

**PERFECTIONISM IN ANOREXIA NERVOSA:
A 6-24 MONTH FOLLOW-UP STUDY**

by

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**A thesis submitted in conformity with the requirements
for the degree of Master of Science
Graduate Department of the Institute of Medical Science
University of Toronto**

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ABSTRACT

This study examined the relationship between perfectionism and outcome in anorexia nervosa. Participants completed the Eating Disorder Inventory (EDI) at admission to (n = 55), discharge from (n = 27), and at 6-24 month follow-up (n = 49) after inpatient treatment. At follow-up, participants also completed the Frost Multidimensional Perfectionism Scale (MPS). The results suggested that lower EDI perfectionism at pre-treatment was associated with a better response to treatment, which was associated with better outcome at follow-up. Both the good and poor outcome groups had significantly higher MPS total perfectionism scores than healthy controls at follow-up. The EDI appears to measure an aspect of perfectionism that is sensitive to illness status, while the MPS appears to be less dependent on clinical state, and may reflect a common personality trait that persists with remission. Attrition rates and the relatively small sample size may have biased the results of the study and limited the generalizability of the findings.

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CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

1.1 Introduction

Anorexia nervosa is a serious psychiatric disorder that mainly affects adolescent girls and young women. The causes of the illness appear to be multidetermined, and little is known about the factors that predict long-term outcome. Perfectionism is a personality characteristic that has been implicated as a risk factor in the development of anorexia nervosa (Fairburn, Cooper, Doll, & Welch, 1999), and has been found to persist after weight restoration; however, whether or not it can predict outcome has not yet been examined. Because the disorder tends to run a chronic course, any predictors of outcome that can be identified may have important clinical implications.

In this chapter, a review of the clinical features, epidemiology, etiology, treatment, and the literature on course and outcome of anorexia nervosa are presented. Theories about perfectionism are also introduced, along with assessments that have been developed for its measurement. Perfectionism as a personality trait in anorexia nervosa and methodological issues in the study of perfectionism in anorexia nervosa are also discussed.

1.2 Clinical Features of Anorexia Nervosa

Anorexia nervosa is an eating disorder characterized by: a refusal to maintain a weight at or above a minimally normal body weight; an intense fear of gaining weight or becoming fat; a disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight; and amenorrhea (American Psychiatric Association, 1994).

Anorexia nervosa can be divided into two subtypes. In the restricting subtype, the individual does not regularly engage in binge eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives or diuretics). In the binge eating/purging subtype, the individual does regularly engage in binge eating or purging behavior (see Table 1.1).

Anorexia nervosa is associated with many serious medical complications, including electrolyte disturbances, cardiovascular abnormalities, renal impairment, and osteoporosis (Kaplan & Garfinkel, 1993). It is also associated with high rates of psychiatric comorbidity, including depression, anxiety, obsessionality, personality disturbances, and poor social adjustment (Braun, Sunday & Halmi, 1994; Gillberg, Rastam & Gillberg, 1995; Halmi et al., 1991). The mortality rate is significant, approximately 5% per decade of follow-up. This exceeds the expected incidence of death from all causes in women 15-24 years of age by twelve-fold (Sullivan, 1995).

Table 1.1 DSM-IV Diagnostic Criteria for Anorexia Nervosa

- A) Refusal to maintain body weight at or above a minimally normal weight for age and height (e.g., weight loss leading to maintenance of body weight less than 85 percent of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85 percent of that expected).
- B) Intense fear of gaining weight or becoming fat, even though underweight.
- C) Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight on self-evaluation, or denial of the seriousness of the current low body weight.
- D) In postmenarcheal females, amenorrhea (i.e., the absence of at least three consecutive menstrual cycles).

Subtypes:

Restricting type: During the episode of anorexia nervosa the person does not regularly engage in binge eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives or diuretics).

Binge eating/purging type: During the episode of anorexia nervosa, the person regularly engages in binge eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives or diuretics).

1.3 Personality in Anorexia Nervosa

Swift, Bushnell, Hanson and Logemann (1986) noted that personality studies in anorexia nervosa have consistently demonstrated a character configuration best described as obsessive-compulsive, with constriction of affect, excessive conventionality, perfectionistic and moralistic tendencies, and a strong achievement orientation. In fact, some authors have suggested that anorexia nervosa is a manifestation of obsessive compulsive disorder

(DuBois, 1949; Palmer & Jones, 1939; Rothenberg, 1986, 1988). Recently it was found that although many patients with anorexia nervosa manifest significant impairment from obsessive compulsive symptoms with similar magnitude in severity to that found in patients with obsessive compulsive disorder, there are some differential characteristics between the two groups. Patients with anorexia nervosa are more likely than patients with obsessive compulsive disorder to have obsessions with need for symmetry or exactness and ordering/arranging compulsions (Bastiani et al., 1996; Matsunaga et al., 1999), and are less likely to have aggressive obsessions and checking compulsions (Matsunaga et al., 1999).

Investigations on personality in anorexia nervosa must consider the effects of acute starvation. Several studies have shown changes in personality with weight gain, including lower obsessiveness and increased sociability and extroversion (Strober, 1980). However, even after taking starvation into account, obsessive and inhibited tendencies appear to remain at high levels, and therefore cannot be explained as entirely due to starvation (Casper, 1990; Strober, 1980). Nilsson, Gillberg, Gillberg & Rastam (1999) found that at 10 years after reported onset of illness, persistent problems with obsessions and compulsions characterized a substantial minority of individuals who were weight-restored.

Several studies have found a high prevalence of defined personality disorders in individuals with anorexia nervosa, with avoidant, obsessive compulsive, and borderline personality disorders being the most common (Diaz-Marsa, Carrasco & Siaz, 2000; Gartner et al., 1989; Piran et al., 1988; Wonderlich, Swift, Slotnick & Goodman, 1990). While recovery from the disorder may have an attenuating influence on the symptoms of personality disorders, such personality disorders persist in some recovered patients (Matsunaga et al., 2000).

Young age at onset, the influence of state variables such as depression and starvation sequelae, denial and distortion in self-report, the instability of subtype diagnoses, and the persistence of residual problems following symptom control all complicate the interpretation of personality data in this population (Vitousek & Manke, 1994). Nevertheless, Casper, Hedeker and McClough (1992) suggest that a personality disposition toward overcontrol and reserve might constitute a risk factor for restricting anorexia through fostering restrictive behavior toward food and avoidance of personal relationships.

1.4 Epidemiology

Because having a low body weight is desired by individuals with anorexia nervosa, and because the thoughts and beliefs that are characteristic of the disorder are experienced as ego-syntonic, people often go to great lengths to conceal their disorder. As a result, the exact prevalence of the disorder is not known. The estimated lifetime prevalence of anorexia nervosa in Western cultures is approximately 1% in females (Garfinkel et al., 1995; Hoek, 1993). In males, the prevalence is estimated to be about one tenth of that of females (Hsu, 1996). The distribution of ages of onset of the disorder is bimodal, peaking at ages 14 and 18 (Halmi, Casper, Eckert, Goldberg, & Davis, 1979). However, it has been found that there is also a significant cohort of individuals who develop anorexia nervosa after the age of 25 (Woodside & Garfinkel, 1992).

1.5 Etiology

The exact cause of anorexia nervosa is not known, but there is a general consensus amongst experts in the field of eating disorders that the etiology of anorexia nervosa must be explained using a multidimensional perspective that considers biopsychosocial factors (Garfinkel & Garner, 1982). Anorexia nervosa is a syndrome that is the product of an interplay of a number of variables. Predisposing factors include biological ones such as a particular genetic makeup that may predispose one for the development of the disorder. Risk factors that may have a genetic influence include a family history of anorexia nervosa (Strober, Lampert, Morrell, Burroughs & Jacobs, 1990; Treasure & Holland, 1991; Walters & Kendler, 1995), obesity (Rastam, 1992), eating and weight concerns (Kalucy, Crisp & Harding, 1977), affective disorder (Gershon et al., 1984; Halmi et al., 1991; Hudson, Pope, Jonas & Yurgelun-Todd, 1983; Lilenfeld et al., 1998; Logue, Crowe & Bean, 1989; Rivinus et al., 1984; Strober et al., 1990; Winokur, March & Mendels, 1980), substance abuse (Halmi et al., 1991; Logue, Crowe & Bean, 1989; Rivinus et al., 1984; Stern et al., 1992) and obsessive-compulsive disorder (Halmi et al., 1991; Pasquale, Sciuto, Cocchi, Ronchi & Bellodi, 1994; Lilenfeld et al., 1998). Psychological factors include the presence of certain traits such as perfectionism, obsessionality, excessive compliance, and low self-esteem (Fairburn et al., 1999; Lilenfeld et al., 1998; Rastam, 1992; Srinivasagam et al., 1995; Walters & Kendler, 1995). Certain psychological factors, such as perfectionism, may be based on inherited temperament (Lilenfeld, Kaye & Strober, 1997). Strober (1991) suggested a genotypic foundation of various personality characteristics, including harm avoidance, obsessiveness, and self-doubting perfectionism, as predisposing traits in anorexia nervosa. Having a history of exposure to adverse life events and circumstances has also been implicated as a risk factor

for the development of the disorder (Gowers, North & Byram, 1996; Rastam & Gillberg, 1991; Schmidt, Tiller, Blanchard, Andrews & Treasure, 1997; Schmidt, Tiller & Treasure, 1993).

In Western culture, thinness has become associated with self-control and success. Today's idealized body form for women, as supported by images in the mainstream media, is a thin body type that is unrealistic and unachievable for most women. Many women, in their pursuit of the perfect body, will engage in dieting, exercising, and other forms of weight and shape control. In the presence of other predisposing factors, Western body ideals help support the development of an eating disorder.

These predisposing factors may help to explain why this particular disorder evolves, but do not account for the timing of onset of illness. Although precipitating events interact with the predisposing factors to determine the onset of illness, there is no single precipitant of anorexia nervosa. For some individuals, a particular precipitant may not even be identified. Some frequent initiating factors include separation and losses, disruptions of family homeostasis, new environmental demands, direct threats of loss of self-esteem, and personal illness (Garfinkel & Garner, 1982). After the development of the disorder, factors that sustain the illness include the psychological effects of starvation, distorted body perceptions, cognitive factors related to the disorder, personality features of the individual, and the cultural emphasis on slimness (Garfinkel & Garner, 1982).

1.6 Treatment of Anorexia Nervosa

Because anorexia nervosa is a complex, serious and often chronic condition, a variety of treatment modalities may be required at different stages of illness and recovery. The aims of treatment for patients with anorexia nervosa are to 1) restore patients to healthy weight; 2) treat physical complications; 3) enhance patients' motivations to cooperate in the restoration of healthy eating patterns and to participate in treatment; 4) provide education regarding healthy nutrition and eating patterns; 5) correct core maladaptive thoughts, attitudes, and feelings related to the eating disorder; 6) treat associated psychiatric conditions, including defects in mood regulation, self-esteem, and behavior; 7) enlist family support and provide family counseling and therapy where appropriate; and 8) prevent relapse (American Psychiatric Association, 2000). Specific treatments include nutritional rehabilitation, psychosocial interventions, and medication.

1.6.1 Nutritional Rehabilitation

Treatment for individuals with anorexia nervosa must first deal with their state of starvation before addressing the factors perpetuating the illness. Nutritional rehabilitation programs should establish healthy target weights and have expected rates of controlled weight gain (e.g., 2 - 3 lb./week for inpatient units and 0.5 - 1 lb./week for outpatient programs) (American Psychiatric Association, 2000). The goals of nutritional rehabilitation are to restore weight, normalize eating patterns, achieve normal perceptions of hunger and satiety, and correct the biological and psychological sequelae of malnutrition (Kaye, Gwirtsman, Obarzanek & George, 1988). Clinical experience suggests that this is difficult to achieve on an outpatient basis; as a result, intensive treatment is often required. In addition,

studies report that hospitalized patients who are discharged at lower than their target weight subsequently relapse and are rehospitalized at higher rates than those who achieve their target weight. The closer the patient is to ideal weight at the time of discharge from the hospital, the lower the risk of relapse (Baran, Weltzin & Kaye, 1995; Halmi & Licinio-Paixao, 1989).

1.6.2 Psychosocial Treatments

The goals of psychosocial treatments are to help patients 1) to understand and cooperate with their nutritional and physical rehabilitation, 2) understand and change the behaviors and dysfunctional attitudes related to their eating disorder, 3) improve their interpersonal and social functioning, and 4) address comorbid psychopathology and psychological conflicts that reinforce or maintain eating disorder behaviors (American Psychiatric Association, 2000). Clinical consensus suggests that psychotherapy alone is generally not sufficient to treat severely malnourished individuals, and the value of formal psychotherapy during the acute refeeding stage is uncertain. However, once weight gain has begun, considerable agreement exists that psychotherapy can be very helpful.

The cognitive-behavioral approach to the treatment of eating disorders attempts to change patients' system of beliefs about themselves and their environment using a semi-structured, problem-oriented method. The focus is on the patients' dysfunctional beliefs and values concerning their weight and shape. Early descriptions of cognitive-behavioral therapy integrated interpersonal themes because of the social deficits observed in anorexia nervosa, the need in many cases to involve the family, and the long duration of therapy (Garner & Bemis, 1982, 1985). Cognitive-behavioral therapy has been shown to be effective for other eating disorders, but its effectiveness for anorexia nervosa has not been studied extensively.

There have been several case reports indicating that cognitive-behavioral therapy is effective (Channon, de Silva, Hemsley & Perkins, 1989; Cooper & Fairburn, 1984), but the lack of controlled treatment studies means that support for this approach rests largely on clinical evidence. A major obstacle to evaluative research is that descriptions of the conduct of outpatient psychotherapy lack sufficient detail to allow replication (Garner, Vitousek & Pike, 1997). Nevertheless, cognitive-behavioral therapy forms the theoretical base for much of the treatment of anorexia nervosa (Garner & Needleman, 1997).

Due to the association of eating disorders with dysfunctional roles and family interactions (Minuchin, Rosman, & Baker, 1978; Selvini Palazzoli, 1974), family therapy is recommended for individuals under the age of 18 and living at home (Dare & Eisler, 1997; Russell, Szmukler, Dare & Eisler, 1987). A study evaluating the effectiveness of family therapy concluded that it was most effective for individuals whose illness was not chronic and who were under the age of 19 years (Russell et al., 1987). However, it may also be a desirable addition to individual therapy with older patients. Family therapy is often used concurrently with other forms of therapy.

Support groups led by professionals or by advocacy organizations provide patients and their families with mutual support, advice, and education about eating disorders. These groups may be of adjunctive benefit in combination with other treatment modalities.

There is no clear evidence that any specific form of psychotherapy is superior for all patients. It is essential that psychosocial interventions incorporate an understanding of psychodynamic conflicts, cognitive development, psychological defenses, the complexity of family relationships as well as the presence of other psychiatric disorders (American Psychiatric Association, 2000).

1.6.3 Medications

Although medications have been widely used in the treatment of anorexia nervosa since the disorder was related to primary endocrine illness early in the last century, the role of drug therapies in the treatment of anorexia nervosa is not well understood. The core psychopathology of anorexia nervosa remains relatively refractory to medication (Garfinkel & Walsh, 1997). The high rate of depression in individuals with anorexia nervosa suggest that antidepressant medications might be of use, although the role for antidepressants is usually best assessed following weight gain, when the psychological effects of malnutrition are resolving. Antidepressants have been shown to be helpful with weight maintenance after nutritional restoration (Kaye, Weltzin, Hsu & Bulik, 1991). However, fluoxetine has also been reported to produce side effects, including the abuse of the drug to promote weight loss (Wilcox, 1987). At present there is no established benefit from antidepressant medications in the acute treatment phase of the disorder. Theoretically, antidepressant medication may alleviate depression, reduce obsessiveness, and thereby reduce relapse in patients with anorexia nervosa following refeeding.

Anxiety is a common feature in patients confronted with the need to gain weight. For patients who are extremely anxious about eating, a small amount of a benzodiazepine may be used 20 - 40 minutes before meals (Andersen, 1987). Prokinetic agents may accelerate gastric emptying and alleviate symptoms associated with gastric retention, a common discomfort in patients with anorexia which may contribute to the avoidance of food. Estrogen replacement is sometimes used in individuals with chronic amenorrhea to reduce calcium loss and thereby reduce the risks of osteoporosis. However, existing evidence in support of hormone replacement therapy for the treatment or prevention of osteopenia is

marginal at best. Generally, estrogen alone does not appear to reverse osteoporosis or osteopenia, and unless there is weight gain, it does not prevent further bone loss.

1.6.4 Choice of Specific Treatments for Anorexia Nervosa

The services available for the treatment of anorexia nervosa can range from intensive inpatient settings, through partial hospital and residential programs, to varying levels of outpatient care. Pretreatment evaluation of the patient is essential for determining the appropriate setting of the treatment. The most important physical parameters that affect this decision are weight and cardiac and metabolic status. Other common clinically significant reasons for hospitalization include severe or rapid self-induced weight loss, lack of response to outpatient treatment, significant comorbid psychiatric disorders and significant medical complications (Andersen, Bowers & Evans, 1997). In addition to nutritional rehabilitation, hospital-based treatments often focus on psychotherapeutic approaches, such as the ones described above.

Recent research suggests that traditionally strict and restrictive programs may be unnecessarily rigid and that flexible programs can achieve equivalent results (Dalle-Grave, Bartorir & Todisco, 1996; Toyuz, Beumont, Glaun, Phillips & Cowie, 1984). Partial hospitalization treatment programs may have both financial and clinical advantages over inpatient programs. It is a treatment approach that promotes autonomy and provides opportunities for utilizing the newly acquired tools with which to regulate eating behavior. Because patients are not totally externally controlled, they are more likely to perceive treatment to be empathic rather than punitive. Partial hospitalization is also by nature less psychosocially disruptive than inpatient care (Kaplan & Olmsted, 1997).

As a cost effective and easy to deliver form of treatment, brief psychoeducation is a useful first stage of treatment for individuals with eating disorders. Based on the assumption that these individuals often hold misconceptions about the factors that cause and then maintain symptoms, and that they may be less likely to persist in self-defeating symptoms if they are made truly aware of the scientific evidence regarding factors that perpetuate eating disorders, the aim of psychoeducation is to provide accurate information to patients so that they can then make an informed decision about their own treatment and care. This approach conveys the message that responsibility for change rests with the individual with the eating disorder (Garner, 1997). Methods are presented on how to overcome the disorder through attitudinal and behavioral changes. The material is presented to a group that is large enough to avoid intimate interactions between participants. (Olmsted & Kaplan, 1995). In addition, psychoeducational treatment has gradually become a standard component of cognitive-behavioral therapy. However, psychoeducation should not be considered a substitute for psychotherapy; although some individuals improve simply through psychoeducation, the majority find some type of psychological intervention to be necessary.

1.7 Course and Outcome of Anorexia Nervosa

1.7.1 Outcome Studies of Anorexia Nervosa

In reviews of over 60 follow-up studies spanning four decades, Steinhausen and Glanville (1983a) and Steinhausen, Rauss-Mason and Seidel (1991) found it difficult to compare the results of different studies. This was due to a number of methodological shortcomings (i.e. lack of controls or clinical contrast groups), categorizations of outcome that vary from study to study, and varied follow-up periods. Other common methodological

failings of follow-up studies include lack of clinical data and inadequate diagnostic criteria, lack of adequate description of treatment, and inadequate follow-up (including short duration of follow-up, high failure-to-trace rate, the use of indirect methods of evaluation, poorly defined outcome criteria, and the failure to employ multiple outcome measures) (Hsu, 1987). Findings among different studies were consistent in showing that two thirds of patients continue to be persistently preoccupied with food and weight at follow-up (Burns & Crisp, 1984; Hall, Slim, Hawker & Salmond, 1984; Hsu, Crisp & Harding, 1979; Morgan, Purgold & Welbourne, 1983; Morgan & Russell, 1975; Theander, 1970). On average, global outcome scores for follow-up status show that about half of the participants have a good or very good outcome, approximately 30% have an intermediate outcome and 20% have a poor outcome (Hsu, 1987; Steinhausen et al., 1991).

These findings are also reflected in a more recent ten-year follow-up study of adolescent onset anorexia nervosa. Sunday, Reeman, Eckert & Halmi (1996) found that 49% had good outcome (defined as weight within 15% of normal and normal menses), 19.6% had intermediate outcome (weight intermittently within 15% of normal over the past year or some menstrual disturbance) and 31.4% had poor outcome (weight below 15% of normal over past year and absent/sporadic menses, or the occurrence of either bingeing or vomiting weekly or more).

Strober, Freeman and Morrell (1997) followed 95 adolescent anorexia nervosa patients ascertained through a university-based specialty treatment program in a 10-15 year longitudinal prospective study. With recovery being defined as having a weight within 15% of average and normal cyclical menstruation (Morgan & Russell, 1975 criteria) sustained for at least 8 consecutive weeks, it was found that nearly 29.5% of patients relapsed following hospital discharge. The period of greatest susceptibility to relapse was within the first 12

months post-discharge, with the median time to relapse being 11 months. 86.3% of the patients achieved recovery at some time during the follow-up period. The time course of recovery over the first few years of follow-up was protracted, with the median time to recovery being 57.4 months.

1.7.2 Definitions of Outcome

As there are no standard criteria for definitions of outcome, various definitions have been used in the follow-up literature. The most commonly used definition was the General Outcome Category devised by Morgan and Russell (1975). The General Outcome Category discriminated three levels of general outcome based on an individual's body weight and menstrual functioning during the 6 months preceding follow-up. Good outcome is rated when weight is within 15% of average and the person has normal cyclical menstruation, intermediate outcome is rated when weight is only intermittently within 15% of ideal or there is some menstrual disturbance, and poor outcome is rated when weight is below 85% of average and menstruation is absent. Ratnasuriya, Eisler, Szmulker, & Russell (1991) modified Morgan and Russell's criteria, which did not take into account abnormal eating behavior, and added the occurrence of either bingeing or vomiting weekly or more into the poor outcome category. Eckert, Halmi, Marchi, Grove, & Crosby (1995) modified Morgan and Russell's criteria to take into account abnormal eating behavior and body image disturbance. Strober et al. (1997) used Morgan and Russell's good outcome category to define "partial recovery" in their prospective follow-up study, and use the term "full recovery" to refer to participants who have been free of all criterion symptoms of anorexia nervosa or bulimia nervosa for not less than 8 consecutive weeks. This definition required

the sustained absence of weight deviation, compensatory behaviors, and deviant attitudes regarding weight and shape, including weight phobia.

1.7.3 Predictors of Outcome

A number of predictors of long-term outcome have been identified in anorexia nervosa, although many studies present conflicting results. In some studies, older age at onset of illness was found to predict poorer outcome (Ratnasuriya et al., 1991) while in others it was found to be insignificant with regard to outcome (Hawley, 1985; Nussbaum, Shenker, Baird & Saravay, 1985; Steinhausen & Glanville, 1983b; Sunday et al., 1996). The majority of studies indicate that longer duration of illness is associated with poor outcome (Herzog, Schellberg & Deter, 1997; Rosenvinge & Moulund, 1990). Other factors that are associated with poor outcome include a history of previous hospitalizations (Halmi, Goldberg, Casper, Eckert & Davis, 1979; Theander, 1985), lower weight at presentation (Gillberg, Rastam & Gillberg, 1994), and the presence of bulimic behavior (Eckert et al., 1995; Herzog et al., 1997).

Some social environmental variables that have been found to predict an unfavorable course of illness include impaired social functioning (Gillberg et al., 1994), disturbed family relationships (Morgan & Russell, 1975; Ratnasuriya et al., 1991), and the occurrence of stressful life events in the first year after presentation (Sohlberg & Norring, 1992).

1.8 Perfectionism

1.8.1 Theories about Perfectionism

Perfectionism is a multidimensional construct that, over the years, has been conceptualized in a number of different ways. Early writings about perfectionism took on a descriptive role, illustrating the role that perfectionism plays in an individual's life and theorizing about the origins of the personality trait. Hollender (1965) used the term perfectionism to refer to the manner in which a person performs or aspires to perform. Perfectionists are painstaking workers who periodically feel depressed as they seldom perform to their complete satisfaction. They are exacting, and find it difficult to sort things out in the order of their importance or to maintain a sense of proportion. The driving force behind a perfectionist's unending efforts is continual self-belittlement, as well as a desire to create a better self-image. Both Hollender and Missildine (1963) suggested that perfectionism is learned in childhood. They theorized that it commonly develops in insecure children who need approval, acceptance, and affection from parents who are difficult to please. Their parents equate poor performance with badness and react by rejecting their children. All that the children get from their parents is the promise of eventual acceptance if only they will 'do better'. Over time, the need to please their parents becomes internalized and parental attitudes and requirements become part of the ego-ideal. Since perfectionism is related to the ego-ideal, failure to measure up may result in the affect of shame.

Hamachek (1978) saw positive and a negative aspects of perfectionism, which he respectively called normal and neurotic perfectionism. The difference between the two lies in one's behavior and in the manner in which one thinks about one's behavior. Normal perfectionists feel free to be less precise as the situation permits. They are able to account

for their limitations and strengths when establishing performance boundaries. External approval tends to enhance their self-esteem, they are proud of their skills and appreciate a job well done, and therefore for normal perfectionists, success is achievable. On the other hand, neurotic perfectionists are unable to be satisfied with their work because in their own eyes they never seem to do things well enough to warrant that feeling. They demand of themselves a higher level of performance than is usually possible, and are motivated by the fear of failure. Where normal perfectionists focus on their strengths and how to do things correctly, neurotic perfectionists worry about their deficiencies and how to avoid making mistakes. However, depression, powerlessness, "I should" feelings, feelings of shame and guilt, face-saving behavior, shyness, procrastination, and self-depreciation are characteristics that are thought to typify both normal and neurotic perfectionism. Normal and neurotic perfectionistic behaviors are seen to differ only in terms of degree and intensity.

According to Hamachek (1978), there are two possible antecedents of neurotic perfectionism. One is a developmental environment of non-approval or inconsistent approval that lacks the necessary feedback for comparing actual performance with external standards, which one compensates for by setting unreasonably high standards. The other is an emotional environment of conditional positive approval. On the other hand, normal perfectionism develops through positive modeling - a close identification with an emotionally important person - or through negative modeling, to not be like someone in one's life who was constantly disorganized.

Burns (1980) also believed that perfectionism involves the compulsive and relentless pursuit of goals that are unrealistically high, and is learned from interactions with perfectionistic parents. He viewed all perfectionists as belonging to one of five categories. Career perfectionists feel that they must be successful in all of their activities. Marital or

interpersonal perfectionists believe that husbands and wives should never fight, for conflicts reflect badly on their relationships. They may see loved ones as extensions of their own egos and find it threatening when others are not perfect. Emotional perfectionists believe that they should be happy all the time and never have any negative feelings. Moral perfectionists punish themselves relentlessly whenever they fail to meet any moral standards, and they do not know how to forgive themselves. Sexually perfectionistic women may believe that they are defective if they have difficulty with orgasms, or that their worth depends primarily upon their appearance. Sexually perfectionistic men may believe that they must always perform well during sex (Burns, 1983). Burns (1980, 1983) also identified cognitive distortions among perfectionists. These include all-or-none thinking, overgeneralization (tending to view a mistake or setback as a never-ending pattern of defeat), "should" statements, mental filters (picking out negatives in a situation and dwelling on them so that their reality becomes distorted), disqualifying the positive, jumping to conclusions, magnifying the importance of their errors, emotional reasoning (assuming that their negative emotions reflect the way that they really are), and personalization (blaming themselves for the problems of others because they hold themselves responsible for negative events that they cannot control).

Pacht (1984) suggested that perfectionism is an undesirable and debilitating goal. Striving for perfectionism represents an unhealthy motive, and perfectionism has such an insidious nature that the label should only be used when describing a kind of psychopathology. Like the authors described above, Pacht also viewed parental interactions to be the cause of perfectionism.

1.8.2 Measures of Perfectionism

A number of different self-report measures have been developed to study perfectionism, each reflecting the conceptualization of perfectionism held by the particular authors of the measure. Some were not developed for any particular population, while others were devised specifically for certain groups of people. A number of measure will be described here.

Burns (1980) adapted a portion of the Dysfunctional Attitudes Scale to create the Burns Perfectionism Scale, a self-report measure that consists of ten items, each rated along a five point scale. The total score can fall between 0 and 40, with a high score reflecting great perfectionism. The scale is unidimensional and does not measure Burn's five categories of perfectionism separately.

Slade & Dewey (1986) developed the Setting Conditions for Anorexia Nervosa Scale (SCANS) to measure the hypothesized setting conditions for anorexia nervosa that formed the basis of Slade's (1982) functional model of anorexia and bulimia nervosa. The SCANS consists of a total of five scales which measure perfectionism, general dissatisfaction, social and personal anxiety, adolescent problems, and weight control.

Terry-Short, Glynn Owens, Slade, and Dewey (1995) conceptualized perfectionism as being either positive or negative. They distinguished aspects of perfectionism on the basis of perceived consequences, mirroring a behavioral distinction between positive and negative reinforcement. They studied this "positive and negative perfectionism" in women with eating disorders, athletes, depressed women, and a group of healthy controls, and devised a 40-item questionnaire. Respondents completed this questionnaire along with an abbreviated version of the SCANS to provide an assessment of the validity of the new scale. Factor

analyses showed that two distinct types of perfectionism, which the authors called positive and negative perfectionism, could be identified and measured.

Frost, Marten, Lahart, and Rosenblate (1990) developed a multidimensional measure, the Multidimensional Perfectionism Scale (MPS). The MPS consists of five core dimensions and one related dimension that reflect different aspects of perfectionism that have been explored by previous authors. The *Concern over Mistakes* subscale reflects negative reactions to mistakes, the tendency to interpret mistakes as failures and to believe that one will lose the respect of others following failure. *Personal Standards* reflects the setting of very high standards for oneself, and the important role that these high standards play on one's self-evaluation. The *Parental Expectations* subscale reflects the belief that one's parents set very high goals for oneself, while the perception that one's parents are overly critical constitutes the *Parental Criticism* subscale. The *Doubting of Actions* subscale consists of items from the Maudsley Obsessive-Compulsive Inventory Doubting Subscale (Rachman & Hodgson, 1980). The related dimension of *Organization* reflects excessive importance placed on order and organization. The MPS also yields a total perfectionism score. Each of the dimensions have been shown to be reliable, and evidence exists for their validity (Frost et al., 1990; Frost, Lahart & Rosenblate, 1991; Frost & Marten, 1990).

Hewitt and Flett (1991) also viewed perfectionism as a multidimensional construct, but they saw it as being comprised of social and personal components. They developed a self-report measure, also called the Multidimensional Perfectionism Scale (MPS), which consists of three factors derived from factor analysis: self-oriented perfectionism, other-oriented perfectionism, and socially-prescribed perfectionism. Self-oriented perfectionism is the tendency to set excessively high standards for oneself and a tendency to focus on one's failures or flaws in performance. This dimension reflects what most authors have called

perfectionism. Socially-prescribed perfectionism concerns the beliefs that others have set excessively high standards for oneself and that they will be disappointed if these standards are not met. Other-oriented perfectionism reflects the tendency to set unrealistic expectations for others and to evaluate them harshly. The MPS has been shown to be reliable and valid (Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991).

The relationship between the Frost MPS and the Hewitt and Flett MPS has been examined and considerable overlap between the two measures of perfectionism has been found. Frost's total perfectionism score appears to reflect a global dimension of perfectionism which is correlated with Hewitt and Flett's self-oriented and socially-prescribed scales, and is less closely related to the other-oriented scale (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993). Hewitt and Flett's self-oriented perfectionism was correlated significantly with all of the Frost subscales (Flett, Sawatzky, & Hewitt, 1995), with the largest correlation being with high personal standards (Flett et al., 1995; Frost et al., 1993) and concern over mistakes (Flett et al., 1995). Frost's concern over mistakes, parental expectations, and parental criticism scales were independently correlated with Hewitt and Flett's socially-prescribed perfectionism (Flett et al., 1995; Frost et al., 1993). Together these studies provide evidence which suggests that the two MPS have concurrent validity (Hewitt et al., 1991; Flett et al., 1995; Frost et al., 1993).

The Eating Disorders Inventory (EDI) is an instrument designed to assess a broad range of cognitive and behavioral characteristics of anorexia nervosa and bulimia nervosa (Garner, Olmsted, & Polivy, 1983). The inventory consists of eight subscales, one of which measures perfectionism. Perfectionism in the EDI is conceptualized as an excessive personal expectation for superior achievement, and is described as part of a "dichotomous" thinking style (Garner, Garfinkel, & Bemis, 1982). Because the EDI is widely used to assess eating

disorder psychopathology, it is the most frequently used index of perfectionism in individuals with eating disorders. The EDI perfectionism subscale has been found to be highly correlated with the Frost MPS total score for individuals with anorexia nervosa (Halmi et al., 2000), indicating that they measure the same underlying personality construct.

Mitzman, Slade, & Dewey (1994) developed the Neurotic Perfectionism Questionnaire (NPQ) for measuring neurotic perfectionism as conceptualized by Hamachek (1978) in the eating disorder population. In developing the scale, items were eliminated if they failed to correlate significantly with the SCANS perfectionism *and* dissatisfaction subscales which indicate neurotic perfectionism according to the SCANS. The NPQ was intended as both a predictive and diagnostic tool for identifying “eating-disorder-prone women”. It was found that participants who scored high on the Eating Attitudes Test also scored high in neurotic perfectionism as measured by the NPQ. It was also found that the healthier end of the scale was predominantly of the self-oriented type of perfectionism as described by Hewitt and Flett (1991), while items at the pathological extreme of the scale were of both the self-oriented and socially-prescribed types.

1.8.3 Perfectionism in Anorexia Nervosa

Perfectionism has been identified as a key trait amongst individuals with anorexia nervosa from the first descriptions of the disorder. Lasegue (1873) described in his anorexia patients an unrelenting pursuit of unusually rigid standards of propriety. He also found that his patients were extremely sensitive towards their parent’s judgements. Bruch (1978) suggested that the struggle to live up to perfectionistic achievement standards is a characteristic theme in anorexia nervosa. She interprets the typical superior academic performance of girls with anorexia as an “overcompliant adaptation”, and the families of

these girls have been described as highly achievement-oriented (Bruch, 1973). Slade (1982) suggested that neurotic perfectionism is one of the major predisposing factors that contributes to the emergence and maintenance of eating disorders. He argued that in an individual who experiences global dissatisfaction and who chooses to restrict her food intake to control body weight, the desire to be perfect culminates in a need to establish order and total control over one's life and one's body. Because the affected individuals experience feelings of success and control at times when they feel that they have failed in other aspects of their life, eating disorders are powerfully self-reinforcing.

A summary of the studies that have explored perfectionism in anorexia nervosa is presented in Table 1.2. Halmi et al. (1977) found that perfectionism was a predominant premorbid personality characteristic of women with anorexia, with 61% of 44 women with anorexia presented to a treatment study being described by their parents as perfectionistic. Heron and Leheup (1984) compared 16 patients with anorexia to healthy controls, and described the patients as being more perfectionistic. Rastam (1992) compared the premorbid developmental, physical, and psychiatric problems and comorbidity of 51 adolescents with anorexia with age-, sex-, and school-matched healthy controls. The participants were obtained from a population screening study, and therefore were considered to be fairly representative of the young population of cases with anorexia nervosa. The author noted that more adolescents with anorexia than controls were considered by their mothers and often by themselves to be "perfectionistic". Fairburn et al. (1999) assessed in an interview in which participants self reported on their own childhood characteristics that premorbid perfectionism was more common in anorexia and bulimia nervosa than in general psychiatric controls. Because perfectionism is an especially common antecedent of anorexia nervosa, they suggest that it serves as a specific risk factor for the disorder.

The studies described above reported perfectionistic tendencies in women with anorexia with the use of self-report, parent's descriptions, and clinicians' descriptions. As it became clear that perfectionism was a common personality trait amongst individuals with anorexia nervosa, researchers began to use empirical measures to further explore the dimensions of perfectionism that are common in the disorder. Pumariega and LaBarbera (1986) studied 119 adolescent females to examine the relationship of certain personality variables to eating attitudes in a nonclinical group. Attitudes toward eating were measured using the Eating Attitudes Test (EAT). Perfectionism was assessed using a scale consisting of 10 items that were intended to measure the extent to which an individual engaged in achievement-oriented behavior with a specific goal of gaining reassurance or rewards from parents or parental figures. Perfectionism was found to be significantly associated with weight anxiety in this population.

Davis (1997) studied perfectionism, neuroticism, and body esteem in eating disorder patients diagnosed with anorexia nervosa, bulimia nervosa, or eating disorders not otherwise specified. Measures used included the Body Esteem Scale, the Hewitt and Flett MPS, and the Neurotic Perfectionism Questionnaire (NPQ). Based on the assumption that the MPS self-oriented perfectionism subscale reflects normal perfectionism, Davis found normal perfectionism to be positively associated with body esteem, but only when levels of neurotic perfectionism were low. Body image disparagement was most pronounced when normal and neurotic perfectionism were both elevated. It was concluded that normal and neurotic perfectionism are interactive, and that the interpretation of simple relationships among personality variables may provide a misleading picture.

Hewitt, Flett, and Ediger (1995) had 81 female college students complete the Hewitt and Flett MPS, the Eating Attitudes Test (EAT), the Bulimia Test, the Body Image

Avoidance Questionnaire, the Feelings of Social Inadequacy Scale, and the Perfectionistic Self-Presentation Scale. The Perfectionistic Self-Presentation Scale is a measure of three dimensions of perfectionistic self-presentation: the desire to present oneself as perfect to others, the desire not to appear less than perfect to others, and the need to avoid public admissions of imperfection or failures. They found that self-oriented perfectionism was related to anorexic tendencies and attitudes. Socially-prescribed perfectionism and perfectionistic self-presentation dimensions were broadly related to eating disorder behaviors, body image avoidance, and self-esteem. Their findings support the usefulness of differentiating personal and interpersonal aspects of perfectionism, as well as trait versus self-presentational aspects of perfectionism in the eating disorders.

Pliner & Haddock (1996) experimentally explored the relationship between perfectionism and weight concern in women. They wanted to explore whether, when free to determine their own goals in an achievement situation, women who were weight-concerned set high goals for themselves, thus exemplifying Hewitt and Flett's (1991) self-oriented perfectionism. They administered the EAT to 100 female college students and then extracted two categories out of the group based on EAT scores. Those who scored above 20 were placed in the high (extremely weight concerned) EAT category; the low EAT category consisted of those who scored below 6. The participants were then either assigned high or low goals, or were allowed to select their own goals in a performance situation. They found that high EAT participants were more likely to persist in accepting an unrealistically high imposed goal, set lower personal goals in the absence of external standards, and were more strongly affected by feedback. The authors concluded that many characteristics of women with anorexia can be accounted for in terms of their strong need for social approval and

conformity to external standards. This confirms Hewitt et al.'s (1995) finding that socially-prescribed perfectionism was related to eating disorder behaviors.

In a study of 324 women with a history of anorexia nervosa, Halmi et al. (2000) found that women with anorexia nervosa scored significantly higher on the Frost MPS total perfectionism score and on EDI perfectionism than healthy controls and EDI normative data respectively. They concluded that perfectionism is a robust and discriminating characteristic of anorexia nervosa and propose that perfectionism is one of a cluster of phenotypic trait variables associate with a genetic diathesis for the disorder.

1.8.4 Perfectionism and Illness Status in Anorexia Nervosa

As it became clear that even when using a variety of different measures, perfectionism emerges as a common personality characteristic amongst individuals with anorexia nervosa, another question concerning the nature of perfectionism in anorexia arose. Researchers began to wonder if perfectionism is a stable personality trait that persists with weight restoration and recovery from the disorder. In a follow-up study, Toner, Garfinkel, and Garner (1986) compared individuals who had been previously hospitalized with either the restricting type of anorexia nervosa or the bulimic type of anorexia to healthy controls matched for age, occupational status, and education. They found that both groups of participants previously diagnosed with anorexia scored higher on the perfectionism subscale of the Eating Disorder Inventory (EDI) than the controls. However, at the time of the study, both former anorexia groups were significantly more underweight and also displayed more anorexic symptoms as measured by the EDI than the control group. In contrast, Casper (1990) administered the EDI to a group of long-recovered former anorexia nervosa

patients and a group of female college and medical students. She found that the two groups had similar EDI perfectionism scores.

In his study of personality traits associated with the disorder, Strober (1980) found that women with anorexia nervosa had a more obsessional character structure, had a higher propensity for social approval seeking, excessively conformed and regimented their behavior, were more industrious, and felt more responsible than healthy controls. However, weight restoration was associated with a significant decline in obsessional symptomatology and a diminished need for social approval. Strober warned that certain phenomena are only transient reactions to a starved state, and that the question of whether or not various characteristics are truly stable phenomena must await further comparative studies over long periods of prospective follow-up. Perfectionism has not been followed prospectively in anorexia nervosa, but some studies do examine perfectionism cross-sectionally in weight restored and in remitted samples. Sullivan, Bulik, Fear, and Pickering (1998) compared female patients referred to an eating disorder service in New Zealand 12 years ago to a random community sample. They found that 90% of the former patients no longer met criteria for anorexia nervosa but still had higher EDI perfectionism scores than the control group.

Bastiani, Rao, Weltzin, and Kaye (1995) studied perfectionism in anorexia nervosa using the EDI, the Hewitt and Flett MPS, and the Frost MPS. 11 inpatients with restricting anorexia were compared to 8 anorexia patients who were assessed within 4 weeks after weight restoration, as well as to 10 healthy controls. On the Frost MPS, the scores of the two anorexia groups were similar on all subscales. The underweight anorexia group scored higher than controls on all subscales except for Parental Expectations. On the Hewitt and Flett MPS, the underweight and weight restored groups scored similarly on all subscales. The

underweight group scored higher than the controls on self-oriented and socially-prescribed perfectionism, but not on other-oriented perfectionism. The weight restored group scored higher than the controls only on self-oriented perfectionism. On the EDI, both anorexia groups scored higher than controls in perfectionism, and the perfectionism scores between the weight restored and underweight groups did not differ. These findings indicate that patients with anorexia nervosa are perfectionistic, and that perfectionism persists after weight restoration. The results also suggest that people with anorexia experience their perfectionism as self-imposed and not in response to the expectations of others.

Srinivasagam et al. (1995) also studied whether perfectionism as measured by the Frost MPS changes with clinical status. They compared 20 women who had recovered from anorexia nervosa to 16 healthy controls. Normal weight and menses for over 1 year defined recovery. The measures used were the EDI and the Frost MPS. It was found that the recovered group had higher scores on the EDI perfectionism subscale, as well as on Frost's overall perfectionism. Since perfectionism persists after what the authors described as good outcome and recovery, it may be a trait that contributes to the pathogenesis of anorexia nervosa.

Table 1.2 Studies of Perfectionism in Anorexia Nervosa (AN)

Study	Participants	Perfectionism Measures	Findings
Halmi, Goldberg, Eckert, Casper & Davis (1977)	44 females with AN	Parents' descriptions	61% of females with AN were described by their parents as perfectionistic.
Heron & Leheup (1984)	16 patients with AN	Self-report and family's descriptions	Patients with AN were more perfectionistic than healthy controls.
Pumariega & LaBarbera (1986)	119 adolescent females	Developed a perfectionism scale consisting of 10 items	Perfectionism was associated with weight anxiety in adolescent females.
Toner, Garfinkel & Garner (1986)	55 former AN patients	EDI	Formerly hospitalized AN patients were more perfectionistic than healthy controls.
Casper (1990)	25 patients who had recovered from AN	EDI	Recovered AN patients had similar perfectionism scores as a group of female college and medical students.
Rastam (1992)	51 adolescents with AN	Self-report and mother's descriptions	More adolescents with AN obtained from a population screening study than healthy controls were considered by their mothers and often by themselves to be perfectionistic.
Mitzman, Slade & Dewey (1994)	32 eating disorder patients; 255 female undergraduates	Neurotic Perfectionism Questionnaire	Participants who scored high on the Eating Attitudes Test (EAT) also scored high in neurotic perfectionism.
Bastiani, Rao, Weltzin & Kaye (1995)	11 AN inpatients; 8 weight restored AN patients	EDI, Hewitt & Flett MPS, Frost MPS	EDI perfectionism: 2 AN groups had similar scores; both groups scored higher than controls. Frost MPS: 2 AN groups had similar scores on all subscales; underweight group scored higher than healthy controls on all but the parental expectations subscale. Hewitt & Flett MPS: 2 AN groups had similar scores on all subscales; underweight group scored higher than controls on self-oriented and socially-prescribed perfectionism; weight restored group scored higher than controls on self-oriented perfectionism.

Study	Participants	Perfectionism Measures	Findings
Hewitt, Flett & Ediger (1995)	81 female college students	Hewitt & Flett MPS, Perfectionistic Self-Presentation Scale	Self-oriented perfectionism was related to anorexic tendencies and attitudes; socially-prescribed perfectionism and perfectionistic self-presentation were related to eating disorder behaviors, body image avoidance and self-esteem.
Srinivasagam et al. (1995)	20 women who have recovered from AN	EDI, Frost MPS	Compared to healthy controls, women who had recovered from AN had higher scores on EDI perfectionism and MPS total perfectionism.
Terry-Short, Glynn Owens, Slade & Dewey (1995)	21 women with eating disorders	Developed a 40-item perfectionism questionnaire	In women with eating disorders, a high positive perfectionism score was associated with a high negative perfectionism score.
Pliner & Haddock (1996)	100 female college students	Personal goals in a performance situation	In a performance situation, high EAT scorers were more likely to set lower personal goals, persist in accepting unrealistically high imposed goals, and were more strongly affected by feedback.
Davis (1997)	123 patients with AN or BN	Hewitt & Flett MPS; Neurotic Perfectionism Questionnaire	Self-oriented perfectionism/normal perfectionism were associated with body esteem when neurotic perfectionism was low; body image disparagement was most pronounced when normal & neurotic perfectionism were both elevated.
Sullivan, Bulik, Fear & Pickering (1998)	70 former AN patients	EDI	90% of former patients no longer met criteria for AN but still had higher perfectionism scores than a random community control group.
Fairburn, Cooper, Doll & Welch (1999)	67 females with a history of AN	Self-report	Premorbid perfectionism was more common in AN than in general psychiatric controls.
Halmi et al. (2000)	324 women with a history of AN	EDI, Frost MPS	Women with AN had higher MPS total perfectionism and EDI perfectionism than healthy controls & EDI normative data respectively; MPS total perfectionism and EDI perfectionism were highly correlated.

1.8.5 Methodological Issues in the Study of Perfectionism in Anorexia Nervosa

To date, the EDI perfectionism subscale has been used more than any other measure of perfectionism in eating disorder research. This is due to the wide acceptance of the EDI as a valid and reliable measure of the range of eating disorder psychopathology, as well as to the fact that the EDI was developed before the two more recent MPSs. However, as the perfectionism subscale of the EDI is made up of merely six items, this measure of perfectionism is not as comprehensive as the two MPSs. A number of studies using the MPSs support the earlier findings that individuals with anorexia are more perfectionistic than healthy controls. However, there are limits to the extent to which the findings may be generalized. Small sample sizes have been used. It is unclear whether perfectionism measured within 4 weeks of weight restoration can be used to predict perfectionism in those who recover fully from anorexia nervosa. Cross-sectional study designs using different groups of participants have been employed to compare levels of perfectionism at various stages of recovery. It would be interesting to examine whether perfectionism changes after weight restoration, remission, or relapse in the same group of people. In light of the limitations of the existing studies, many questions remain as to the nature of the relationship between perfectionism and anorexia nervosa. Considering the role that perfectionism may play as a risk factor for the development of the illness, it is also possible that it may play a role as a predictor of outcome. For clinical treatment purposes, it would be valuable to study this relationship further.

1.9 Summary

Perfectionism as a personality characteristic in anorexia nervosa has been studied extensively. There is general agreement that individuals with anorexia are more perfectionistic than the general population, and some evidence suggests that perfectionism is a predisposing factor for the development of the disorder. As the studies that have examined the stability of perfectionism in anorexia nervosa over the course of the illness have used cross-sectional study designs, it is unclear whether, in the same group of individuals, perfectionism would change with remittance. In addition, perfectionism has been implicated as a risk factor in anorexia nervosa, and high levels may be an indication of psychopathology that can further predict long-term outcome after discharge from intensive treatment. Because relapse rates after treatment are high, any predictors of outcome that can be identified may have important clinical implications. As there are neither prospective nor retrospective follow-up studies that examine the relationship between illness outcome and levels of perfectionism, the role that perfectionism may play as a predictor of outcome has not been explored. It would be valuable to conduct a longitudinal study to examine the possible association between perfectionism and outcome status at 6-24 months after intensive treatment, in order to further explore the relationship between perfectionism and clinical status and to examine the possible role that perfectionism may play as a predictor of outcome.

CHAPTER II

OBJECTIVES AND HYPOTHESES

2.1 Objectives

The primary objective of this study is to examine the relationship between perfectionism as a personality trait and the clinical status of individuals with anorexia nervosa at admission to, discharge from, and at 6-24 month follow-up after an inpatient treatment program for anorexia nervosa.

2.2 Hypotheses

Hypothesis #1

Individuals with anorexia nervosa will show elevated levels of perfectionism compared to healthy controls at admission to treatment.

Hypothesis #2

Perfectionism scores will decrease with weight restoration by the end of treatment.

Hypothesis #3

Between discharge and follow-up, there will be no change in perfectionism for those who have a good outcome. Perfectionism will increase in individuals who relapse.

Hypothesis #4

Individuals with good clinical outcome at follow-up will show lower levels of perfectionism at admission to treatment and at discharge (i.e. perfectionism scores at admission and at discharge will predict outcome at follow-up).

Hypothesis #5

Individuals with good clinical outcome will have lower perfectionism scores than those with poor clinical outcome at follow-up.

Hypothesis #6

EDI Perfectionism and MPS Total Perfectionism will be highly correlated.

CHAPTER III

METHODOLOGY

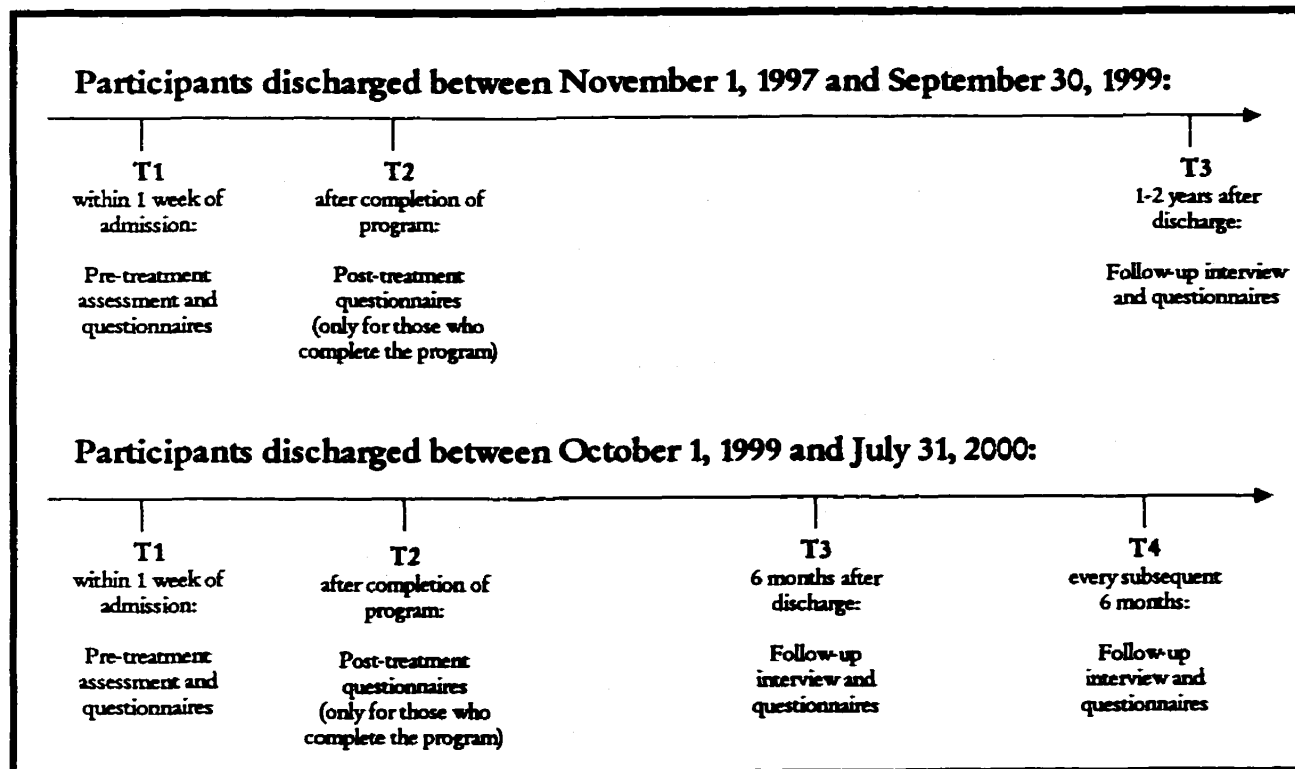
3.1 The Inpatient Eating Disorders Program

This study was conducted as a part of two follow-up studies of the Inpatient Eating Disorders Program (IEDP) at the Toronto General Hospital. The IEDP is one option within the Eating Disorders Treatment Program at the Toronto General Hospital, which adopts an integrated comprehensive stepped care model for the treatment of eating disorders. It is the major tertiary care centre for the treatment of anorexia nervosa in Ontario. The IEDP is a voluntary treatment program that adopts a lenient approach to treatment and combines the provision of medical care and nutritional rehabilitation with group therapy. Family therapy is also available as requested, along with leisure, vocational, and educational counseling. The IEDP aims to provide the minimal amount of containment required for patients to normalize their eating and to gain weight. Patients are encouraged to go home on the weekends after the first two weeks; at about halfway through their stay they are encouraged to become day attendees. The goals of the program are for patients to achieve a minimum body mass index (BMI) of 20 kg/m² and to control their eating disorder symptoms, as a first step towards recovery from their eating disorder.

3.2 Study Design

All patients who were discharged from the IEDP between November 1, 1997 and September 30, 1999, who had received at least four weeks of treatment, were asked to participate in a 1-2 year retrospective follow-up study. All patients discharged after October 1, 1999 were asked to participate in a 6-month prospective follow-up study. Participants of the prospective follow-up study who were discharged between October 1, 1999 and July 31, 2000 were included in this study. For those participants who have been assessed at repeated intervals, the most recent follow-up data were analyzed. As a result, the cohort of potential participants included all patients discharged from the IEDP between November 1, 1997 and July 31, 2000, who had received at least four weeks of treatment (see Figure 3.1).

Figure 3.1 Study Timeline



3.3 Recruitment

3.3.1 Eating Disorder Participants

All participants gave informed consent at pre-treatment to be contacted for the follow-up interview (see Appendix A). When the time for their follow-up drew near, participants of the retrospective study were sent an initial contact letter outlining the purpose of the study (see Appendix B). Those who did not call to book an appointment were then called and asked if they would be willing to participate in the study. Potential participants of the prospective study were contacted by telephone and the study was described to them. Those who were interested in participating in the study, but were unable or unwilling to

come to the Toronto General Hospital to do the interview in person, were interviewed over the telephone. After the interview, participants were asked to complete a battery of self-report measures.

3.3.2 Healthy Control Participants

The healthy control participants for the MPS were a group of women ranging in age from 17 to 41 years ($M = 26.1$ years, $SD = 6.2$ years), who had served as proband controls for a family study by Lilenfeld et al. (1998). They were selected to have never had a history of any diagnosable eating disorder or eating disorder behaviors. Potential healthy controls were excluded if they had a history of weighing less than 90% or more than 125% of ideal body weight since menarche. They were chosen to otherwise be a representative community sample, and therefore were not screened for a lifetime history of any other psychiatric disorder. With the exception that they had no history of eating disorder problems, there is no evidence to suggest that they were not representative of the general population (Kessler et al., 1994).

3.4 Inclusion and Exclusion Criteria

3.4.1 Inclusion Criteria

Eligible participants met the following criteria:

- 1) Were former patients discharged from the IEDP between November 1, 1997 and July 31, 2000.
- 2) Were in the IEDP for at least four weeks.
- 3) Had, at the time of admission to the IEDP, fulfilled modified DSM-IV criteria for anorexia nervosa, restricting or binge eating/purging subtypes based on Eating Disorder Examination (EDE) operational definitions. The criterion of absence of menses was not required.

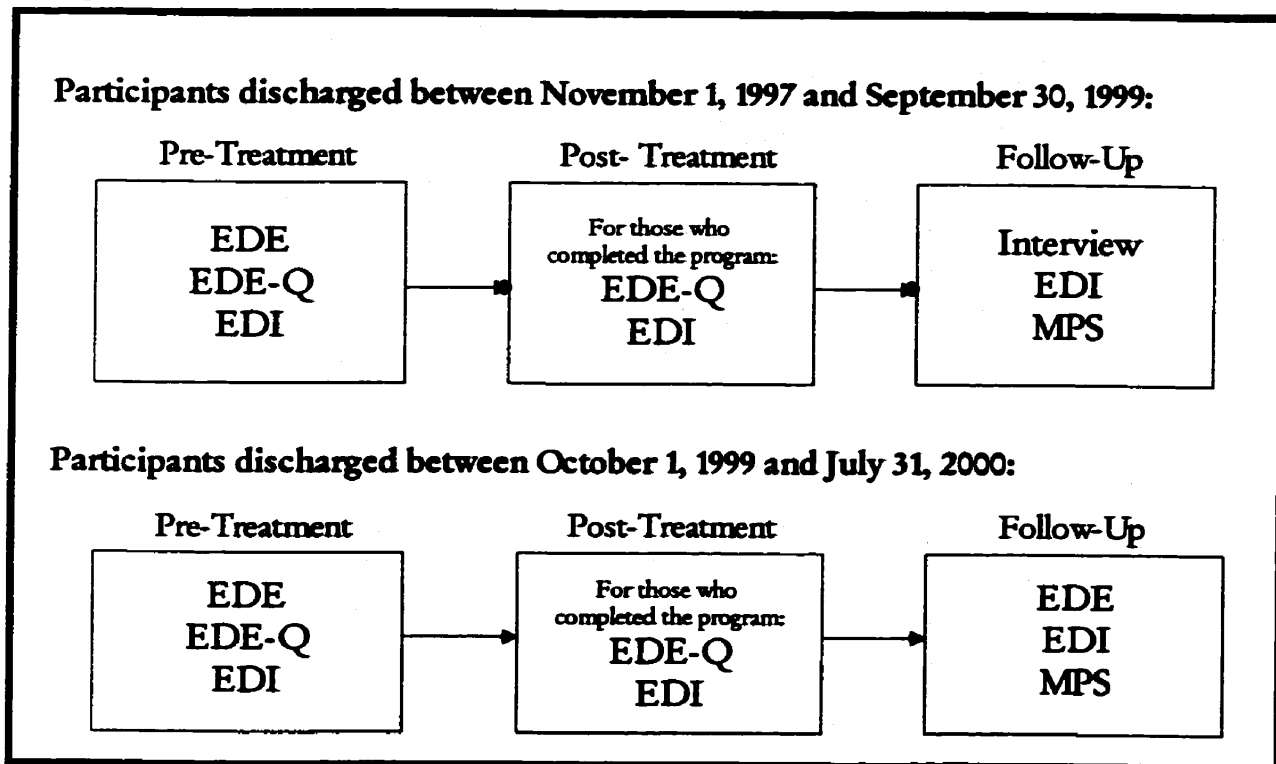
3.4.2 Exclusion Criteria

There were no exclusion criteria other than unwillingness to participate.

3.5 Assessment Measures (See Appendix C and D)

The self-report measures used in this study are one part of a battery of self-report measures used for the follow-up study. The instruments used to assess eating disorder psychopathology and perfectionism are listed below (see Figure 3.2).

Figure 3.2 Assessment Measures



3.5.1 Pre-treatment Measures

As part of the routine assessment procedure of the IEDP, all patients were asked to complete a pre-treatment interview and a battery of self-report measures within one week of admission into the IEDP. The measures that will be reported on in this study are:

- Eating Disorder Examination (EDE) - Diagnostic Items. This is an investigator-based interview developed for the assessment of the specific psychopathology of eating disorders (version 12; Fairburn & Cooper, 1993). Only the diagnostic items of the interview were administered, which assess the following dimensions of eating disorder psychopathology: dietary restriction, objective and subjective binge episodes, compensatory behaviors (including self-induced vomiting, laxative and diuretic misuse, and intense exercise), the influence of body shape and weight on self-evaluation, fear of

weight gain, feelings of fatness, purposeful maintenance of low body weight, and amenorrhea. The interview assesses the frequency and severity of these variables over the past three months, generating operationally defined eating disorder diagnoses according to the DSM-IV diagnostic criteria. The EDE has been used extensively in eating disorder research. The measure has been examined for internal consistency; interrater reliability; and discriminant, concurrent, and predictive validity (Cooper, Cooper & Fairburn, 1989; Cooper & Fairburn, 1987; Rosen, Vara, Wendt & Leitenberg, 1990; Wilson & Smith, 1989) (see Appendix D).

- Eating Disorder Examination Questionnaire (EDE-Q). The EDE-Q (version 4) is the self-report version of the EDE (Fairburn & Beglin, 1994). The EDE-Q consists of four subscales, *shape concern*, *weight concern*, *dietary restraint*, and *eating concern*. It also contains items that assess the frequency and severity of objective and subjective binge episodes and compensatory behaviors. Fairburn and Beglin (1994) found that the EDE and the EDE-Q produce similar results when assessing unambiguous behaviors such as self-induced vomiting and dieting, but the EDE-Q generated higher scores than the EDE when assessing more complex behaviors such as binge eating and concerns about shape. Therefore, the use of both of these measures would ensure a more accurate assessment of eating disorder symptomatology (see Appendix C).
- Eating Disorder Inventory (EDI). This is a widely used self-report instrument that measures core attitudes and beliefs related to eating disorders. The EDI provides eight subscale scores: *drive for thinness*, *bulimia*, *body dissatisfaction*, *ineffectiveness*, *perfectionism*, *interpersonal distrust*, *interoceptive awareness*, and *maturity fears* (Garner, Olmsted & Polivy, 1983). The measure consists of 64 items, each presented in a 6-point forced choice format. Respondents rate whether the item applies to them “always”, “usually”, “often”,

“sometimes”, “rarely”, or “never”. The internal consistency, interrater reliability, and discriminant, concurrent, and predictive validity of the EDI has been demonstrated (Garner, Olmsted & Polivy, 1983).

3.5.2 Post-treatment Measures

Information regarding weight and frequency of eating disorder symptoms were collected weekly during each patients' admission. All patients who successfully achieved a BMI of 20 kg/m² and completed the IEDP were also asked to complete a post-treatment questionnaire package. The package consisted of a program feedback form and a number self-report measures. The questionnaires that will be reported on in this study are:

- Eating Disorder Examination Questionnaire (EDE-Q).
- Eating Disorder Inventory (EDI).

3.5.3 Follow-up Measures

The follow-up interview for the retrospective study consisted of a semi-structured interview that assessed eating behavior, symptoms, weight, medications, drug use, medical and psychiatric treatment, mood, and social and interpersonal functioning, during the time period from discharge until follow-up. The follow-up interview for the prospective study was the EDE, extended to cover eating behavior and symptoms over the past 6 months. Additional questions regarding weight, medications, drug use, medical and psychiatric treatment, mood, and social and interpersonal functioning were also asked (see Appendix D). A variety of self-report questionnaires were administered; the ones that will be reported on are:

- Eating Disorder Inventory (EDI).

- **Multidimensional Perfectionism Scale (MPS)**. This is a self-report measure of perfectionism (Frost et al., 1990). It consists of five core subscales that make up a total perfectionism score, as well as one related subscale. The five core subscales are *concern over mistakes, personal standards, parental expectations, parental criticism, and doubting of actions*. *Organization* is the related subscale. The MPS is made up of 35 items, each presented in a five-point Likert-type format. Each subscale has been shown to be reliable, and evidence exists for their validity (Frost, Lahart & Rosenblate, 1991; Frost & Marten, 1990; Frost et al., 1990) (see Appendix C).

3.6 Definitions of Outcome

As there are no standard definitions of outcome in the follow-up literature, illness status was defined using weight and frequency of objective binge episodes (OBE) or episodes of vomiting. Based on previous findings regarding the similarities in severity of specific and general psychopathology in individuals who display full and partial-syndrome bulimia nervosa (Garfinkel et al., 1995), the threshold frequency of OBE and vomiting was set at one OBE/vomit per week, instead of the DSM-IV threshold for bulimia nervosa of two binges and purges per week. The good outcome category consisted of those who, at the time of the follow-up interview, had a BMI of at least 20 kg/m² and who had no OBE or vomiting over the 3 months prior to the follow-up interview. Those in the intermediate category had subclinical symptoms, but did not meet criteria for anorexia nervosa or bulimia nervosa. These participants had a BMI that was less than 20 kg/m² but greater than or equal to 18.5 kg/m² at follow-up, and had less than one OBE and/or episode of vomiting per week over the 3 month period prior to the follow-up interview. Those in the poor outcome

category either had a BMI that was less than 18.5 kg/m², and/or had more than one OBE or episode of vomiting per week any time over the 3 months prior to the follow-up interview.

Categories for response to treatment, defined using clinical status at discharge from treatment were assessed using similar criteria, with consideration for the last 4 weeks of treatment when assessing bingeing and vomiting symptoms (see Table 3.1).

Table 3.1 Treatment Response and Outcome Criteria

	Good	Intermediate	Poor
Response to Treatment	BMI \geq 20 kg/m ² No OBE/vomits in last 4 weeks of treatment	18.5 kg/m ² \leq BMI < 20 kg/m ² < 1 OBE&/vomit per week in last 4 weeks of treatment	BMI < 18.5 kg/m ² and/or \geq 1 OBE/vomit per week in last 4 weeks of treatment
Outcome at Follow-up	BMI \geq 20 kg/m ² No OBE/vomits in past 3 months	18.5 kg/m ² \leq BMI < 20 kg/m ² < 1 OBE&/vomit per week in past 3 months	BMI < 18.5 kg/m ² and/or \geq 1 OBE/vomit per week in past 3 months

3.7 Statistical Analyses

3.7.1 Data Screening

All statistical analyses were performed using SPSS for Windows, version 9.0. Prior to the analyses the data were screened for accuracy, the presence of missing data or outliers, and to ensure normality using the data screening procedures recommended by Tabachnick & Fidell (1989). The mean score for the specific subscales was used to replace any missing data, so long as no more than one item was missing for any given subscale. The data were found to be normally distributed and free of any outliers.

3.7.2 Statistical Tests

The aims of the data analyses were to examine changes in perfectionism over time and with clinical status, and to compare perfectionism scores of the participants with healthy controls. T-tests were used to compare EDI perfectionism means in order to examine whether perfectionism varied with illness status. Paired samples t-tests were used to compare EDI perfectionism scores assessed at pre-treatment and post-treatment, and independent samples t-tests were used to compare perfectionism scores between the good and poor outcome groups at follow-up. Independent samples t-tests were also used to compare pre-treatment and post-treatment EDI perfectionism of the good and poor outcome groups, to examine whether perfectionism at these earlier time points could differentiate between outcome groups at follow-up. One-sample t-tests were used to compare the groups with good and poor clinical status to published healthy female college controls (Garner, Olmsted & Polivy, 1983) and to an eating disorder reference sample (Garner, 1991). Independent samples t-tests were also used to compare clinical variables between those who completed the assessments at the various time points and those who did not, in order to determine the representativeness of the study sample. A repeated measures 2 x 2 analysis of variance (ANOVA) was used to explore group by time interactions from post-treatment to follow-up for the good and poor outcome groups.

MPS scores were examined to determine whether perfectionism varied with clinical status at follow-up. A one-way ANOVA was used to compare the total perfectionism means of the good outcome, poor outcome, and healthy control groups. Follow-up pair-wise comparisons among the means were conducted using Dunnett's C Test, as the variances among the three groups were not homogenous. The five core subscales of the MPS were compared using a multivariate analysis of variance (MANOVA). Pillai's criterion was used to

evaluate multivariate significance, as the variances were not homogenous. Follow-up ANOVA on each of the 5 subscales were conducted using the Bonferroni procedure in order to minimize the chance of type I errors. The Bonferroni procedure consists of dividing alpha by the number of tests being conducted, thereby keeping a family-wise error rate at $p \leq .05$. In this case, using an alpha = .05, each ANOVA was tested at the .01 level. Post hoc analyses to the univariate ANOVA consisted of conducting pair-wise comparisons using Dunnett's C Test. Simple regression analysis was used to explore correlations between the MPS total perfectionism score and the EDI perfectionism subscale score.

CHAPTER IV

CHARACTERISTICS OF THE SAMPLE

In this chapter, data are presented on the demographic characteristics of the participants including age, marital status, employment status, and education level. Clinical variables such as eating disorder diagnosis, BMI, duration of illness, age of first eating disorder diagnosis, previous treatment, and response to treatment are also presented. Participants who completed various aspects of the assessments were compared to participants who did not complete all aspects of the assessments to determine the representativeness of the samples.

4.1 Participation

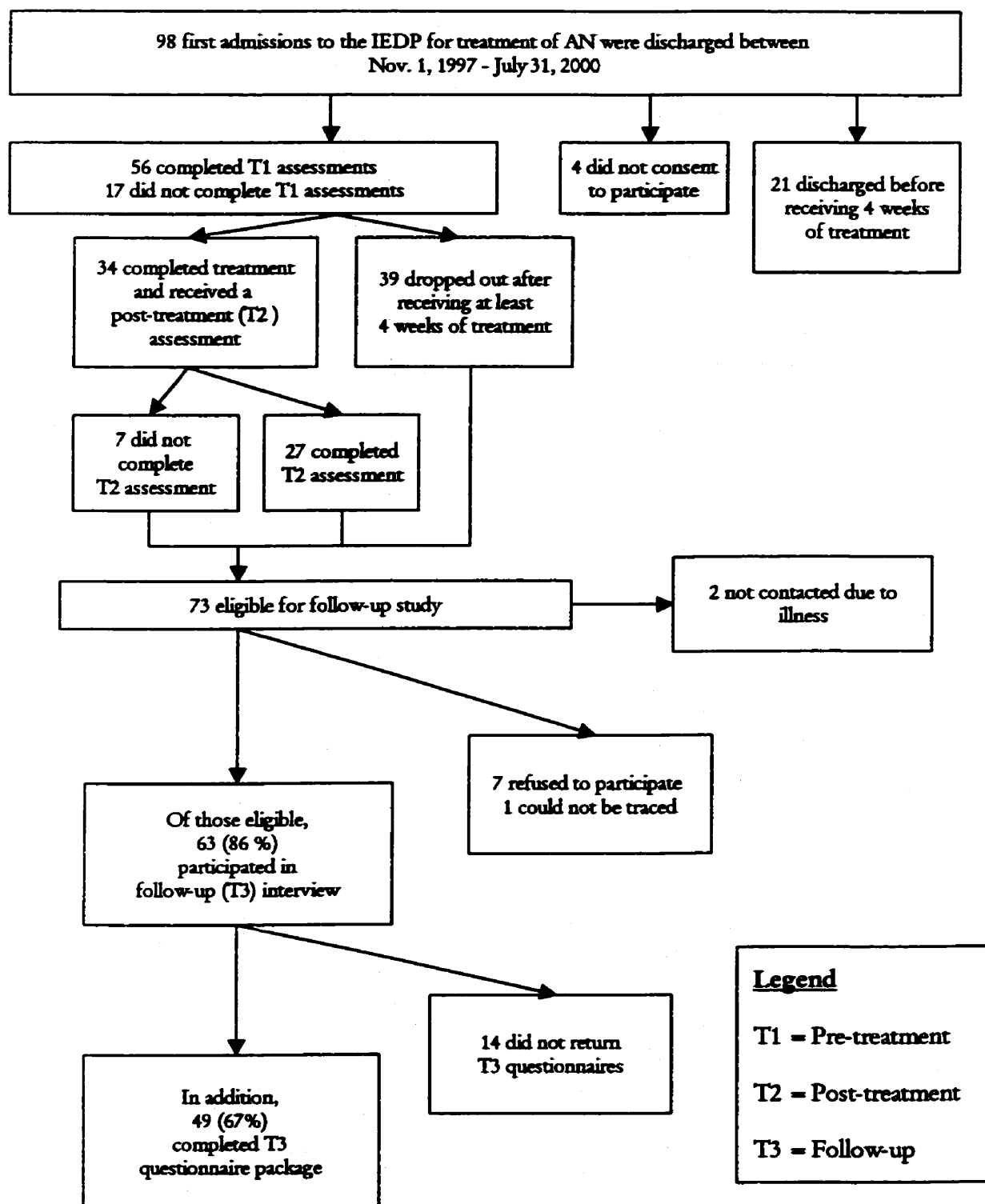
Ninety-eight patients with anorexia nervosa were discharged from the IEDP between November 1, 1997 and July 31, 2000. Of these, 21 were discharged before receiving 4 weeks of treatment, and were ineligible for the study as they were not considered to have received an adequate dose of treatment from the IEDP. As this study was carried out as a part of a follow-up study to explore predictors of relapse and the effectiveness of the treatment program, those who did not stay in the program for what was considered to be a minimum length of time needed to attain any benefit from the treatment were not invited to participate in the follow-up. It was decided that this minimum length of time was 4 weeks. An additional four patients did not consent to participate in the study. The remaining 73 individuals met the inclusion criteria for participation in the study. Fifty-six of these participants completed the pre-treatment (T1) assessments. Thirty-four patients completed

the program and achieved a BMI of at least 20 kg/m² at discharge. Of these, 27 completed the post-treatment (T2) assessments. Of the 73 individuals who met inclusion criteria for participation in the study, two were not contacted for follow-up due to the severity of their illness. They were included in the “poor” outcome category in all analyses. One individual could not be traced, and seven refused to participate in the follow-up (T3) interview. Of these, two were assigned to the poor outcome category based on clinical contact. Sixty-three individuals agreed to participate in the follow-up interview. The average length of follow-up was 15.7 months (*SD* = 6.2 months). Of those that participated, 32 interviews (51%) were conducted in person and 31 interviews (49%) were conducted over the telephone. Of the 63 participants who were interviewed, 49 completed the self-report questionnaires (see Table 4.1 and Figure 4.1).

Table 4.1 Completed Self-report Assessments

Assessment	Number of Participants
T1 only	11
T2 only	0
T3 only	5
T1 and T2 only	2
T1 and T3 only	19
T2 and T3 only	1
T1, T2, & T3	24
Did not complete any self-report assessments:	
Completed T3 interview	6
Did not complete any assessments	4

Figure 4.1 Participation



4.2 Demographic Characteristics

4.2.1 Age

The mean age of the 73 participants at the time of admission into the treatment program was 27.2 years ($SD = 10.4$ years). The median age was 24. The age of the youngest participant was 17 years, and the oldest was 61 years.

4.2.2 Sex

Seventy-one of the 73 participants were women, two were men.

4.2.3 Marital Status

The participants' marital status at the time of admission to treatment is presented in Table 4.2. The majority of the participants were single and have never been married (69.8%).

Table 4.2 Marital Status

Marital Status	Number	% of Total
Single, never married	51	69.8
Married	16	21.9
Separated	4	5.5
Divorced	1	1.4
Widowed	1	1.4

4.2.4 Education Level

The participants' highest educational qualifications are presented in Table 4.3. Almost half (42.5%) of the participants had had some form of post-secondary education. Another third (31.5%) had their high school diploma, and one-sixth (17.8%) either did not finish high school or were currently still in high school. This information was missing for 6 participants (8.2%).

Table 4.3 Highest Level of Education

Level of Education	Number	% of Total
Completed graduate training	4	5.5
Some graduate training	1	1.4
Completed university/college	14	19.2
Some university/college	12	16.4
Completed high school	23	31.5
Some high school	13	17.8
Missing information	6	8.2

4.2.5 Employment Status

Information regarding employment status at admission to treatment is presented in Table 4.4. The "Employed full-time" category included those who held full-time jobs, full-time students, and part-time students who also held part-time jobs. Those in the "Employed part-time" category included those with part-time jobs as well as part-time students without jobs. Employment information was missing for 19.2% of the participants.

Table 4.4 Employment Status (including students)

Employment Status	Number	% of Total
Employed full-time	22	30.1
Employed part-time	8	11.0
Unemployed	29	39.7
Missing data	14	19.2

4.3 Clinical Characteristics

4.3.1 Eating Disorder Diagnoses

Half of the participants were diagnosed with anorexia nervosa – restricting subtype and half were diagnosed with anorexia nervosa – binge eating/purging subtype at admission to treatment. The breakdown of diagnoses for the 73 participants is presented in Table 4.5. Of the 63 participants who agreed to participate in the follow-up interview, it was found that 2 who had previously been diagnosed with anorexia nervosa – restricting subtype began bingeing and purging during the follow-up period.

Table 4.5 Diagnosis at Admission to Treatment

Diagnosis	Number	% of Total
Anorexia Nervosa - Restricting Subtype	36	49.3
Anorexia Nervosa - Binge Eating/Purging Subtype	37	50.7

4.3.2 Duration of Illness

At pre-treatment, participants were asked how long they had a serious eating problem. The beginning of eating problems was defined as the time the individual a) started vomiting or using laxatives on a regular basis; or b) started having the kind of eating binges that others would regard as unusually large; or c) purposely lost an amount of weight that others were very concerned about and she *may* have stopped menstruating at this weight. The mean number of months of duration of serious eating problems for 53 participants was 62.4 months (SD = 69.0 months), with a median of 36 months. This information was missing for 20 individuals. Participants were also asked if they had ever been diagnosed by a professional as having an eating disorder, and at what age they were diagnosed. The mean age of diagnosis for 52 participants was 19.8 years (SD = 7.1 years), with a median of 17 years. This information was missing for 21 participants.

4.3.3 Previous Treatment

At pre-treatment, participants were asked if they had ever had any intensive treatment for their eating disorder. This was defined as treatment within a program that was specifically designed for the treatment of eating disorders. Admission to hospital for medical stabilization, admission to a general psychiatric ward, and individual therapy was not included in this definition. Two thirds (64.4%) of the 73 participants had had previous intensive treatment for their eating disorder prior to the target admission. For one third (35.6%) of the participants, this admission was their first admission to a treatment program for eating disorders (see Table 4.6).

Table 4.6 Previous Intensive Treatment for Eating Disorders

	Number	% of Total
Has had previous treatment	47	64.4
Has never had previous treatment	26	35.6

4.3.4 Admission Body Mass Index and Progress in Treatment

The mean BMI at admission to treatment for the 73 participants was 14.8 kg/m² (SD = 2.2 kg/m², median = 15.1 kg/m²). They were in treatment for an average of 12.1 weeks (SD = 5.6 weeks, median = 11.0 weeks), and gained an average of 11.3 kg (SD = 6.0 kg, median = 10.6 kg). Their mean discharge BMI was 19.1 kg/m² (SD = 2.1 kg/m², median = 19.8 kg/m²) (see Table 4.7).

Table 4.7 Clinical Characteristics of the Participants (n=73)

	Mean (SD)	Median
Admission BMI (kg/m ²)	14.8 (2.2)	15.1
Number of weeks in treatment	12.1 (5.6)	11.0
Weight gained in treatment (kg)	11.3 (6.0)	10.6
Discharge BMI (kg/m ²)	19.1 (2.1)	19.8

4.4 Representativeness of the Samples

Because different cohorts of the 73 participants completed the self-report questionnaires at the three time points, comparisons were made between participants who completed and did not complete each assessment.

4.4.1 Pre-treatment EDI

Comparisons between those who completed the pre-treatment (T1) EDI and those who did not are presented in Table 4.8 and Table 4.9. Of the 73 participants, 56 completed the T1 EDI and 17 did not. The two groups of participants had a similar admission BMI. The individuals who completed the T1 EDI were younger in age ($\underline{M} = 25.4$ years, $\underline{SD} = 9.4$ years, vs. $\underline{M} = 33.1$ years, $\underline{SD} = 11.5$ years; $t(71) = 2.81$, $p = .006$); had a longer duration of treatment ($\underline{M} = 12.8$ weeks, $\underline{SD} = 5.4$ weeks, vs. $\underline{M} = 9.8$ weeks, $\underline{SD} = 5.7$ weeks; $t(71) = 1.98$, $p = .05$); gained more weight while in treatment ($\underline{M} = 12.3$ kg, $\underline{SD} = 5.9$ kg, vs. $\underline{M} = 8.2$, $\underline{SD} = 5.4$ kg; $t(71) = 2.50$, $p = .02$); and left treatment at a higher discharge BMI ($\underline{M} = 19.4$ kg/m², $\underline{SD} = 1.8$ kg/m², vs. $\underline{M} = 18.0$ kg/m², $\underline{SD} = 2.7$ kg/m²; $t(71) = 2.41$, $p = .02$) (see Table 4.8). No difference was found in the distribution of the two diagnostic subtypes across the groups of completers and non-completers (see Table 4.9). The frequency of bingeing and purging symptoms upon admission to treatment were also compared, but the sample sizes were too small for any meaningful comparison.

Table 4.8 T1 EDI Completers vs. Non-completers

	Mean (SD)		t	df	p
	Completed EDI n = 56	Did not complete EDI n = 17			
Age (years)	25.4 (9.4)	33.1 (11.5)	2.81	71	.006
Admission BMI (kg/m ²)	14.8 (2.2)	14.9 (2.1)	0.29	71	.77
Number of weeks in treatment	12.8 (5.4)	9.8 (5.7)	1.98	71	.05
Weight gained in treatment (kg)	12.3 (5.9)	8.2 (5.4)	2.50	71	.02
Discharge BMI (kg/m ²)	19.4 (1.8)	18.0 (2.7)	2.41	71	.02

Table 4.9 Comparison of Diagnoses for T1 EDI Completers and Non-completers

Diagnosis	Completers	Non-completers
Anorexia Nervosa - Restricting Subtype	28 (50%)	8 (47.1%)
Anorexia Nervosa - Binge Eating/Purging Subtype	28 (50%)	9 (52.9%)

$\chi^2 = 0.05$, $df = 1$, $p = .83$

4.4.2 Post-treatment EDI

Participants who completed the treatment program and were weight restored at the end of treatment were invited to complete a T2 self-report questionnaire package, which included the EDI. Those who did not complete the T2 EDI include those who completed the treatment program but chose not to do the questionnaires, and participants who did not complete the treatment program. Comparisons were made between the T2 questionnaire

completers and non-completers. As expected, those who completed the T2 questionnaires had a longer duration of treatment ($\underline{M} = 16.3$ weeks, $\underline{SD} = 5.5$ weeks, vs. $\underline{M} = 9.9$ weeks, $\underline{SD} = 4.3$ weeks; $t(71) = 5.46, p < .001$), gained more weight while in treatment ($\underline{M} = 15.5$ kg, $\underline{SD} = 5.2$ kg, vs. $\underline{M} = 9.2$ kg, $\underline{SD} = 5.2$ kg; $t(71) = 4.94, p < .001$), and had a higher discharge BMI ($\underline{M} = 20.4$ kg/m², $\underline{SD} = 0.5$ kg/m², vs. $\underline{M} = 18.4$ kg/m², $\underline{SD} = 2.4$ kg/m²; $t(55) = 5.39, p < .001$). There were no significant differences between the two groups with respect to age, admission BMI, duration of serious eating problems, or age of eating disorder diagnosis (see Table 4.10). A significant difference was found in the distribution of the two diagnostic subtypes across the groups of completers and non-completers, such that two-thirds of those who completed the EDI at T2 had been diagnosed with anorexia nervosa – restricting subtype, and one-third had been diagnosed with anorexia nervosa – binge eating/purging subtype ($\chi^2(1, N = 73) = 5.31, p = 0.02$) (see Table 4.11). The sample sizes were too small to make any meaningful comparisons of symptom frequencies between the two groups.

Since everyone who completed the T2 EDI were treatment completers and most of those who did not complete the T2 EDI were treatment non-completers, a comparison was made between treatment completers and non-completers with respect to diagnostic subtype. No significant difference was found in the distribution of the two subtypes across the groups of treatment completers and non-completers (see Table 4.12).

Table 4.10 Comparison of T2 EDI Completers and Non-completers

	n (C, NC)	Mean (SD)		t	df	p
		C	NC			
Age (years)	25, 48	26.3 (10.3)	27.7 (10.5)	0.52	71	.60
Duration of illness (months)	23, 30	47.6 (48.9)	73.7 (80.1)	1.38	51	.18
Age of diagnosis (years)	22, 30	20.8 (8.3)	19.1 (6.1)	0.84	37*	.41
Admission BMI (kg/m ²)	25, 48	14.5 (1.9)	15.0 (2.3)	1.00	71	.32
Length of treatment (weeks)	25, 48	16.3 (5.5)	9.9 (4.3)	5.46	71	< .001
Weight gained in treatment (kg)	25, 48	15.5 (5.2)	9.2 (5.2)	4.94	71	< .001
Discharge BMI (kg/m ²)	25, 48	20.4 (0.5)	18.4 (2.4)	5.39	55*	< .001

C = Completers NC = Non-completers

* equal variances not assumed

Table 4.11 Comparison of Diagnoses for T2 EDI Completers and Non-completers

Diagnosis	Completers	Non-completers
Anorexia Nervosa - Restricting Subtype	17 (68%)	19 (39.6%)
Anorexia Nervosa - Binge Eating/Purging Subtype	8 (32%)	29 (60.4%)

$\chi^2 = 5.31, df = 1, p = .02$

Table 4.12 Comparison of Diagnoses for Treatment Completers and Non-completers

Diagnosis	Completers	Non-completers
Anorexia Nervosa - Restricting Subtype	19 (55.9%)	17 (43.6%)
Anorexia Nervosa - Binge Eating/Purging Subtype	15 (44.1%)	22 (56.4%)

$$\chi^2 = 1.10, df = 1, p = .30$$

4.4.3 Follow up EDI and MPS

The same comparisons were made between the participants who completed the self-report questionnaires at follow-up (T3) and those who did not, either because they did not participate in the follow-up or because they chose not to complete the questionnaires after completing the follow-up interview. The two groups did not differ in terms of age, duration of serious eating problems, age of diagnosis, and admission BMI. Compared to the group of participants who did not complete the T3 questionnaires, the questionnaire completers had a longer duration of treatment ($M = 13.5$ weeks, $SD = 5.9$ weeks, vs. $M = 9.3$ weeks, $SD = 3.7$ weeks; $t(68) = 3.78, p < .001$), gained more weight while in treatment ($M = 12.8$ kg, $SD = 5.9$ kg, vs. $M = 8.5$ kg, $SD = 5.3$ kg; $t(71) = 3.11, p = .003$), and had a higher discharge BMI ($M = 19.5$ kg/m², $SD = 1.5$ kg/m², vs. $M = 18.2$ kg/m², $SD = 2.8$ kg/m²; $t(31) = 2.13, p = .04$) (see Table 4.13). No significant difference was found in the distribution of the two diagnostic subtypes across the groups of T3 questionnaire completers and non-completers (see Table 4.14).

Table 4.13 Comparison of T3 Questionnaire Completers and Non-completers

	n (C, NC)	Mean (SD)		t	df	p
		C	NC			
Age (years)	48, 25	26.7 (10.4)	28.2 (10.5)	0.61	71	.54
Duration of illness (months)	38, 15	67.1 (64.4)	50.5 (80.7)	0.78	51	.44
Age of diagnosis (years)	37, 15	20.0 (6.9)	19.3 (7.7)	0.31	50	.76
Admission BMI (kg/m ²)	48, 25	14.7 (1.9)	15.0 (2.6)	0.38	38*	.71
Length of treatment (weeks)	48, 25	13.5 (5.9)	9.3 (3.7)	3.78	68*	< .001
Weight gained in treatment (kg)	48, 25	12.8 (5.9)	8.5 (5.3)	3.11	71	.003
Discharge BMI (kg/m ²)	48, 25	19.5 (1.5)	18.2 (2.8)	2.13	31*	.04

C = Completer NC = Non-completer

* equal variances not assumed

Table 4.14 Comparison of Diagnoses for T3 Questionnaire Completers and Non-completers

Diagnosis	Completers	Non-Completers
Anorexia Nervosa - Restricting Subtype	26 (54.2%)	10 (40%)
Anorexia Nervosa - Binge/Purge Subtype	22 (45.8%)	15 (60%)

$\chi^2 = 1.32$, $df = 1$, $p = .25$

CHAPTER V

RESULTS

This chapter reviews the main findings of the study. Comparisons of the participants' EDI perfectionism to published controls revealed that the participants' perfectionism was high when their clinical status was poor, but decreased to normal levels when they were weight restored or in remission. Lower perfectionism scores at pre-treatment were associated with a better response to treatment, which was then associated with a better outcome at follow-up. At follow-up, the difference in MPS total perfectionism between the good and poor outcome groups approached significance, and both groups had significantly higher perfectionism than the healthy controls. A comparison of the MPS subscale scores revealed that the poor outcome group differed significantly from the healthy control group on all five subscales, while the good outcome group differed from the healthy control group on all but the parental expectations subscale. The EDI perfectionism scores and the MPS total perfectionism scores were highly correlated.

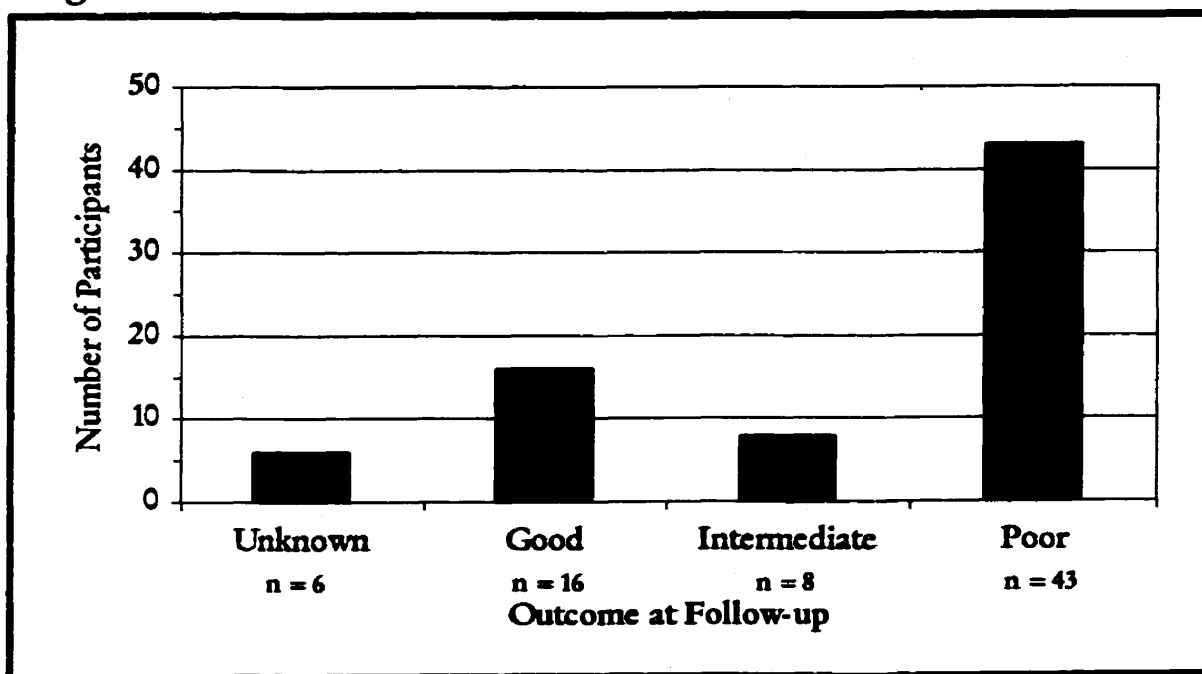
5.1 Global Outcome

Out of the 63 participants who completed the follow-up interview, 2 did not wish to disclose their weight. They were assigned to the poor outcome category based on their eating behaviors and binge/purge symptoms. The remaining 61 participants had a mean BMI (kg/m²) of 18.5 (SD = 2.7), with the minimum BMI being 11.3 and the maximum BMI being 24.2. As general outcome could be assessed for an additional four participants based

on clinical contact, outcome categories that took into consideration BMI and binge/purge symptoms could be assigned for 67 participants.

Overall, 16 participants (21.9%) had a good outcome at follow-up, 8 (11.0%) had an intermediate outcome, and 43 (58.9%) had a poor outcome (see Figure 5.1). Because of the small number of participants with a good or intermediate outcome, these two outcome groups were combined to facilitate statistical analyses. However, means and standard deviations for the EDI and the MPS are presented for all three outcome groups for information in Appendices E and F.

Figure 5.1 Global Outcome



Because half of the 63 follow-up interviews were conducted over the telephone, comparisons were made between those who were interviewed in person and those who were interviewed over the telephone to examine if there were any differences between the two types of interview in terms of outcome at follow-up. No significant differences were found (see Table 5.1).

Table 5.1 Type of Follow-up Interview and Outcome at Follow-up

	Outcome at Follow-up	
	Good Outcome n = 24	Poor Outcome n = 39
Interviewed In Person n = 32	15 (46.9%)	17 (53.1%)
Interviewed Over the Telephone n = 31	9 (29.0%)	22 (71.0%)

$$\chi^2 = 2.13, df = 1, p = .20$$

5.2 Results from Statistical Analyses

5.2.1 EDI Perfectionism at Pre-treatment

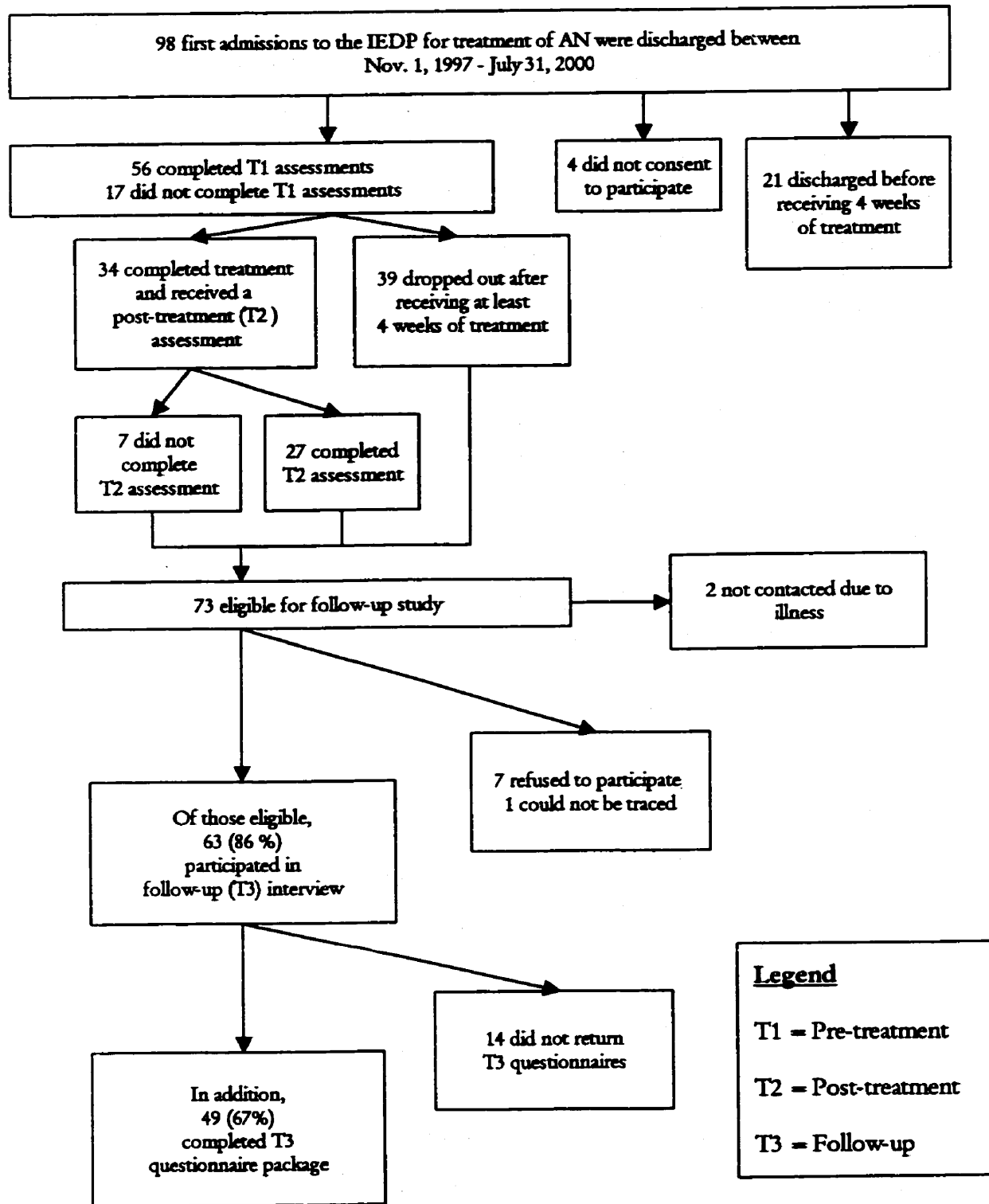
All participants who completed the EDI at pre-treatment met diagnostic criteria for anorexia nervosa at the time. EDI perfectionism subscale scores were available for 55 participants (see Figure 4.1). Their mean score at pre-treatment was 9.5 (SD = 5.0). This score was significantly higher than that of the published non-patient female college comparison sample (M = 6.2, SD = 3.9, $t(54) = 4.89, p < .001$), but did not differ

significantly from published norms for patients with eating disorders ($M = 8.9$, $SD = 4.9$, $t(54) = 0.88$, $p = .38$) (Garner, 1991) (see Table 5.2 and Figure 5.3).

Table 5.2 Pre-treatment EDI vs. Normal Controls and Eating Disorder

Reference Sample					
Pre-treatment n = 55	Normal Controls n = 205	Eating Disorder Reference Sample n = 889	t	df	p
9.5 (5.0)	6.2 (3.9)		4.89	54	< .001
9.5 (5.0)		8.9 (4.9)	0.88	54	.38

Figure 4.1 Participation



5.2.2 Changes in EDI Perfectionism at Post-treatment

All participants completing the EDI at post-treatment were weight restored since only treatment completers received a post-treatment assessment. Twenty-seven participants completed the EDI at post-treatment, of whom 25 had also completed the EDI at pre-treatment. A paired-samples t-test was performed to examine change in EDI perfectionism from pre-treatment to post-treatment. No significant difference was found (pre-treatment $M = 8.7$, $SD = 5.1$, post-treatment $M = 7.5$, $SD = 4.4$, $t(24) = 1.36$, $p = .19$) (see Table 5.3). The mean score at post-treatment for the 27 participants ($M = 7.4$, $SD = 4.2$) was not significantly different from the normal control means ($M = 6.2$, $SD = 3.9$, $t(26) = 1.44$, $p = .16$). However, there was a trend for post-treatment perfectionism scores to be lower than published means for eating disorder patients ($M = 8.9$, $SD = 4.9$, $t(26) = 1.88$, $p = .07$) (see Table 5.4 and Figure 5.3).

**Table 5.3 EDI Perfectionism at Pre-treatment and Post-treatment
for Weight-Restored Group (n = 25)**

	Pre-treatment	Post-treatment	t	df	p
EDI Perfectionism					
mean (SD)	8.7 (5.1)	7.5 (4.4)	1.36	24	.19

Table 5.4 Post-treatment EDI vs. Normal Controls and Eating Disorder

Reference Sample					
Post-treatment n = 27	Normal Controls n = 205	Eating Disorder Reference Sample n = 889	t	df	p
7.4 (4.2)	6.2 (3.9)		1.44	26	.16
7.4 (4.2)		8.9 (4.9)	1.88	26	.07

5.2.3 Changes in EDI Perfectionism Between Post-treatment and Follow-up

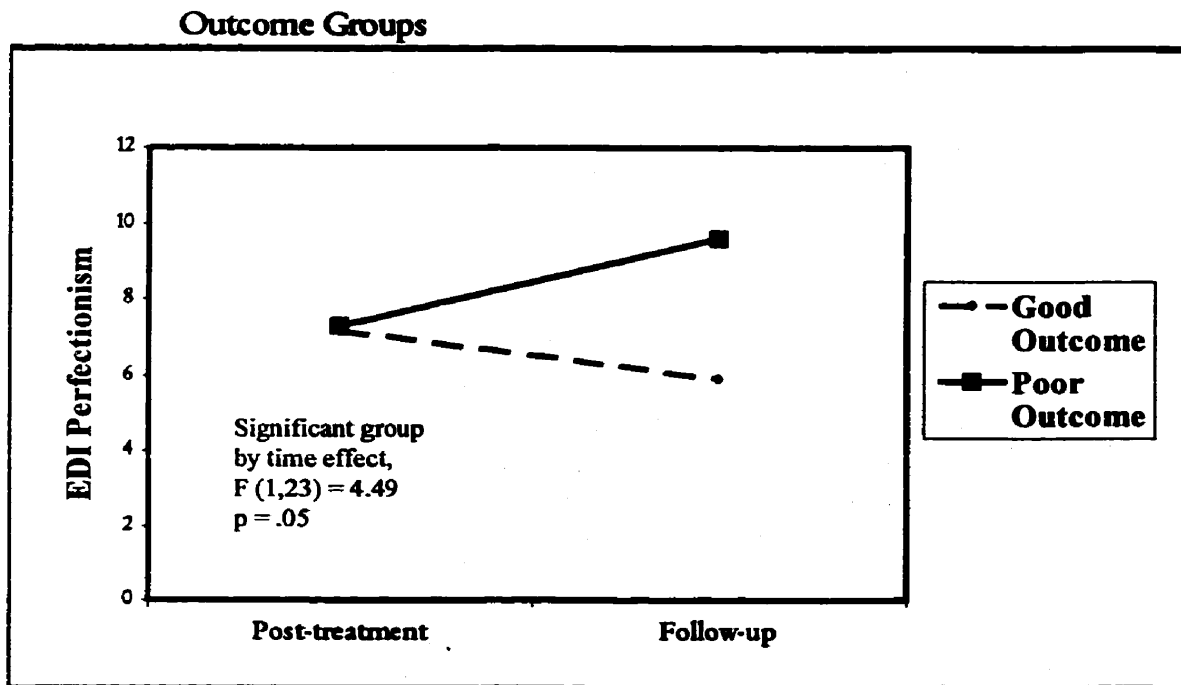
Twenty-five participants completed the EDI both at post-treatment and at follow-up. All 25 participants were weight restored when they completed the EDI at post-treatment. At follow-up, 15 of the 25 participants (60%) had a good outcome, and 10 (40%) had a poor outcome. A repeated measures 2 x 2 ANOVA was performed to examine changes in EDI perfectionism in the good and poor outcome groups over time. A significant group by time interaction was found ($F(1,23) = 4.493, p = .05$), showing a different pattern over time with decreasing perfectionism during the follow-up period in the good outcome group and increasing perfectionism in the poor outcome group (see Table 5.5 and Figure 5.2).

Table 5.5 EDI Perfectionism at Post-treatment and Follow-up for Good and Poor

Outcome Groups	Mean Perfectionism (SD)	
	Post-treatment	Follow-up
Good Outcome		
n = 15	7.2 (4.5)	5.9 (2.9)
Poor Outcome		
n = 10	7.3 (3.7)	9.6 (6.4)

group by time $F(1,23) = 4.49, p = .05$

Figure 5.2 EDI Perfectionism at Post-treatment and Follow-up for Good and Poor



5.2.4 Pre-treatment and Post-treatment EDI Perfectionism for Good and Poor Outcome Groups

To test the hypothesis that perfectionism scores at admission and at discharge will predict outcome at follow-up, pre-treatment and post-treatment EDI perfectionism scores were compared between the good and poor outcome groups. The mean perfectionism score for the good outcome group at pre-treatment ($M = 8.6$, $SD = 5.6$) did not differ significantly from the mean perfectionism score at pre-treatment for the poor outcome group ($M = 9.9$, $SD = 4.7$, $t(48) = 0.89$, $p = .38$). At post-treatment, the mean EDI perfectionism score for the good outcome group ($M = 7.0$, $SD = 4.4$) also did not differ significantly from the mean EDI perfectionism score for the poor outcome group ($M = 7.9$, $SD = 4.1$, $t(25) = 0.54$, $p = .59$) (see Table 5.6). These results suggest that perfectionism at pre-treatment and post-treatment is not associated with clinical status at follow-up.

Table 5.6 Pre-treatment and Post-treatment EDI Perfectionism for Good and Poor Outcome Groups

	<u>Outcome at Follow-up</u>		t	df	p
	Good	Poor			
Pre-treatment EDI perfectionism mean (SD)	8.6 (5.6) n = 20	9.9 (4.7) n = 30	0.89	48	.38
Post-treatment EDI perfectionism mean (SD)	7.0 (4.4) n = 16	7.9 (4.1) n = 11	0.54	25	.59

Perfectionism was also entered into a standard logistic regression analysis with outcome as the dependent variable. Neither pre-treatment EDI perfectionism ($\beta = .05$, $R^2 = 0$, $p = .37$) nor post-treatment EDI perfectionism ($\beta = .05$, $R^2 = 0$, $p = .58$) predicted outcome at follow-up.

Comparisons between those who completed the treatment program by achieving a BMI of 20 kg/m² and those who did not revealed that treatment completers were more likely to have a good outcome at follow-up, $\chi^2 (1, N = 67) = 6.97$, $p = .008$ (see Table 5.7). In addition, treatment completers had significantly lower pre-treatment EDI perfectionism scores ($M = 8.1$, $SD = 5.2$) than non-completers ($M = 11.0$, $SD = 4.4$, $t (53) = 2.23$, $p = .03$) (see Table 5.8). Other clinical variables were examined to explore whether other indicators of severity of illness could differentiate between treatment completers and non-completers. It was found that the two groups did not differ in BMI upon admission, duration of serious eating problems, and age of first diagnosis of an eating disorder (see Table 5.9).

Table 5.7 Treatment Completion and Outcome at Follow-up

	Outcome at Follow-up	
	Good Outcome n = 24	Poor Outcome n = 43
Completed Treatment n = 33	17 (51.5%)	16 (48.5%)
Did Not Complete Treatment n = 34	7 (20.6%)	27 (79.4%)

$$\chi^2 = 6.97, df = 1, p = .008$$

Table 5.8 Pre-treatment EDI Perfectionism for Treatment Completers and Non-completers

	Treatment Completers n = 28	Treatment Non-completers n = 27	t	df	p
Pre-treatment Perfectionism					
mean (SD)	8.1 (5.2)	11.0 (4.4)	2.23	53	.03

Table 5.9 Clinical Characteristics of Treatment Completers and Non-completers

	n C, NC	mean (SD)		t	df	p
		C	NC			
Admission BMI (kg/m ²)	34, 39	15.2 (2.0)	14.4 (2.3)	1.54	71	.13
Duration of Illness (months)	29, 24	73.0 (84.8)	58.4 (58.1)	0.71	51	.48
Age of Diagnosis (years)	27, 25	21.2 (8.3)	18.6 (5.3)	1.35	44	.18

C = Treatment Completers, NC = Treatment Non-completers

5.2.5 EDI Perfectionism at Follow-up

EDI Perfectionism scores between the good and poor outcome groups were compared for all 49 participants who completed the EDI at follow-up. The good outcome group had significantly lower perfectionism ($M = 6.5$, $SD = 3.5$) than the poor outcome group ($M = 9.9$, $SD = 5.7$, $t(45) = 2.56$, $p = .01$) (see Table 5.10). The good outcome group had significantly lower scores than the eating disorder reference sample ($M = 8.9$, $SD = 4.9$, $t(20) = 3.12$, $p = .005$), and very similar scores to normal controls ($M = 6.2$, $SD = 3.9$,

$t(20) = 0.43, p = .68$). By contrast, the poor outcome group had significantly higher scores than the normal control group ($M = 6.2, SD = 3.9, t(27) = 3.43, p = .002$) and were not different from the eating disorder reference sample ($M = 8.9, SD = 4.9, t(27) = 0.92, p = .37$) (see Table 5.11 and Figure 5.3).

Table 5.10 EDI Perfectionism for Good and Poor Outcome Groups at Follow-up

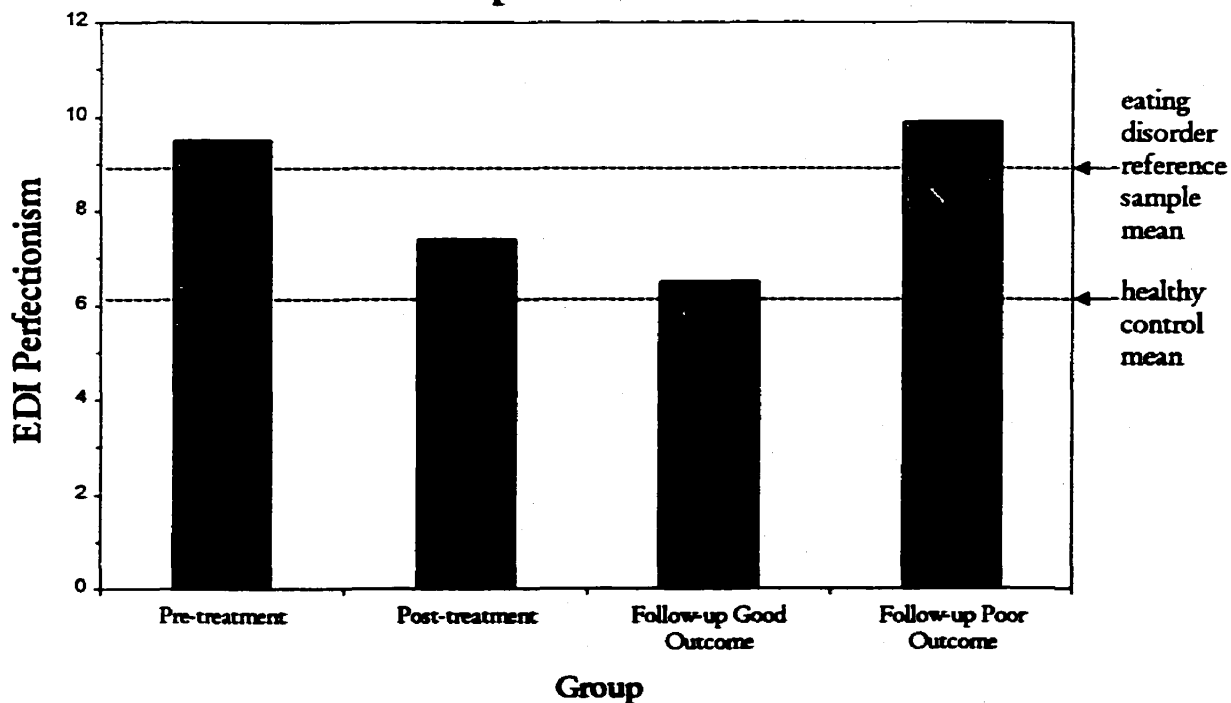
	Outcome		t	df	p
	Good n = 21	Poor n = 28			
Follow-up EDI perfectionism mean (SD)	6.5 (3.5)	9.9 (5.7)	2.56	45*	0.01

* equal variances not assumed

Table 5.11 Follow-up EDI Perfectionism vs. Normal Controls and Eating Disorder Reference Sample

	Mean Perfectionism (SD)			t	df	p
	Follow-up Participants	Normal Controls	Eating Disorder Reference Sample			
Good Outcome	6.5 (3.5)	6.2 (3.9)		0.43	20	.68
n = 21	6.5 (3.5)		8.9 (4.9)	3.12	20	.005
Poor Outcome	9.9 (5.7)	6.2 (3.9)		3.43	27	.002
n = 28	9.9 (5.7)		8.9 (4.9)	0.92	27	.37

Figure 5.3 EDI Perfectionism at Pre-treatment, Post-treatment and Follow-up



5.2.6 MPS Perfectionism at Follow-up

A one-way analysis of variance (ANOVA) conducted to compare the MPS total perfectionism means of the good outcome, poor outcome, and healthy control groups revealed a statistically significant difference ($F(2,88) = 85.48, p < .001$) (see Table 5.12). Follow-up tests were conducted to evaluate pair-wise differences among the means. Because the variances among the three groups ranged from 144.10 to 432.56, they were not assumed to be homogenous and post hoc comparisons were conducted using Dunnett's C Test, a multiple comparison procedure that does not require the population variances to be equal. The results of these tests, as well as the means and standard deviations for the three groups,

are reported in Table 5.13. There were significant differences ($p < .001$) in terms of mean MPS total perfectionism scores between the good outcome group and the healthy controls, and between the poor outcome group and the healthy controls. Both the good and the poor outcome groups had higher total perfectionism scores than the healthy controls. The mean difference between the good and the poor outcome groups approached statistical significance ($p = .10$).

Table 5.12 MPS Total Perfectionism

Total Perfectionism mean (SD)			F	df	p
Good Outcome n = 21	Poor Outcome n = 26	Healthy Controls n = 44			
94.2 (15.1)	105.7 (20.8)	58.4 (12.0)	85.483	2, 88	< .001

Table 5.13 Differences Amongst Groups in MPS Total Perfectionism

	Mean Perfectionism (SD)	Good Outcome	Poor Outcome
Good Outcome	94.2 (15.1)		
Poor Outcome	105.7 (20.8)	p = .10	
Healthy Controls	58.4 (12.0)	p < .001	p < .001

A one-way multivariate analysis of variance (MANOVA) was conducted to determine if there were any differences in the five core subscales of the MPS (concern over mistakes, personal standards, parental expectations, parental criticism, and doubting of actions) across the three groups (good outcome, poor outcome, and healthy controls). The F

test for Box's M Test, which evaluates whether the variances and covariance among the dependent variables are the same for all levels of a factor, was significant ($F(30, 13768) = 2.29, p < .001$). Since the two smaller outcome groups produced larger variances and covariances than the larger healthy control group, Pillai's criterion was used to evaluate multivariate significance. Statistically significant differences were found among the three groups on the five subscales (Pillai's Trace = .79, $F(10, 170) = 11.17, p < .001$). The multivariate η^2 based on Pillai's Trace was quite strong, .40, indicating that 40% of the multivariate variance was associated with the outcome grouping. Table 5.14 contains the means and standard deviations of the five subscales for the three groups.

Table 5.14 MPS Subscale Scores

	Subscale Mean (SD)				
	Concern Over Mistakes	Personal Standards	Parental Expectations	Parental Criticism	Doubting of Actions
Good Outcome	31.7 (6.9)	26.0 (5.0)	13.5 (6.0)	10.6 (3.8)	12.5 (4.3)
Poor Outcome	34.8 (7.8)	27.2 (4.8)	16.1 (6.0)	13.0 (5.1)	14.5 (3.7)
Healthy Controls	15.0 (4.3)	19.7 (5.2)	11.1 (3.9)	5.8 (2.6)	6.7 (2.1)

Pillai's Trace = .79, $F(10, 170) = 11.17, p < .001$

Analyses of variances (ANOVA) on each subscale were conducted as follow-up tests to the MANOVA. Using the Bonferroni procedure, each ANOVA was tested at the .01 level. The ANOVA on all five subscale scores were significant (see Table 5.15).

Table 5.15 F Values for Follow-up Univariate ANOVA

	F	df	p	η^2
Concern Over Mistakes	105.62	2, 88	< .001	0.71
Personal Standards	22.03	2, 88	< .001	0.33
Parental Expectations	8.04	2, 88	.001	0.16
Parental Criticism	32.64	2, 88	< .001	0.43
Doubting of Actions	55.33	2, 88	< .001	0.56

Post hoc analyses consisted of conducting pair-wise comparisons between the three groups. Table 5.16 contains the means and standard deviations of the subscale scores for the three groups. Since the variances were not homogenous, comparisons were made using Dunnett's *C* Test. The poor outcome group had significantly higher scores than the control group in all but the parental expectations subscale at the $p < .001$ level; this difference was significant at the .01 level. The good outcome group had significantly higher scores than the control group in all but the parental expectations subscale at the $p < .001$ level. The good and poor outcome groups were not significantly different from each other (see Figure 5.4).

Table 5.16 Differences Amongst Groups in MPS Subscale Scores

Concern over Mistakes	Mean (SD)	Good Outcome	Poor Outcome
Good Outcome	31.7 (6.9)		
Poor Outcome	34.8 (7.8)	p = .35	
Healthy Controls	15.0 (4.3)	p < .001	p < .001

Personal Standards	Mean (SD)	Good Outcome	Poor Outcome
Good Outcome	26.0 (5.0)		
Poor Outcome	27.2 (4.8)	p = .70	
Healthy Controls	19.7 (5.2)	p < .001	p < .001

Parental Expectations	Mean (SD)	Good Outcome	Poor Outcome
Good Outcome	13.5 (6.0)		
Poor Outcome	16.1 (6.0)	p = .35	
Healthy Controls	11.1 (3.9)	p = .25	p < .01

Parental Criticism	Mean (SD)	Good Outcome	Poor Outcome
Good Outcome	10.6 (3.8)		
Poor Outcome	13.0 (5.1)	p = .18	
Healthy Controls	5.8 (2.6)	p < .001	p < .001

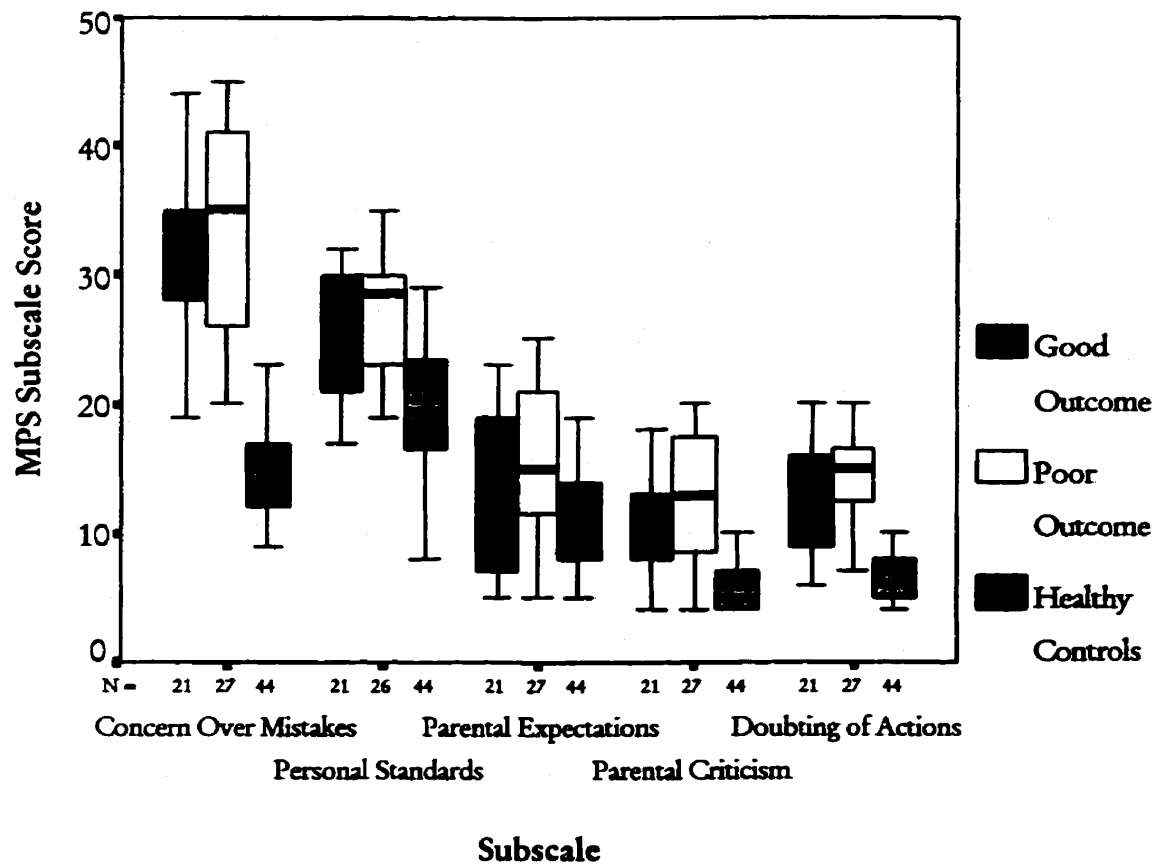
Doubting of Actions	Mean (SD)	Good Outcome	Poor Outcome
Good Outcome	12.5 (4.3)		
Poor Outcome	14.5 (3.7)	p = .22	
Healthy Controls	6.7 (2.1)	p < .001	p < .001

Good Outcome n = 21

Poor Outcome n = 26

Healthy Controls n = 44

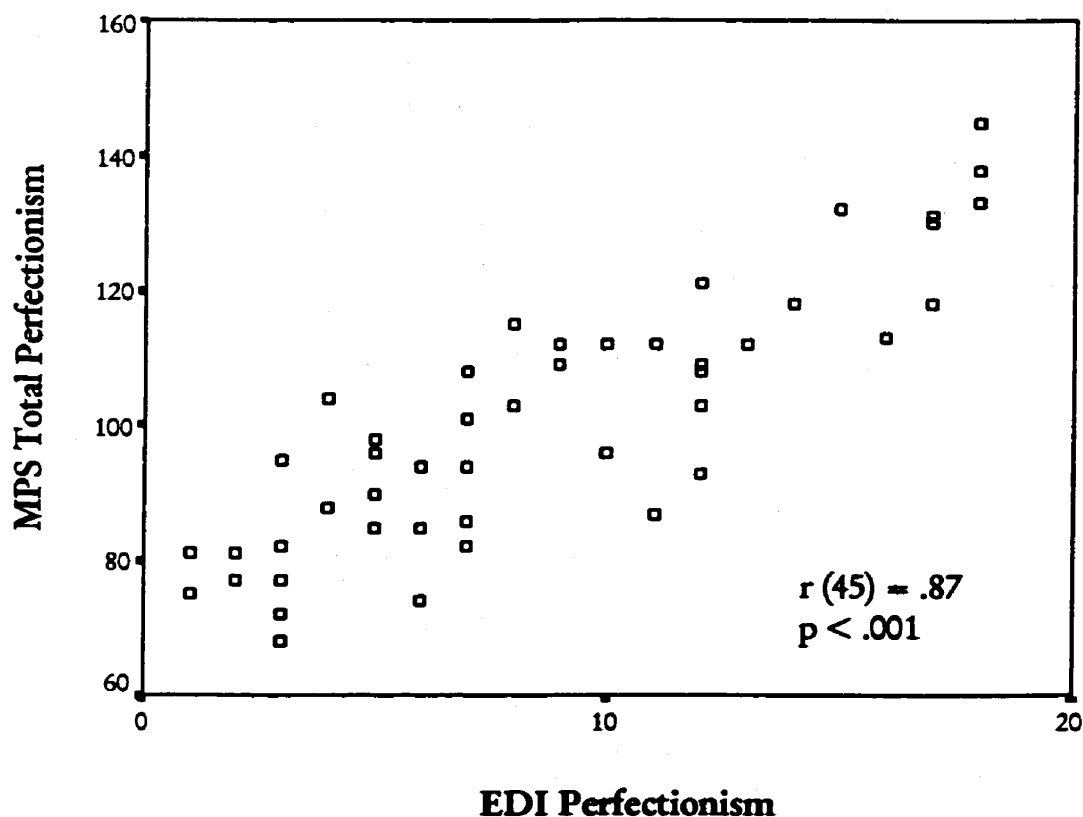
Figure 5.4 MPS Subscale Scores



5.2.7 Correlation Between EDI Perfectionism and MPS Total Perfectionism

Pearson correlation between EDI Perfectionism and MPS Total Perfectionism at follow-up revealed the two measures to be highly correlated ($r(45) = .87, p < .001$) (see Figure 5.5).

Figure 5.5 Scatterplot of EDI Perfectionism and MPS Total Perfectionism



5.2.8 Diagnostic Subtype and Perfectionism

Comparisons were made between participants with restricting subtype and binge eating/purging subtype anorexia nervosa to determine whether the two subtypes differed in mean perfectionism at pre-treatment, post-treatment, or discharge. No significant differences were found (see Table 5.17).

Table 5.17 Diagnostic Subtype and Perfectionism

Mean Perfectionism (SD)	Restricting Subtype	Binge Eating/ Purging Subtype	t	df	p
T1 EDI Perfectionism	9.0 (4.9) n = 27	10.0 (5.2) n = 28	0.71	53	.48
T2 EDI Perfectionism	7.5 (4.5) n = 18	7.1 (3.8) n = 9	0.22	25	.83
T3 EDI Perfectionism	7.6 (4.6) n = 25	9.4 (5.6) n = 24	1.25	47	.22
T3 MPS Total Perfectionism	96.5 (16.8) n = 24	104.8 (20.9) n = 23	1.51	45	.14
MPS Concern Over Mistakes	31.2 (6.7) n = 25	35.2 (8.1) n = 23	1.90	46	.07
MPS Personal Standards	26.3 (4.8) n = 24	27.0 (4.9) n = 23	0.56	45	.58
MPS Parental Expectations	13.9 (6.7) n = 25	15.8 (5.3) n = 23	1.09	46	.28
MPS Parental Criticism	11.3 (5.2) n = 25	12.4 (4.2) n = 23	0.81	46	.42
MPS Doubting of Actions	13.0 (4.1) n = 25	14.3 (3.8) n = 23	1.17	46	.25

5.3 Summary of Results

EDI perfectionism at pre-treatment, assessed when all participants were ill, was significantly higher than the mean for healthy controls. Comparison to post-treatment EDI perfectionism, assessed when the participants were weight restored, revealed no significant decrease in perfectionism. However, EDI perfectionism at post-treatment for weight restored participants was not significantly different from the mean for healthy controls. Comparison of changes in EDI perfectionism between post-treatment and follow-up between the good and poor outcome groups revealed a significant group by time interaction; perfectionism decreased during the follow-up period for those in the good outcome group but increased for those in the poor outcome group. EDI perfectionism at follow-up varied with clinical status; the good outcome group had significantly lower perfectionism than the poor outcome group, and their perfectionism was not significantly different from the mean for healthy controls. Lower pre-treatment perfectionism was associated with better response to treatment, which was then associated with better outcome at follow-up. Total perfectionism assessed using the MPS also varied with clinical status at follow-up. The difference in total perfectionism between the good and poor outcome groups approached statistical significance, and both outcome groups had significantly higher perfectionism than healthy controls. Both outcome groups had significantly higher perfectionism than the healthy controls across four of the five subscales (concern over mistakes, personal standards, parental criticism, doubting of actions). In terms of parental expectations, the poor outcome group had significantly higher scores than the healthy controls. EDI perfectionism and MPS perfectionism were found to be highly correlated with each other.

CHAPTER VI

DISCUSSION

6.1 Overview of the Study

Perfectionism has been described as a key personality characteristic amongst individuals with anorexia nervosa since the first descriptions of the disorder. More recently, it has been implicated as a risk factor for the disease. A review of the literature reveals that perfectionism, studied extensively in cross sectional studies, has emerged as a personality trait that may persist even after weight restoration and recovery. In light of the high reported relapse rates after intensive treatment and the lack of longitudinal studies of perfectionism in anorexia nervosa, this study was conducted to examine the relationship between perfectionism and clinical status of anorexia nervosa at admission to, discharge from, and follow-up after inpatient treatment, and to explore whether perfectionism may play a role as a predictor of illness outcome. Perfectionism was assessed using two self-report measures, the perfectionism subscale of the EDI and the Frost MPS. Individuals completed the EDI at admission to treatment. Those who successfully completed the treatment program also completed the EDI at discharge from treatment. Participants were invited to take part in a follow-up interview, at which time they were asked to complete both the EDI and the MPS. Changes in perfectionism were measured over time and with clinical status, and were compared to healthy control groups.

It was hypothesized that individuals with anorexia nervosa will show elevated levels of perfectionism compared to healthy controls at admission to treatment, and that

perfectionism will decrease with weight restoration by the end of treatment. Perfectionism will then increase in individuals who relapse, but will not change in those who have a good outcome at follow-up. Individuals with good clinical outcome at follow-up will have lower perfectionism than those with poor outcome, and perfectionism scores at admission and at discharge from treatment will be associated with outcome at follow-up. EDI perfectionism and MPS total perfectionism will be highly correlated.

6.2 Discussion of Findings

6.2.1 Changes in EDI Perfectionism over the Course of Treatment and at Follow-up

There were no significant changes in perfectionism from pre-treatment to post-treatment for the 25 participants who completed the EDI at both times. However, these 25 participants represent a subset of all participants who completed the EDI at each time. At pre-treatment, the mean EDI perfectionism score for 55 participants was significantly higher than the reported mean for healthy controls. The mean EDI perfectionism score for all 27 participants who completed the EDI at post-treatment was not significantly different from the mean for healthy controls. Taking this finding into consideration, it may be that the change in perfectionism was too small to have been detected by a sample of this size.

A significant group by time interaction was found when changes in perfectionism were examined between post-treatment and follow-up for the good and poor outcome groups. The two groups showed a different pattern over time, with decreasing perfectionism during the follow-up period in the good outcome group and increasing perfectionism in the poor outcome group.

6.2.2 EDI Perfectionism and Clinical Status

Perfectionism as measured by the EDI was high in individuals who were ill, and decreased to normal levels when they were remitted. At pre-treatment, when all participants were ill, EDI perfectionism scores were significantly higher than healthy controls and not different from the eating disorder reference sample. At post-treatment, when all participants who completed the EDI were weight restored, EDI perfectionism was not statistically different from healthy controls and showed a trend to be lower than the eating disorder reference sample. Participants with a good outcome at follow-up had scores that were not different from healthy controls and were significantly lower than the eating disorder reference sample; those with a poor outcome at follow-up had significantly higher perfectionism than the healthy control group. Because of the number of participants with good and intermediate outcome was small, a decision was made to combine these two outcome groups for all statistical analyses. However, visual inspection of the means for the three groups at follow-up (Appendix E) suggest that the scores for the most recovered group (good outcome) are virtually indistinguishable from healthy controls. Scores for the intermediate outcome group, who had some symptoms, fell squarely between those of the good and poor outcome groups. Due to this observation, a post-hoc decision was made to repeat the statistical analyses using a good outcome group that did not include those with an intermediate outcome. The intermediate outcome participants were dropped from the analyses, and comparisons were made using the good and poor outcome groups only. The findings were not different from the ones reported that included the intermediate outcome participants with the good outcome group.

These findings suggest that perfectionism as measured by the EDI appears to be a transient state associated with clinical status and is not a personality trait that persists after

remittance. This is not surprising, considering that the EDI was developed to measure the core beliefs and attitudes related to the active state of the eating disorder. It was expected that as clinical status improved, EDI subscale scores would decrease as well (M. P. Olmsted, personal communication, March 8, 2001). In addition, the EDI perfectionism subscale is comprised of only 6 items, and is not considered a comprehensive measure of perfectionism (M. P. Olmsted, personal communication, March 8, 2001; J. Polivy, personal communication, January, 2000). The results of this study suggest that the EDI measures some state aspect of perfectionism that is sensitive to illness status.

What is surprising about the relationship between EDI perfectionism and clinical status is that most previous studies had found that EDI perfectionism *persisted* after weight restoration and recovery. Casper (1990) conducted the only other study that found that women who had good long-term outcome from anorexia nervosa had similar EDI perfectionism scores compared to a normal comparison group. The mean EDI perfectionism score in that study for 25 women who had good long-term recovery was 6.5 ($SD = 4.4$), which is very similar to the mean EDI perfectionism score for the good outcome group in this study ($M = 6.5$, $SD = 3.5$). In a follow-up study, Toner et al. (1986) found that a group of participants who had previously been hospitalized for anorexia nervosa had higher EDI perfectionism than healthy controls. However, at the time of the study, the group of former patients was also more significantly underweight than the healthy control group and also had more anorexic symptoms as measured by the EDI.

Sullivan et al. (1998) found in a comparison of females referred to an eating disorder service 12 years ago to a community sample that 90% of former patients no longer met DSM-III-R criteria for anorexia nervosa but still had higher EDI perfectionism scores than the control group. However, inspection of the actual scores for the 70 participants (10% of

whom currently met criteria for full syndrome anorexia nervosa and 5.7% of whom met criteria for subthreshold anorexia nervosa) revealed that their mean EDI perfectionism scores was 6.7 ($SD = 4.7$). This value is actually very similar to the published healthy female college sample ($M = 6.2$, $SD = 3.9$), and to the good outcome follow-up group in the present study ($M = 6.5$, $SD = 3.5$). A significant difference may have been found not necessarily because the anorexia group had high levels perfectionism, but because the comparison group had very low perfectionism ($M = 3.4$, $SD = 3.3$). This study was conducted in New Zealand, and the possibility of cultural differences between New Zealand and North America cannot be discounted.

Bastiani et al. (1995) compared underweight anorexia patients, patients assessed within 4 weeks of weight restoration and healthy controls. Their weight restored group, which most resembles the post-treatment group in the present study, had EDI perfectionism scores that were not significantly different from the underweight group, and were significantly higher than the control group. The average score for 8 weight restored participants was 9 ($SD = 5$), a value that resembles the pre-treatment scores and poor outcome follow-up scores in the present study. One explanation for this difference in the two studies is that although both the post-treatment group in the present study and their weight restored group were assessed shortly after weight restoration in an inpatient treatment program, the two treatment programs are likely different. It is possible that the differences between the two programs may have had an effect on levels of perfectionism. Bastiani et al. found that the only EDI subscale score that was lower in the weight restored group compared to the underweight group was interoceptive awareness, suggesting that many core attitudes and beliefs related to eating disorders were still strong in their participants despite weight restoration.

Srinivasagam et al. (1995) compared women who had recovered from anorexia nervosa to healthy controls. Normal weight and menses, and the absence of eating disorder symptoms for at least one year defined recovery. The recovered women had higher EDI perfectionism than healthy controls. Furthermore, the EDI perfectionism mean for the recovered group ($M = 9$, $SD = 5$) was similar to the groups with poor clinical status in the present study (pre-treatment $M = 9.5$, $SD = 5.0$; poor outcome follow-up group $M = 9.9$, $SD = 5.7$). The recovered group also showed substantially more drive for thinness, ineffectiveness, interpersonal distrust and interoceptive awareness, suggesting that many core attitudes and beliefs related to eating disorders were still strong after recovery. One difference between the participants of that study and the present one is that in that study, some of the participants had never been treated for their eating disorder and had spontaneously recovered. A possible explanation for the discrepant findings is that participation in treatment may decrease some of the core beliefs related to eating disorders.

6.2.3 Perfectionism as a Predictor of Outcome at Follow-up

One of the goals of this study was to identify predictors of outcome after intensive treatment for anorexia nervosa. Based on the theory that higher baseline perfectionism may be associated with more difficulties with treatment and recovery, pre-treatment and post-treatment EDI perfectionism scores were examined in the good and poor outcome groups to see if they were associated with outcome at follow-up. EDI perfectionism at these two times was not found to be directly associated with outcome at follow-up. However, there was a difference in EDI perfectionism scores between those who completed the treatment program and those who did not. Treatment completers had significantly lower perfectionism at pre-treatment than non-completers. Treatment completers in turn were more likely to

have a good outcome at follow-up than non-completers. Furthermore, indicators of severity of illness, such as admission BMI, duration of illness, and age at first eating disorder diagnosis, were similar between the treatment completers and non-completers. Therefore, there is an association between higher degrees of perfectionism at pre-treatment and poorer response to treatment. Poor response to treatment is then associated with an increased likelihood of having a poor outcome at follow-up.

There are a number of ways to interpret this finding. One explanation is that for some reason, individuals who are very perfectionistic have a harder time completing the treatment program. Their high levels of perfectionism may be a reflection of the severity of their eating disorder psychopathology, with many factors which all contribute to the chronicity of the disorder. However, there is no evidence to suggest that severity of illness, as reflected in admission BMI, can predict response to treatment. Alternatively, it may be their perfectionism that makes it harder for them to give up their eating disorder. Theoretically, perfectionists are driven by the fear of failure and are highly achievement-oriented. They may view recovering from their eating disorder as giving up or failing at their goals, for they see the attainment of their low body weight as an achievement (Vitousek, Watson & Wilson, 1998). Individuals who are highly perfectionistic may find it harder to engage in a treatment program in which they are expected to share their problems, and therefore reveal themselves as "imperfect", with other patients. It may be more difficult for them to tolerate the expected rate of change in their weight. Because of the rigidity in their thinking, it may also be harder for them to make the psychological changes that are necessary to recover from their eating disorder. Bastiani et al. (1995) suggested that perfectionism may be one of a number of related characteristics, such as rigidity and obsessionality, that may contribute to resistance to treatment and relapse. Halmi et al. (2000)

found that greater perfectionism was associated with greater prominence of eating preoccupations and rituals, as well as diminished motivation to change. Therefore, greater severity of eating disorder symptoms was associated with greater perfectionism.

6.2.4 MPS Perfectionism and Clinical Status

The MPS was administered at follow-up. Participants in the good and poor outcome groups had higher total perfectionism than the healthy control group. The difference between the good and poor outcome groups approached statistical significance. It was also found that both outcome groups scored higher than the healthy controls on four of the five subscales. In the fifth subscale, parental expectations, only the poor outcome group scored significantly higher than the healthy controls. The good and poor outcome groups did not differ significantly on any of the subscales. Taken together, the findings indicate that individuals with eating disorders are more perfectionistic than healthy controls, and that perfectionism scores remain high even in those who are remitted.

Previous studies have shown similar findings. Bastiani et al (1995) found that both underweight and weight restored anorexia groups had higher MPS total perfectionism than healthy controls. Furthermore, their two anorexia groups had similar perfectionism scores (underweight $M = 96$, $SD = 31$; weight restored $M = 85$, $SD = 21$) as in the present study (good outcome $M = 94.2$, $SD = 15.1$; poor outcome $M = 105.7$, $SD = 20.8$). The study conducted by Srinivasagam et al (1995) most closely resembles the conditions under which the present study was conducted. However, there are major differences between the two studies, the largest one being their criteria for recovery, which were much more stringent than the good outcome criteria in the present study. Nevertheless, Srinivasagam et al. found that recovered women scored higher than healthy controls on total perfectionism, parental

criticism and concern over mistakes. The mean total perfectionism of their recovered participants ($M = 95$, $SD = 23$) was very similar to the mean of the good outcome group in the present study ($M = 94.2$, $SD = 15.1$).

The present study's finding that the good and poor outcome groups did not differ significantly on any of the five subscales may have been the result of the inclusion of participants with an intermediate outcome into the good outcome group in the analyses. This was done because the number of individuals in the intermediate outcome group was too small to conduct any meaningful comparisons. In order to observe how perfectionism scores would compare across the three outcome groups, this data is presented in Appendix F for visual examination only, as the sample sizes are too small for statistical comparison. It can be seen that for the parental expectations subscale, and to a lesser extent the parental criticism subscale, once the intermediate group was taken out, the scores of the good outcome group came very close to the healthy controls. One way to interpret this observation is that individuals who are in remission experience a change in their perception of their parents' expectations and criticism. This may be a result of a change in family dynamics that occurs as the individual recovers from their eating disorder. Alternatively, those in the poor outcome group may have more troubled family situations, which may contribute to their difficulties in recovering from their eating disorder.

Scores on the other three subscales remain high even after the intermediate group is taken out. These subscales, concern over mistakes, personal standards, and doubting of actions, reflect a self-imposed aspect of perfectionism that seems to persist after remittance. Parental expectations and parental criticism are related to what Hewitt and Flett (1991) described as socially-prescribed perfectionism: aspects of perfectionism that the individual feels are imposed on them from others (Flett et al., 1995; Frost et al., 1993). Bastiani et al.

(1995) found that both underweight and weight restored anorexia groups had similar scores compared to healthy controls in the parental expectations subscale. On the Hewitt and Flett MPS, the weight restored group scored higher than the healthy control group only in self-oriented perfectionism. They concluded that findings from the Frost MPS and the Hewitt and Flett MPS suggest that individuals with anorexia experience their perfectionism as self-imposed, and not as a response to other's expectations. Taken together with the observation in the present study that parental expectations and parental criticism may decrease with remittance while concern over mistakes, personal standards, and doubting of actions seem to remain at high levels despite remittance from the disorder, this suggests that the aspect of perfectionism that may be persistent in anorexia nervosa is similar to what Hewitt and Flett described as self-oriented perfectionism.

6.2.5 Relationship Between EDI Perfectionism and MPS Total Perfectionism

EDI perfectionism and MPS total perfectionism were highly correlated ($r = .87$), suggesting that they were measuring the same underlying personality construct. In fact, four of the items used in the MPS were taken from the EDI. Two of these items are in the parental expectations subscale, one is an item in the concern over mistakes subscale, and the other is in the personal standards subscale. Previous studies had also found the two measures to be correlated, but not to this extent. Frost et al. (1990) administered the EDI perfectionism subscale and the MPS to 84 female undergraduates, and found the two measures to be highly correlated ($r = .59$), but the magnitude of the correlation suggested that these two measures were tapping something slightly different. Halmi et al. (2000) found that MPS total perfectionism and EDI perfectionism were highly correlated for each of the three subtypes of anorexia nervosa examined (restricting subtype $r = .64$; purging subtype

$r = .71$; binge eating/purging subtype $r = .75$).

The perfectionism subscale of the EDI and the MPS showed some similarities in terms of clinical response. The EDI perfectionism means for the good and poor outcome groups were significantly different, while the difference in MPS total perfectionism means approached statistical significance. For both measures, visual inspection of the good outcome group after taking out those who still had subthreshold symptoms revealed the perfectionism scores of the totally asymptomatic group to be lower still. However, the persistently elevated MPS scores even in the asymptomatic group do suggest that at least a subset of individuals with anorexia nervosa are highly perfectionistic as a trait characteristic. Halmi et al. (2000) also found perfectionism to be a robust characteristic of anorexia nervosa. As evidence suggests that anorexia nervosa and perfectionism may have heritable components (Lilenfeld, Kaye & Strober, 1997), perfectionism, along with related personality phenotypes, may constitute a quantitative behavioral measure associated with genetic susceptibility for anorexia nervosa (Halmi et al. 2000).

6.3 Discussion of the Strengths of the Study

This study was the first to follow perfectionism longitudinally within the same cohort of individuals with anorexia nervosa. Previous studies have depended upon retrospective recall, thus raising the possibility of recall bias, or employed a cross-sectional study design and did not study changes in perfectionism with weight restoration and recovery directly in the same group of participants. As a result, many questions remained regarding the relationship between perfectionism and illness status of anorexia nervosa.

There was a high participation rate in the follow-up interview, resulting in the ability to assess outcome for 92% of the participants. The number of participants who completed the self-report assessments at follow-up were not as high, limiting the generalizability of the findings regarding perfectionism and illness status at follow-up.

Reliable methods were used to make diagnoses and to ascertain clinical status. At pre-treatment, the EDE, which is widely regarded as the gold standard for assessing the presence of the diagnostic criteria for eating disorders, was used. During treatment, patients' progress in terms of weight gain and frequency of symptoms was recorded weekly. At follow-up, a detailed interview using EDE definitions was used to collect information regarding weight, eating behavior, symptom frequency, treatment use, and a variety of indicators of psychosocial functioning. As a result, accurate clinical judgments could be made at each assessment.

6.4 Discussion of the Limitations of the Study

To the extent that some former patients chose not to participate in the study, there is an element of self-selection bias in the recruitment of participants. Through clinical contact, it could be determined that the majority of those who chose not to participate were still ill. This means that the proportion of former patients with poor clinical status at 6-24 months after treatment is even higher than reported in this study. The results from the present study suggest that perfectionism would be high in this group of former patients who did not participate. If this is the case, then the magnitude of the differences between the good and poor outcome groups may actually be larger than reported.

Because this study was carried out as part of a follow-up study of the IEDP, only those who were considered to have received a dose of treatment were invited to participate. Those who left the program within four weeks of admission were not included in the analyses. Many of these patients left within two weeks of their admission, before any pre-treatment data was collected. They may represent a more severe population, and their levels of perfectionism and whether there is an association between this and their response to treatment is not known. Because those who do not complete the treatment program are more likely to have a poor outcome, these former patients are more likely to be ill at follow-up. Their inclusion might serve to further widen the difference between the good and poor outcome groups.

Participants self-reported their weight and symptoms in the follow-up interview. In addition, about half of the interviews were conducted over the telephone; in these cases any inaccuracies in their reporting would not even be visually apparent. This limits the ability to be accurate in assessing outcome at follow-up.

Because this study was conducted in the major tertiary care centre in the province, the study sample may represent the severe end of the continuum of individuals with anorexia nervosa. In addition, the participants who completed the pre-treatment EDI were younger and had a better response to treatment than those who did not complete the pre-treatment EDI (i.e. they were in treatment for longer, gained more weight while in treatment, and had a higher discharge BMI). Only those who completed the program were invited to complete the EDI at post-treatment, and those who participated in the follow-up also had a better response to treatment than those who did not participate in the follow-up. In general, those who chose to participate in the study may have been a subgroup of people who were more attached to the program. To a certain extent this may have been expected, as the follow-up

interview could be quite intrusive. Participants were asked to come into the hospital and talk to someone, whom for most was a stranger, in detail about their lives and their eating disorder. This experience may have been especially difficult for participants who are still struggling with their illness.

The post-treatment EDI was only administered to those who completed the treatment program. This was because the patients who chose to leave the program prematurely often did so quite abruptly and under emotionally difficult circumstances. Under such conditions, it was inappropriate to ask them to complete questionnaires for research purposes. As a result, it is not known how perfectionism may change with treatment for those who do not complete the treatment program.

The sample sizes were not large enough to separate the good and intermediate outcome groups at follow-up in the statistical analyses. Because the intermediate and good outcome groups were combined, differences between these two groups could not be determined. Perfectionism scores for all three outcome groups are presented separately in Appendices E and F for visual examination only.

6.5 Implications and Directions for Future Research

Due to the limitations of the present study, questions remain as to the nature of the relationship between perfectionism and clinical status of anorexia nervosa. It is unclear which particular aspects of perfectionism may change with clinical status and which aspects may remain stable over time. In this study, the EDI was used to measure perfectionism longitudinally. In order to capture the multidimensional nature of perfectionism, it would be valuable to measure it prospectively using a more comprehensive assessment such as the

MPS. It would also be interesting to explore how perfectionism may change over longer periods of follow-up, in order to further explore changes in perfectionism with long term recovery. This is the most accurate way to study the persistence of perfectionism in individuals with anorexia nervosa and the relationship between the personality trait and the disorder, as premorbid perfectionism can only feasibly be assessed retrospectively.

In Appendix F it can be observed that once the participants with an intermediate outcome were separated from the good outcome group, the parentally related subscales of the MPS for the good outcome group started to look more like the healthy controls. This suggests that patients' perceptions of family functioning may play a role in recovery from the disorder. It may be that individuals who do not perceive their parents to be overly critical or to have high expectations of them have a less difficult time with recovery. Alternatively, their perceptions may change with recovery. MPS perfectionism would have to be assessed prospectively in order to further explore this relationship.

Finally, the findings of the present study have implications for clinical practice. Changes in EDI perfectionism suggest that some aspect of perfectionism is dependent upon clinical status of the disorder. Perfectionism may not be as persistent and immalleable as previously believed. It is unclear what the relationship is between illness status and perfectionism, or how much of an influence one has on the other. What is clear is that individuals with high perfectionism at admission to treatment have a poorer response to treatment. This suggests that perfectionism may play a role in hindering recovery from anorexia nervosa. It may be helpful to address the issue of perfectionism during treatment from a cognitive-behavioral perspective, to help patients identify how it affects their lives and to teach them strategies for decreasing their perfectionism. At the IEDP, perfectionism is one of the topics that are addressed in a cognitive behavioral therapy group. Areas

discussed include the differences between being achievement-oriented and being perfectionistic, how perfectionism affects different domains of the patients' lives including their eating disorder, the degree of impairment caused by perfectionism, how perfectionism affects their emotional functioning, and why it is hard to relax perfectionistic standards. The patients are then guided through the process of reevaluating the helpfulness of their standards, exploring the costs and benefits of relaxing particular standards, and strategies for challenging their perfectionism. In another group, cognitive distortions are addressed and patients are presented with strategies for challenging these distortions, many of which are ones that Burns (1980, 1983) had identified to be common amongst perfectionists.

Although addressing the issue of perfectionism in therapy may be helpful, there is likely more that needs to be considered in the treatment of perfectionistic patients, in order to truly appreciate how pervasive the problem is. The literature suggests that perfectionism is a trait that is learned in childhood (Burns, 1980; Hamachek, 1978; Hollender, 1965; Missildine, 1963; Pacht, 1984). It is probable that perfectionism is not something that can be changed in a matter of weeks. On a day to day basis, clinicians need to appreciate the extent to which their patients' perfectionism colours their thinking and their perceptions of their ability to make the cognitive changes that are necessary in order to recover from their eating disorder. The driving force behind the perfectionist's unending efforts is continual self-belittlement. They are motivated by the fear of failure and worry constantly about their deficiencies and how to avoid making mistakes. This, along with their tendency to overgeneralize a mistake as a never-ending pattern to defeat, is likely to affect how they view their progress in treatment. Inevitable slips in symptom control may be viewed by perfectionistic patients as failures. Highly perfectionistic patients may be more easily discouraged by their less than "perfect" path to recovery. They may be more tempted to go

back to the eating disorder, which was something that they were good at, rather than enter an unknown world with so many possibilities for failure.

It may be helpful to consider the personality of the patients when designing a treatment program. As discussed previously, it may be hard for individuals who are highly perfectionistic to engage in a treatment program in which they are expected to share their problems, and therefore reveal themselves as “imperfect”, with other patients. It may be harder for people who think very rigidly to cope with the expected rate of weight gain while in treatment. Their cognitive distortions may also impede their treatment. Because of their tendency to think of things in all-or-nothing terms for example, they see themselves as being either “thin” or “fat”, and have a hard time seeing themselves as anything in between. This combined with their inclination for assuming that their negative emotions reflect the way they really are, are likely to impede their recovery process. Helping patients to identify these cognitive distortions is one step towards teaching them ways to cope with their perfectionism, or to mitigate the effects of high perfectionism. Assessing the extent and nature of a patient’s perfectionism before treatment may help the clinician to understand some of these barriers to recovery. These considerations in the treatment of anorexia nervosa may bring us closer to helping patients to overcome their eating disorder.

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APPENDIX A
CONSENT FORM

Study Consent Form



INPATIENT PROGRAM FOR EATING DISORDERS

CONSENT FORM

I have been asked to participate in a study that will evaluate the effectiveness of the Inpatient Eating Disorder treatment program. I am aware that my participation may not benefit me directly but it should contribute to a better understanding of the treatment of eating disorders.

As a participant, I understand that the information obtained during my routine clinical assessment will be used for the purpose of the study. This assessment will include the following:

- a) Interview questions about my eating behaviours and other problems I may be experiencing.
- b) The completion of questionnaires pertaining to my eating behaviours, psychological social and occupation functioning and to my relationship with my family.

I may be requested to repeat some of the above procedures at the end of my treatment and at intervals of 6 months for up to 5 years thereafter for the purpose of long term program evaluation.

Any information about me learned during this study will be confidential and neither my name nor any other identifying particulars will be made available to anyone other than the investigators or appear in any publication without prior approval from me.

I also understand that my participation in this research study is entirely voluntary and that I can choose not to participate or to withdraw my consent at any time. My decision not to participate or to withdraw will not have any effect on my treatment in the Eating Disorder Program at The Toronto Hospital.

I have had the opportunity to discuss this study and my questions have been answered to my satisfaction. If I have further questions I may call Dr. Carter at (416) 340-3041.

I have read and understood the above and consent to participate in the program evaluation study.

I have been offered a copy of this form.

Name (please print)

Signature

Date

Witnessed Signature

APPENDIX B

INITIAL CONTACT LETTER

Initial Participant Recruitment Contact Letter

January 1st, 2000

Dear _____:

We are currently conducting follow-up interviews with people who have been in the inpatient program at the Toronto General Hospital in the past. The purpose of the interview is to find out how people who took part in the program are doing in the longer term. The interview will last about an hour. The information that we gather will help us to improve the program and to better understand the recovery process.

Our research assistant, Kalam Sutandar, will telephone you in the near future to arrange a time for the interview. Alternatively, if you have any questions or would like to contact us to book an appointment, you can call Kalam at (416) 340-4749.

Yours sincerely,

Jacqueline C. Carter, DPhil, C.Psych.

Blake Woodside, MD, FRCP(C)

APPENDIX C

SELF-REPORT ASSESSMENT MEASURES

Eating Disorder Examination Questionnaire (EDE-Q)

Multidimensional Perfectionism Scale (MPS)

EATING QUESTIONNAIRE

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Instructions

The following questions are concerned with the **PAST FOUR WEEKS ONLY (28 days)**. Please read each question carefully and circle the appropriate number on the right. Please answer all the questions.

ON HOW MANY DAYS OUT OF THE PAST 28 DAYS	No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Every day
1 Have you been deliberately <u>trying</u> to limit the amount of food you eat to influence your shape or weight?	0	1	2	3	4	5	6
2 Have you gone for long periods of time (8 hours or more) without eating anything in order to influence your shape weight?	0	1	2	3	4	5	6
3 Have you <u>tried</u> to avoid eating any foods which you like in order to influence your shape or weight?	0	1	2	3	4	5	6
4 Have you <u>tried</u> to follow definite rules regarding your eating in order to influence your shape or weight; for example, a calorie limit, a set amount of food, or rules about what or when you should eat?	0	1	2	3	4	5	6
5 Have you wanted your stomach to be empty?	0	1	2	3	4	5	6
6 Has thinking about food or its calorie content made it much more difficult to concentrate on things you are interested in; for example, read, watch TV, or follow a conversation?	0	1	2	3	4	5	6
7 Have you been afraid of losing control over eating?	0	1	2	3	4	5	6

ON HOW MANY DAYS OUT OF THE PAST 28 DAYS No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27¹¹⁷ days Every day

8	Have you had episodes of binge eating?	0	1	2	3	4	5	6
9	Have you eaten in secret? (Do not count binges.)	0	1	2	3	4	5	6
10	Have you definitely wanted your stomach to be flat?	0	1	2	3	4	5	6
11	Has thinking about shape or weight made it more difficult to concentrate on things you are interested in; for example read, watch TV or follow a conversation?	0	1	2	3	4	5	6
12	Have you had a definite fear that you might gain weight or become fat?	0	1	2	3	4	5	6
13	Have you felt fat?	0	1	2	3	4	5	6
14	Have you had a strong desire to lose weight?	0	1	2	3	4	5	6

OVER THE PAST FOUR WEEKS (28 DAYS)

15	On what proportion of times that you have eaten have you felt guilty because the effect on your shape or weight? (Do not count binges.) (Circle the number which applies.)	0 - None of the times
		1 - A few of the times
		2 - Less than half the times
		3 - Half the times
		4 - More than half the times
		5 - Most of the time
		6 - Every time

- 16 Over the past four weeks (28 days), have there been any times when you have felt that you have eaten what other people would regard as an unusually large amount of food given the circumstances? (Please put appropriate number in box.)
- 0 - No
1 - Yes []
- 17 How many such episodes have you had over the past four weeks?
- [][][]
- 18 During how many of these episodes of overeating did you have a sense of having lost control over your eating?
- [][][]
-
- 19 Have you had other episodes of eating in which you have had a sense of having lost control and eaten too much, but have not eaten an unusually large amount of food given the circumstances?
- 0 - No
1 - Yes []
- 20 How many such episodes have you had over the past four weeks?
- [][][]
-
- 21 Over the past four weeks have you made yourself sick (vomit) as a means of controlling your shape or weight?
- 0 - No
1 - Yes []
- 22 How many times have you done this over the past four weeks?
- [][][]
-
- 23 Have you taken laxatives as a means of controlling your shape or weight
- 0 - No
1 - Yes []
- 24 How many times have you done this over the past four weeks?
- [][][]
-
- 25 Have you taken diuretics (water tablets) as a means of controlling your shape or weight?
- 0 - No
1 - Yes []
- 26 How many times have you done this over the past four weeks?
- [][][]
-
- 27 Have you exercised hard as a means of controlling your shape or weight?
- 0 - No
1 - Yes []
- 28 How many times have you done this over the past four weeks?
- [][][]
-

OVER THE PAST FOUR WEEKS 28 DAYS) (Please circle the number which best describes your behaviour.)	NOT AT ALL		SLIGHTLY		MODERATELY		MARKEDLY
29 Has your weight influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
30 Has your shape influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
31 How much would it upset you if you had to weigh yourself once a week for the next four weeks?	0	1	2	3	4	5	6
32 How dissatisfied have you felt about your weight?	0	1	2	3	4	5	6
33 How dissatisfied have you felt about your shape?	0	1	2	3	4	5	6
34 How concerned have you been about other people seeing you eat?	0	1	2	3	4	5	6
35 How uncomfortable have you felt seeing your body; for example, in the mirror, in shop window reflections, while undressing or taking a bath or shower?	0	1	2	3	4	5	6
36 How uncomfortable have you felt about others seeing your body; for example, in communal changing rooms, when swimming or wearing tight clothes?	0	1	2	3	4	5	6

Multidimensional Perfectionism Scale

	Strongly Disagree			Strongly Agree	
	1	2	3	4	5
1 My parents set very high standards for me.	1	2	3	4	5
2 Organization is very important to me.	1	2	3	4	5
3 As a child, I was punished for doing things less than perfectly.	1	2	3	4	5
4 If I do not set the highest standards for myself, I am likely to end up a second rate person.	1	2	3	4	5
5 My parents never tried to understand my mistakes.	1	2	3	4	5
6 It is important to me that I be thoroughly competent in everything I do.	1	2	3	4	5
7 I am a neat person.	1	2	3	4	5
8 I try to be an organized person.	1	2	3	4	5
9 If I fail at work/school, I am a failure as a person.	1	2	3	4	5
10 I should be upset if I make a mistake.	1	2	3	4	5
11 My parents wanted me to be the best at everything.	1	2	3	4	5
12 I set higher goals than most people.	1	2	3	4	5
13 If someone does a task at work/school better than I, then I feel like I failed the whole task.	1	2	3	4	5
14 If I fail partly, it is as bad as being a complete failure.	1	2	3	4	5
15 Only outstanding performance is good enough in my family.	1	2	3	4	5
16 I am very good at focusing my efforts on attaining a goal.	1	2	3	4	5
17 Even when I do something very carefully, I often feel that it is not quite right.	1	2	3	4	5
18 I hate being less than best at things.	1	2	3	4	5
19 I have extremely high goals.	1	2	3	4	5
20 My parents have expected excellence from me.	1	2	3	4	5
21 People will probably think less of me if I make a mistake.	1	2	3	4	5
22 I never felt like I could meet my parents' expectations.	1	2	3	4	5
23 If I do not do as well as other people, it means I am an inferior human being.	1	2	3	4	5
24 Other people seem to accept lower standards from themselves than I do.	1	2	3	4	5
25 If I do not do well all the time, people will not respect me.	1	2	3	4	5
26 My parents have always had higher expectations for my future than I have.	1	2	3	4	5
27 I try to be a neat person.	1	2	3	4	5
28 I usually have doubts about the simple everyday things I do.	1	2	3	4	5
29 Neatness is very important to me.	1	2	3	4	5
30 I expect higher performance in my daily tasks than most people.	1	2	3	4	5
31 I am an organized person.	1	2	3	4	5
32 I tend to get behind in my work because I repeat things over and over.	1	2	3	4	5
33 It takes me a long time to do something "right".	1	2	3	4	5
34 The fewer mistakes I make, the more people will like me.	1	2	3	4	5
35 I never felt like I could meet my parents' standards.	1	2	3	4	5

APPENDIX D

INTERVIEW-BASED ASSESSMENT MEASURES

Eating Disorder Examination (EDE)

Retrospective Follow-up Interview

Prospective Follow-up Interview

THE EATING DISORDER EXAMINATION (12.OD)

Interview Schedule Diagnostic Items

Introduction

To begin with I would like to get a general picture of your eating habits over the last 4 weeks.

Have your eating habits varied much from day to day?

Have weekdays differed from weekends?

Have there been any days when you haven't eaten anything?

What about the 2 months prior to this month?

Pattern of Eating

*** I would like to ask about your pattern of eating. Over the past 4 weeks which of these meals or snacks have you eaten on a regular basis?**

- ◆ breakfast (meal eaten shortly after waking) []
- ◆ mid morning snack []
- ◆ lunch (mid-day meal) []
- ◆ mid-afternoon snack []
- ◆ evening meal []
- ◆ evening snack []
- ◆ nocturnal snack (i.e., a snack eaten after the subject has been []
to sleep)

0 - Meal or snack not eaten

1 -

2 - Meal or snack eaten on less than half the days

3 -

4 - Meal or snack eaten on more than half the days

5 -

6 - Meal or snack eaten every day

Bulimic Episodes

[The asterisked questions must be asked in every case]

Main Probe Questions

- * I would like to ask you about any episodes of overeating that you may have had over the past 4 weeks.
- * Different people mean different things by overeating. I would like you to describe any times when you have felt that you have eaten too much at one time.
- * Have there been any times when you have felt that you have eaten too much, but others might not agree?

[n.b. For subjective bulimic episodes to be eligible, they must have been viewed as having involved eating an excessive amount of food.]

Subsidiary Probe Questions

To assess the amount of food eaten:

**Typically what have you eaten at these times?
What were others eating at the time?**

To assess loss of control:

Did you have a sense of loss of control at the time?

For chronic cases only:

**Could you have stopped eating once you had started?
Could you have prevented the episode from occurring?**

[For objective bulimic episodes, subjective bulimic episodes, and episodes of objective overeating make the following two ratings:

- | | |
|--|-----------------|
| (i) Number of days (rate 00 if none) | [] [] |
| (ii) Number of episodes (rate 000 if none) | [] [] [] [] |

In general, it is best to calculate the number of days first and then the number of episodes. Rate 777 if the number of episodes is so great that their frequency cannot be calculated. Episodes of subjective overeating are not rated.]

Ask about the preceding 2 months

For objective bulimic episodes, rate the number of episodes over the preceding 2 months and the number of days on which they occurred. (Rate 0 if none and 9 if not asked.)

Days -	Month 2	[] []
	Month 3	[] []
Episodes -	Month 2	[] [] [] []
	Month 3	[] [] [] []

Also rate the longest continuous period in weeks free (not due to force of circumstances) from objective bulimic episodes over the past 3 months. (Rate 99 if not asked)

[] []

Dietary Restriction Outside Bulimic Episodes

[Only rate this item if there have been objective bulimic episodes over the past 3 months.]

Outside these times when you have lost control over eating (refer to objective and subjective bulimic episodes), how much have you been restricting the amount that you eat?

**Typically what have you eaten?
Has this been to influence your shape or weight?**

[Ask about actual food intake outside the objective and subjective bulimic episodes. Rate the average degree of dietary restriction. This should have been intended to influence shape, weight or body composition, although this may not have been the sole or main reason. Rate each of the past 3 months separately whether or not it included a bulimic episode. Rate 9 if not asked.]

- 0 - No extreme restriction outside objective bulimic episodes
- 1 - Extreme restriction outside objective bulimic episodes (i.e., low energy intake, (1,200 kcal) due to infrequent eating and/or consumption of low-calorie foods)
- 2 - No eating outside objective bulimic episodes (i.e., fasting)

Ask about previous 2 months

Month 1	[]
Month 2	[]
Month 3	[]

Self-Induced Vomiting

• **Over the past 4 weeks have you made yourself sick as a means of controlling your shape or weight?**

[Rate the number of days on which there has been one or more episodes of self-induced vomiting as a means of controlling shape, weight, or body composition. Rate 00 if no vomiting.]

[][]

[Rate the number of discrete episodes of self-induced vomiting. Accept the subject's definition of an episode. Rate 777 if the number is so great that it cannot be calculated.. Rate 000 if no vomiting.]

[][][]

Ask about the preceding 2 months

[Rate the number of discrete episodes of self-induced vomiting over each of the 2 preceding month. Rate 999 if not asked.]

Month 2 [][][]
 Month 3 [][][]

Laxative Misuse

***Over the past 4 weeks have you taken laxatives as a means of controlling your shape or weight?**

[Rate the number of days on which laxatives have been taken as a means of controlling shape, weight or body composition. This should have been the *main* reason, although it may not have been the sole reason. Rate 00 if there was no laxative use or there is doubt whether the laxative taking was primarily to influence shape, weight, or body composition.]

[][]

[Rate the number of individual episodes of laxative misuse (as defined above). Rate 777 if the number is so great that it cannot be calculated. Rate 000 if no such laxative misuse.]

[][][]

[Rate the average number of laxatives taken on each occasion. Rate 999 if not applicable. Rate 777 if not quantifiable, e.g., use of bran.]

[][][]

[Note the type of laxative taken.]

Ask about the preceding 2 months

[Rate the number of discrete episodes of laxative misuse over each of the two preceding months. Rate 000 if no such laxative misuse. Rate 999 if not asked.]

Month 2 [][][]
 Month 3 [][][]

Diuretic Misuse

- **Over the past 4 weeks have you taken diuretics as a means of controlling you shape or weight?**

[Rate the number of days on which diuretics have been taken as a means of controlling shape, weight, or body composition. This should have been the *main* reason, although it may not have been the sole reason. Rate 00 if there was no diuretic use or there is no doubt whether the diuretic taken was primarily to influence shape, weight or body composition.

[][]

[Rate the number of individual episodes of diuretic misuse (as defined above). Rate 777 if the number is so great that it cannot be calculated. Rate 000 if no such diuretic misuse)

[][][]

[Rate the average number of diuretics taken on each occasion. Rate 999 if not applicable. Rate 777 if not quantifiable.]

[][][]

[Note the type of diuretic taken.]

Ask about the preceding 2 months

[Rate the number of discrete episodes of diuretic misuse over each of the 2 preceding months. Rate 000 if no such diuretic misuse. Rate 999 if not asked.]

Month 2 [][][]
 Month 3 [][][]

Intense Exercising to Control Shape or Weight

*** Over the past 4 weeks have you exercised as a means of controlling your weight, altering your shape or amount of fat, or burning off calories?**

Typically, what type of exercise do you do?

[Rate the number of days on which the subject has engaged in *intense* exercise that was *predominantly* intended to use calories or change shape, weight, or body composition. The decision whether the exercising was "intense" should be made by the interviewer. If in doubt, the exercising should not be classed as intense. Rate 00 if no such exercising.]

[][]

[Rate the *average* amount of time (in minutes) per day spent exercising in this way. Only consider days on which the subject exercised. Rate 999 if no such exercising.]

[][][]

Ask about the preceding 2 months if there has been exercising of this type.

[Rate the number of days on which the subject has exercised in this manner over each of the 2 preceding months. If not asked, rate 99.]

Month 2 [][]

Month 3 [][]

Abstinence from Extreme Weight-Control Behaviour

[Only ask this question if at least one of the key forms of weight-control behaviour has been rated positively at the specified severity level over the past 3 months (see the section on "eating disorder diagnosis").]

[The five forms of behaviour are as follows:

- ◆ fasting
- ◆ self-induced vomiting
- ◆ laxative misuse
- ◆ diuretic misuse
- ◆ excessive exercise]

Over the past 3 months has there been a period of 2 or more weeks when you have not . . .

[Ascertain the number of consecutive weeks over the past 3 months "free" (i.e., not above threshold levels) from *all* five forms of extreme weight-control behaviour. Do not rate abstinence due to force of circumstance. Rate 99 if not applicable.]

[] []

Importance of Shape

*** Over the past 4 weeks has your shape been important in influencing how you feel about (judge, think, evaluate) yourself as a person?**

...* If you imagine the things that influence how you feel about (judge, think, evaluate) yourself - such as (your performance at work, being a parent, your marriage, how you get on with other people) - and put these things in order of importance, where does your shape fit in?

If, over the past 4 weeks, your shape had changed in any way, would this have affected how you feel about yourself?

Is it important to you that your shape does not change?

0 - No importance

1 -

2 - Some importance (definitely an aspect of self-evaluation)

3 -

4 - Moderate importance (definitely one of the main aspects of self-evaluation)

5 -

6 - Supreme importance (nothing is more important in the subject's scheme for self-evaluation)

[]

Ask about the preceding 2 months.

[Rate preceding 2 months. Rate 9 if not asked]

Month 2 []

Month 3 []

Importance of Weight

• Over the past 4 weeks has your weight been important in influencing how you feel about (judge, think, evaluate) yourself as a person?

...* If you imagine the things that influence how you feel about (judge, think, evaluate) yourself - such as (your performance at work, being a parent, your marriage, how you get on with other people) - and put these things in order of importance, where does your weight fit in?

If, over the past 4 weeks, your weight had changed in any way, would this have affected how you feel about yourself?

Is it important to you that your weight does not change?

0 - No importance

1 -

2 - Some importance (definitely an aspect of self-evaluation)

3 -

4 - Moderate importance (definitely one of the main aspects of self-evaluation)

5 -

6 - Supreme importance (nothing is more important in the subject's scheme for self-evaluation)

[]

Ask about the preceding 2 months.

[Rate preceding 2 months. Rate 9 if not asked]

Month 2 []

Month 3 []

Fear of Weight Gain

[Shorten the question if the subject is *obviously* overweight.]

- Over the past 4 weeks have you been afraid that you might gain weight (or become fat)?

[Rate the number of days on which a *definite* fear has been present. Exclude reactions to actual weight gain.]

- 0 - No definite fear of fatness or weight gain
- 1 -
- 2 - Definite fear of fatness or weight gain present on less than half the days
- 3 -
- 4 - Definite fear of fatness or weight gain present on more than half the days
- 5 -
- 6 - Definite fear of fatness or weight gain present every day

[]

Ask about the preceding 2 months.

[Rate preceding 2 months. Rate 9 if not asked]

Month 2	[]
Month 3	[]

Feeling of Fatness

[Omit this item if the subject is obviously overweight and rate 7.]

*** Over the past 4 weeks have you felt fat?**

[Rate the number of days on which the subject has "felt fat" accepting his or her sue of this expression. Distinguish feeling fat from feeling bloated premenstrually, unless this is experienced as feeling fat.]

- 0 - Has not felt fat
- 1 -
- 2 - Has felt fat on less than half the days
- 3 -
- 4 - Has felt fat on more than half the days
- 5 -
- 6 - Has felt fat every day

[]

Ask about the preceding 2 months.

[Rate preceding 2 months. Rate 9 if not asked]

Month 2	[]
Month 3	[]

Maintained Low Weight

[Rate for subjects who may be underweight]

Over the past 3 months have you been trying to lose weight?

If no: **Have you been trying to make sure that you do not gain weight?**

[If weight is low, rate presence of attempts either to lose weight or to avoid weight gain. Rate 9 if not asked.]

- 0 - no attempts either to lose weight or to avoid weight gain over the past 3 months
- 1 - Attempts to either lose weight or to avoid weight gain over the past 3 months for reasons concerning shape or weight.
- 2 - Attempts either to lose or to avoid weight gain over the past 3 months for other reasons

[]

Menstruation

Have you missed any menstrual periods over the past three months?

How many periods have you had?

Are you taking an oral contraceptive (the "pill")?

[With post-menarchal females, rate number of menstrual periods over the past three expected menstrual cycles. Rate 7 if the subject is pre-menarchal, if she has been taking an oral contraceptive, or if she has been pregnant or breast feeding.]

[]

RETROSPECTIVE FOLLOW UP INTERVIEW

NAME: _____

ID: _____ DATE: _____

DISCHARGE DATE _____ # WEEKS IN PROGRAMME _____

LAST T^x: _____ DATE LAST T^x ENDED: _____

PREVIOUS ADMISSIONS IN INTENSIVE PROGRAMME: YES NO

IF YES, GIVE DETAILS (most recent first):

Admission to _____ Date _____ # weeks _____

Admission to _____ Date _____ # weeks _____

Admission to _____ Date _____ # weeks _____

LIVING SITUATION

i) WHAT IS YOUR CURRENT LIVING SITUATION?

LIVE ALONE _____
 LIVE WITH FAMILY _____
 LIVE WITH FRIENDS/ROOMATE _____
 LIVE WITH PARTNER _____
 LIVE IN RESIDENCE _____
 OTHER, SPECIFY _____

FINANCIAL SITUATION

i) HOW ARE YOU SUPPORTED FINANCIALLY?

SELF SUPPORTING _____
 PARTIALLY SELF SUPPORTING _____
 DEPENDENT ON:
 PARTNER _____
 FAMILY _____
 GOVERNMENT _____
 INSURANCE _____

SCHOOL/VOCATIONAL FUNCTIONING

i) DO YOU WORK (include childcare & volunteer work)? YES NO

IF YES: FULL TIME PART TIME

OCCUPATION: _____

ii) DO YOU GO TO SCHOOL?

IF YES: YES NO
 FULL TIME PART TIME
 PROFESSIONAL SCHOOL _____
 UNIVERSITY: UNDERGRAD OR GRADUATE
 COLLEGE HIGH SCHOOL

iii) HOW FAR DID YOU GO IN SCHOOL?

	COMPLETED	NOT COMPLETED
PROFESSIONAL SCHOOL _____	_____	_____
UNIVERSITY: UNDERGRAD OR GRADUATE	_____	_____
COLLEGE HIGH SCHOOL	_____	_____

IF PERSON DOES NOT WORK OR GO TO SCHOOL:

iv) HOW DO YOU SPEND YOUR TIME DURING THE WEEK?

ENGAGED/BUSY ALL THE TIME _____
 ENGAGED/BUSY PART OF THE TIME _____
 MINIMAL ENGAGEMENT _____
 NOT AT ALL ENGAGED _____

SOCIAL/INTERPERSONAL FUNCTIONING

ii) TO WHAT EXTENT HAVE YOU SOCIALIZED WITH FRIENDS/FAMILY IN THE PAST 3 MONTHS?

NOT AT ALL	_____	(never)
A FEW TIMES	_____	(less than 2 times/month)
OFTEN	_____	(2 times/month)
VERY OFTEN	_____	(1 time/week)
ALL THE TIME	_____	(2 times/week)

iii) TO WHAT EXTENT HAS YOUR EATING HABITS CAUSED YOU TO AVOID SOCIAL CONTACT DURING THE LAST MONTH?

NOT AT ALL	_____	
A FEW TIMES	_____	
OFTEN	_____	
VERY OFTEN	_____	
ALL THE TIME	_____	(EXTREME ISOLATION)

iv) TO WHAT EXTENT HAS YOUR WEIGHT & SHAPE CONCERNS CAUSED YOU TO AVOID SOCIAL CONTACT DURING THE LAST MONTH?

NOT AT ALL	_____	
A FEW TIMES	_____	
OFTEN	_____	
VERY OFTEN	_____	
ALL THE TIME	_____	(EXTREME ISOLATION)

WEIGHT HISTORY

DISCHARGE WEIGHT _____ DURATION _____ (# weeks)

CURRENT WEIGHT _____ DURATION _____ (# weeks)

HAVE YOU BEEN PREGNANT SINCE DISCHARGE FROM Tx?

_____ NO _____ YES (MISCARRAIGE/ABORTION) _____ YES (HAD CHILD)

HIGHEST WEIGHT SINCE DISCHARGE (EXCLUDING PREGNANCY) _____

FIRST REACHED _____ DURATION _____ (# weeks)

LOWEST WEIGHT SINCE DISCHARGE _____

FIRST REACHED _____ DURATION _____ (# weeks)

EATING DISORDER CLINIC FOLLOW-UP INTERVIEW

***ASK PATIENTS TO BRING BOOK/CALENDAR TO APPOINTMENT WHEN BOOKING AN APPOINTMENT**

- ✓ ORIENT PATIENT TO CALENDAR
- ✓ GO OVER SIGNIFICANT EVENTS SINCE LEAVING Tx (stressful life events, life changes)
- ✓ USE STANDARD MONTH OF 28 DAYS
- ✓ "I'M GOING TO ASK YOU ABOUT WHAT YOUR EATING & SYMPTOMS HAVE BEEN LIKE SINCE LEAVING TREATMENT"
- ✓ TO USE CHART – MONTH 1 IS THE FIRST MONTH SINCE ENDING Tx; IF DISCHARGE DATE IS CLOSE TO THE 15TH OF THE MONTH USE THIS AS THE START OF MONTH 1; MONTH 2 WILL BE TO THE 15TH OF THE NEXT MONTH; ALTERNATIVELY IF DISCHARGE IS CLOSER TO THE END OR BEGINNING OF THE MONTH USE THE 1ST AS THE START OF MONTH 1.

EATING BEHAVIOUR/RESTRICTION (go to chart)

- ✓ "WHAT WAS YOUR EATING LIKE FOR EACH MONTH?" (start with most recent month & work back)
- ✓ "DO YOU KNOW APPROXIMATELY HOW MANY CALORIES...?" IF SO, RECORD # CALORIES
- ✓ USE FOLLOWING RATING SCALE:
 - 0 Completely normalized, normal amounts of all kinds of foods.
 - 1 Occasional mild restriction (of specific foods or intakes).
 - 2 Chronic but mild restriction (< 1800 calories).
 - 3 Moderate restriction (< 1500 calories).
 - 4 Extreme restriction (< 1000 calories).
 - 5 Severely limited diet both in calories (< 800 calories) and kinds of food eaten.

FASTING

- ✓ NUMBER OF DAYS FASTED IN THE MONTH (GOING 8 HOURS OR LONGER WITH NO FOOD FOR THE PURPOSE OF WEIGHT OR SHAPE CONTROL)

WEIGHT

- ✓ ESTIMATE OF WEIGHT FOR EACH MONTH

BINGEING

- ✓ ASK ABOUT EPISODES WHERE THE PATIENT THINKS THAT SHE HAS OVEREATEN
- ✓ WRITE DOWN EXAMPLES
- ✓ EXPLAIN DIFFERENCE BETWEEN EATING A REGULAR OR SMALL MEAL AND FEELING LIKE YOU HAVE OVEREATEN VS. EATING A LARGE AMOUNT THAT AN OBJECTIVE OBSERVER WOULD CONSIDER LARGE (SUBJECTIVE VS. OBJECTIVE OVEREATING)
- ✓ DETERMINE WHETHER THE PATIENT FELT OUT OF CONTROL DURING THE EPISODES GIVEN
- ✓ RECORD NUMBER OF DAYS AND EPISODES OF OBJECTIVE BINGES (OVEREATING WHERE PATIENT FELT OUT OF CONTROL)

EXAMPLES

PURGING**VOMITING**

- ✓ ASK ABOUT DAYS & EPISODES WHERE PATIENT HAS VOMITED TO CONTROL SHAPE OR WEIGHT
- ✓ ASK ABOUT METHOD, IPECAC

LAXATIVES

- ✓ ASK ABOUT EPISODES OF LAXATIVE USE
- ✓ RECORD TYPE OF LAXATIVE USED & AVERAGE AMOUNT TAKEN PER EPISODE

DIURETICS

- ✓ ASK ABOUT EPISODES OF DIURETIC USE
- ✓ RECORD TYPE OF DIURETIC USED & AVERAGE AMOUNT TAKEN PER EPISODE

EXERCISE

- ✓ ASK WHETHER THE PATIENT EVER EXERCISES AS A MEANS OF CONTROLLING SHAPE OR WEIGHT
- ✓ RECORD TYPE OF EXERCISE & AVERAGE TIME (IN MINUTES) SPENT EXERCISING PER DAY & EPISODE
- ✓ RECORD NUMBER OF DAYS AND EPISODES PER MONTH

OTHER METHODS OF WEIGHT & SHAPE CONTROL (INSULIN MISUSE, CHEWING & SPITTING, DIET PILLS, HERBAL METHODS, ETC.)

- ✓ IF PATIENT IS DIABETIC, ASK ABOUT INSULIN OMISSION/UNDERDOSING
- ✓ ASK PATIENT IF THEY USE ANYTHING ELSE TO CONTROL SHAPE OR WEIGHT. RECORD METHOD & FREQUENCY. RECORD AMOUNT TAKEN PER EPISODE IF RELEVANT.

OTHER BEHAVIOURS/SYMPTOMS**MEDICATIONS/DRUGS**

- ✓ CURRENT Rx MEDS: _____
- ✓ MISUSE OF Rx MEDS (if so, track on chart)
- ✓ HAVE YOU USED ANY OF THE FOLLOWING SINCE DISCHARGE:
 - ✓ MARIJUANA
 - ✓ HALLUCINOGENS (MUSHROOMS, LSD)
 - ✓ ECSTASY (E) or CRYSTAL METH (AMPHETAMINE)
 - ✓ COCAINE/CRACK
 - ✓ BARBITUATES
 - ✓ AMPHETAMINES
 - ✓ TRANQUILIZERS
 - ✓ GRAVOL
 - ✓ EPHEDRINE

ALCOHOL

- ✓ ASK ABOUT CONSUMPTION OF ALCOHOL SINCE DISCHARGE
- ✓ # DRINKING EPISODES/MONTH
- ✓ # DRINKS/PER EPISODE

NICOTINE & CAFFEINE

- ✓ ASK ABOUT GENERAL USE AND RECORD FREQUENCY HERE

DEPRESSION

- ✓ ASK PATIENT IF SHE FELT SAD AT ANY TIME DURING THE FOLLOW UP PERIOD? AROUND HOW MANY DAYS FOR EACH MONTH? HAS THIS SADNESS PREVENTED YOU FROM DOING THINGS LIKE WORK OR SOCIALIZING?
- ✓ RATE LEVEL OF DEPRESSION USING THE FOLLOWING RATING SCALE:
 - 0 Not depressed
 - 1 Mild depression (sad mood but no interference in functioning)
 - 2 Moderate depression (sad mood, some interference in functioning)
 - 3 Severe depression (sad mood, significant interference in functioning)

ANXIETY

- ✓ ASK PATIENT IF SHE FELT ANXIOUS AT ANY TIME DURING THE FOLLOW UP PERIOD? AROUND HOW MANY DAYS FOR EACH MONTH? HAS THIS ANXIETY PREVENTED YOU FROM DOING THINGS LIKE WORK OR SOCIALIZING?
- ✓ IDENTIFY FOCUS OF ANXIETY (SOCIAL, GENERALIZED, PANIC ATTACKS)
- ✓ DO NOT INCLUDE ANXIETY FOR DISCRETE EVENTS (e.g., A TEST)
- ✓ RATE LEVEL OF ANXIETY USING THE FOLLOWING RATING SCALE:
 - 0 Not anxious
 - 1 Mild anxiety (anxious but no interference in functioning)
 - 2 Moderate anxiety (anxious, some interference in functioning)
 - 3 Severe anxiety (anxious, significant interference in functioning)

MENSTRUATION

- ✓ ASK PATIENT ABOUT REGULARITY OF PERIODS OVER FOLLOW-UP TIME
- ✓ ASK PATIENT IF SHE TOOK THE BIRTH CONTROL PILL (BCP) AT ANY POINT DURING FOLLOW-UP & RATE USING FOLLOWING SCALE:
 - 0 Did not take BCP
 - 1 Took BCP
- ✓ RATE REGULARITY USING FOLLOWING SCALE
 - 0 Menses absent
 - 1 Menses irregular
 - 2 Menses present and regular

GLOBAL ASSESSMENT OF FUNCTIONING SCALE (GAF)

- ✓ CLINICIAN MAKES RATING BASED ON INTERVIEW

EATING BEHAVIOUR & SYMPTOMS SINCE LEAVING TREATMENT

MONTH (SINCE ENDING T ^x) significant events	1	2	3	4	5	6
QUALITY OF EATING (RATING & CALORIES)						
FASTING (# DAYS)						
WEIGHT (ESTIMATE)						
BINGEING (OBJECTIVE) (#DAYS & EPISODES)						
VOMITING (#DAYS & EPISODES)						
LAXATIVES TYPE: _____ DOSE: _____ (# EPISODES)						
DIURETICS TYPE: _____ DOSE: _____ (# EPISODES)						
EXERCISE TYPE: _____						
AVG WORKOUT TIME (MIN) : _____ (# DAYS & EPISODES)						
OTHER (SPECIFY): (#DAYS & EPISODES)						
OTHER (SPECIFY): (#DAYS & EPISODES)						
DRUGS TYPE: _____ DOSE: _____ (#DAYS & EPISODES)						
ALCOHOL (#DAYS/MONTH) (AVG # DRINKS/DAY)						
DEPRESSION (RATING)						
ANXIETY (RATING) FOCUS: _____						
MENSTRUATION (BCP: 0 NO; 1 YES) (RATING: 0 ABSENT; 1 IRREGULAR; 2 REGULAR)						
GAF						

EATING BEHAVIOUR & SYMPTOMS SINCE LEAVING TREATMENT

MONTH (SINCE ENDING T^x) significant events	7 _____ _____	8 _____ _____	9 _____ _____	10 _____ _____	11 _____ _____	12 _____ _____
QUALITY OF EATING (RATING & CALORIES)						
FASTING (# DAYS)						
WEIGHT (ESTIMATE)						
BINGEING (OBJECTIVE) (#DAYS & EPISODES)						
VOMITING (#DAYS & EPISODES)						
LAXATIVES TYPE: _____ DOSE: _____ (# EPISODES)						
DIURETICS TYPE: _____ DOSE: _____ (# EPISODES)						
EXERCISE TYPE: _____						
AVG WORKOUT TIME (MIN) : _____ (# DAYS & EPISODES)						
OTHER (SPECIFY) (#DAYS & EPISODES)						
OTHER (SPECIFY) (#DAYS & EPISODES)						
DRUGS TYPE: _____ DOSE: _____ (#DAYS & EPISODES)						
ALCOHOL (#DAYS/MONTH) (AVG # DRINKS/DAY)						
DEPRESSION (RATING)						
ANXIETY (RATING) FOCUS: _____						
MENSTRUATION (BCP: 0 NO; 1 YES) (RATING: 0 ABSENT; 1 IRREGULAR; 2 REGULAR)						
GAF						

EATING BEHAVIOUR & SYMPTOMS SINCE LEAVING TREATMENT

MONTH (SINCE ENDING T ^x) significant events	13 _____ _____	14 _____ _____	15 _____ _____	16 _____ _____	17 _____ _____	18 _____ _____
QUALITY OF EATING (RATING & CALORIES)						
FASTING (# DAYS)						
WEIGHT (ESTIMATE)						
BINGEING (OBJECTIVE) (#DAYS & EPISODES)						
VOMITING (#DAYS & EPISODES)						
LAXATIVES TYPE: _____ DOSE: _____ (# EPISODES)						
DIURETICS TYPE: _____ DOSE: _____ (# EPISODES)						
EXERCISE TYPE: _____						
AVG WORKOUT TIME (MIN) : _____ (#DAYS & EPISODES)						
OTHER (SPECIFY)						
(#DAYS & EPISODES)						
OTHER (SPECIFY)						
(#DAYS & EPISODES)						
DRUGS TYPE: _____ DOSE: _____ (# EPISODES)						
ALCOHOL (#DAYS/MONTH) (AVG # DRINKS/DAY)						
DEPRESSION (RATING)						
ANXIETY (RATING) FOCUS: _____						
MENSTRUATION (BCP: 0 NO; 1 YES) (RATING: 0 ABSENT; 1 IRREGULAR; 2 REGULAR)						
GAF						

EATING BEHAVIOUR & SYMPTOMS SINCE LEAVING TREATMENT

MONTH (SINCE ENDING T ^x) significant events	19 _____ _____	20 _____ _____	21 _____ _____	22 _____ _____	23 _____ _____	24 _____ _____
QUALITY OF EATING (RATING & CALORIES)						
FASTING (# DAYS)						
WEIGHT (ESTIMATE)						
BINGEING (OBJECTIVE) (#DAYS & EPISODES)						
VOMITING (#DAYS & EPISODES)						
LAXATIVES TYPE: _____ DOSE: _____ (# EPISODES)						
DIURETICS TYPE: _____ DOSE: _____ (# EPISODES)						
EXERCISE TYPE: _____						
AVG WORKOUT TIME (MIN) : _____ (# DAYS & EPISODES)						
OTHER (SPECIFY)						
(# EPISODES)						
OTHER (SPECIFY)						
(# EPISODES)						
DRUGS TYPE: _____ DOSE: _____ (# EPISODES)						
ALCOHOL (#DAYS/MONTH) (AVG # DRINKS/DAY)						
DEPRESSION (RATING)						
ANXIETY (RATING) FOCUS: _____						
MENSTRUATION (BCP: 0 NO; 1 YES) (RATING: 0 ABSENT; 1 IRREGULAR; 2 REGULAR)						
GAF						

TREATMENT SINCE LEAVING TARGET T^x✓ ASK ABOUT ANY TREATMENT RECEIVED SINCE LEAVING TARGET T^x

# MONTHS (SINCE TARGET T ^x)	TYPE OF T ^x & TYPE OF PROFESSIONAL	PURPOSE OF T ^x (FOCUS)	DURATION OF T ^x (WEEKS)	# SESSIONS ATTENDED & LENGTH (MIN)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

SELF HARM/SUICIDE ATTEMPTS

SINCE DISCHARGE FROM Tx, HAVE YOU HAD ANY EPISODES OF SELF-HARM BEHAVIOR?

IF YES: TYPE OF SELF-HARM _____
 WHEN? (# MONTHS AFTER Tx) _____
 FREQUENCY _____
 DURATION _____

SINCE DISCHARGE FROM Tx, HAVE YOU EVER TRIED TO END YOUR LIFE?

IF YES: WHEN? (#MONTHS AFTER Tx) _____
 HOW? _____

IF PATIENT HAS RELAPSED OR STAYED WELL, ASK WHAT PATIENT FEELS CONTRIBUTED TO RELAPSE OR RECOVERY:

OTHER COMMENTS:

GLOBAL ASSESSMENT OF FUNCTIONING SCALE (GAF)

GAF SCORE LAST 3 MONTHS _____

CONSIDER PSYCHOLOGICAL, SOCIAL, & OCCUPATIONAL FUNCTIONING ON A HYPOTHETICAL CONTINUUM OF MENTAL HEALTH—ILLNESS. DO NOT INCLUDE IMPAIRMENT IN FUNCTIONING DUE TO PHYSICAL OR ENVIRONMENTAL LIMITATIONS.

**** MAKE RATING FOR LEVEL OF FUNCTIONING AT TIME OF EVALUATION**

CODE

- 91-100 Superior functioning in a wide range of activities, life's problems never seem to get out of hand, is sought out by others because of his/her many positive qualities. No symptoms.
- 81-90 Absent or minimal symptoms, good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns (e.g., occasional argument with family members).
- 71-80 If symptoms are present, they are transient and expectable reactions to psychosocial stressors; no more than slight impairment in social, occupational, or school functioning.
- 61-70 Some mild symptoms OR some difficulty in social, occupational, or school functioning BUT generally functioning pretty well, has some meaningful interpersonal relationships.
- 51-60 Moderate symptoms OR moderate difficulty in social, occupational, or school functioning (e.g., few friends, conflicts with peers or co-workers).
- 41-50 Serious symptoms OR any serious impairment in social, occupational, or school functioning (e.g., no friends, unable to keep a job).
- 31-40 Some impairment in reality testing or communication (e.g., speech at times illogical, obscure, or irrelevant) OR major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood.
- 21-30 Behavior is considerably influenced by delusions or hallucinations OR serious impairment in communication or judgement (e.g., sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) OR inability to function in almost all areas (e.g., stays in bed all day; no job, home, or friends).
- 11-20 Some danger of hurting self or others (e.g., suicide attempts without clear expectation of death; frequently violent; manic excitement) OR occasionally fails to maintain minimal personal hygiene (e.g., smears feces) OR gross impairment in communication (e.g., largely incoherent or mute).
- 1-10 Persistent danger of severely hurting self or others (e.g., recurrent violence) OR persistent inability to maintain minimal personal hygiene OR serious suicidal act with clear expectation of death.
- 0 Inadequate information.

PROSPECTIVE FOLLOW UP INTERVIEW

NAME: _____

ID: _____ DATE: _____

DISCHARGE DATE _____ # WEEKS IN PROGRAMME _____

LAST T^x: _____ DATE LAST T^x ENDED: _____

PREVIOUS ADMISSIONS IN INTENSIVE PROGRAMME: YES NO

IF YES, GIVE DETAILS (most recent first):

Admission to _____ Date _____ # weeks _____

Admission to _____ Date _____ # weeks _____

Admission to _____ Date _____ # weeks _____

LIVING SITUATION

i) WHAT IS YOUR CURRENT LIVING SITUATION?

LIVE ALONE _____
 LIVE WITH FAMILY _____
 LIVE WITH FRIENDS/ROOMMATE _____
 LIVE WITH PARTNER _____
 LIVE IN RESIDENCE _____
 OTHER, SPECIFY _____

FINANCIAL SITUATION

i) HOW ARE YOU SUPPORTED FINANCIALLY?

SELF SUPPORTING _____
 PARTIALLY SELF SUPPORTING _____
 DEPENDENT ON:
 PARTNER _____
 FAMILY _____
 GOVERNMENT _____
 INSURANCE _____

SCHOOL/VOCATIONAL FUNCTIONING

i) DO YOU WORK (include childcare & volunteer work)? YES NO

IF YES: FULL TIME PART TIME

OCCUPATION: _____

ii) DO YOU GO TO SCHOOL?

IF YES:

YES NO
 FULL TIME PART TIME
 PROFESSIONAL SCHOOL _____
 UNIVERSITY: UNDERGRAD OR GRADUATE
 COLLEGE HIGH SCHOOL

iii) HOW FAR DID YOU GO IN SCHOOL?

	COMPLETED	NOT COMPLETED
PROFESSIONAL SCHOOL _____	_____	_____
UNIVERSITY: UNDERGRAD OR GRADUATE _____	_____	_____
COLLEGE HIGH SCHOOL _____	_____	_____

IF PERSON DOES NOT WORK OR GO TO SCHOOL:

iv) HOW DO YOU SPEND YOUR TIME DURING THE WEEK?

ENGAGED/BUSY ALL THE TIME _____
 ENGAGED/BUSY PART OF THE TIME _____
 MINIMAL ENGAGEMENT _____
 NOT AT ALL ENGAGED _____

SOCIAL/INTERPERSONAL FUNCTIONING

ii) TO WHAT EXTENT HAVE YOU SOCIALIZED WITH FRIENDS/FAMILY IN THE PAST 3 MONTHS?

NOT AT ALL	_____	(never)
A FEW TIMES	_____	(less than 2 times/month)
OFTEN	_____	(2 times/month)
VERY OFTEN	_____	(1 time/week)
ALL THE TIME	_____	(2 times/week)

iii) TO WHAT EXTENT HAS YOUR EATING HABITS CAUSED YOU TO AVOID SOCIAL CONTACT DURING THE LAST MONTH?

NOT AT ALL	_____	
A FEW TIMES	_____	
OFTEN	_____	
VERY OFTEN	_____	
ALL THE TIME	_____	(EXTREME ISOLATION)

iv) TO WHAT EXTENT HAS YOUR WEIGHT & SHAPE CONCERNS CAUSED YOU TO AVOID SOCIAL CONTACT DURING THE LAST MONTH?

NOT AT ALL	_____	
A FEW TIMES	_____	
OFTEN	_____	
VERY OFTEN	_____	
ALL THE TIME	_____	(EXTREME ISOLATION)

WEIGHT HISTORY

DISCHARGE WEIGHT _____ DURATION _____ (# weeks)

CURRENT WEIGHT _____ DURATION _____ (# weeks)

HAVE YOU BEEN PREGNANT SINCE DISCHARGE FROM Tx?

_____ NO _____ YES (MISCARRAIGE/ABORTION) _____ YES (HAD CHILD)

HIGHEST WEIGHT SINCE DISCHARGE (EXCLUDING PREGNANCY) _____

FIRST REACHED _____ DURATION _____ (# weeks)

LOWEST WEIGHT SINCE DISCHARGE _____

FIRST REACHED _____ DURATION _____ (# weeks)

EATING DISORDER CLINIC FOLLOW-UP INTERVIEW

***ASK PATIENTS TO BRING BOOK/CALENDAR TO APPOINTMENT WHEN BOOKING AN APPOINTMENT**

- ✓ ORIENT PATIENT TO CALENDAR
- ✓ GO OVER SIGNIFICANT EVENTS SINCE LEAVING Tx (stressful life events, life changes)
- ✓ USE STANDARD MONTH OF 28 DAYS
- ✓ "I'M GOING TO ASK YOU ABOUT WHAT YOUR EATING & SYMPTOMS HAVE BEEN LIKE SINCE LEAVING TREATMENT"
- ✓ TO USE CHART – MONTH 1 IS THE FIRST MONTH SINCE ENDING Tx; IF DISCHARGE DATE IS CLOSE TO THE 15TH OF THE MONTH USE THIS AS THE START OF MONTH 1; MONTH 2 WILL BE TO THE 15TH OF THE NEXT MONTH; ALTERNATIVELY IF DISCHARGE IS CLOSER TO THE END OR BEGINNING OF THE MONTH USE THE 1ST AS THE START OF MONTH 1.

EATING BEHAVIOUR/RESTRICTION (go to chart)

- ✓ "WHAT WAS YOUR EATING LIKE FOR EACH MONTH?" (start with most recent month & work back)
- ✓ "DO YOU KNOW APPROXIMATELY HOW MANY CALORIES...?" IF SO, RECORD # CALORIES
- ✓ USE FOLLOWING RATING SCALE:
 - 0 Completely normalized, normal amounts of all kinds of foods.
 - 1 Occasional mild restriction (of specific foods or intakes).
 - 2 Chronic but mild restriction (< 1800 calories).
 - 3 Moderate restriction (< 1500 calories).
 - 4 Extreme restriction (< 1000 calories).
 - 5 Severely limited diet both in calories (< 800 calories) and kinds of food eaten.

FASTING

- ✓ NUMBER OF DAYS FASTED IN THE MONTH (GOING 8 HOURS OR LONGER WITH NO FOOD FOR THE PURPOSE OF WEIGHT OR SHAPE CONTROL)

WEIGHT

- ✓ ESTIMATE OF WEIGHT FOR EACH MONTH

BINGEING

- ✓ ASK ABOUT EPISODES WHERE THE PATIENT THINKS THAT SHE HAS OVEREATEN
- ✓ WRITE DOWN EXAMPLES
- ✓ EXPLAIN DIFFERENCE BETWEEN EATING A REGULAR OR SMALL MEAL AND FEELING LIKE YOU HAVE OVEREATEN VS. EATING A LARGE AMOUNT THAT AN OBJECTIVE OBSERVER WOULD CONSIDER LARGE (SUBJECTIVE VS. OBJECTIVE OVEREATING)
- ✓ DETERMINE WHETHER THE PATIENT FELT OUT OF CONTROL DURING THE EPISODES GIVEN
- ✓ RECORD NUMBER OF DAYS AND EPISODES OF OBJECTIVE BINGES (OVEREATING WHERE PATIENT FELT OUT OF CONTROL)

EXAMPLES

PURGING**VOMITING**

- ✓ ASK ABOUT DAYS & EPISODES WHERE PATIENT HAS VOMITED TO CONTROL SHAPE OR WEIGHT
- ✓ ASK ABOUT METHOD, IPECAC

LAXATIVES

- ✓ ASK ABOUT EPISODES OF LAXATIVE USE
- ✓ RECORD TYPE OF LAXATIVE USED & AVERAGE AMOUNT TAKEN PER EPISODE

DIURETICS

- ✓ ASK ABOUT EPISODES OF DIURETIC USE
- ✓ RECORD TYPE OF DIURETIC USED & AVERAGE AMOUNT TAKEN PER EPISODE

EXERCISE

- ✓ ASK WHETHER THE PATIENT EVER EXERCISES AS A MEANS OF CONTROLLING SHAPE OR WEIGHT
- ✓ RECORD TYPE OF EXERCISE & AVERAGE TIME (IN MINUTES) SPENT EXERCISING PER DAY & EPISODE
- ✓ RECORD NUMBER OF DAYS AND EPISODES PER MONTH

OTHER METHODS OF WEIGHT & SHAPE CONTROL (INSULIN MISUSE, CHEWING & SPITTING, DIET PILLS, HERBAL METHODS, ETC.)

- ✓ IF PATIENT IS DIABETIC, ASK ABOUT INSULIN OMISSION/UNDERDOSING
- ✓ ASK PATIENT IF THEY USE ANYTHING ELSE TO CONTROL SHAPE OR WEIGHT. RECORD METHOD & FREQUENCY. RECORD AMOUNT TAKEN PER EPISODE IF RELEVANT.

OTHER BEHAVIOURS/SYMPTOMS**MEDICATIONS/DRUGS**

- ✓ CURRENT Rx MEDS: _____
- ✓ MISUSE OF Rx MEDS (if so, track on chart)
- ✓ HAVE YOU USED ANY OF THE FOLLOWING SINCE DISCHARGE:
 - ✓ MARIJUANA
 - ✓ HALLUCINOGENS (MUSHROOMS, LSD)
 - ✓ ECSTASY (E) or CRYSTAL METH (AMPHETAMINE)
 - ✓ COCAINE/CRACK
 - ✓ BARBITUATES
 - ✓ AMPHETAMINES
 - ✓ TRANQUILIZERS
 - ✓ GRAVOL
 - ✓ EPHEDRINE

ALCOHOL

- ✓ ASK ABOUT CONSUMPTION OF ALCOHOL SINCE DISCHARGE
- ✓ # DRINKING EPISODES/MONTH
- ✓ # DRINKS/PER EPISODE

NICOTINE & CAFFEINE

- ✓ ASK ABOUT GENERAL USE AND RECORD FREQUENCY HERE

DEPRESSION

- ✓ ASK PATIENT IF SHE FELT SAD AT ANY TIME DURING THE FOLLOW UP PERIOD? AROUND HOW MANY DAYS FOR EACH MONTH? HAS THIS SADNESS PREVENTED YOU FROM DOING THINGS LIKE WORK OR SOCIALIZING?
- ✓ RATE LEVEL OF DEPRESSION USING THE FOLLOWING RATING SCALE:
 - 0 Not depressed
 - 1 Mild depression (sad mood but no interference in functioning)
 - 2 Moderate depression (sad mood, some interference in functioning)
 - 3 Severe depression (sad mood, significant interference in functioning)

ANXIETY

- ✓ ASK PATIENT IF SHE FELT ANXIOUS AT ANY TIME DURING THE FOLLOW UP PERIOD? AROUND HOW MANY DAYS FOR EACH MONTH? HAS THIS ANXIETY PREVENTED YOU FROM DOING THINGS LIKE WORK OR SOCIALIZING?
- ✓ IDENTIFY FOCUS OF ANXIETY (SOCIAL, GENERALIZED, PANIC ATTACKS)
- ✓ DO NOT INCLUDE ANXIETY FOR DISCRETE EVENTS (e.g., A TEST)
- ✓ RATE LEVEL OF ANXIETY USING THE FOLLOWING RATING SCALE:
 - 0 Not anxious
 - 1 Mild anxiety (anxious but no interference in functioning)
 - 2 Moderate anxiety (anxious, some interference in functioning)
 - 3 Severe anxiety (anxious, significant interference in functioning)

MENSTRUATION

- ✓ ASK PATIENT ABOUT REGULARITY OF PERIODS OVER FOLLOW-UP TIME
- ✓ ASK PATIENT IF SHE TOOK THE BIRTH CONTROL PILL (BCP) AT ANY POINT DURING FOLLOW-UP & RATE USING FOLLOWING SCALE:
 - 0 Did not take BCP
 - 1 Took BCP
- ✓ RATE REGULARITY USING FOLLOWING SCALE
 - 0 Menses absent
 - 1 Menses irregular
 - 2 Menses present and regular

GLOBAL ASSESSMENT OF FUNCTIONING SCALE (GAF)

- ✓ CLINICIAN MAKES RATING BASED ON INTERVIEW

EATING DISORDER INPATIENT UNIT ASSESSMENT INTERVIEW

CODING SHEET

Patient: _____ Date: _____ Pre () Post () (1 2 3 4)

Date of Birth: _____ Age: _____

Marital status: _____

Living circumstances: _____

Occupation: _____

Pattern of eating

- ◆ breakfast []
- ◆ mid-morning snack []
- ◆ lunch []
- ◆ mid-afternoon snack []
- ◆ evening meal []
- ◆ evening snack []
- ◆ nocturnal snack []

Notes

EATING BEHAVIOUR AND SYMPTOMS SINCE LEAVING TREATMENT

MONTH (SINCE ENDING TX) significant events	1	2	3	4	5	6	7
QUALITY OF EATING (rating and calories)							
FASTING (# days)							
WEIGHT height:							
OBJ. BULIMIC EPISODES # days # episodes							
Longest continuous period free from obj. bulimic episodes over past 6 months =							
SUB. BULIMIC EPISODES # days # episodes							
DIETARY RESTRICTION BETWEEN BULIMIC EPI.							
VOMITING # days # episodes							
LAXATIVES type: _____ dose: _____ # days # episodes							
DIURETICS type: _____ dose: _____ # days # episodes							
EXERCISE time (min) type: _____ # days							
OTHER (specify): # days # episodes							
Abstinence from extreme weight-control behaviour (weeks)							

MONTH (SINCE ENDING TX)	1	2	3	4	5	6	7
IMPORTANCE OF SHAPE (0-6)							
IMPORTANCE OF WT (0-6)							
FEAR OF WEIGHT GAIN (0-6)							
FEELINGS OF FATNESS (0-6)							
MAINTAINED LOW WT							
MENSTRUATION (bcp?)							
Highest adult weight: _____							
Lowest adult weight: _____							
DRUGS type: _____ dose: _____ # days & episodes							
ALCOHOL # days / month avg # drinks / day							
DEPRESSION							
ANXIETY							
GAF							

TREATMENT SINCE LEAVING TARGET T^x✓ ASK ABOUT ANY TREATMENT RECEIVED SINCE LEAVING TARGET T^x

# MONTHS (SINCE TARGET T ^x)	TYPE OF T ^x & TYPE OF PROFESSIONAL	PURPOSE OF T ^x (FOCUS)	DURATION OF T ^x (WEEKS)	# SESSIONS ATTENDED & LENGTH (MIN)
1				
2				
3				
4				
5				
6				
7				
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10				
11				
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14				
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17				
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19				
20				
21				
22				
23				
24				

SELF HARM/SUICIDE ATTEMPTS

SINCE DISCHARGE FROM Tx, HAVE YOU HAD ANY EPISODES OF SELF-HARM BEHAVIOR?

IF YES: TYPE OF SELF-HARM _____

 WHEN? (# MONTHS AFTER Tx) _____

 FREQUENCY _____

 DURATION _____

SINCE DISCHARGE FROM Tx, HAVE YOU EVER TRIED TO END YOUR LIFE?

IF YES: WHEN? (#MONTHS AFTER Tx) _____

 HOW? _____

IF PATIENT HAS RELAPSED OR STAYED WELL, ASK WHAT PATIENT FEELS CONTRIBUTED TO RELAPSE OR RECOVERY:

OTHER COMMENTS:

GLOBAL ASSESSMENT OF FUNCTIONING SCALE (GAF)

GAF SCORE LAST 3 MONTHS _____

CONSIDER PSYCHOLOGICAL, SOCIAL, & OCCUPATIONAL FUNCTIONING ON A HYPOTHETICAL CONTINUUM OF MENTAL HEALTH—ILLNESS. DO NOT INCLUDE IMPAIRMENT IN FUNCTIONING DUE TO PHYSICAL OR ENVIRONMENTAL LIMITATIONS.

**** MAKE RATING FOR LEVEL OF FUNCTIONING AT TIME OF EVALUATION**

CODE

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- 21-30 Behavior is considerably influenced by delusions or hallucinations OR serious impairment in communication or judgement (e.g., sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) OR inability to function in almost all areas (e.g., stays in bed all day; no job, home, or friends).
- 11-20 Some danger of hurting self or others (e.g., suicide attempts without clear expectation of death; frequently violent; manic excitement) OR occasionally fails to maintain minimal personal hygiene (e.g., smears feces) OR gross impairment in communication (e.g., largely incoherent or mute).
- 1-10 Persistent danger of severely hurting self or others (e.g., recurrent violence) OR persistent inability to maintain minimal personal hygiene OR serious suicidal act with clear expectation of death.
- 0 Inadequate information.

APPENDIX E**EDI Perfectionism at Three Time Points for Good, Intermediate and Poor Outcome Groups**

Outcome at Follow-up	EDI Perfectionism mean (SD)		
	Pre-treatment	Post-treatment	Follow-up
Good Outcome	7.6 (4.9) n = 14	6.2 (4.7) n = 12	5.9 (3.6) n = 15
Intermediate Outcome	11.0 (6.8) n = 6	9.5 (2.6) n = 4	8.0 (3.1) n = 6
Poor Outcome	9.9 (4.7) n = 30	7.9 (4.1) n = 11	9.9 (5.7) n = 28

APPENDIX F

MPS for Good, Intermediate, Poor Outcome Groups and Healthy Controls

	Total Perfectionism	Concern Over Mistakes	Personal Standards	Parental Expectations	Parental Criticism	Doubting of Actions
Good Outcome n = 15	93.4 (15.8)	32.7 (5.8)	26.0 (4.9)	11.4 (5.8)	9.5 (3.8)	13.7 (3.4)
Intermediate Outcome n = 6	96.2 (14.4)	29.0 (9.0)	25.8 (5.6)	18.7 (2.4)	13.3 (2.4)	9.3 (4.8)
Poor Outcome n = 26	105.7 (20.8)	34.8 (7.8)	27.2 (4.8)	16.1 (6.0)	13.0 (5.1)	14.5 (3.7)
Healthy Controls n = 44	58.4 (12.0)	15.0 (4.3)	19.7 (5.2)	11.1 (3.9)	5.8 (2.6)	6.7 (2.1)