A Cognitive-Behavioral Approach to the Study of Eating Disorders, Substance Abuse and Depression

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ABSTRACT

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This study utilized Beck's model of the cognitive triad to examine the prevalence of eating disorders, mood disorders and substance abuse in the families of anorexic probands. The cognitive triad postulates a negative view of the self, the world and the future. Studies performed over recent years have identified common cognitive distortions in depression, mood disorders and substance abuse.

The results demonstrated an increased clustering of these three disorders in the relatives of anorexic probands as opposed to a control group. It is hypothesized that this is due to an underlying theme of hopelessness, that bridges the gap between these three disorders.

Growing awareness of risk factors may serve as a basis for developing an early warning system for school counselors. When working with children and adolescents who exhibit a core element of hopelessness, and report a family history loaded for these three disorders, active interventions that focus on cognitive and affective elements may serve as a basis for change.

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## DEDICATION

To my husband David, my daughter Angela, and my mother Mary Leigh, whose love, patience and support have helped me develop the desire and the temperament to persist toward the accomplishment of my goals.

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# Chapter 1

## INTRODUCTION

The incidence of eating disorders is reaching epidemic proportions. Estimates for the occurrence of anorexic or bulimic behavior patterns in the female population are alarmingly high. Terms such as anorexia and bulimia, once obscure nomenclatures, now appear in popular magazines, movies and the layman's conversation. Yet, while much attention has been focused in this particular arena, little is known about these disorders.

Rakoff (1982, p. vii) summarized current thinking by conceptualizing anorexia as the outcome of a multidetermined etiology. Numerous factors including fashion, social expectation, familial tension and delusional beliefs each contribute toward the physical and psychological breakdown of the individual.

Bruch (1978) stated:

> Anorexia is a puzzling disease, full of contradictions and paradoxes. These youngsters willingly undergo the ordeal of starvation, even to the point of death. Fear of hunger is so universal that undergoing it voluntarily often arouses admiration, awe, and curiosity in others. (p.3)

After having spent her lifetime working with eating disordered clients, Bruch labeled anorexia an enigma. Psychologists continue to be at a loss to explain why some children are predisposed to develop anorexia nervosa and others are not. This is the question facing researchers: Why do some individuals become anorexic, given the proper precursors, while others do not?

Crisp (1980, p.5) took a psychosocial perspective that viewed anorexic behavior as psychologically adaptive. Selvini Palazoli

(1974, p. 26) and Minuchin, Rosman and Baker (1978, p. 99) framed anorexia nervosa in terms of a strong family systems dynamic. Strober and Yager (1985, p. 364) emphasized developmental aspects, Strauss and Ryan (1988, p. 24) used a cognitive frame of reference, while Garfinkel and Garner (1982), offered a multidetermined approach. In addition, there are other schools of thought.

Many families find themselves besieged by a battery of available therapies, each defending turf and process (Strober & Yager, 1985, p. 363). It is clear that work is needed to integrate our present level of understanding with new research in an effort to provide new perspectives and treatment for anorexics and their families.

Of particular interest are the data on family history developed over the past several years. Studies are finding increased prevalence of eating disorders in the relatives of anorexic probands (Strober, Morrell, Burroughs, Salkin & Jacobs, 1985; Holland, Sicotte & Treasure, 1988). In addition, researchers have found an increased prevalence of major affective disorders (Logue Crowe & Bean, 1989; Rivinus, Biederman, Herzog, Kemper, Harper, Harmatz, & Houseworth, 1984), and alcoholism (Zweben, 1987; Scott, 1983) in the family histories of anorexic probands. The prevalence of these three disorders in the family histories of anorexics is significant in that it adds to the growing body of research which suggests a common underlying factor in the etiology of these disorders.

The purpose of this study is to better understand the relationship of eating disorders, affective disorders and substance abuse in the family histories of anorexic probands. This involves systematically reviewing family history data of the first-degree relatives of anorexic probands in an effort to determine the incidence of these disorders. The hypothesis is that patterns of substance abuse, affective disorders and eating disorders, coaggregate in the relatives of anorexic probands significantly more than in a control group.

**Significance of the Research Study**

Eating disorders are not a new phenomenon. Throughout clinical literature, there are descriptions of starvation, what is now referred to as anorexia. The first medically documented case was reported by Richard Morton in 1694. Morton's detailed characterization of anorexia "described a state of nervous atrophy (phthisis nervosa) with a decrease in appetite, amenorrhea, food aversion, emaciation, and hyperactivity" (Strober 1986, p. 232).

Studies performed over recent years suggest that the prevalence of eating disorders among young women is increasingly dramatic. On an intuitive level, this is not surprising since we live in a society that has become preoccupied with thinness and dieting. Each year the best seller list contains ten or more books on dieting. It is estimated that over 20 million Americans are dieting at any given moment, and they are spending more than 10 billion dollars a year in the process (Newman, 1983).

Given the historical depth of the research, it might appear likely that our current understanding of anorexia would be quite well developed; yet just the opposite is true. We still know much less about anorexia nervosa than we do about disorders such as alcoholism and depression. Every study conducted with regard to anorexia is helpful in providing clues that will eventually lead specific facts about etiology and precise measures for treatment. This amended understanding will provide

psychologists and counselors with an improved ability to target families whose children may be at an increased risk for developing anorexia. At present, professionals must acknowledge the limits of their understanding and remain aware of opportunities for research. The current study is such an opportunity.

It is believed that in the present study family history data will show that depression, substance abuse and eating disorders aggregate in the families of anorexics more often than in the families of a control group. This analysis will serve to focus collective attention on the possibility of a common diathesis for these disorders.

## Chapter 2

## Review of Related Literature

This chapter will include an historical overview, a working definition and data regarding the prevalence of anorexia. In the second section the current thinking on the etiology of anorexia will be presented. This presentation will encompass a wide range of approaches from biological factors to family systems analysis.

In an effort to focus more specifically, the literature on family history of anorexia will be reviewed in the third section. The last section will focus on the theoretical orientation and conceptual framework of this study. The relationship between substance abuse and anorexia, depression and anorexia, and family history of eating disorders in anorexic probands will be explored from a cognitive-behavioral viewpoint.

### Background: History, Definition and Prevalence

No one knows exactly when anorexia became a clinical entity. In the early literature, accounts of anorexic patients may be found going back nearly 800 years. The 1980's will be remembered as the decade of anorexia awareness, both in the scientific literature and in the general public. Articles, books and television programs are becoming frequent sources of information about this once obscure disorder. However, given that accounts go back hundreds of years, the literature on anorexia remains sparse; great gaps exist in our understanding. Perhaps anorexia is predominantly a cultural phenomenon and surfaces when society

is fixated on thin female figures. Bruch (1978) concurred and stated, "The enormous emphasis that Fashion places on slimness," (p. viii) may be a significant contributing factor. She continued by stating, "Magazines and movies carry the same message, but most persistent is television, drumming it in day in and day out, that one can be loved and respected only when slender" (p. viii).

Richard Morton, "whose 1694 treatise on tubercular disease described a state of nervous atrophy (phthisis nervosa) characterized by decreased appetite, amenorrhea, food aversion, emaciation, and hyperactivity" (Strober, 1986, p. 232), is the first clinician to systematically describe the symptoms of anorexia. In his description, Morton reported on St. Mary Axe in the year 1684. This 18-year-old ceased menstruating, stopped eating, developed fainting spells and looked "like a skeleton only clad with skin" (Strober, 1986, p. 233). The next systematic approach came nearly 200 years later. Sir William Gull, the individual who coined the term anorexia, brought to the literature a description of the disorder that closely resembles current diagnostic criteria. Gull described adolescent onset, characteristics of starvation, the psychological nature of the syndrome as well as the preponderance in females. During these same years, Charles Lasegue wrote of a disorder he labeled anorexia hysterique, which is notable for "the morbid belief that food is injurious and must be avoided" (Strober, 1986, p. 235).

The next significant turn of events occured as the result of a 1914 report by Simmond. What ensued was the "medicalization" of the diagnosis which lasted for nearly 30 years. Simmonds reported finding "lesions on the pituitary" of anorexic patients, leading to a view of anorexia that was decidedly biological. During the 1940's and 1950's conceptualization of anorexia mirrored the acceptance of psychoanalysis. At various times the psychoanalytic focus would swing between emphasis on the "oral component" on the one hand, and disturbance of ego function on the other. Bruch, however, has molded much of current thought on this disorder.

Bruch became convinced that early developmental experiences were somehow mishandled in the family. She commented, "A common feature is that the future patient was not seen or acknowledged as an individual in her own right, but was valued mainly as someone who would make the life experiences of the parents more satisfying and complete" (1978, p. 36).

Bruch continued to explore the intrapsychic process of the anorexic by analyzing the individual constellation of symptoms of her patients. She summarized her study at one point by stating, "In primary anorexia, the main issue is a struggle for control, for a sense of identity, competence, and effectiveness" (1973, p. 251). In another place she concluded, "anorexia is a desperate struggle for a self-respecting identity" (1973, p. 250). Unfortunately, work authored by Bruch is based solely on clinical experience and anecdotal accounts and lacks

experimental research.

Throughout the historical and clinical literature the definition of anorexia has remained stable. In its most simpleform, the definition of anorexia consists of a single biological criterion: weight loss, and a single psychological criterion: an intense fear of becoming fat. However, the infinite constellation of factors that produce anorexia in individuals is extremely complex and are composed of countless variations. From a more comprehensive perspective, there are five componets that appear in varying arrangements throughout the definitions proposed in the past 20 years.

They are as follows:

1) Weight loss. Every conceptual definition recognizes that weight loss is the central feature of anorexia.

> The immediate and striking clinical feature is usually emaciation. The anorectic is not just a thinnish person, small boned but fully formed; she is skeletal in appearance and with a marked absence of subcutaneous fat. She may weigh as little as 56-70 pounds (Crisp, 1980, p. 11).

Although the anorectic will wear loose fitting clothing and will actively deny her condition, weight loss remains the hallmark symptoms of this disorder. The Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised, has ranked this symptom above all others (1987, p. 67).

2) Morbid fear of becoming fat. Without a psychological component, severe weight loss would be labeled as starvation. In the anorexic, it is the intense fear of weight gain, or being out of control, that defines this category. "There is general

agreement that a drive for thinness is necessary for the diagnosis" (Garfinkel & Kaplan, 1986, p. 276). Bruch termed this the "relentless pursuit of thinness" (1970, p. 495); and Crisp wrote of a "weight phobia" (1980, p. 17). Regardless of the terminology employed, this fear, which remains out of proportion to weight, is a crucial link in differentiating anorexia from other disorders.

3) Amenorrhea. In females, who account for 9 out of every 10 anorexics, cessation of the menstrual cycle typically accompanies the symptom list of the anorexic individual. In line with most other diagnostic conceptualizations of anorexia, the DSM-III-R lists amenorrhea as one of four diagnostic criteria. This is a change from the DSM-III which makes no mention of amenorrhea, and the DSM-II which makes no mention of anorexia whatsoever.

For many females, amenorrhea is the first reported symptom, and provides the occasion of initially visiting a clinic or seeing a doctor (Garfinkel & Garner, 1982, p. 61). Most clinicians draw a distinction between primary and secondary amenorrhea, as it relates to anorexia. Primary amenorrhea, in which menstruation has never occured is atypical in this population, unless the patient is quite young. Secondary amenorrhea, in which menstruation is interrupted or halted, is widespread and common enough to be included as part of the diagnostic criteria in most conceptual models.

4) Distorted body image. The delusional quality of this

facet of anorexia is a subtle, yet powerful key that helps unlock the anorexic thought process. This case example from Bruch (1978) illustrates the process:

> Bert weighed 140 pounds when at age 15 she decided to go on a rigorous diet. She also began a sports program, swimming a lot and taking part in games she had previously avoided. She took pride in having so much will power, proving to everyone, particularly her mother, that she could stick to a diet. Six months later, when her weight was down to 105 pounds and everybody admired her, saying she looked great, something happened; she suddenly could not see how she looked. Until then she had watched her size dwindle and noticed that she looked slimmer from week to week. Now she suddenly feared that she would get fat again, and she actually saw herself larger, though the figure on the scale indicated that she had lost more weight. She drastically cut down on her previous diet, stopped watching the scale, and was frantically preoccupied with becoming fat again. She claims that she saw her body swelling up. Her weight was down to 68 pounds when she was admitted to a hospital 4 months later. (pp. 82-83)

For most anorexics, body image distortion manifests itself as a general lack of concern with the emaciated shape. For some, the distortion involves a stubborn defense of her body shape as "too fat." Distorted body image has become an integral part of the conceptualization of anorexia in recent years. Both the DSM-III and DSM-III-R include it as a diagnostic criteria. It is notable that for many years this facet of our current definition was overlooked or missing from the diagnostic criteria.

5) Age of onset. In the past many clinicians required an adolescent age of onset. More recently however, the move is away from specifying an age of onset and both DSM-III-R and DSM-III did not include this in their criteria. This move away from setting an age requirement reflects the literature in which

increasingly older women are becoming anorexic (Garfinkel & Garner, 1982).

These authors continued by presenting data of mean age of onset of patients seen between 1970 and 1975 and contrasted this with the mean age of onset of patients seen between 1976 and 1981. For the first group the mean age of onset was 17.0, while the more recent group had a mean of 18.0 (p. 104).

Anorexia continues to be a clinically challenging diagnosis. Many individuals are simply preoccupied with dieting and weight loss. Is the clinician to merely classify anorexia as an extreme of the dieting continuum? Many depressed patients present with lack of appetite and weight loss. Do affective disorders and anorexia share a common etiology? Other researchers have considered anorexia as a variant of affective disorder, schizophrenia, obsessional disorder, and hysteria (Garfinkel & Kaplan, 1986, p. 272). Nevertheless, current research supports the view that anorexia is a distinct disorder with an increasingly clear set of diagnostic criteria which aid the clinician in making an accurate diagnosis. At this point it is helpful to look at the prevalence of anorexia.

Garfinkel, Garner and Goldbloom (1987) give three primary reasons for the rapid increase in attention given anorexia in the scientific literature: 1) The incidence of anorexia has increased dramatically since 1970 and more cases are being seen clinically; 2) Anorexia remains associated with a high mortality rate, i.e. between 5% and 20% of patients die as a result of

this disorder; and 3) Chronic forms of this illness develop in about 25% of patients (p. 624).

The increase in prevalence of anorexia has been reported in a number of studies.

> From 1956 to 1958 the incidence of anorexia for females between the ages of 12 and 25 years, the population at risk, was 3.98 per 100,000. This had risen to 16.76 per 100,000 during the 1973-1975 period, a fourfold increase. In populations at very high risk, for example, females of upper socioeconomic classes, the incidence may be much higher. Thus, one study showed that one severe case of anorexia was to be expected for every 250 girls enrolled in private schools in London. In such populations anorexia is by no means a rare disorder. (Agras, 1987, p. 4)

"Dr. Preston Zucker, President of the American Anorexia/Bulimia Association and Director of the Anoexia Program at Montefiore Center in New York, has stated that 10% to 15% of women aged 12 to 25 years have mild to severe forms of anorexia" (Health and Public Policy Committee, 1986, p. 790).

Theander has carried out research in Sweden in what has evolved into significant, long-term studies. The overall incidence over a 30 year period was 0.24/100,000, showing a sharp increase so that the final 10 years of the study (1951-1960), the incidence was 0.45/100,000 (Theander, 1970, p. 214).

Garfinkel, Garner and Goldbloom (1987, pp.625-626) have identified six groups of people who may be at high risk for developing anorexia. 1) Women who by career choice must be thin and achieve. The authors have studied women with careers in dance, modeling, music and a university general arts program and found that women who "have" to be thin, do appear to be at greater risk. "The current study supports earlier findings

of a high incidence of anorexia and related eating disorders in the ballet school environment. Of the students surveyed at follow-up, over 25% met diagnostic criteria for anorexia" (Garner, Garfinkel, Rockert & Olmsted, 1987, p. 173).

2) Women at risk by virtue of their family history. People with a sibling or a parent with an eating disorder have an increased likelihood of developing one; among monozygotic twins, this risk escalates to a 50% concordance rate for anorexia.

3) Psychiatric illness. Epidemiologic surveys of patients in psychiatric units of hospitals have identified a high frequency (15%) of previously undiagnosed eating disorders in this group. 4) Obesity. Anorexic and bulimic patients have frequently been overweight in the past and they are often sensitive to prior humiliations they attribute to obesity. This may serve as a potent factor in predisposing some relentless dieting. 5) Chronic medical illness. A systematic study of female adolescents and young adults with insulin dependent diabetes mellitus (IDDM) found that 6.5% met criteria for anorexia. A further 6% displayed a partial syndrome. Some have speculated that food may become a focus for interpersonal difficulties as well as a symbol of mastery in a struggle against uncontrollable illness. 6) Males at risk for eating disorders. Very little is known about males at risk as a risk group. Some have speculated that homosexuals may be at greater risk (Crisp & Toms, 1972, p.334). In addition, it has been the impression of Garfinkel, Garner and Goldbloom (1987) that male patients

are also frequently those with IDDM and those in competitive athletics, but this requires additional study.

The prevalence of anorexia in African Americans remains rare. Robinson and Anderson (1985, p. 183) offered their conclusions:

> The reasons for this apparent rarity are obscure. It has been suggested that non-white individuals may be less likely to utilize health care systems than their white counterparts. Secondly, the illness which has a pronounced upper socioeconomic bias in whites may be underrepresented in blacks because relatively fewer occupy these social classes. In the latter case the incidence of anorexia in blacks may be expected to increase both as their socioeconomic status improves, and as the class distribution of anorexia becomes uniform. Thirdly, it may be that in black societies thinness is less highly valued than among whites, as appears to be the case for Indians.

Overall, the prevalence of anorexia is increasing. Admittedly, it is difficult to analyze how much of this change is due to an actual increase in the number of cases per unit of population as opposed to an increased awareness in society and among the scientific community in general. Regardless, anorexia represents a significant and growing clinical population. The critical nature of this group is further underscored by the high incidence of death among anorexic patients.

## The Multidetermined Nature of Anorexia

One of the mysterious facets of anorexia is the fact that it appears to have targeted a specific group of people as its victims: upper class, Western society, adolescent girls. However, upon closer inspection it is plain to see that males do become anorexic, older, married women become anorexic, and certainly not all teenage girls at risk will develop anorexia. Garfinkel and Garner (1982, p. 191) summarized Weiner:

1) illness often results from an interplay of predisposing forces acting upon an individual;
2) of many people with a predisposition to an illness only some actually develop it;
3) for individuals with a disease the exact interaction of predisposing forces will vary; and
4) the same predisposing factors may actually develop in different people in different ways.

From even a cursory reading of the literature it becomes apparent that anorexia is indeed multidetermined in nature. It is suggested that many factors, grouped under three broad categories -- culture, individual and family -- consolidate into the final common pathway that lead to an individual becoming anorexic.

### A. Cultural Factors

The past three decades of culture in the United States have been witness to numerous fads and trends. One pattern of importance to this discussion is the shift towards slimness in women as a defining characteristic of beauty. Rakoff (1967, p. 1116), recognized this trend in the mid-60s when he wrote of actresses "who resemble prepubertal girls onto whom the secondary sexual characteristics of mature women have been

grafted." This bony thinness described by Rakoff is part of the overall progression of the female form within our society. While a large bustline was quite popular in the 1950's and early 1960's, Twiggy soon became the model of the decade and has, for the recent past and present, defined beauty in the American female figure.

As Garfinkel and Garner (1982, p. 106) noted, "Thinness has also become associated with control and success." One particular avenue that society rewards women for, is dieting to maintain a slim figure. The media idolize the thin figure and our present, collective image of a popular female, is a thin female. Hatfield and Sprecher (1986, p. 214) have reminded us that stereotypically we view fat persons as overindulgent, lazy and irresponsible for their condition. This bias acts to reinforce thinness in our society.

In addition to the cultural bias favoring thinness in women, there exists pressure, particularly in the work force, on women to possess a thin figure. This pressure is nowhere more evident than in the fields of modeling and ballet, where the focus on a thin figure is rampant. Studies (Garner & Garfinkel, 1978, 1980; Garner, Garfinkel, Rockert & Olmsted, 1987) have shown that women in these professions exhibit increased dieting behaviors and are at an increased risk for developing an eating disorder.

Since the 1960's women have been faced with the challenge of meeting both the traditional, maternal role and integrating

this with a high pressure career. Established definitions of femininity are being replaced by definitions that "involve the socially rewarded attributes of achievement, success, productivity, competitiveness, and independence" (Garner, Garfinkel & Olmsted, 1983, p. 78). These authors concluded that many anorexics are frightened of the traditional feminine role on the one hand, and escalating standards of achievement on the other.

The more closely cultural factors are scrutinized the more clear becomes the role they play in the multidetermined nature of anorexia. This observation is highlighted by the finding that females account for more than 90% of all anorexic patients. Clearly the cultural bias is on the female form and not the male. It is important to understand that cultural factors do not cause a disease such as anorexia. Culture is mediated by the personality of the individual and family influences as well.

B. Individual Factors

Chief among individual elements are cognitive factors. Initially, anorexics are externally oriented for regulation of their weight and body image. However, this is soon replaced by a cognitive process which internally maintains the pursuit of thinness. "It is at this time that the syndrome becomes self-perpetuating in another fashion -- through positive self-reinforcement of successful weight loss and through phobic avoidance of weight gain" (Garner & Bemis, 1982, p. 18).

Most anorexics exhibit classic cognitive distortions.

Thought patterns such as "all-or-nothing: and "disqualifying the positive" often typify the thinking of the anorexic. In "all-or-nothing" thinking the anorexic sees herself as a total failure any time her performance is less than perfect; for example, "If I eat one slice of bread, I have totally ruined my diet." An example of "disqualifying the positive" is to respond to a friend's compliments by telling herself, "He just said that to be nice, I know I'm really overweight." Yet another cognitive distortion is catastrophizing, whereby the patient dwells on the most extreme negative consequences conceivable. The anorexic catastrophizes by assuming that failure to control even the the smallest amount of caloric intake will result in a weight gain of sufficient amount to "balloon-out" her shape. Beck commented: "A characteristic of catastrophizing is that the person equates the hypothesis with a fact. He assumes that a situation in which there is some possibility of harm constitutes a real, highly probable danger" (1976, p. 154).

In a 1988 study, Strauss and Ryan found that anorexics exhibited more cognitive errors overall, in particular more catastrophizing than bulimics or a control group (p. 24). These cognitive distortions are at the core of what sustains the dysfunctional behavior of the anorexic.

A second factor has to do with the development of autonomy. This fundamental building block of personality is impaired in the anorexic (Garfinkel & Garner, 1982, p. 194). This deficit manifests itself as a basic sense of personal ineffectiveness.

This ineffectiveness is so pervasive and paralyzing that the anorexic seeks any avenue in which complete mastery is obtainable. Hence, dieting behaviors become incredibly reinforcing as food intake is restricted and weight decreases. Difficulties in the healthy development of autonomy are not unique to anorexics, but are important issues to all adolescents. However, when coupled with other factors such as a dysfunctional family, cultural pressures to be thin and a fundamental reaction of helplessness and hopelessness with regard to control, many young females develop anorexia in response to this.

Another fundamental area of the individual dynamics are perceptual and conceptual disturbances. These distortions include body image disturbances, introceptive disturbances and a paralyzing sense of personal ineffectiveness.

In some patients, the body image disturbance takes a form in which the anorexic cannot accurately assess her size. As one 20 year-old woman reported, "I really cannot see how thin I am. I look into the mirror and still cannot see it; I know I am thin because when I feel myself I notice there is nothing but bones" (Bruch, 1973, p. 90). In other patients the disturbance in body image involves the correct estimation of body size coupled with "extreme forms of disparagement or occasionally aggrandizement" (Garfinkel & Garner, 1982, p. 125).

Interoceptive disturbances most often involve the inability to accurately perceive and analyze such internal sensations as hunger, satiety or effective states. Patients with

interoceptive disturbance do not recognize such internal cues as hunger or satiation. Such dystonic awarenesses are not differentiated from other uncomfortable sensations and feelings. Coupled with the fact that such external cues as body image are also distorted, the anorectic spiral of dysfunction continues to spin more and more tightly.

Thirdly, the profound sense of personal ineffectiveness is both intense and pervasive in the cognitive processes of anorexics. This experience often involves the perception that, "I'm always doing what everyone else wants and never what I want." Negativism and a stubborn defiance usually accompanies the relationships of anorexics as a "desperate coverup for an undifferentiated sense of helplessness, a generalized parallel to the fear of eating one bite lest control be lost completely" (Bruch, 1973, p. 254).

C. Family Factors

The literature on anorexia is saturated with reference to the influence of family factors. As Yager and Strober (1985) stated, "the earliest reports of anorexia noted that families interact with the patients in ways usually believed to be detrimental to the patients" (p. 481). With few exceptions, authors that discuss the etiology of anorexia, discuss family influence.

Garfinkel and Garner (1982) have discussed the family as "culture bearer." As children grow up and develop they do so within the milieu of their family, and the cultural beliefs

and values that are collectively held get passed on from one generation to the next. It appears that some families magnify cultural fads and pressures, thus enhancing an existing predisposition. In essence, it may be found that these families are anchored to externals. Such external "success" cues may include clothing, a youthful appearance, expensive material items, exercise, and a thin figure. Kalucy, Crisp, & Harding found that "exercise has a very moral tone" (1977, p. 390) in anorexic families. "Associated with this, fear of aging in the parents and an undue emphasis on a youthful appearance has been described" (Garfinkel & Garner, 1982, p. 176). And traditionally, anorexics have come from upper middle class families in which emphasis is often placed on material goods. Campbell (1986) delineated the characteristics typically found in the anorexic family. His list includes: upper-middle class, highly achievement oriented, excessive preoccupation with exercise and physical appearance. More subtle characteristics can include chronic marital difficulties, poor communication and unexpressed hostility. Often, the parents' energies are focused on the child rather than the marriage, leading to emotional overinvolvement.

Secondly, Selvini Palazzoli (1974) has enlarged on the concept of family interactions and posited several additional characteristics. Chief among these is: (1) the parents have difficulty in openly assuming the role of leader within the family system; (2) open alliances between parent and child

are prohibited, necessitating "covert coalitions"; and, (3) there is a facade of self-sacrifice and unity which conceals a profound underlying disillusionment (p. 211). Minuchin, Rosman & Baker (1978) added week boundaries leading to enmeshment, overprotectiveness and rigidity (quoted in Garfinkel & Garner, 1982, pp. 182-183).

As will be discussed in the next section, increased rates of eating disorders, including obesity, in addition to substance abuse and major affective disorder have been found in the families of anorexics.

Family History

In recent years the family history of anorexic probands has been increasingly scrutinized (Garfinkel, Garner & Goldbloom, 1987, p. 624).

As research relative to anorexia focuses more specifically on historical correlations, it is likely that the coaggregation of various disorders in first degree relatives will figure prominently. The question here is whether eating disorders and the related disorders of substance abuse and depression coaggregate in the same families, so that relatives share, through common genetic factors, a predisposition for anorexia.

Strober, Morrell, Buroughs, Salkin and Jacobs (1985, p.239) pointed out the difficulty of sorting out etiological factors:

> Although inherited predisposing vulnerability and environmental factors are inextricably tangled in family aggregation studies, they are a potentially fruitful starting point for investigating transmissible factors associated with anorexia and identifying specific variables conferring differential of heightened susceptability to family members purported to be at risk.

At present, the literature on these three areas is fragmented.

A. Family history of eating disorders in the relatives of anorexic probands.

Most studies that have investigated the family history of anorexic probands have found increased prevalence of eating disorders in the relatives, varying from between 5 to 27% (Holland, Sicotte & Treasure, 1988, p. 563). However, prior

to a 1983 study by Gershon, Schreiber, Hamovit, Dibble, Kaye, Nurnberger, Anderson and Ebert, much of the data relating to family history was anecdotal and were not subjected to validation studies. In this often cited study, the relatives of anorexic probands were six times as likely to meet the diagnostic criteria for anorexia as the relatives of a control group. However, a 1984 study (Gershon et al.) found that major affective disorder was present in the families of anorexic probands regardless of whether major affective disorder, bulimia or self-induced vomiting, were found in the patient. This 1984 study attempted to link the presence of these clinical features to morbid risk of affective disorder in relatives, but failed to do so.

In a study published in 1985, Strober et al. conducted a similar study and reported,

> As noted, families of anorexics more often had members with severe or subclinical anorexia than did control families (22 vs 3%, $z = 3.35$, $p < 0.001$); likewise, a greater number of anorexic proband families were positive for bulimia (12 vs 4% of control families), although this difference is not significant. Altogether, 16 (27%) of the 60 anorexic families has a diagnosis of some form of eating disorder in at least one relative, compared to six (6%) of the 95 control families ($z = 3.26$, $p < 0.001$). (Strober, Morrell, Burroughs, Salkin & Jacobs, p. 242)

In addition to the two key studies cited above, other studies have reported findings of increased prevalence of eating disorders in the relatives of anorexic probands (Theander, 1970; Crisp, Hsu, Harding & Harthorn, 1980; Hudson et al. 1983; & Kassett, Gershon, Maxwell, Guroff, Kazuba, Smith, Brandt & Jimerson, 1989). The results, while not conclusive, suggest that these different disorders are in some way associated.

Even stronger evidence comes from the study of twins. As Holland et al. (1988) reported, "Five past reviews of twins with anorexia have found that between 35% and 55% of the MZ twin pairs reported in the literature were concordant for anorexia" (p. 563).

Increased prevalence of eating disorders in the family history of anorexic probands may be explained by cultural or genetic transmission. On the one hand, it is possible that specific sets of values about eating/weight/body shape exist in families that are then passed on from one generation to the next. On the other hand, a predisposition to anorexia may be an inherited trait. At this point, the evidence is inconclusive. However, when considered together, family history and twin studies continue to sharpen the focus on the genetic link as an important factor.

B. Family History of major affective disorder in the relatives of anorexic probands.

A higher prevalence of affective disorder in the family history of anorexic probands is widely accepted (Logue et al., 1989, p. 185; Rivinus et al., 1984, p. 1417; Piran, Kennedy, Garfinkle & Owens, 1985, p. 395; and Hudson et al., 1983, p. 350). Winokur, March and Mendels (1980) compared the morbid risk in families of 25 anorexic probands to the risk in families of 25 normal controls. They found that 22% of the proband relatives had histories of primary affective disorder compared with only 10% of the controls' relatives ($X^2 = 18.70$, $df = 1$, $p < .005$).

Logue et al. (1989) had similar results, finding depression in 13% of proband relatives versus 5% for controls (adjusted odds-ratio = 3.51; $X^2$ = 6.55; $p < .025$). This study examined the family history of 307 relatives of 30 eating disordered patients, 16 patients with major depression and 20 normal controls. These authors concluded by stating, "These results support previous findings of a familial association of eating disorders and affective illness" (p. 185).

Two additional studies have examined the incidence of affective disorder in the relatives of anorexic probands. Gershon et al. (1984) compared the family histories of 24 anorexic probands with the family histories of 43 normal controls. The focus of this study was to determine if specific proband symptoms, i.e. affective disorder, self-induced vomiting and bulimia, correlated with the incidence of affective disorder in relatives. While results did find that the most prevalent psychological disorders in relatives consist of bipolar and unipolar major affective disorder, no correlation between proband symptoms and incidence of family history was substantiated.

Rivinus et al. (1984) found that in analysis of family history data from a group of 40 anorexic probands versus a group of 23 normal female controls, matched for age, there was more depression and substance abuse disorder in first- and second-degree relatives of the anorexic probands. Data also showed that depression and substance abuse disorders "loaded" within particular families. In this way, the results support the

hypothesis of a familial association between anorexia and affective disorders. The most consistent results were obtained from comparisons of the pooled diagnosis of depression, alcoholism, and drug use disorder. Relatives of anorexic probands had significantly more depression or substance abuse disorder than the relatives of controls.

Traditionally there have been two views regarding the etiology of depression and anorexia. The long-standing view sees depression as secondary to anorexia. That is, anorexia is primary and fosters the symptoms of depression (Bruch, 1973; Crisp, 1980). The second, and more recent view, holds that anorexia is a variant expression of depression. This "revisionist" position is exemplified in the works of Cantwell, Sturzenberger & Burroughs (1977), and Hudson, Laffer & Pope (1982). The key element of the revisionist position provides that characteristic eating habits and weight phobia exhibited by anorexics are secondary symptoms of depression. Swift, Andrews & Barklage (1986) have set aside this position when they stated,

> But the strongest dissenting evidence, at least with respect to anorexia, emanates from the follow-up literature. If anorexia were an adolescent variant of primary affective disorder, one would expect that the eating symptoms would recede with the passage of time and the mood disturbance come to the fore. However, this does not happen.

In summary, while depression and anorexia are often associated with one another, it is difficult, at present, to sort out the exact nature of the relationship.

Strober and Katz (1987) offered a broad spectrum of

rationale and evidence pointing to a greater divergence than overlap between depression and anorexia. The authors concluded,

> In short, the more chronic outcome and greater refractoriness of anorexia, temporal discontinuities in symptoms of eating disorders and depression, and negligible crossover into eating disorder amoung adolescents with major depression present a paradox to any theory that postulates a single mechanism of causation cutting across these conditions. In our view these findings speak more parsimoniously to the existence of pathogenic factors specific to eating disorders, which mediate their onset, recurrence, and chronicity. Imperfect though they are, epidemiologic statistics directly support this view. (p. 175)

While the relationship between these two disorders remains confusing, one fact is clear: The family history of relatives of anorexic probands presents with a higher prevalence of depression than is found in the normal population. Additional research may clarify the interplay between depression and anorexia.

C. Family history of substance abuse in the relatives of anorexic probands.

While the literature readily demonstrates the prevalence of alcoholism and substance abuse in the individual histories of anorexics (Hudson, Pope, Jonas & Yurgelun-Todd, 1983, p.350), only a few studies have reported an increased prevalence of alcoholism/substance abuse in the family history of anorexic probands.

In the first study, Rivinus et al. (1984) reported,

> More patients than control subjects had family histories of depression or substance abuse disorder (in a first-degree relative), generational family histories of depression or substance abuse disorder (in a relative in consecutive generations), and loaded pedigrees with depression or

> substance abuse disorder (three or more ill relatives per pedigree). (p. 1417)

In distinguishing between depression and substance abuse, the authors found an 11.1% morbid risk for substance abuse in parents of patients versus 0% risk in parents of a control group, and 15.1% morbid risk for substance abuse in grandparents of anorexics versus 0% risk in grandparents of controls. However reported data were found to be internally inconsistent and the number of subjects used too small for the results to be viewed as significant.

In a second study, Kassett et al. (1989), studied the family histories of bulimic probands. The authors reported finding an increased prevalence of alcoholism in the family histories of bulimic probands versus a control group, 27.6% versus 13.6%, $p < 0.01$ (p. 1470).

Similarly, Bulik (1987) studied patterns of drug and alcohol abuse in 35 bulimic women, 35 healthy control subjects and their first- and second-degree relatives. The bulimic women and their families had significantly higher rates of substance abuse disorders.

In yet another study (Molgaard, Chambers, Golbeck, Elder & Ferguson, 1989) the results indicate that rates of maternal alcoholism are significant ($p < 0.031$). Molgaard et al. studied 40 anorexic probands matched with two separate control groups.

Several additional authors have investigated the rate of alcoholism in the first-degree relatives of subtypes of eating

disordered patients (i.e. bulimics and bulimic-anorexics vs. restricting anorexics) and found increased rates (Strober, Salkin, Burroughs & Morrell, 1982; Piran, Kennedy, Garfinkel & Owens, 1985).

The findings of these studies are suggestive. However, additional research is needed to clarify further the role that alcoholism plays in the relatives of anorexic probands.

## Theoretical Orientation and Conceptual Framework

### The Coaggregation of Anorexia, Depression and Substance Abuse in Family Histories

Historically we see a greater prevalence of depression, substance abuse and anorexia in the family histories of anorexic probands. From a cognitive-behavioral viewpoint this would be logical because this "triad" share common cognitive distortions or, logical errors. Errors such as all-or-nothing thinking, disqualifying the positive and perceptual distortions are found in depression as well as substance abuse and eating disorders.

Bruch (1961, 1962) was the first to identify the primacy of perceptual and conceptual disturbances in anorexia. More recently, Garner and Bemis (Garner, 1986; Garner & Bemis, 1982) have noted the major role played by cognitive distortions in the development and maintenance of anorexia. Strauss and Ryan (1988) focused on two aspects of cognitive distortions in a recent study. "Cognitive slippage" is a term Strauss and Ryan have used to subsume "both conceptual laxity and poor reality testing" (p. 20). These authors also suggested that although the anorexic tends to demonstrate above-average abilities on intelligence tests, she does not develop formal operational thinking or mature conceptual complexity (p. 20). The authors concluded by stating, "Our results offer limited support for the notion that cognitive dysfunction is a central characteristic

of eating pathology.

Roth and Ross (1988) demonstrate the presence of "maladaptive, self-focused cognitive schemata" with such statements as,

1. "Thinness gives me self-worth."
2. "I can restrictively diet without compromising my health."
3. "I am fat and ugly."
4. "I can't control my life."
5. "I am generally worthless and inadequate."

Roth and Ross state that, "Distorted interpersonal beliefs also contribute to the formation and persisitence of maladaptive interpersonal relationships." Beliefs such as:

6. "People are untrustworthy."
7. "People want to control my life."
8. "People expect me to be perfect."
9. "People find me uninteresting."
10. "I need always to please other people."
11. "It is wrong to directly express anger toward people." (pp. 493-493).

A 1989 study (Clark, Feldman & Channon) investigated the nature of negative cognitions in anorexia and bulimia. Twenty anorexics and 42 bulimics completed a battery of tests measuring distressing thoughts, depression, anxiety, and obsessive-compulsive traits. Subjects rated their depressotypic and negative weight related cognitions as more frequent,

emotionally intense, uncontrollable, guilt-inducing, and plausible than 165 female student nurses. For the anorexics and students, thoughts of loss and failure were predictive of dysphoria, while cognitions of body dissatisfaction and food preoccupation were specifically associated with eating disturbance.

Similar distortions, specific to depression, have long been recognized in the literature. Beck, Freeman & Associates (1990) stated, "We have found that depressed people have continuous, unpleasant thoughts and that with each negative thought the depressed feeling increases" (p. 56). In 1967 Beck wrote,

> The patient's pattern of expecting the worst and rejecting the possibility of any improvement poses formidable obstacles in attempts to engage him in a therapeutic program....Unlike the anxious patient, who tempers the negative anticipations with the realization that the unpleasant events may be avoided or will pass in time, the depressed patient thinks in terms of a future in which his present deficient condition (financial, social, physical) will continue of even get worse. (p. 23).

More recently, Janoff-Bulman and Hecker (1988) stated, "Pessimism is often regarded as the element that changes simple sadness into depression. Not only do depressives question whether they will ever get over their depression, but they typically have negative expectations about the future in general" (p. 177). The pessimistic flavor of depressive beliefs can be appreciated in such statements as:

1. "My wife left me because I wasn"t good enough for her, I will never be able to get along without her."

2. "My hair is thinning. I'm losing my looks. No one will care about me anymore."
3. "I am such a lousy secretary. My boss just keeps me because he feels sorry for me. Nothing I try to do ever turns out right."
4. "I just can't get myself to do any work around the house. My marriage is falling apart" (Beck, 1967, p. 74).

In yet a similar process, cognitive distortions are prevalent in alcoholism. Nathan (1985) summarized,

> Especially important are an individual's processes associated with drinking: expectations about the effect of drinking; expectations of its effects on behavior... In a real sense, expectations exert their effect regardless of what alcohol actually does. Other cognitive processes important to the cognitive social learning understanding of substance abuse include beliefs about etiology and treatment -- again, beliefs rather than validity. (p. 169)

Typical beliefs that arise from the alcoholic's self-schemata include expectations about the effects of drinking:

1. "Drinking doesn't harm anyone."
2. "The real me emerges when I drink."
3. "People like me more after I've had a few drinks."
4. "I can still drive; I'm fine really."

Expectations about the effects of drinking on behavior:

5. "It makes me powerful (or sexy), (or better), (or confident).
6. "I need a drink to relax."

Beliefs about etiology:

7. "I can never stop, my father was an alcoholic and so am I."

Beliefs about treatment:

8. "Nothing can help me."

9. "AA is for losers, it doesn't help anyone."

Beliefs about autonomy:

10. "It's my body, I have the right to drink if I choose."

Wegscheider (1981, p. 65) noted that as the alcoholic spiral worsens, the cognitive distortions become more prevalent and more grandiose. And so it is with the anorexic and depressive. Cognitive distortions are common symptoms and become more pronounced as the dysfunction develops.

While commonly shared cognitive distortions are important clinically, and are useful from a treatment viewpoint, they do not account for the possible coaggregation of anorexia, depression and alcoholism in the relatives of anorexic probands.

Conceptually, the coaggregation of anorexia, depression and alcoholism is reasonable due to the underlying dynamic of hoplessness. The concept of hopelessness bridges the gap between these three disorders because it possesses a core element common to all three. The state of hopelessness encompasses "negative expectations about the occurance of highly valued outcomes, and feelings of helplessness about changing the likelihood of occurrence of these outcomes" (Abramson, Alloy & Metalsky, 1988. p. 7).

Hopelessness maintains a sense of powerlessness with regard to the future. In this way, hopeless individuals focus on the belief that an undesirable event cannot be prevented. Hopelessness represents the core of the cognitive triad. This "triad" is best represented in the writings of Beck (1976) and postulates a negative view of the self, the world and the future. Hopelessness is then seen as a negative view of the future in which the person's presumed ineffectiveness to undo, offset or cope with an anticipated negative event presents as the core of the problem.

For the anorexic the hopelessness focuses on their perceived inability to avoid being fat. This sense of despair and personal ineffectiveness is a common symptom in anorexic case studies (Bruch, 1973; Chaitin, 1988). In a 1988 study (Laessle, Kittl, Fichter & Pirke), 99 eating disordered patients were assessed, 53 at hospital admission and 46 at a 1-year follow-up. Cognitive distortions were measured on three subscales of the Eating Disorder Inventory and severity of depression was measured using the Beck Depression Inventory and the Depression Scale. Results indicated that the role of cognitive distortions characteristic of patients with eating disorders is crucial for the development and maintenance of depressive symptoms.

In individuals suffering from mood disorders the literature is replete with evidence of a hopelessness componet. A number of authors have proposed hopelessness as "proximal sufficient cause" of depression (Abramson, Seligman & Teasdale, 1978;

Alloy, 1982; Ortony, Clore & Collins, 1988). Thus, as an individual experiences a stressor or negative life event, negative expectancies are attached to the outcome of this event and feelings of helplessness about changing the negative outcome produce a sense of hopelessness.

For the substance abuser the addictive spiral is accompanied by a generalized sense of futility and hopelessness (Schuckit, 1986). The attributional system of the substance abuser focuses on the futility of change. Schuckit (1989, p. 262) recognized this pattern of beliefs in alcoholics in relation to motivation for treatment. Schuckit found that alcoholics aggressively deny the ability to change and remain hopeless with regard to the ability to ever change.

As additional research reveals the multiple interconnections between disorders it is reasonable to assume that current perspectives will be shown to be too restrictive. It is possible that anxiety disorders and/or borderline personality, which share many diagnostic criteria with anorexia, depression and substance abuse, may be found to coaggregate as well. However, the scope of this study is sufficient for the current status of knowledge. Therefore, the hypothesis which this study posits, is that eating disorders, mood disorders and substance abuse coaggregate in the family history of anorexic probands.

It should be noted that the literature frequently suggests that a genetic component is involved in the etiology of each of these three areas (Strober & Humphrey, 1987; Yager, 1982;

Merikangas, 1987; Holland et al., 1988; & Schuckit, 1986).

With regard to a possible genetic componet in a psychological disorder, Merikangas (1987, pp. 628-629) noted,

> There are four types of evidence that genetic factors contribute to a disease of unknown etiology:
>
> 1. significant aggregation of the illness within families
> 2. a higher concordance among monozygotic (MZ) twins than among dizygotic (DZ) twins
> 3. a higher incidence of the trait, irrespective of home environment, among biological offspring of affected individuals than among biological offspring of unaffected individuals; that is "positive" adoption study
> 4. genetic linkage of the illness with an identifiable allele at a marker locus
>
> The types of studies that have been conducted to assess the role of genetic factors in the etiology of illnesses include: family studies, which can demonstrate significant degrees of aggregation of the trait among relative of affected probands compared to expected rates from the population.

A number of studies have examined various aspects of psychopathology in the families of eating disordered patients. One group of studies (Winokur, March & Mendels, 1980; Gershon et al., 1984; and Rivinus et al., 1984) examined the rates of affective disorders in the families of anorexic probands. These studies have been discussed earlier and are limited by the fact that they look only at the rate of affective illness in the relatives of anorexic probands. Affective disorder is only one of three factors suggested for study in this experiment.

A 1985 study by Strober et al. examined the incidence of eating disorders in the relative of anorexic probands as compared with the incidence of eating disorders in the relatives of non-

anorexic psychiatrically ill probands. This study, also discussed earlier, accounts for only one of three factors suggested for study here.

The 1989 study by Logue, Crowe and Bean does examine two of the three areas targeted for this proposal: depression and substance abuse. In contrast to the other studies, Logue et al. were unable to find any evidence of familial aggregation of eating disorders. This may be due to the relatively small sample size of eating disordered probands, (n=30), in addition to difficulties in gathering reliable family history data from relatives. Logue et al. reported, "These results support previous findings of a familial association of eating disorders and affective illness. In particular, this study provides evidence of an association between eating disorders and major depression."

Three studies (Hudson et al., 1983; Kassett et al., 1989 and Molgaard et al., 1989) have most closely examined the factors suggested for the focus of this proposal. In the first study (Hudson et al., 1983), 420 first degree relatives of 14 patients with anorexia, 55 patients with bulimia, and 20 patients with both disorders were evaluated for the presence of psychiatric illness. Comparison groups were composed of patients meeting the DSM-III criteria for bipolar disorder (n=33), schizophrenia (n=39), and borderline personality disorder (n=15). Patients in the borderline group were screened to exclude cases with concomitant major affective disorder.

Data were obtained by interview. Sixty-six first degree relatives were interviewed directly, and information on the remaining 57 families were elicited from the subjects alone. Results determined that 18% of the relatives of eating disordered probands had some form of mood disorder as compared with the schizophrenic group and the borderline personality group. Results between the eating disordered group and the bipolar group were not significant. Substance abuse disorders were second in prevalence to affective disorders and accounted for 51 cases among first degree relatives.

There are two problems with this study. The authors have failed to report incidence of substance abuse and eating disorders in the relatives of any of the control groups. Secondly, there is no attempt to look at how the three primary disorders (eating disorders, affective disorders and substance abuse disorders) coaggregate in any given family history.

Kassett et al. (1989) investigated psychiatric disorders in the first degree relatives of 40 bulimic probands. Three hundred and three first-degree relatives were interviewed using a modified Schedule of Affective Disorders and Schizophrenia, Lifetime version (SADS-L). Twenty-three bulimics (58%) met the criteria for major affective disorders, and 22 probands (55%) met the criteria for substance abuse. More to the point, "Results indicate significantly higher rates of major affective disorders, eating disorders, and alcoholism in the families of bulimic probands than of control subjects." Thus, while these authors

found significant results nearly across the board, the target population of probands was bulimic not anorexic, and the issue of coaggregation within the family unit is not addressed.

The final study (Molgaard et al., 1989) utilized a case control design in which 40 cases of anorexia were matched to two separate control groups, one being population based and one being clinic based. This study is important in that it uses a case record review of anorexic patients. A control group is obtained by random digit dialing, matching for sex, age and the absence of any prior history of an eating disorder.

A second analysis matched the same 40 anorexic cases with 71 bulimic controls from the same eating disordered clinic. This second analysis served to control for any referral patterns that may have biased the initial analysis.

In the final analysis, the two variables, family history of alcoholism and family history of psychological disorders were stratified on the family member afflicted. When this was done, only mother with alcoholism and mother with psychological disorders remained significant. Molgaard et al., concluded that these results suggest that maternal alcoholism be considered as a possible risk factor for anorexia.

## RESEARCH QUESTIONS

(1) Is there a greater prevalence of eating disorders in the first-degree relatives of anorexic probands than in the first-degree relatives of a control group?

(2) Is there a greater prevalence of affective disorder in the first-degree relatives of anorexic probands than in the first-degree relatives of a control group?

(3) Is there a greater prevalence of substance abuse in the first-degree relatives of anorexic probands than in the first-degree relatives of a control group?

(4) Do eating disorders, affective disorders and substance abuse coaggregate in the family histories of anorexic probands?

## Methodology

This is an archival ex post facto study which reviewed the medical records of 200 subjects in order to ascertain the incidence of eating disorders, mood disorders and substance abuse disorders in all first-degree relatives.

A. SUBJECTS

One hundred female subjects between the ages of 11 and 20 with a DSM-III-R diagnosis of anorexia comprised the experimental group. Age was determined by using the patient's date of first visit with the physician who provided the treatment, minus the date of birth. The control group consisted of an additional 100 females, matched for age, with a DSM-III-R diagnosis excluding eating disorders, mood disorders and substance abuse disorders. All subjects were seen by the same physician.

1. Experimental group selection.

Medical records were reviewed for the female patients who met the diagnostic and age criteria and initially sought treatment for an eating disorder from a physician who specializes in treating adolescent clients. Records were selected by the date of the researcher's first visit and working back until 100 records were reviewed.

2. Control group selection.

The female patients who met the diagnostic and age criteria and initially sought treatment from a physician who specializes in treating adolescent clients for reasons other

than an eating disorder, and who are subsequently diagnosed with a DSM-III-R disorder exclusive of an eating disorder, mood disorder or substance abuse disorder were included in the control group. Records were selected by the date of the researcher's first visit and working back until 100 records had been reviewed.

B. MEDICAL RECORD DATA EXTRACTION

1. Pilot Study.

A pilot study was conducted so that medical records might be shown to be a valid source of data. Ten subjects, 6 anorexic probands and 4 non-anorexic probands but psychiatrically disordered probands, were selected at random from among patients currently being seen by a physician who specializes in the treatment of adolescent clients. Each proband and her parents were interviewed and family history data were obtained on all first-degree relatives. Data from interviews were then compared to data previously recorded in medical records. The results are listed in Table 1 for the anorexic group and Table 2 for the control group.

**TABLE 1**

Pilot Study Data: Anorexic Group

| Disorder | Interview # reports | Med. Records # reports | Agreement |
|---|---|---|---|
| 1. Eating Disorders | | | |
| A. Anorexia | 4 | 4 | 100% |
| B. Bulimia | 4 | 4 | 100% |
| C. Severe Obesity | 2 | 2 | 100% |
| 2. Alcoholism | 9 | 8 | 89% |
| 3. Substance Abuse | 6 | 6 | 100% |
| 4. Mood Disorder | 14 | 12 | 86% |
| Probands = 6 | | Total number of relatives = 54 | |

**Table 2**

Pilot Study Data: Control Group

| Disorder | Interview # reports | Med. Records # reports | Agreement |
|---|---|---|---|
| 1. Eating Disorder | | | |
| A. Anorexia | - | - | - |
| B. Bulimia | - | - | - |
| C. Severe Obesity | - | - | - |
| 2. Alcoholism | 9 | 9 | 100% |
| 3. Substance Abuse | 1 | - | 0% |
| 4. Mood Disorder | 12 | 11 | 92% |
| Probands = 4 | | Total number of relatives = 37 | |

This finding is consistent with the results of this pilot study which shows significant validity between interviews and medical records data previously recorded.

2. MEDICAL RECORD ANALYSIS

The medical records of each subject were analyzed. Each incidence of mood disorder, eating disorder or substance abuse disorder that met the stated criteria for any first-degree relative was noted. A first-degree relative is defined as a blood relation of the following types: parents, siblings, uncles and aunts.

A coding sheet (see Appendix A) was used to codify each diagnosis of a family member found in the medical record of a proband. This coding process consisted of a checklist of DSM-III-R criteria for each identified disorder and provides supplementary validation of the physician's original diagnosis.

In those instances where a discrete item contained in a medical record diagnosis is ambiguous, it was ignored.

3. DEFINITIONS OF DIAGNOSIS

1. Mood Disorder:

A) Diagnosis by a physician or psychologist of a mood disorder which meets Appendix A criteria. Or,

B) Systematized treatment of a mood disorder involving medication or therapy where the primary symptom targeted for treatment is a mood disorder.

2. Eating Disorder:

A) Anorexia:

1) Diagnosis by a physician or psychologist of anorexia which meets Appendix A criteria. Or,

2) Systematized treatment of anorexia.

B) Bulimia:

1) Diagnosis by a physician or psychologist of bulimia which meets Appendix A criteria. Or,

2) Systematized treatment of bulimia.

3. Substance Abuse:

A) Diagnosis by a physician is reported which meets the Appendix A criteria, or systematized treatment for abuse is reported (treatment = a minimum of seven sessions, treatments or meetings). Any of the following qualify as "substances":

1) Alcohol

2) Amphetamine

3) Cannabis

4) Cocaine

5) Hallucinogens

6) Opioids

7) Phencyclidine

8) Sedatives, hypnotics or anxiolytics

9) Inhalents

# Chapter 5

## RESULTS

### Demographic Characteristics

The incidence of eating disorders, mood disorders and substance abuse disorders in the first degree relatives of anorexic and control probands was examined. A total of 200 sets of medical records were reviewed. Table 3 provides an overview of proband and family data for both groups.

Table 3

Proband and Family Data for Anorexic and Control Groups

| | Anorexic (N=100) | Control (N=100) |
|---|---|---|
| Mean Age | 17.1 | 15.4 |
| Caucasion | 96% | 98% |
| Single | 97% | 100% |
| Parent: | | |
| Married, natural parents | 62% | 68% |
| Married, blended parents | 31% | 23% |
| Single | 7% | 9% |
| Relatives | 572 | 508 |
| Male | 302 | 283 |
| Female | 270 | 225 |

All probands are female and were between the ages of 11 and 20 when first seen for treatment. Anorexic probands and control probands were of similar age (mean = 17.1 ± 2.3 years

versus mean = 15.4 ± 2.7 years, respectively; p. N.S.). Anorexic probands included 96 Caucasians, 2 Asians, 1 Iranian and 1 African American. The control group was comprised of 98 Caucasians and 2 Asians. All probands were first seen for treatment in the past 5 years.

In the control group, all probands were single at the time of first being seen. However, among anorexic probands, 97 were single, 2 were married and 1 was divorced. In a similar review, the marital status of the parents of probands was tabulated. In the anorexic group 67 parents were married, 26 were divorced and 7 were single parents. In the control group 68 parents were married, 25 were divorced and 7 were single. Differences between the two groups were not significant for married with natural parents, married with blended parents or single parents.

The total number of relatives involved in both groups is 1,080. Relatives of anorexic probands numbered 572 (mean = 5.7 ± 1.2); while relatives in the control group numbered 508 (mean = 5.1 ± 1.6; $\underline{t}$=2.98, $\underline{df}$=198, $p<.005$). First degree relatives included in this group are parents, siblings, aunts and uncles related by blood. Stepmothers, stepfathers and step-siblings were not included in this study.

The primary diagnosis of patients in the control group was obtained from the medical records and the type and frequency of diagnosis is listed in Table 4. Diagnostic data were obtained from the medical record and reflect the initial and ongoing diagnostic assessment of the treating physician. In those

instances where diagnostic assessment changed over the course of treatment, the record was not used.

Table 4
Type and Frequency of Control Proband Diagnosis

| DSM-III-R Diagnosis | Frequency |
|---|---|
| Anxiety Disorders | 48 |
| Conduct Disorders | 19 |
| Adjustment Disorders | 13 |
| Oppositional-Defiant Disorders | 9 |
| Attention Deficit Disorders | 8 |
| Elimination Disorders | 2 |
| Gender Identity Disorders | 1 |
| Total | 100 |

Patients for the control group were screened for a primary diagnosis including eating disorders, mood disorders and substance abuse disorders. Patients with any or a combination of these disorders were not included in the control group. The resulting group includes 48 patients with some type of anxiety disorder. Disorders were grouped under broad headings. For example, anxiety disorders includes simple phobia, post traumatic stress and other anxiety disorders as classified in the DSM-III-R. In contrast, the anorexic group all had a primary diagnosis of anorexia and were screened for other axis I or Axis II diagnoses. In cases where an additional Axis I or Axis II diagnosis was discovered, the case was not used.

Comparison of Anorexic and Control Groups

Data were obtained on the incidence of eating disorders, mood disorders and substance abuse disorders in the relatives of both groups and is presented in Table 5.

Table 5
Incidence of Eating Disorder, Mood Disorder and Substance Abuse Disorder in the Relatives of Anorexic and Control Probands

| | Anorexic Group (N=572) | | | Control Group (N=508) | | |
|---|---|---|---|---|---|---|
| | Female | Male | Total | Female | Male | Total |
| Eating Disorder | 36/13% | 0 | 36/7% | 8/3% | 0 | 8/1% |
| Mood Disorder | 78/29% | 29/9% | 107/19% | 59/26% | 33/12% | 92/18% |
| EtOH | 24/9% | 16/5% | 40/7% | 27/12% | 21/7% | 48/9% |
| Drug | 6/2% | 12/4% | 18/3% | 7/3% | 11/4% | 18/3% |
| Total Substance Abuse Disorder | 30/11% | 28/9% | 58/10% | 34/15% | 32/11% | 66/13% |

Ambiguous data were found in 26 instances in the relatives of anorexic probands and in 19 instances in the relatives of control probands. The difference between the two groups with regard to ambiguity of data is not significant ($X^2$ = .048, df=1, p>.25). Ambiguous data involve the description of data in medical records in a problematic manner. Ambiguity often had to do with diagnostic remarks made in an anecdotal manner as opposed to the use of a symptom checklist approach. When this occurred, the data were ignored and therefore not available

for purposes of a diagnosis.

Eating Disorders

Research Question 1 asked, "Is there a greater prevalence of eating disorders in the first-degree relatives of anorexic probands than in the first-degree relatives of a control group?" It was hypothesized that there would be a higher prevalence in the relatives of anorexic probands and that this difference would be statistically significant.

The anorexic group was found to have a significantly higher incidence of eating disorders than did the control group ($X^2$ = 14.7, df=1, $p<.001$). No incidence of an eating disorder was found in the male relatives of either the anorexic or the control group probands. The category of eating disorders includes both anorexia and bulimia. When just females were compared for each group, similar results were found ($X^2$ = 14.49, df=1, $p<.001$).

The hypothesis was supported, as the relatives of the anorexic group did present with a higher incidence of eating disorders than did the relatives of the control group.

Mood Disorders

The second research asked, "Is there a greater prevalence of mood disorder in the first-degree relatives of anorexic probands than in the first-degree relatives of a control group?" It was hypothesized that the relatives of anorexic probands would exhibit a higher incidence of mood disorders than the relatives of a control group.

A similar incidence of mood disorders was found to exist

in the relatives of each group. Slightly more female relatives of anorexic probands experienced a mood disorder than female relatives of control probands, but the difference is not significant ($x^2$ = .435, df=1, p>.25). The reverse was found to be true for male relatives, with a slightly higher incidence of mood disorder among male relatives of control probands. However, chi-square analysis found no significant difference between groups ($x^2$ = .653, df=1, p>.25). Combining findings for males and females, the results are almost identical and the findings are not significant ($x^2$ = .06, df=1, p>.25).

Thus, the hypothesis was not supported. The incidence of mood disorder is not greater in the first-degree relatives of anorexic probands. Rather, the two groups exhibited only slight differences that are likely due to chance.

Substance Abuse Disorders

The third research question asked, "Is there a greater prevalence of substance abuse in the first-degree relatives of anorexic probands than in the first-degree relatives of a control group?" The hypothesis was that there would be a greater incidence in the relatives of the anorexic group as compared to the control group.

The data with regard to substance abuse were divided into two sub-categories: alcohol abuse and "other" drug abuse. Results show that alcohol abuse is higher among the relatives of the control group than among the relatives of anorexics, but not to a significant degree ($x^2$ = 2.17, df=1, p>.10).

The incidence of other forms of substance abuse between the two groups was almost identical and most often involved the "recreational" use of marijuana and cocaine. There was no significant difference between the two groups on the basis of drug use ($x^2$ = .13, df=1, p>.25).

Total substance abuse between the two groups showed a slightly higher incidence among relatives of the control group (13% versus 10%) but not at a statistically significant level ($x^2$ = 1.18, df=1, p>.25).

Thus, the hypothesis regarding a higher prevalence of substance abuse in the relatives of anorexic probands was not supported for alcohol abuse, drug abuse or total substance abuse.

Incidence of Disorder Clustering

The fourth research question asked, "Do eating disorders, mood disorders and substance abuse disorders coaggregate in the family histories of anorexic probands?" The hypothesis was that these three disorders do coaggregate or cluster in the families of anorexic probands as compared to the families of a control group.

The incidence of clustering is very similar between the two groups with the exception of the clustering of the three disorders category: eating disorders, mood disorders and substance abuse disorders. The anorexic group displayed significantly more instances of the clustering of three disorders (19 times), as opposed to the control group (5 times).

Table 6 shows the incidence of disorder clustering in

families, by type of disorder.

Table 6

Incidence of Disorder Clustering in the Families of Anorexic Probands versus Families of a Control Group.

| Cluster Type | Anorexic | Control |
|---|---|---|
| 1. No Disorders | 23 | 25 |
| 2. Eating Disorders only | 3 | 1 |
| 3. Mood Disorders only | 23 | 27 |
| 4. Alcohol Abuse only | 2 | 5 |
| 5. Drug Abuse only | 1 | 5 |
| 6. Two Disorders | 29 | 32 |
| 7. Three Disorders | 19 | 5 |
| Total (N=100) | 100 | 100 |

Results show a significantly higher incidence of family clustering in the families of anorexic probands as compared to families of control probands ($X^2 = 6.7$, df=1, $p<.01$). Clustering is defined as the incidence of a minimum of one instance each of eating disorder, mood disorder and substance abuse disorder in the first-degree relatives of a single family.

The hypothesis of disorder clustering is supported by the data. A significantly higher incidence of coaggregation of eating disorders, mood disorders and substance abuse disorders did occur in the families of anorexic probands as compared to a control group.

Modification of Control Group

The original control group consists of 100 probands screened for eating disorders, mood disorders and substance abuse disorders. Of the 100 screened probands, 48 had a primary diagnosis of anxiety. When this control group is further screened for anxiety disorders, a group of 52 probands and 270 relatives remains. A comparison of the anorexic group with this modified control group is presented in Table 7.

Table 7

Incidence of Eating Disorder, Mood Disorder and Substance Abuse Disorder in the Relatives of Anorexic and Adjusted Control Probands

| | Anorexic Group (N=572) | | | Control Group (N=270) | | |
|---|---|---|---|---|---|---|
| | Female | Male | Total | Female | Male | Total |
| Eating Disorder | 36/13% | 0 | 36/7% | 2/2% | 0 | 2/1% |
| Mood Disorder | 78/29% | 29/9% | 107/19% | 31/25% | 17/12% | 48/18% |
| EtOH | 24/9% | 16/5% | 40/7% | 13/10% | 15/10% | 28/10% |
| Drug | 6/2% | 12/4% | 18/3% | 2/2% | 5/3% | 7/3% |
| Total Substance Abuse Disorder | 30/11% | 28/9% | 58/10% | 15/12% | 20/14% | 35/13% |
| Clustering | | | 19/19% | | | 2/2% |

When chi-square was used to examine the differences between the groups results were found to be similar to those previously reported in this paper. Total eating disorders ($X^2$ = 13.13,

df=1, $p<.001$), total mood disorders ($X^2 = .105$, df=1, $p>.25$, N.S.), total substance abuse disorders ($X^2 = 1.49$, df=1, $p<.10$, N.S.) and clustering in families ($X^2 = 4.93$, df=1, $p<.05$).

# Chapter 6

# DISCUSSION

The purpose of this study was to determine if eating disorders, mood disorders and substance abuse disorders coaggregate in the families of anorexic probands. Two groups were compared, 572 relatives of 100 anorexic females and 508 relatives of 100 dysfunctional females screened for eating, mood and substance abuse disorders.

## Discussion of the Results

### Hypothesis 1.

The first hypothesis stated that there would be a greater prevalence of eating disorders in the first-degree relatives of anorexic probands as compared to the first-degree relatives of a control group. A significant difference was found between the two groups ($X^2$ = 14.7, df=1, $p<.001$), thus the hypothesis is supported.

The findings of an increased prevalence of eating disorders in the relatives of anorexic probands as compared to a control group is consistent with the findings of other controlled studies (Gershon et al., 1983; Strober et al., 1985; Hudson et al., 1987; Crisp et al., 1980) which found an increased incidence of eating disorders in the families of eating disordered probands. Over the past ten years a number of studies have clearly demonstrated this familial attribute, lending support to the hypothesis that the children of relatives with a history of eating disorders have a higher probability of developing

an eating disorder than does the general population.

Hypothesis 2.

The second hypothesis stated that there would be a greater prevalence of mood disorder in the first-degree relatives of anorexic probands as compared to the fisrt-degree relatives of a control group. The two groups exhibited very similar incidence of mood disorders in both male and female relatives and the results were not significant.

While the literature reports similar examples of increased incidence of mood disorders in the relatives of anorexic probands (Gershon et al., 1984; Hudson et al., 1987; Rivinus et al., 1984; Winokur et al, 1980; and Kassett et al., 1989), the control groups in these studies involve normal probands.

This type of family case-control study is termed a "bottom-up" study (Puig-Antich, 1984). This refers to the fact that the children in the family are designated as probands and the antecedent family members are studied in a bottum-up fashion. In this way, studies that begin with the child or adolescent as the proband, tend to find very high rates of illness in the adult relatives, possibly because of sampling bias. Weissman, Merikangas, John, Wickramaratne, Prusoff & Kidd, (1986), commented,

> Although the proband is the treated child, it is the parent who brings the child for treatment and who grants permission for the child to be included in the study. Ill parents may be more likely than well parents to bring their children to treatment. One method used to control for this ascertainment bias has been to select for comparison a control proband group of children with another treated psychiatric illness. The rates of all types of psychiatric

> illness will also tend to be high in the adult relatives of the child comparison group. (p.1105)

It is in this light that all results in this study must be viewed. Thus, while rates of incidence may be inflated, comparisons between groups provide valid and significant information from which specific conclusions may be made. In this study the incidence of mood disorder is similarly high in both groups and the hypothesis is not supported.

A number of studies have sought to link anorexia and affective disorders (Gershon et al., 1984; Hudson et al., 1983; Weissman, 1984; Winokur et al., 1980 and Rivinus et al., 1984), as a way of explaining the increased incidence and accounting for similarities in presentation. Indeed, this train of thought led some researchers to advocate that affective conditions and anorexia share a common familial diathesis (Cantwell et al., 1977; Hudson & Pope, 1988).

It is true that considerable symptomological overlap exists between anorexia and depression. Depressive features such as self-doubt, low self-esteem, and self-reproach are prominent in most cases of anorexia. In this way, it might seem logical to refer to anorexia as a "depressive syndrome." In addition, family studies present findings of high lifetime rates of major depression in patients with eating disorders and greater than expected rates of affective disorder in their relatives (see Strober & Humphrey, 1987, for a review of these findings).

However, there are still too many loose ends left to unravel. For example, only a small percentage of depression-prone individuals develop eating disorders. In addition, just as it is common for anorexics to present depressive symptoms, it is just as common that patients are paradoxically hyperactive, energetic, and devoid of apparent distress despite their obviously malnourished state (Halmi, 1985). Also, Cooper and Fairburn (1986), argued against a common familial diathesis based on the different symptom presentation of depressive characteristics in affective disorders as opposed to eating disorders.

With regard to the elevated incidence of mood disorders in the relatives of anorexic probands found in this study, the contribution of familial transmission has already been well established. Yet, as Strober and Katz (1987) stated, "these observations do not imply a unitary etiology or genetic kinship among eating and affective disorders, If this were so, rates of eating disorder should also be elevated in the relatives of patients with primary affective disorder." This is not the case. The evidence simply does not support a common etiology between affective disorders and anorexia at this time.

Hypothesis 3.

The third hypothesis stated that there would be a greater prevalence of substance abuse in the first degree relatives of anorexic probands as compared to the first degree relatives of a control group. While there were some minor fluctuations

in the incidence of substance abuse between the two groups, these differences were not significant and therefore the hypothesis is not supported.

Substance abuse was divided into two categories: alcohol and other drug abuse. Incidence between groups was not significant for either category.

A higher incidence of substance abuse disorders in the relatives of eating disordered probands, as compared with a control group, is found in several recent studies (Bulik, 1987; Hudson et al., 1987; Kassett et al., 1989; Rivinus et al., 1984), in which the control group was comprised of normal probands. Comparisons involving the relatives of anorexic probands with the relatives of non-anorexic, psychiatrically disordered control probands, are not available.

Hypothesis 4.

The fourth hypothesis stated that eating disorders, mood disorders and substance abuse disorders would coaggregate in the families of anorexic probands as compared to the families of control probands. Results were significant ($X^2 = 6.7$, df=1, $p<.01$) and the hypothesis was confirmed.

It was found that eating disorders, mood disorders and substance abuse disorders clustered in the families of anorexic probands nearly four times as often as in the families of a control group. This finding is similar to results reported by Kassett et al., (1989). Kassett et al., in published data from a family study of psychiatric disorders, showed higher

rates of major affective disorders, eating disorders, and alcoholism in first-degree relatives of 40 bulimic probands than in first-degree relatives of 24 control subjects ($p<.01$).

Essentially, the Kassett et al. study hypothesized the concept of coaggregation in families, similar to the central hypothesis of this study. However, where Kassett et al. used bulimic probands, this study used anorexics.

Adjusted Control Group, Screened for Anxiety Disorder

The control group used in this study is comprised of 48 probands with a primary diagnosis of an anxiety disorder. It is not surprising that a group already screened for eating disorders, mood disorders and substance abuse disorders is largely composed of anxiety disorders. Anxiety disorders occur in about 4 - 8 out of every 100 adults and are common in children (Weissman, 1988, p. 110).

The debate continues with regard to the overlap between anxiety disorders and mood disorders. Numerous studies have examined the link between these two disorders in an attempt to hypothesize a distinct etiological relationship (see Strauss, Last, Hersen & Kazdin [1988] for summary). Because of the possibility that the families of probands with a primary diagnosis of anxiety disorder may exhibit a higher incidence of depression in the first degree relatives, the control group was modified by excluding all probands with a primary diagnosis of anxiety disorder, and the data re-analyzed. The results were not significantly different from comparisons between the

anorexic group and the unmodified group.

Implications of the Study

The etiology of anorexia remains a mystery. Understanding that eating disorders, mood disorders and substance abuse disorders coaggregate in the families of anorexic children provides additional data with regard to the etiology of this disorder. Specifically, this study extends the set of familial mediated variables which play a crucial role in the origin of this disorder in children.

Two major conclusions appear evident from the results. First, this finding gives us confidence to support the growing body of literature which indicates anorexia to be familial in transmission. This study found eating disorders to be roughly seven times as common in female first-degree relatives of anorexic probands as in the control group. A recent study by Strober, Lampert, Morrell, Burroughs & Jacobs (1990, p.249), found anorexia to be eight times as common in similar groups. Both of these findings are in line with the literature previously cited.

If, indeed there is a familial transmission of risk for anorexia, at least in some cases, it is appropriate to ask why. In the absence of conclusive evidence, an area for additional theorizing and empirical research is that of heritable variations in personality and temperament tendencies. Beck, Freeman and Associates (1990, pp.22-39) advanced a model of the evolution of interpersonal strategies. This model posits that much of

our behavior is based on genetically determined structures as subsequently influenced by experience. In this way, "long-term cognitive-affective-motivational programs influence our automatic processes." In addition, behavioral strategies which were once necessary for our survival, have become socially inappropriate in our highly technological and individualized society. As Beck, Freeman and Associates noted,

> Regardless of their survival value in more primitive settings, certain of these evolutionary-serviced patterns become problematic in our present culture because they interfere with the individual's personal goals, or conflict with group norms. Thus, highly developed predatory or competitive strategies that promote survival in primitive conditions may be ill suited to a social milieu, and eventuate in "antisocial personality disorder." Similarly, a kind of exhibitionistic display that would have attracted helpers and mates in the wild may be excessive or inappropriate in contemporary society. In actuality, however, these patterns are most likely to cause problems if they are inflexible and relatively uncontrolled.

Many of the interpersonal strategies which are commonly found in anorexics include a proclivity for maintaining the status quo, a dispassioned and balanced approach to life; an anxiousness which manifests itself as extreme caution and emotional restraint; and, a hypersensitivity which includes vigilant attention to external cues which are then interpreted in light of the anorexic's schemas and used to guide behavior. A workable hypothesis is that these interpersonal strategies provide the necessary foundation upon which an adolescent female begins to add the walls of weight loss and a roof of relentless pursuit of thinness. In this way, inherited tendencies are acted upon by environmental influences and the high risk female

has at her disposal all the necessary ingredients for anorexia.

The second conclusion derived from these results focuses specifically on the coaggregation of eating disorders, mood disorders and substance abuse disorders in the families of anorexic adolescents. The results found an increased clustering of these three disorders in the relatives of anorexic probands as opposed to a control group. It is hypothesized that this is due to an underlying theme of hopelessness, central to these disorders. The cognitive element of hopelessness forms the kernel around which these disorders slowly add the meat of dysfunction and finally a hard shell of defensiveness and denial. For the anorexic hopelessness underlies a perceived inability to avoid gaining weight. This sense of ineffectiveness and despair leads to weight loss and can also include copious amounts of exercise, hoarding of food, a preoccupation with calories and the fat content of various foods and a severe distortion of one's body image. For the depressed person, hopelessness lies at the center of a perceived inability to change the present as well as the belief that the future can not get better. This belief leads to lethargy, anhedonia, guilt, feelings of worthlessness and can lead to sleep disturbance, loss of appetite and thoughts of death. The substance abuser is convinced that change is impossible and often lacks the motivation to seek help. The core element of hopelessness about the future ensures that these feelings remain locked inplace. Indeed, this level of awareness is most often completely blocked by layers of denial

and a general refusal to admit to any addictive patterns.

Therefore, if indeed, extended families exhibit this clustering effect, and, if hopelessness furnishes the correct environment; two basic assumptions must be addressed. (1) Additional research needs to be directed at examining the relationship between individual hopelessness in family members and the coaggregation of eating disorders, mood disorders substance abuse disorders and additional disorders, both axis I and II, in high risk families. Such an analysis might tell us much about the etiology and development of anorexia. (2) Additional research needs to be directed at examining the best match between individual and family needs on the one hand, and treatment interventions on the other. If hopelessness does exist as a core element, then it is possible that a therapeutic approach which focuses on cognitive and affective elements may provide a satisfactory basis for change.

In addition to making an impact on psychologists and family therapists with regard to family counseling, this study also impacts the school counselor. When working with individuals who report a family history loaded for these three disorders, this individual could be at an increased risk for developing anorexia. These data may serve as an early warning system in which families and individuals may be counseled before one develops anorexic patterns.

Limitations of the Study

1) The data for this study were obtained from the medical

records of patients, all of whom have been seen by one psychiatrist. Patients may not be representative of groups in other geographical areas. In addition, no male anorexic probands were included, although 1 in 10 anorexics is male.

2) The data recorded in the medical records involve a combination of clinical observation and self-report. Cognitive style factors such as social desirability, acquiescence and denial may be more pronounced in anorexic probands than in the probands of the control group. While data from both groups include elements of self-report, and while these data must be considered as appropriate conclusions, the cognitive style of anorexics versus other dysfunctional adolescents offers an opportunity for further study.

Suggestions for Future Research

1) This study was limited to the patients of one physician, and the ability to generalize results is limited. It would be appropriate to utilize patient groups obtained from a broader based sample.

2) While medical record analysis is a valid method of data collection, there will be those who question its accuracy. It would therefore be relevant to examine the incidence of coaggregation of these three disorders by direct interview using an instrument such as the Schedule for Affective Disorders and Schizophrenia - Lifetime Version, revised.

3) The study of hopelessness as a core facilitating element in the families of anorexics would provide a basis on which

to further evaluate the utility of this concept. Laessle et al., (1988) found significant correlations between depression and negative cognitive schemas referring to shape and weight perceptions in anorexics. While utilizing Beck's model as a framework, this study did not address the concept of hopelessness. It would be valuable to assess levels of hopelessness in family members of anorexic probands as opposed to a control group to determine if hopelessness is a moderating factor.

An additional component relating to the concept of hopelessness as a core element, is the relationship of anorexia to addictions and personality disorders. Anorexia has been termed an addiction to dieting and bulimia an addiction to eating. Some authors are already beginning to explore the relationship between anorexia and borderline personality disorder (Garfinkel, in press).

4) Recent publications are beginning to point to an increase in the incidence of anorexia in non-white populations (Robinson & Anderson, 1985; Holden & Robinson, 1988; and, Bhadrinath, 1990). This study included two Asians, one Iranian and one African American proband in the anorexic group.

Useful information could be obtained by assessing any number of familial factors in white versus non-white families. Such factors might include cognitive styles, family history, obesity and socioeconomic status; and ethnic and cultural differences and values.

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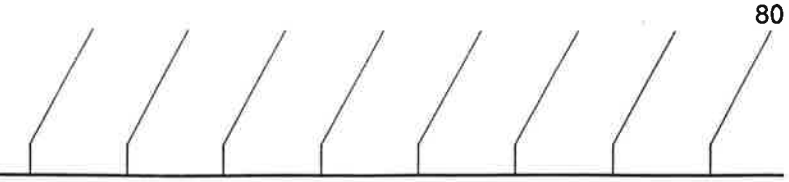
# APPENDIX A

# CODING MATERIALS

CODING SHEET
SUBJECT # _____



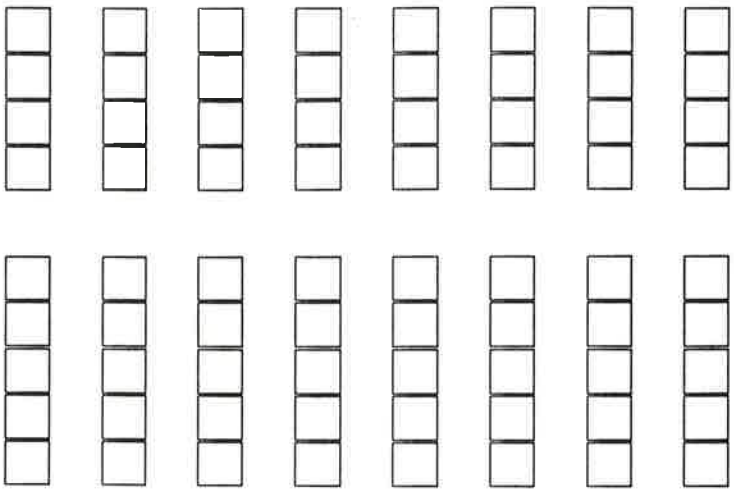
EATING DISORDERS

1. Weight loss > 15%
2. Fear of Fat
3. Body Distortion
4. Amenorrehea

** All four for anorexia

5. Recurrent binge eating
6. Lack of control
7. Vomiting, lax./diuretics/fasting
8. 2 binges per wk. X 3 mths.
9. Overconcern w/ body shp. & wght.

** All 5 (5–9) for bulima

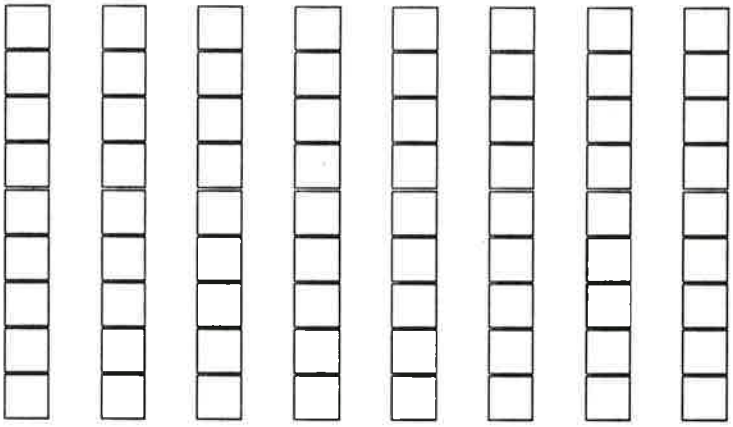


SUBSTANCE ABUSE

1. > amt. & time than intended
2. Desire/attempt to quit
3. Much time devoted to subs.
4. Sx interfere w/work, school, home
5. Give up work, social, or rec. act.
6. Educ. no help in stop or decrease
7. Marked tolerance
8. Withdrawal symptoms
9. Abuse to avoid withdrawal

** At least 3

List type of substance, i.e. alcohol



DEPRESSION

1. Depressed Mood
2. Weight loss
3. Sleep Disturbance
4. Diminished interest/pleasure
5. Psychomotor acceleration/retardation
6. Fatigue
7. Worthlessness/guilt
8. Decreased ability to think/concentrate
9. Suicidal Ideation
10. Non-reactive (i.e. death of relative)
11. No delusions or hallucinations
12. Mania

** At least 5 of (1–9); no 10 or 11