of the awareness of one's own needs, desires, or interests in the effort to respond to external expectations is a crucial issue in understanding basic aspects of women's psychological development. The emphasis on meeting culturally defined standards may be a factor in the critical loss of a basic sense of self. Being "good" means staying on a diet, and being "bad" means violating the diet. Self-esteem becomes bound up in controlling one's own appetites, instincts, and needs. Effectiveness becomes the ability to control one's self rather than to express one's self. The lack of the ability to feel connected to one's self is an important issue in understanding problem eating patterns as well as the vulnerability to depression (Surrey, 1991).

Women's Development Versus Cultural Expectations

In the view of women's development as discussed above the whole arena for the development of a healthy awareness and expression of one's own needs becomes diminished and dissociated leading to unrealistic and confusing self-images and an inability to express one's own needs openly and clearly. This suggests that disturbances in eating patterns represent a vulnerable arena for the expression of psychological conflicts as well as the actual cause of emotional and physical problems (Surrey, 1991).

Women's development has been defined as relational with the goal of development being relationship-differentiation (Gilligan, 1982). In this model other aspects of development (competency, initiative,

industry, and so forth) progress within the context of relationships. Females, more than males, maintain a closer, more comfortable level of relationships, especially with their mothers, throughout childhood.

The basic healthy expression of the need for this connection is met with conflicts and obstacles as girls grow into adolescence and adulthood in this culture. If the culture is not in resonance with fundamental self-structures, attempts at adaptation will be disturbed and conflictual (Surrey, 1991). Disturbances in eating patterns may reflect critical aspects of discontinuity for women between early childhood self-development and the demands and values of the current cultural milieu through the years of adolescence.

One inconsistency is the discrepancy between the preadolescent mother-daughter relationship and the postpubertal mother-daughter relationship (Surrey, 1991). Mothers often become active in young girls' attempts to meet rigid standards of cultural attractiveness. The result is conflict, mutual blaming, and severe relational discord. Psychologically, the internalized mother-daughter relationship is disrupted and food becomes an important arena for acting out this disruption. Eating disturbance becomes an attempt to reinstate the sense of connection in the mother-daughter relationship.

Psychological Concern About Weight

The young adult years are a critical period for researching the physical and psychological development of young women in today's cultural context. A pilot survey of eating patterns at Wellesley College conducted in the spring of 1982 found a significant level of concern

about weight issues (Surrey, 1991). Seventy-two percent of female students surveyed expressed moderate to extreme concern about reaching ideal body weight. Thirty-six percent were extremely concerned about their eating patterns. Results from a questionnaire suggested that the average student is within 5 to 10 pounds of ideal weight and eating patterns are generally within normal limits. There appears to be an exaggerated level of psychological concern.

The overall level of concern and preoccupation with eating is striking. More than 25% of the Wellesley students indicated that their present weight negatively affected their self-image to a large degree. One-third of the students said that they were always or almost always preoccupied with controlling their eating and more than half expressed the wish that they could get help in changing their eating patterns.

A Nielson (1978) survey in 1978 showed that 56% of all American women aged 25-54 were dieting. Self-report studies indicate that between 50% and 75% of American women consider themselves to be overweight (Nielson, 1978). If 50% to 75% of American women are living with day-to-day worry about weight control, this must be considered a norm. Individuals have been made to feel personally inadequate for failing to achieve ideal weight. They have been judged and have judged themselves as weak-willed, passive, and self-destructive. Those concerned with understanding the psychological development of women in this society must give serious attention to the implications of such a widespread phenomena. It is important to validate and explore the importance of eating habits with all clients, even those not presenting with a serious eating disorder.

Conclusion

A model of development which considers early life experiences, the patterns of relational style and the resulting meanings made of those experiences by the eating disordered person may be most appropriate for explaining factors that lead to depression and an eating disorder occurring in the same individual. Consideration of these factors may clarify an understanding of the interdependence of depression and eating disorders as they occur in the same individual. The manifestation of a depression and the subsequent attempts to control that depression through the manipulation of food and bodily processes may be best understood psychodynamically. The experiences of early relationships with significant others create an intrapersonal struggle that becomes pathogenic during the demands of the separation and individuation of the adolescent life stage.

From this review of the literature it appears that the etiology of an eating disorder needs to be understood idiosyncratically. Many factors combine in many ways to create a heterogeneous picture of a very complex disorder.

CHAPTER III

DESIGN

Introduction

This study examined a sample at high risk for the development of eating disorders on measures of depression and disordered eating behaviors. The purpose of this study was to compare the level of depression and the prevalence of depression in a group of subclinical eating disordered women to the level and prevalence of depression in a control group of women and to a suspected eating disorder group of women.

Sample

The sample for this study was volunteer female undergraduate college students between the ages of 18 and 23 enrolled in psychology courses at the following Michigan colleges: Jackson Community College, Jackson; Albion College, Albion; Hillsdale College, Hillsdale; Spring Arbor College, Spring Arbor; and Central Michigan University, Mt. Pleasant. The age range for participants was selected because the age of onset of eating disorders commonly falls within this age group. Classes were selected for surveying on the basis of instructors' willingness to allow access to students. A total of 211 female participants were surveyed. In all schools, except Hillsdale College, students were asked to participate during a class in which they were enrolled. At Hillsdale College, students signed up on a sign up sheet posted in the

psychology department and met at a prearranged time and place to complete the necessary forms. In all but the Central Michigan University class, forms were administered by this researcher. At Central Michigan University, the faculty member teaching the class administered the forms.

The plan for this study was approved by the Human Subjects Institutional Review Board at Western Michigan University. See Appendix A for letter of approval.

Instrumentation

Introduction

The three instruments chosen for this study were the Biographical Questionnaire, designed by the researcher; the Beck Depression Inventory (BDI) (Beck et al., 1961) and the Eating Assessment Rating Scale (EARS) (Williamson, 1990).

Biographical Questionnaire

The Biographical Questionnaire asked for information in the following categories: (a) demographic information including socioeconomic status, current living situation, and family background; (b) height and weight and current weight satisfaction; (c) regular exercise habits; and (d) self-reported eating problems including type of problem, degree of distress, and knowledge and utilization of treatment facilities. See Appendix B for a copy of the Biographical Questionnaire.

Beck Depression Inventory

The Beck Depression Inventory (BDI) (Beck et al., 1961) is a widely utilized and extensively researched instrument (Knight, 1984; Reynolds & Gould, 1981). The short form of the BDI was employed in this research. It is a 13-item self-report inventory that inquires about a wide spectrum of heterogeneous symptoms associated with depression (Beck et al., 1961). Scores on the BDI range from zero to 39, with categories of depression severity defined as follows: zero to 4, no or minimal depression; 5 to 7, mild depression; 8 to 15, moderate depression; 16 or greater, severe depression.

The internal consistency (alpha) reliability coefficient for the short form of the BDI is .86 (Beck & Steer, 1984). The BDI short form correlated .93 with the standard form of the BDI (Reynolds & Gould, 1981). Significant correlations were obtained between the BDI and the Zung Self-Rating Depression Scale (.58) and the BDI and the UCLA Loneliness Scale (.42) (Reynolds & Gould, 1981). Beck (1970) reported a correlation of .66 between the BDI and the Depression Adjectives Check List (DACL) and a correlation of .75 between the BDI and the MMPI Depression scale. As these correlations suggest, the BDI is a valid and reliable measure of depression.

Eating Assessment Rating Scale

The Eating Assessment Rating Scale (EARS) was developed by Williamson (1990) as a rating scale for the Interview for Diagnosis of Eating Disorders (IDED). The IDED was developed to gather

systematically information from clinical interviews for diagnosis of anorexia nervosa, bulimia nervosa, compulsive overeating, and obesity (Williamson, 1990). The rating scale was suggested for use by the clinician after a clinical interview to assist in diagnosis according to the Diagnostic and Statistical Manual III-Revised (DSM III-R) (APA, 1987) criteria for eating disorders. The EARS was modified by the researcher for the purpose of this study. The rating scale modification permitted the EARS to be used by participants for self-rating purposes. The statements were reworded using the first person pronoun. For example, if a statement read "Feeling of loss of control during binge eating," it was reworded to state "I feel a loss of control during binge eating"; or "Frequency of binge eating," it was reworded to state "The frequency of my binge eating episodes are." The modified rating scale also excluded questions specific to compulsive overeating and obesity. (See Appendix C for Williamson's permission to use this scale and his acknowledgment of modifications.)

The EARS consists of two sections. Section I contains three questions focused on the criteria for diagnosis of anorexia nervosa as outlined in the DSM III-R. Section II contains 10 questions focused on the criteria for diagnosis of bulimia nervosa as outlined in the DSM III-R. All questions are answered using a rating scale from 1 to 7 with 1 being the least severe response signifying no problem and 7 being the most severe response. (See Appendix D for a copy of the EARS as modified by the researcher.)

Method

Data Collection

The Instruction and Information Sheet was read by the researcher or the class instructor to the group of potential participants requesting female volunteers for this study between the ages of 18 and 23. (See Appendix E for a copy of the Instruction and Information Sheet.) Potential participants were given a copy of the Instruction and Information Sheet if they chose to participate in this study. The Instruction and Information Sheet also contained the identifying number for each participant's set of responses. Participants were advised that participation in the research was completely voluntary and their responses will be kept anonymous. Only the identifying number on their set of forms could identify their responses. This number could be used by the participant to request her scores from the researcher. The participants were made aware of the name and telephone number of a counselor at their college who would be available to help them if they should become aware of any concerns as a result of participation in this study. This information is included on the Instruction and Information Sheet that participants received. The participants were instructed to complete the BDI and EARS before reading the Biographical Questionnaire. The Biographical Questionnaire was placed in a separate envelope to facilitate completion of the instruments in the required order.

Access to participant's data was strictly limited to the researcher's use for analyses as described for this study and to the possible sharing of a participant's results with her if she chose to do so. The

data will be destroyed upon completion of this project.

Two separate methods were used to place each participant into one of three groups. The first method was based on groups derived by examining individual EARS scores in the following manner. Participants were placed in the suspected eating disorder group (SUS ED) if they scored (a) 5 or above on all three questions in Section I of the EARS and were also at least 15% below recommended standard body weight for height based on 1993 American Dietetic Association Tables according to the information on the Biographical Questionnaire or (b) 5 or above on more than 5 of the 10 questions in Section II of the EARS.

Participants were placed in the subclinical eating disorder group (SUB ED) if they scored a 3 or 4 on Questions 1 and 2 in Section I of the EARS or a 3 or 4 on more than 5 of the 10 questions in Section II of the EARS.

Participants were placed in the control group (CG) if they scored a 1 or 2 on the three questions in Section I of the EARS or a 1 or 2 on more than 5 of the 10 questions in Section II of the EARS.

A second method used to place each participant into one of the three groups was based on mean scores computed from total scores on the EARS. Participants whose mean EARS score was 4.5 or above were placed in the SUS ED group. Participants whose mean EARS score was between 2.5 and 4.4 were placed in the SUB ED group, and participants whose mean EARS score was below 2.4 were placed in the CG.

Data Analyses

Two separate but identical groups of analyses were completed. The difference between the analyses was how the three subject groups were derived. One set of analyses was done on the three groups derived by examining individual question scores from the EARS as described above. The other set of analyses was completed using the three subject groups derived using the mean EARS score method as described above.

The first analysis was relevant to the first hypothesis which states that there will be a significant difference between the level of depression in the SUS ED group of women, the SUB ED group of women, and the CG group of women. Mean Beck Depression Inventory scores were obtained for each of the three subject groups derived by the method of examining individual question scores from the EARS. These group means were analyzed using a one-way analysis of variance (ANOVA). The EARS scores were the independent variable with depression as measured by the BDI as the dependent variable. The null hypothesis is that there will be no significant difference in the level of depression between the SUS ED group, the SUB ED group, and the CG group.

The ANOVA results in an F test which compares the between-group variance to the within-group variance. It is a simple composite test to compare all sample means simultaneously to test for statistical significance existing somewhere in the comparisons. The ANOVA tests the general null hypothesis that the means of all groups sampled come from populations with equal mean depression scores and differ only

because of sampling error. If the null hypothesis is rejected, at least one contrast exists that is significant. A $p = .05$ significance level was chosen for purposes of this study because it is widely accepted. Since the F ratio was significant, independent t tests were performed between all group means.

Mean Beck Depression Inventory scores were also obtained for each of the three subject groups derived using the mean EARS score method as described above. The same analysis was completed on these groups as was described above using the ANOVA and independent t tests to determine significant difference between groups.

A second statistical analysis was relevant to the second hypothesis which states that the prevalence of depression will be significantly different between the control group of women and both the suspected eating disorder and the subclinical eating disorder groups of women. A chi-square analysis was used to examine the difference in the proportion of those with at least a mild depression, a score of 5 or above on the BDI, between the groups derived by examining individual question scores on the EARS. This analysis was used to determine whether the observed proportions within each group of those with at least a score of 5 on the BDI versus those with a score of 4 or less on the BDI differed significantly between groups from expected proportions or if differences were due to chance alone. This same chi-square analysis was completed on the groups derived by using the mean EARS score method. The null hypothesis is that there will be no significant difference in the prevalence of depression between the SUS ED group, the SUB ED group, and the CG group.

The third analysis was relevant to the third hypothesis which states that the anorexic-like subgroup of the Subclinical Eating Disorder group of women will have a significantly lower level of depression than the subgroup of women with bulimic-like symptoms from that same subclinical eating disorder group of women. This analysis examined the SUB ED group by dividing it into two groups. SUB ED Group B were those women who reported a 3 or above on questions related to bulimic-like behaviors, such as bingeing and purging, on the EARS. These questions were Numbers 1, 2, 3, 4, and 9 from Section II of the EARS. SUB ED Group A were those who qualified for the SUB ED group by reporting anorexic-like symptoms, without the binge or purge related symptoms, on the EARS. Mean Beck Depression Inventory scores were computed independently for these two groups. A t test was used to test for statistical significance between these two group means. The null hypothesis is that there will be no significant difference in the level of depression between the anorexic-like subgroup of the SUB ED group and the bulimic-like subgroup of the same group.

CHAPTER IV

FINDINGS

Sample Description

Quantitative Data

Participants in this study were placed in one of three groups based on severity of eating disordered symptoms as measured by the Eating Assessment Rating Scale (EARS) (Williamson, 1990). Statistical analyses compared the Beck Depression Inventory (BDI) (Beck et al., 1961) scores to determine if statistically significant differences existed between groups on the level of depression and the prevalence of at least a mild depression.

Groups were determined using both the mean EARS scores method and the method whereby individual question scores from the EARS were examined as described in Chapter III. Groups were essentially the same using either method. Descriptive information provided in this chapter is based on the mean EARS score method.

The number of participants from each school as well as the number of participants in each group are described in Table 1. Group 1 CG, the control group, consists of those participants whose average score on the EARS was less than 2.4. Group 2 SUB ED, the subclinical eating disorder group, consists of those participants whose average EARS score was between 2.5 and 4.4. And Group 3 SUS ED, the

suspected eating disorder group, consists of those participants whose average EARS score was above 4.5. Weight was not a factor as none of the participants in the SUS ED group reported weight more than 15% below recommended standard body weight for height.

Table 1
Total Participants and Percentage of Participants
From Each School and in Each Group

	Total	Group 1 CG		Group 2 SUB ED		Group 3 SUS ED	
		<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
Albion College	53	21	39.6	26	49.1	6	11.3
Central Michigan University	55	20	36.4	25	45.4	10	18.2
Hillsdale College	52	18	34.6	28	53.9	6	11.5
Jackson Community College	7	4	57.1	2	28.6	1	14.3
Spring Arbor College	44	21	47.7	17	38.6	6	13.7
Total	211	84	39.8	98	46.5	29	13.7

Biographical Questionnaire Data

Each group by mean age and grade point average (GPA) is described in Table 2. Age ranged from 18 to 23 years, the specified criterion for participation in this research. The mean age for the entire sample was 19.7. The mean age for women in Group 1, CG, was 19.3. For women in Group 2, SUB ED, the mean age was 20.3; and for those

Table 2
Mean Age and GPA of Participants in Each Group

Group	Mean Age	GPA
Group 1 CG	19.3	3.10
Group 2 SUB ED	20.3	3.06
Group 3 SUS ED	19.6	2.93
Total	19.7	3.03

in Group 3, SUS ED, mean age was 19.6.

The percentage of participants in each group whose parents were married, divorced, or deceased is indicated in Table 3.

Table 3
Parental Marital Status

Group	Married	Divorced	Deceased
Group 1 CG	80.0%	14.3%	5.7%
Group 2 SUB ED	75.5%	17.6%	6.9%
Group 3 SUS ED	73.9%	26.1%	0.0%
Total	76.5%	19.3%	4.2%

The percentage of participants in each group according to race is depicted in Table 4.

Table 4
Race of Participants

Group	White	Black	Other
Group 1 CG	89.5%	6.0%	4.5%
Group 2 SUB ED	95.6%	2.2%	2.2%
Group 3 SUS ED	100.0%	0.0%	0.0%
Total	95.0%	2.7%	2.3%

The percentage of participants in each group whose parents earned an annual income of less than \$10,000, between \$10,000 and \$29,000, between \$30,000 and \$49,000, and over \$50,000 is indicated in Table 5.

Table 5
Parents' Annual Income in Thousands of Dollars

Group	<10	10-29	30-49	>50
Group 1 CG	7.4%	14.7%	25.0%	52.9%
Group 2 SUB ED	3.1%	8.2%	33.7%	55.1%
Group 3 SUS ED	0.0%	34.8%	13.0%	52.2%

The percentage of participants in each group according to participant's report of how often she weighs herself is indicated in Table 6.

The percentage of participants in each group within weight fluctuation ranges of less than 10 pounds, 10-25 pounds, 26-40 pounds,

Table 6
Frequency of Weight Monitoring

	More than daily	Daily	Weekly	Monthly or more
Group 1 CG	0.0%	10.1%	14.5%	75.4%
Group 2 SUB ED	0.0%	11.2%	33.7%	55.1%
Group 3 SUS ED	4.5%	31.8%	18.2%	45.5%

and greater than 40 pounds is indicated in Table 7. Participants were asked to report fluctuations in weight since the age of 18 or in the past year if only 18.

Table 7
Weight Fluctuation of Participants

Group	< 10	10-25	26-40	> 40
Group 1 CG	79.7%	20.3%	0.0%	0.0%
Group 2 SUB ED	20.6%	56.7%	18.6%	4.1%
Group 3 SUS ED	0.0%	26.4%	36.8%	36.8%

The percentage of participants in each group according to the percentage of weight above or below Ideal Body Weight (IBW) as judged by the American Dietetic Association is indicated in Table 8.

Table 8
Percentage of Participants Above,
Within, and Below IBW Ranges

Group	< 10% below IBW	IBW	> 10% above IBW
Group 1 CG	17.2%	75.7%	0.0%
Group 2 SUB ED	4.9%	58.7%	30.4%
Group 3 SUS ED	0.0%	47.8%	52.2%

Qualitative Data From Biographical Questionnaire

Women in the control group generally described meals with their family as a casual time to talk. They tended to exercise about two times a week, most often by doing aerobic exercises or by running. They reported toning and health about equally as reasons for exercising, with weight loss as the third likely purpose. Problems with eating were generally stated as not eating healthy foods or snacking too much. None of the women in this group had been diagnosed or treated for an eating disorder.

Women in the subclinical eating disorder group described family meal times as more uncomfortable and hectic than did women in the control group. Watching television while eating was a common response. These women reported exercising three to seven times a week, with most women doing aerobic exercise or running. Most women reported weight loss as their purpose for exercising. Fewer women in this group reported toning and health as reasons for exercising than did

those women in the control group. About one half of the women reported that their eating habits were a problem. They most often described this problem as overeating, eating for emotional reasons, worrying about or feeling guilty about eating, or irregular patterns of skipping meals and then binge eating. Most rated this problem as a 3 or 4 on a 5-point scale where 5 is most distressing. Two women in this subclinical eating disorder group reported that they had been diagnosed with an eating disorder in the past. Treatment sought by most women in this group ranged from weight loss programs to counseling for emotional problems.

Women in the suspected eating disorder group generally described family meals as chaotic, tense, and rushed. The most frequent exercise routine reported was daily aerobic exercise with weight loss as the most widely reported purpose. All of the women reported that they felt their eating habits were a problem. They described their problems as preoccupation with food and weight, uncomfortableness with their bodies, and binge and purge behaviors. Most women rated their distress as very high. Five out of the 28 women in this suspected eating disorder group reported having been diagnosed with an eating disorder in the past. Treatment ranged from diet counseling to psychotherapy.

Results

Hypothesis 1 stated: There will be a significant difference between the level of depression in the suspected eating disorder group of women, the subclinical eating disorder group of women, and the control group of women. The level of depression was expected to be lowest in

the CG of women and highest in the SUS ED group of women.

The means and standard deviations for the dependent variable measured by the Beck Depression Inventory (BDI) for each group are shown in Table 9.

Table 9
Means and Standard Deviations of BDI for Each Group

Group	Mean	Standard deviation
Group 1 CG	3.5000	3.4519
Group 2 SUB ED	5.3571	4.1150
Group 3 SUS ED	9.8966	5.3207

Comparison of mean differences between groups on the dependent variable resulted in statistically significant differences ($p = .0000$). Independent t tests for comparison of mean differences between each group resulted in statistically significant differences between all groups. Statistical results are shown in Table 10.

Table 10
Results of Independent t Tests Between Groups

Groups	t	p
Group 1 CG vs 2 SUB ED	3.0783	.0024
Group 1 CG vs 3 SUS ED	7.3198	.0000
Group 2 SUB ED vs 3 SUS ED	5.2925	.0000

The mean score for the CG of women (3.5000) was in the range of minimal depression. The mean score for the SUB ED group of women (5.3571) was in the range of mild depression, and the mean score for the SUS ED group of women (9.8966) was in the range of moderate depression. Therefore, Hypothesis 1 was supported; the difference in the data cannot be reasonably attributed to chance.

As noted in Table 8, the participants in Group 3, the SUS ED group, tended to be in the Ideal Body Weight range as recommended by the American Dietetic Association (47.8%) or above the Ideal Body Weight range (52.2%), while the participants in Group 1, the CG, tended to be in the Ideal Body Weight range (75.7%) or below the Ideal Body Weight range (17.2%). Participants in Group 2, the SUB ED group, were in all three body weight ranges, although fewer were in the below ideal range (4.9%) than those in Group 1, CG, (17.2%), and fewer were in the above ideal range (30.4%) than those in Group 3 SUS ED (52.2%). It appeared that participants' weight was related to groups based on EARS scores so that weight per se might be a contributing factor in the prediction of BDI scores.

A multiple regression analysis was performed to attempt to determine if the EARS score continued to be a statistically significant predictor of the BDI score when possible distorting influences from the weight factor were removed. This analysis determined that weight was not a statistically significant predictor of the dependent variable, the depression score ($B = 0.01117$; $p = .44756$). The EARS score was found to be a statistically significant predictor ($B = 1.9435$; $p = .0000$). Statistical results are described in Table 11.

Table 11
Results of Multiple Regression Analysis

	<u>B</u>	<u>p</u>
Weight factor	0.01117	.44756
EARS score	1.94350	.00000

An analysis of variance (ANOVA) was also performed to compare mean differences on the dependent variable between schools surveyed. This analysis resulted in no statistically significant difference ($F = .4654$; $p = .7611$). The mean and standard deviation of the BDI scores for each school surveyed are shown in Table 12. It can be assumed that differences in mean scores between schools are a result of chance.

Table 12
Means and Standard Deviations of BDI Scores for Each School

College	Mean	Standard deviation
Albion College	4.5094	4.7540
Central Michigan University	5.4545	4.7408
Hillsdale College	5.5769	4.1884
Jackson Community College	5.4286	2.8200
Spring Arbor College	5.4318	4.6725

Hypothesis 2 stated: The prevalence of depression will be significant between the control group of women and both the subclinical eating disorder group of women and the suspected eating disorder group of women. The prevalence of at least mild depression was expected to be lowest in the CG of women and highest in the SUS ED group of women.

Comparison of the difference between the proportion of those with at least mild depression in each group resulted in a statistically significant difference ($\chi^2 = 22.79$; $p = .000011$).

Among the groups, the percentage of those with at least mild depression was lowest in Group 1, CG, (30.95%). The percentage of those with at least mild depression in Group 2, the SUB ED group, was intermediate (47.96%); and the percentage of at least mild depression in Group 3, the SUS ED group, was highest (82.76%) among the groups. Therefore, Hypothesis 2 was supported.

Hypothesis 3 stated: The anorexic-like subgroup of the subclinical eating disorder group of women will have a significantly lower level of depression than the subgroup of women with bulimic-like symptoms from that same group.

The total number of participants and mean BDI scores for the anorexic-like subgroup and the bulimic-like subgroup of the SUB ED group are described in Table 13.

The mean BDI score for the bulimic-like subgroup was in the range of mild depression (5.93) and the anorexic-like subgroup mean BDI score (4.11) was in the minimal depression range.

Table 13

Total Number of Participants and Mean BDI Scores
for Subgroups of Group 2 SUB ED

Group	Total	Mean BDI
Anorexic-like group	26	4.1071
Bulimic-like group	72	5.9324

Comparison of mean differences between groups on the dependent variable resulted in a statistically significant difference ($t = 2.0571$; $p = .0211$, one-tailed test; $p = .0423$, two-tailed test). Therefore, Hypothesis 3 was supported.

CHAPTER V

SUMMARY, DISCUSSION AND CONCLUSIONS

Summary

The purpose of this study was to examine depression and disordered eating symptoms in a population at high risk for the development of eating disorders. The level and prevalence of depression were compared between three groups with increasing intensity of eating disordered symptoms. The research questions for this study were:

1. Does the level of depression increase with an increase in intensity of eating disordered symptoms?
2. Does the prevalence of depression increase with an increase in intensity of eating disordered symptoms?
3. Are those with anorexic-like symptoms less depressed than those with bulimic-like symptoms?

Hypothesis 1 stated: There will be a significant difference between the level of depression as measured by the Beck Depression Inventory (Beck et al., 1961) in the suspected eating disorder group (SUS ED), the subclinical eating disorder group (SUB ED), and the control group (CG) of women. An analysis of variance with one-tailed probability was used to test this hypothesis. The results of the F test were significant as were the individual t tests between groups. Women in the SUS ED group experienced higher levels of depression than did the women in the SUB ED group. Women in the CG group experienced the

lowest levels of depression. Therefore, Hypothesis 1 was supported. This difference in levels of depression cannot be attributed to chance.

Hypothesis 2 stated: The prevalence of depression will be significantly different between the control group of women and both the sub-clinical eating disorder and the suspected eating disorder groups of women. A chi-square test was used to test Hypothesis 2. The results of the chi-square test were significant. The prevalence of depression increased as intensity of eating disordered symptoms increased. Women in the CG group had the lowest prevalence of depression. Women in the SUB ED group had a higher prevalence than the CG group and the women in the SUS ED group had the highest prevalence of depression. Therefore, Hypothesis 2 was supported.

Hypothesis 3 stated: The anorexic-like subgroup of the subclinical eating disorder group will have a significantly lower level of depression than the subgroup of women with bulimic-like symptoms from that same subclinical eating disorder group of women. An independent t test was used to test this hypothesis. The results of this t test were significant. Women in the anorexic-like subgroup of the SUB ED group did have a lower level of depression than did the women in the bulimic-like subgroup of the SUB ED group. Therefore, Hypothesis 3 was supported.

Interpretation of Analyses

Hypothesis 1

Hypothesis 1 stated: There will be a significant difference between the level of depression in the suspected eating disorder group of

women, the subclinical eating disorder group of women, and the control group of women. A comparison of the mean differences of depression scores, as measured by the Beck Depression Inventory, among these three groups was tested using an analysis of variance (ANOVA, F test). As was expected, a significant difference was found ($F = 26.8637$; $p = .0000$). Independent t tests resulted in a statistically significant difference between each group (CG vs SUB ED : $t = 3.0783$, $p = .0024$; CG vs SUS ED : $t = 7.3198$, $p = .0000$; SUB ED vs SUS ED : $t = 5.2925$; $p = .0000$). For this sample, women in the SUS ED group reporting the most severe eating disorder symptoms showed significantly higher levels of depression than did those women in the SUB ED group reporting less severe eating disorder symptoms. Women in the SUB ED group showed significantly higher levels of depression than did women in the CG who reported little or no eating disorder symptoms. The mean depression score for the women in the SUS ED group was in the moderate range of depression (9.8966). The mean depression score for the women in the SUB ED group was in the range of mild depression (5.3571). The mean depression score for the women in the CG was in the range of no or minimal depression (3.50).

An additional analysis was performed to examine the relationship between weight and level of depression. A multiple regression analysis was used to determine if weight was an influencing factor in the prediction of depression scores. Statistical significance was not found ($B = .01117$; $p = .44756$) using weight as a variable. The EARS score was found to be a significant predictor ($B = 1.9435$; $p = .0000$) of depression score. This indicates that weight was not a significant factor

in predicting depression scores for this sample. However, the EARS score was found to be a significant predictor of depression.

A separate ANOVA was used to compare mean depression scores among schools surveyed. No statistically significant difference was found ($F = .4654$; $p = .7611$). This indicates that overall women in this study reported similar levels of depression regardless of which school they attended. Any difference found between the mean scores of each school is a result of chance.

Hypothesis 2

Hypothesis 2 stated: The prevalence of depression will be significant between the control group of women and both the subclinical eating disorder group of women and the suspected eating disorder group of women. A comparison of the difference between the proportion of those with at least mild depression between each group was tested using a chi-square analysis. It was expected that a significant difference would be found ($p = .05$). Statistical significance was found ($\chi^2 = 22.79$; $p = .000011$). This indicates that more women in the SUS ED group reported at least mild depression than did those in the SUB ED group and more women in the SUB ED group reported at least mild depression than did those in the CG of women. In this study the number of women in each group with at least mild depression significantly increased as severity of eating disorder symptoms increased. The percentage of women in the SUS ED group with at least mild depression was highest (82.76%). The percentage of women in the SUB ED group with at least mild depression was intermediate (47.96%). And the

percentage of women in the CG with at least mild depression was lowest (30.95%).

Hypothesis 3

Hypothesis 3 stated: The anorexic-like subgroup of the subclinical eating disorder group of women will have a significantly lower level of depression than the subgroup of women with bulimic-like symptoms from that same group. A comparison of the mean differences between these two groups was tested using an independent t test with one-tailed probability. It was expected that a significant difference ($p = .05$) would be found. Statistical significance was found ($t = 2.0571$; $p = .0211$). This indicates that in the SUB ED group women with bulimic-like symptoms reported significantly higher levels of depression than did women with anorexic-like symptoms.

Discussion

The literature on the eating disorders suggests that a wide range of factors contribute to the development of an eating disorder. The heterogeneity of these disorders hampers efforts to clearly outline diagnostic criteria, as well as prevention and treatment models. This study attempted to examine the relationship between eating disorders and depression as a step in further understanding etiology, prevention, and treatment of these complex disorders.

The experience of depression in women with eating disorders has been clearly documented by previous research. This study examined depression in women with varying degrees of severity of eating disorder

symptomology, specifically those women in a SUB ED group. Women in the SUB ED group did experience a significant level of depression when compared to the CG group of women. Women in the SUB ED group with bulimic-like symptoms did experience a significantly higher level of depression than did those women in the same group with anorexic-like symptoms. This is similar to previous research findings that women with bulimia experience depression more often than do women with anorexia (Casper et al., 1980; Garfinkel et al., 1980; Katz et al., 1984; Walsh et al., 1985). Finding characteristics of women in the SUB ED group as being similar to women with eating disorders supports the idea of eating disorders occurring along a continuum on this one factor of depression.

Understanding that depression is one of the characteristics for some women with eating disorder symptoms that is experienced with increasing severity along this eating disorder continuum suggests that depression may be a factor involved in the etiology of eating disorders. As discussed in Chapter II, certain family interaction patterns lead to early life experiences for some women which contribute to the development of a depression. The meanings some women make of their experiences and how they attempt to contain their depression may display themselves in eating disorder symptoms. This knowledge could help to identify women who are at risk for the progression along this continuum toward a diagnosable eating disorder. It may be that these women who experience higher levels of depression are also those who tend to progress to a diagnosed eating disorder.

Considering depression to be a significant characteristic of women at points along this eating disorder continuum may give some direction to treatment and prevention efforts. Results of this study indicate that women who are experiencing depression also experience disordered eating symptoms at a significant level. Special clinical attention needs to be focused on women who seek treatment for depression who may also experience subclinical eating disorder symptoms that may not be typically addressed. These eating disorder symptoms may be contributing to the depression; therefore, treatment of the eating disorder symptoms may help in the treatment of the depression.

Understanding factors that increase a young woman's risk for eating disorders will allow for a clearer focus on prevention. Williamson (1990) suggested that women with symptoms less severe than those required for diagnosis of an eating disorder are at high risk for developing an eating disorder and should be evaluated for treatment. Prognosis for women with subclinical eating disorders is better than for those women with a diagnosed eating disorder.

The significant number of women in the SUB ED group in this study found to be experiencing depression suggests that efforts to study and treat eating disorders may be better understood if not limited to a categorical approach toward diagnosis as represented in the current classification of these disorders in the DSM III-R. A dimensional or continuum approach to diagnosis may need to be considered as the complexity of these disorders becomes more apparent (Hsu, 1990; Striegel-Moore, 1992).

Assessing women with eating disorder symptoms by using continuous measures of variables would allow for a more complete description of the experiences of women along the eating disorder continuum. This broader understanding of eating disorder pathology may provide insight into possible changing patterns of these disorders at different points along this continuum.

Due to the heterogeneity of these disorders it may be helpful to develop subgroups within the current classification system. The delineation of subgroups based on the type and magnitude of psychological disturbance may augment the present classification based on weight and behavioral dimensions (Norrington, 1990). This increased specificity in classification of eating disorders may provide a clearer focus for research. Dividing women with eating disorder symptoms into subgroups based on differing psychological disturbances underlying or co-existing with eating disorder symptoms also suggests the need to provide differential prevention and treatment models. Limiting the focus of treatment to criteria necessary for diagnosis of eating disorder as outlined in the DSM III-R appears to be a narrower approach. The presence or absence of depression could be a factor used to identify a specific subgroup of women with eating disorder symptoms. Women who experience both a subclinical eating disorder and depression may be more likely to progress along the continuum toward a diagnosed eating disorder. This particular subgroup therefore warrants special consideration in future research and treatment models.

Eating disorders may need to be viewed in a qualitative rather than a quantitative way. Clinicians should not neglect the clinical

significance of disordered eating symptoms because they do not regard them as severe enough to be diagnosed. Unfortunately this is not supported by the current direction in which mental health care is headed. Clinicians are being asked to justify increasingly higher levels of severity to warrant treatment. However, this study supports a broader view of treatment for women with eating disorder symptoms. The level and prevalence of depression found in the SUB ED group of women in this study suggests a significantly distressed subclinical population of women who warrant treatment from a preventive perspective. Treating subclinical eating disorder symptoms would decrease the likelihood of symptoms increasing to levels which meet the criteria for a formally diagnosable eating disorder as outlined in the DSM III-R. Effective treatment modalities which address the particular needs of women with both depression and eating disorder symptoms are needed.

Limitations

Use of self-report measures may be considered a limitation of this study. Controversy among researchers continues about whether women overreport on questionnaires in an attempt to please researchers or underreport in an attempt to keep their eating problems secret (Johnson & Connors, 1987). The accuracy of the self-reporting of weight may also be questioned.

The reliability and validity of the EARS used to assess eating disordered symptoms has not been studied. Adequate valid and reliable measures need to be developed to assess diagnostic criteria in such a way that a subclinical population could be studied with some

consistency. Although this study sampled groups of women from five schools, the results can be generalized only to young women college students attending schools with similar socioeconomic and cultural composition as those studied. Increasing sample size so that a larger more heterogeneous group could be studied would make results more generalizable to a larger population.

Although results from this study indicate that women who experience increasing levels of eating disordered symptoms also experience increasing levels of depression, the interrelatedness of these two factors was not examined. The subjective experience of having the eating disordered symptoms and the effects that may have on the experience of depression was not considered. Nor was the experience of depression and its effects on eating disordered symptoms considered. This suggests the need for a more qualitative approach to research in this area to determine subjective experiences and possible relationships between these experiences.

Suggestions for Future Research

Current research on eating disorders suggests a considerable heterogeneity in symptom presentation in general. Continued research focusing on a greater understanding of the interrelatedness of various symptoms and dynamic factors contributing to them is essential for sensible clinical diagnosis, treatment, and prevention of eating disorders. This may be best attained by examining psychological dimensions including global psychopathology, with less emphasis on weight status or presence or absence of bingeing or purging (Crowther & Mizes, 1992).

The aim is to move from more static conceptualizations of risk factors like gender, family dynamics, or socioeconomic status, to the study of the risk process itself in terms of underlying vulnerabilities, the changing nature of risk, and important moderating factors (Hsu, 1990).

Changing our current conceptualization of the selection process for prospective research participants from a categorical approach to a selection process based more on a continuous model may be warranted. Although a conservative epidemiological approach would argue for the use of dichotomous variables, it has been argued that information regarding risk factors and their etiological significance might be lost if researchers choose not to use continuous measures (Drewnowski, Yee, & Krahn, 1988).

Although assessment of these continuous variables appears important on a theoretical basis, the current state of specific instruments and methodologies with which to study eating disorders in this way is in its infancy. Studies using improved instruments to establish valid and reliable ways to investigate factors involved in etiological models and to identify relevant indexes that might explore premorbid risk or predict response to treatment are needed (Crowther & Mizes, 1992).

Longitudinal studies are also needed to explore the emergence of eating disorders at different levels of severity. Longitudinal studies of factors like developmental failures, vulnerabilities in personality functioning, and family functioning may enlighten researchers and clinicians regarding etiology, treatment, and prevention. Longitudinal studies may also distinguish clinically relevant differences between transitory symptoms and development of more enduring problems.

Future research using methods which include interviewing would allow researchers to explore women's subjective experience of their weight and eating disordered symptoms and how the meanings they attach to these relate to their experience of depression.

Research similar to this study using larger more varied samples is necessary to allow more generalizability of results. Studies using samples from various socioeconomic backgrounds and cultures as well as studies that include males are needed.

Summary and Conclusions

This study examined depression in a sample of women with sub-clinical eating disorder symptoms. Depression appears to be one factor that for some women co-exists with eating disordered symptoms. In this study depression and eating disordered symptoms concurrently increased in severity for significant numbers of women. Results support the idea that eating disordered symptoms and depression co-exist along a continuum of increasing severity of pathology.

This finding suggests the need for consideration of subclassifications of eating disorders based on a broader range of symptoms, that is, the presence or absence of depression. This finding also has implications for treatment and prevention. Clinicians need to be aware of the possibility of disordered eating symptoms co-existing with depressive symptoms for some women so that the disordered eating symptoms can be addressed preventing the symptoms from progressing along the continuum toward more severe pathology.

APPENDICES

Appendix A
Letter of Approval From the Human Subjects
Institutional Review Board

Human Subjects Institutional Review Board



Kalamazoo, Michigan 49008-3899

WESTERN MICHIGAN UNIVERSITY

Date: November 5, 1992

To: Christine Hill-Melton

From: M> Michele Burnette, Chair *M. Michele Burnette JMB*

Re: HSIRB Project Number: 92-10-18

This letter will serve as confirmation that your research protocol, "An examination of depression in a sub-clinical eating disorder female population" has been approved under the exempt category of review by the HSIRB. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the approval application.

You must seek reapproval for any changes in this design. You must also seek reapproval if the project extends beyond the termination date.

The Board wishes you success in the pursuit of your research goals.

xc: Trembley, CECF

Approval Termination: November 5, 1993

Appendix B
Biographical Questionnaire

Biographical Questionnaire
(For Females Between the Ages of 18 and 23)

Please answer the following questions as accurately as possible:

Age: _____ Height: _____ Weight: _____

What has been your highest and lowest weight? When?
(Since the age of 18 or in the past year if only 18)

Highest _____ When _____ Lowest _____ When _____

Are you now or do you suspect that you could be pregnant?

Pregnant _____ Suspect _____ Neither _____

How often do you weigh yourself?

How satisfied are you with your present weight?

Not very		Somewhat		Very
1	2	3	4	5

How satisfied has it seemed to you that your mother has been with her weight?

Not very		Somewhat		Very
1	2	3	4	5

Current living situation:

_____ with parents _____ apartment _____ dorm room
_____ other: _____

Grade Point Average: _____ Major: _____

Mother's occupation: _____

Father's occupation: _____

Parent's marital status: _____ Married _____ Divorced

_____ Deceased:

_____ Mother _____ Father

Parents' income:

_____ under \$10,000 _____ \$10,000 to \$29,000

_____ \$30,000 to \$49,000 _____ over \$50,000

How many members are there in your family? _____

How often did your family eat meals together when you were living at home?

Briefly describe what mealtimes were like in your family?

Exercise Habits

How often do you exercise?

For what length of time?

What type of exercise do you most often participate in?

What is your main purpose for exercising?

weight control _____ toning _____ to improve health _____

other _____

Eating Attitude Awareness

Do you consider yourself to have a problem with your eating habits?

If so, describe briefly.

How distressing is this problem to you?

Not very		Somewhat		Very
1	2	3	4	5

Are you now or have you ever been diagnosed with an eating disorder?

Yes _____ When _____ No _____

Have you ever sought help or treatment for an eating problem? If yes, please explain.

Are you aware of where you could get help if needed?

If, after answering these questions, you have become aware of concerns that you have about these issues, please feel free to contact (counselor's name) at the (name of institution) at (phone number).

Appendix C
Letter of Permission



July 7, 1992

Christine Hill-Melton
551 Schaeffer Drive
Coldwater, MI 49036

Re: Rating Scale for Interview for Diagnosis of Eating Disorders (IDED)

Dear Ms. Hill-Melton,

This letter is a follow-up to our previous telephone conversation when you requested to use the rating scale for the IDED, (Assessment of Eating Disorders: Obesity, Anorexia, and Bulimia Nervosa, Williamson, 1990) in your dissertation. You also requested at that time to be allowed to rephrase the statements to read as first-person rather than neutral statements.

When we spoke a few weeks ago, I gave you my verbal permission to use the IDED rating scale and to rephrase the statements to read as first-person statements rather than neutral statements. It is my understanding that you need this permission in writing, therefore, I am sending this letter to you to present to your Dissertation Prospectus Committee. This permission is granted only for use in your dissertation.

If further information is required, please contact me.

Sincerely,

Donald A. Williamson, Ph.D.
Professor and Director of
Psychological Services Center

DAW:cb

Appendix D
Eating Assessment Rating Scale

Eating Assessment Rating Scale
(For Females Between the Ages of 18 and 23)

Please rate yourself in the following areas:

Section I

1. I have a fear of gaining weight.

1	2	3	4	5	6	7
No problem	Minimal problem	Minimal fear	Moderate fear	Strong fear	Intense fear	Morbid fear

2. I feel fat even though I'm not overweight.

1	2	3	4	5	6	7
No problem	Occasion- ally when stuffed	After eating meals	After eating small amounts of food	Most of the time	Almost all of the time	All of the time

3. How many menstrual cycles have you missed?

1	2	3	4	5	6	7
None	Slight irregularity	Missed 2 cycles last 6 months	Missed 3 cycles last 6 months	Missed 4 cycles last 6 months	Missed 5 cycles last 6 months	Missed 6 cycles last 6 months

Section II

1. My binge-eating (rapid consumption of a large amount of food in a discrete period of time) episodes are:

1	2	3	4	5	6	7
Never binge	Infrequent and small	Infrequent but large	Frequent but not large	Frequent and large	Very frequent	Very frequent and large

2. I feel a loss of control during binge-eating:

1	2	3	4	5	6	7
Always in control	Rare to lose control	Occasional loss of control	Frequent loss of control	Usually out of control	Almost always out of control	Never in control

3. The frequency of my purging (vomiting or use of laxatives) episodes are:

1	2	3	4	5	6	7
None	Purges 1-2 times/year	Purges 1 time/3 months	Purges 1-3 times/month	Purges 1-2 times/week	Purges 3-6 times/week	Purges 1 or more times/day

4. The frequency of my binge-eating episodes are:

1	2	3	4	5	6	7
Rarely occurs	Occurs a few times/year	1-4 times/month	5-8 times/month	2-3 times/week	4-6 times/week	Occurs daily or almost daily

5. I would rate my concern with my body shape and size as:

1	2	3	4	5	6	7
No concern	Minimal concern	Some pre-occupation	Moderate degree of pre-occupation	Pre-occupied most of the time	Pre-occupied almost all of the time	Pre-occupied all of the time

6. The frequency of my dieting is:

1	2	3	4	5	6	7
Never diet	Diet 1-2 times/year	Diet 3-4 times/year	Diet 5-6 times/year	Diet every month	Diet almost every week	Diet all the time

7. The frequency of my weight fluctuations is:

1	2	3	4	5	6	7
None	Minimal fluctua- tion	Few 1-9 pound fluctua- tions	Few 10 pound fluctua- tions	Many 10 pound fluctua- tions	Few 10- 20 pound fluctua- tions	Many 10- 20 pound fluctua- tions

8. My feelings about my eating patterns as abnormal or out of control are:

1	2	3	4	5	6	7
No problem	Minimal problem	Occa- sional mild feelings	Frequent mild feelings	Frequent moderate feelings	Frequent intense feelings	Extremely frequent & intense

9. I would categorize my mood and thoughts after a binge-eating episode as:

1	2	3	4	5	6	7
No binges	No depres- sion	Minimal depres- sion	Modest depres- sion	Moderate depres- sion	Severe depres- sion	Extreme depres- sion

10. I am dissatisfied with my body:

1	2	3	4	5	6	7
Never	Occa- sionally when stuffed	After eating meals	After eating small amounts of food	Most of the time	Almost all of the time	All of the time

Appendix E
Instruction and Information Sheet

Instruction and Information Sheet

My name is Chris Hill-Melton and I am a doctoral student in Counseling Psychology. I am in the process of working on my dissertation which is a study of the relationship between behavior, thoughts, and feelings about eating, and the feelings of depression. I am looking for female volunteers between the ages of 18 and 23 for my dissertation research. If you qualify according to that criteria and are interested in helping me with my study, I will need about 30 minutes of your time. If you do not qualify or are not interested, you are free to leave now.

I have two short questionnaires and an information form I would like you to complete. The instructions are written at the top of each form.

It is important that you know that your responses are completely anonymous. There will be no way to trace your responses back to you. All results will be reported as group scores. The number that appears on the top of each form is the only identification for your set of responses. If after you have completed the packets of questionnaires you decide that you would like to talk to someone about concerns you may have become aware of by the type of questions asked, please contact (name of counselor) at the (counseling center at institution) at (phone number). If you would like to know your individual scores on the questionnaires, simply copy down your identification number and call me at (517) 278-2470 after April and I will be happy to tell you your scores.

It is also very important that you understand that your participation in my project is completely voluntary. I encourage you to

participate because I think you can help to provide some useful information. But you are under no obligation to provide any information and neither your participation nor your responses will be in any way related to your grade or performance in this class or any other class at this institution.

Thank you for your willingness to help me in this way.

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