

TRAIT AND SELF-PRESENTATION DIMENSIONS OF PERFECTIONISM AMONG
WOMEN WITH ANOREXIA NERVOSA

by

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Abstract

The purpose of this study was twofold: first to examine trait and self-presentation dimensions of perfectionism among women with anorexia nervosa compared to psychiatric and normal control women; and second, to explore the relationship between perfectionism dimensions and anorexic symptomatology. Twenty-one women meeting operationalized DSM-IV criteria for anorexia nervosa were recruited for the study. They were compared with 21 psychiatric and normal control women who were matched as closely as possible to the anorexic group on age and education. Self-report and interview measures of trait and self-presentation dimensions of perfectionism were administered along with measures of anorexic symptomatology, depression, self-esteem, and psychiatric disturbance. It was found that women with anorexia nervosa endorsed significantly higher levels of trait and self-presentation dimensions of perfectionism, compared to both control groups. Self-Oriented and Socially-Prescribed Perfectionism, as well as the Nondisclosure of Imperfection, were significantly higher in women with anorexia nervosa than women in the psychiatric and normal control groups, even after controlling for depression, self-esteem, and severity of psychiatric disturbance. In addition, different dimensions of perfectionism were associated with anorexic symptom severity. The results suggest that various dimensions of trait and self-presentation perfectionism may play an important role in anorexia nervosa. Theoretical and clinical implications with regard to the role of these dimensions of perfectionism in the etiology and treatment of anorexia nervosa are discussed.

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Trait and Self-Presentation Dimensions of Perfectionism Among
Women with Anorexia Nervosa

Perfectionism is an important construct in the study of personality. Traditionally, perfectionism has been conceptualized as the tendency to set unrealistic standards for performance (Barrow & Moore, 1983; Burns, 1980). Additional characteristics include all-or-none thinking whereby only perfect performance or total failure exist as outcomes for performance (Burns, 1980; Sorotzkin, 1985), a tendency to focus on shortcomings and past failures rather than accomplishments (Barrow & Moore, 1983), and a tendency to measure self-worth in terms of unachievable goals of accomplishment and productivity (Sorotzkin, 1985). A consistent theme among these characteristics is a focus on self-directed cognitions. Although cognitive components are admittedly relevant, Hewitt and Flett (1990, 1991a) contend that motivation, manifested primarily by striving to attain perfection as well as striving to avoid failures, is the more salient and central aspect of this construct.

In addition to being exclusively cognitive, past conceptualizations of perfectionism were essentially self-directed in nature, with only implicit references to other dimensions (e.g., Hollender, 1978). Although perfectionism towards the self remains important to the construct, two groups of investigators (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991a) have independently conceptualized perfectionism as a multidimensional construct that includes both personal and interpersonal components. Though based on different conceptualizations, these two research teams have made important contributions to our understanding of the multidimensional nature of perfectionism.

In particular, Hewitt and Flett (1990, 1991a) distinguish three trait dimensions of perfectionism: self-oriented, other-oriented and socially-prescribed perfectionism. Consistent with earlier work, self-oriented perfectionism is an intrapersonal achievement-based dimension that involves the motivation to meet self-imposed expectations of perfection, intensive self-scrutiny and criticism, and an inability to accept flaws or failure within the self across multiple domains, e.g., work, school, sport, appearance (Hewitt & Flett, 1991a). By contrast, other-oriented and socially-prescribed perfectionism are interpersonal components of perfectionism. Other-oriented perfectionism involves the expectation of unrealistic standards for significant others and accompanying stringent evaluations of their performance. This is similar to self-oriented perfectionism, except expectations of perfection are imposed on others, rather than the self. Socially-prescribed perfectionism involves a drive to meet perceived expectations imposed on the self by significant others. This drive is motivated by a fear of social evaluation and a preoccupation with approval from others (Hewitt & Flett, 1991a).

In addition to trait dimensions of perfectionism that reflect the need for the self to be perfect, Hewitt and colleagues (Hewitt, Flett, Fehr, Habke, & Fairlie, 1996) posit that perfectionism includes self-presentational styles that reflect the need to appear to be perfect. This need to present oneself as perfect involves two forms: the promotion of perfection or the concealment of imperfection. This dichotomy between seeking approval by promotion of positive characteristics and avoiding disapproval by denying the presence of negative characteristics is consistent with other conceptualizations. For instance, according to Roth,

Snyder and Pace (1986), there are two tactics of presenting a favorable image; one can either attribute positive characteristics to the self or deny negative characteristics.

According to Hewitt et al. (1996), the promotion of one's perfection, known as perfectionistic self-promotion, typically involves displaying one's accomplishments, goals and aspirations. These attempts to appear capable, competent, and successful arise from a need for respect and admiration from others. By contrast, striving to conceal imperfections involves neither demonstrating nor admitting to perceived shortcomings, in order to avoid criticism and protect self-esteem. Individuals who avoid displaying their imperfections, known as the nondisplay of imperfection, typically do not engage in situations where personal shortcomings, mistakes and limitations may be revealed. Here the focus is on avoiding the display of behavior viewed by others. Another pattern of concealing imperfection involves the avoidance of verbal disclosure of imperfections, known as the nondisclosure of imperfection. Individuals who adopt this interpersonal style will not communicate personal mistakes and shortcomings because they fear being known as imperfect. The emphasis of this style of self-presentation is on not verbally revealing one's perceived shortcomings to others.

Perfectionism and Psychopathology

There is a wealth of evidence demonstrating strong links between dimensions of trait perfectionism and psychopathology. Depression (Hewitt & Dyck, 1986; Hewitt & Flett, 1991a; Hewitt & Flett, 1993a; Hewitt Flett & Ediger, 1996), anxiety disorders (Flett, Hewitt & Dyck, 1989; Flett, Hewitt, Endler, & Tassone, 1995), eating disorders (Cockell, Hewitt, Goldner, Srikameswaran, & Flett, 1996) and personality disorders (Hewitt, Flett, & Turnbull,

1992, 1994) are just a few examples of the sorts of psychological disorders associated with various dimensions of perfectionism. The persistent striving to meet unrealistic standards and ever-present failure experienced by the self-oriented perfectionist is especially relevant to depression. In a series of studies, Hewitt and colleagues have established that self-oriented perfectionism is associated with increased levels of depression in both student (Hewitt & Flett, 1991a) and clinical samples (Hewitt & Flett, 1991b), and that self-oriented and socially-prescribed perfectionism interacts with specific stress to predict concurrent depression (Hewitt & Flett, 1993a; Flett, Hewitt, Blankstein, & Mosher, 1995), as well as depression over time (Hewitt, Flett, & Ediger 1996).

In comparison to self-oriented perfectionism, individuals who hold unrealistic standards for others, or other-oriented perfectionists, tend to blame others using other-directed patterns such as dominance and authoritarianism (Hewitt & Flett, 1991a). As well, they are likely to display characteristics consistent with the histrionic, narcissistic, and antisocial personality disorders (Hewitt & Flett, 1991a; Hewitt, Flett, & Turnbull, 1992). Given the connection with personality disorders, it is not surprising that other-oriented perfectionists encounter interpersonal problems such as marital distress (Hewitt, Flett, & Mikail, 1995). For instance, chronic pain patients with a spouse high in other-oriented perfectionism tend to feel less supported and experience more dyadic and family difficulties (Hewitt, Flett, & Mikail, 1995).

Finally, individuals who are motivated to meet what they perceive to be high standards set by others, or socially-prescribed perfectionists, tend to fear negative social evaluation and seek approval from others (Hewitt & Flett, 1991a). Since standards are

experienced as externally imposed, they can often feel uncontrollable (Hewitt & Flett, 1991a). Given this perception, it is not surprising that socially-prescribed perfectionism has also been found to be associated with feelings of failure, anxiety, anger, helplessness and hopelessness (Hewitt & Flett, 1991a, 1991b; Hewitt, Flett, & Turnbull-Donovan, 1992; Hewitt, Flett, & Weber, 1994). Moreover, recent research in both adult (Hewitt, Flett, & Turnbull-Donovan, 1992; Hewitt, Flett, & Weber, 1994) and adolescent (Hewitt, Newton, Flett, & Callander, in press) samples suggests that this dimension of perfectionism is associated with greater suicide potential, even when other psychological factors such as depression and hopelessness are statistically controlled.

Less is known about the relationship between perfectionistic self-presentation and psychological difficulties, although recent research supports such a relationship. In a series of studies, Hewitt et al. (1996) provided evidence that perfectionistic self-presentation involves facets of self-monitoring and defensiveness (e.g., excuse making, concealment) in regard to self-related information. As well, these authors demonstrated that, after controlling for trait perfectionism, the three self-presentation dimensions were related differentially to various maladjustment outcomes such as low self-esteem, depression and anxiety symptoms, as well as interpersonal and marital difficulties. These findings are consistent with other research indicating links between perfectionistic self-presentation and social anxiety, interpersonal difficulties (Hewitt & Flett, 1993b; Hewitt & Flett, 1996), disordered eating (Hewitt, Flett, & Ediger, 1995), and anorexia and bulimia nervosa (Cockell et al., 1996). Overall, the available evidence suggests that perfectionistic self-presentation reflects a neurotic interpersonal style that is fraught with personal and interpersonal difficulties.

In attempting to comprehend the relationship between perfectionism and psychopathology, a tripartite model has been proposed. According to this model, perfectionism influences the generation, exacerbation, and prolongation of stress, thereby leading to various forms of psychopathology. First, because perfectionists strive to meet unrealistically high standards and focus on negative aspects of performance, they tend to perceive even minor shortcomings as devastating failures. As such, these individuals are likely to generate stressors and experience a greater number of failures compared to others (Hewitt & Flett, 1991a). Indeed, Flynn (1996) found that individuals high in self-oriented perfectionism gave lower ratings of self-satisfaction with performance on an achievement task than did other subjects, indicating that they were more likely to perceive their performance as a failure.

In addition to stress generation, perfectionism may also function as a stress exacerbator. That is, perfectionists may exacerbate the aversiveness of a given stressor by interpreting it as personally threatening, or ego-involving (Hewitt & Flett, 1993a). As a result of equating self-worth with success at attaining their own or others' standards, perceived failure experiences are likely to have negative implications for self-concept and self-esteem (Hewitt & Genest, 1990). Consistent with this reasoning, Flynn (1996) found evidence that self-oriented perfectionism was associated with more intense stress responses, including negative mood and greater heart rate elevations, following an achievement task.

Finally, perfectionists may employ inappropriate coping strategies when faced with a stressor. For example, several theorists contend that perfectionism is associated with maintaining unrealistic standards, ruminating, engaging in self-blame, overgeneralization of

failures, and the tendency to experience negative emotions such as frustration and guilt (Hamachek, 1978; Hewitt & Flett, 1991a; Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991; Hollender, 1965; Pacht, 1984). The available evidence is consistent with these links. Hewitt, Flett, and Endler (1995) examined the relationship between different dimensions of perfectionism and coping, as well as the extent to which perfectionism and coping combine to predict depression (Hewitt, Flett, & Endler, 1995). Using the Coping Inventory of Stressful Situations (Endler & Parker, 1990) which measures task-oriented coping, emotion-oriented coping and two avoidance-oriented coping subscales, including distraction and social diversion, they found that both self-oriented and socially-prescribed perfectionism were associated with maladaptive coping, but the results varied by gender. Whereas men seemed to employ emotion-oriented coping (i.e., tendency to focus on negative affective reactions) when faced with perfectionistic social expectations, women tended to use this coping strategy in response to self-related perfectionistic motivations. The results also revealed that women high on socially-prescribed perfectionism reported less social diversion, indicating that they were perhaps less inclined to seek social support or obtain information that may be helpful in solving personal problems. Indeed, other research has confirmed the link between the social facets of perfectionism, including socially-prescribed perfectionism and perfectionistic self-presentation, and negative attitudes toward help-seeking (Nielsen et al., 1997). Finally, hierarchical regression analyses revealed that self-oriented perfectionism and emotion-oriented coping combined to produce greater levels of depression symptomatology. This finding suggests that self-oriented perfectionists may exacerbate and prolong stress by focusing on their negative emotional states. Overall, it appears that individuals who have

excessive levels of trait and self-presentation perfectionism do not cope with failure or stress in an adaptive fashion, rather they appear to focus more on the resultant negative emotions and are reluctant to seek help, both of which can be potentially maladaptive.

Most of the work to date has addressed the second component of this model, that being the notion that perfectionism is a "diathesis" or vulnerability factor, that exacerbates the stressfulness of experiences, thereby leading to various forms of psychopathology (see also Monroe & Simons, 1991). This conceptualization has been examined in the context of depression (Hewitt & Flett, 1993a). Specifically, Hewitt and Flett (1993a) tested the hypothesis that specific stress would interact with specific types of perfectionism to predict depression. They separated life stressors into those that involve achievement and those that are interpersonal, suggesting that self-oriented perfectionism would interact with achievement stress and socially-prescribed perfectionism would interact with interpersonal stress to predict depression. As predicted, these authors demonstrated that self-oriented perfectionism interacted only with achievement stressors to predict depression. Presumably, stressors that impinge the self-oriented perfectionist's ability to achieve self-related standards function as a reminder of imperfections, especially in the sense of seeing oneself as incompetent or unable to control achievement outcomes. In order to assess the causal nature of perfectionism and depression, this relationship was examined when depression was measured over time. In a sample of current and former depressed patients, self-oriented perfectionism interacted with achievement stress, to predict depression four months later (Hewitt, Flett & Ediger, 1996).

In the same series of studies (Hewitt & Flett, 1993a; Hewitt, Flett, & Ediger, 1996), evidence for the role of socially-prescribed perfectionism as a vulnerability factor for depression was mixed. In the depressed sample, consistent with predictions, socially-prescribed perfectionism interacted with interpersonal stress, to predict depression. However, in the general psychiatric sample, socially-prescribed perfectionism interacted with achievement stress to predict depression. In the longitudinal study (Hewitt, Flett, & Ediger, 1996), although socially prescribed perfectionism did not interact with any types of stress to predict depression over time, it did predict concurrent depressive symptoms.

These results suggest that self-oriented perfectionism may be the perfectionism dimension that is most relevant to stress vulnerability in depression and also that it may play a causal role. By contrast, socially-prescribed perfectionism may worsen depression symptoms, but it does not appear to moderate the relationship between stress and depression (Hewitt, Flett, & Ediger, 1996). Overall, the importance of various perfectionism dimensions, and some mechanisms by which they function in psychopathology, have been demonstrated, at least in depression. There are other disorders that have also been linked theoretically with perfectionism. One of the more frequently mentioned is anorexia nervosa.

Perfectionism and Anorexia Nervosa

Of all the premorbid, predisposing factors reported in the eating disorder literature, the one most commonly discussed is perfectionism (e.g., Ansari, 1994; Bruch, 1973; Garner, 1986; Slade, 1982; Vitousek & Manke, 1994). For instance, Slade (1982) contends that perfectionism, along with low self-esteem, provides the "major setting conditions" which predispose an individual toward a need for complete success or control. Elaborating on this

conceptualization, Hewitt and colleagues contend that the motivation to meet unrealistic standards actually generates stress, thereby leading to psychopathology (Hewitt & Flett, 1993a; Hewitt, Flett & Ediger, 1996). Consistent with this reasoning, women with anorexia nervosa have been found to seek complete control (Casper, Hedeker & McClough, 1992) over eating, shape and weight (Huon & Brown, 1985), and thus establish unrealistic standards in these domains. For instance, they set rigid dietary rules (i.e., rules about what, how much and when food can be eaten), as well as goals for substantial weight loss and shape change (Cooper & Fairburn, 1992). More importantly, however, these women display an unrelenting commitment to achieve these standards, thus distinguishing them from the high proportion of women who want to lose weight but do little about it (Huon & Brown, 1984).

In addition to setting and striving to meet goals for perfection, stress is also generated from a tendency to stringently evaluate achievement and focus on negative aspects of performance. Women with anorexia nervosa have been found to employ all-or-none criteria such that anything less than perfect performance is perceived as indicative of failure (Garner, 1986). Consistent with this cognitive distortion, thinness is seen as attractive and desirable, and fatness as reprehensible (Cooper & Fairburn, 1987). Moreover, these women tend to denigrate their competence and abilities and often find their bodies to be defective, and certainly not measuring up to their high standards (Bers & Quinlan, 1992). This dissatisfaction seems to hold despite close approximations to desired goals for weight and shape (Heilbrun & Witt, 1990).

Two mechanisms may account for this persistent dissatisfaction: one possibility is that goals are continually adjusted such that no sooner is the goal met than a new and even more challenging one is established. Alternatively, dissatisfaction may be explained by the tendency of anorexics to perceive an unrealistically larger body image relative to actual body size (Heilbrun & Witt, 1990). Here, body image distortion facilitates further dietary restraint, and pulls them further away from their ideal. Perfectionism seems to play a central role in both of these circumstances; in the former, the motivation to meet a model of perfection has no limit, and in the latter, evaluations are distorted and negative.

The second part of Hewitt and Flett's model suggests that stress is exacerbated because it has personal implications for those high in various dimensions of perfectionism (Hewitt & Flett, 1993a; Hewitt, Flett & Ediger, 1996). Consistent with this view, Garner (1986) reported that women with anorexia nervosa equate perfect performance in the realm of eating and weight control with self-worth. A more recent study extended this observation, finding that shape- and weight-based self-esteem is a specific feature of eating disorder symptomatology (Geller, Johnston, & Madsen, 1997; Geller, Johnston, Madsen, Goldner, Remick & Birmingham, 1996). Under these circumstances, stressors that threaten control over shape and weight should be associated with unhealthy psychological functioning. Indeed, Cooper and Fairburn (1992) found that anorexic women, more so than dieting and non-dieting controls, reported highly negative and emotionally charged thoughts while weighing, looking in a full length mirror, and especially when eating a chocolate mint. Thus, the tendency to experience ego-involving stressors as disruptive and aversive, which is

typical of perfectionists (Hewitt & Flett, 1993a; Hewitt, Flett, & Ediger, 1996), also seems to be true of women with anorexia nervosa.

Finally, women with anorexia nervosa are purported to engage in inappropriate coping typical of perfectionists. Three such strategies are as follows: first, instead of adjusting unrealistic personal standards, women with anorexia nervosa tend to be relentless in their pursuit of thinness and rigid control over eating (Bruch, 1973, 1978). Commonly, eating and purging behaviors are linked by unrealistic contingencies; for instance, these women feel they must "earn" the right to eat food with a certain amount of calories by undertaking prescribed activities, and also must "pay" for self-indulgences with extra exercise sessions (Beaumont, 1995). Second, they tend to be limited in their repertoire of problem solving skills, and feel incompetent in their ability to use new coping strategies (Soukup, Beiler, & Terrell, 1990), perhaps because they fear not performing perfectly. As such, they overuse eating and weight control to cope with stressful events such as interpersonal conflict, dysphoric moods (e.g., anxiety, anger, frustration, sadness), and dysfunctional thoughts (Striegel-Moore, Silberstein, Frensch, & Rodin, 1988). Third, they seem to be reluctant to share personal problems and seek help from others in times of need (Soukup, Beiler, & Terrell, 1990), a pattern which is also typical of individuals high on trait and self-presentation perfectionism (Nielsen et al., 1997). Requesting help may be very difficult for women with anorexia nervosa if they view their problem as indicative of their imperfection. That is, requesting help may be viewed as an acknowledgment of imperfection and may amplify the experience of humiliation and shame that accompanies the recognition of a psychological disturbance which can not be resolve unassisted (Goldner, 1989).

Specific Dimensions of Perfectionism and Anorexia Nervosa

To date, most of the work examining the role of perfectionism in anorexia nervosa is limited to unidimensional conceptualizations of the construct. However, there is a growing body of research indicating that different dimensions of perfectionism may be relevant to anorexia nervosa in different ways. For instance, Hewitt, Flett and Ediger (1995) contend that self-oriented and socially-prescribed, but not other-oriented perfectionism are relevant to anorexic symptoms. They suggest that self-oriented perfectionism may be the perfectionism dimension that drives the motivation to attain unrealistic standards for eating, shape and weight. This is in keeping with the commonly reported belief that individuals with eating disorders strive to be perfect in everything that they do and that these motivations are self-imposed (e.g., Garner, 1986; Slade, 1982). In contrast, socially-prescribed perfectionism seems to be more broadly related to self-esteem, playing out in fears of negative evaluation and the need for approval from others, be it from parents, coaches, educators, peers, or the culture (Hewitt, Flett, & Ediger, 1995). Again, this view resembles that of other theorists who emphasize various social factors in the eating disorders (e.g., Bruch, 1973; Garner, Olmsted, Polivy, & Garfinkel 1984; Heatherton & Baumeister, 1991). Finally, independent of the trait dimensions, there is suggestion that perfectionistic self-presentation is also relevant to anorexia nervosa as the illness seems to involve a strong desire to present as perfect (Bruch, 1973; Hewitt, Flett, & Ediger, 1995; Rosen, Srebnik, Saltzberg, & Wendt, 1991). This interpersonal style may have relevance to body image avoidance (Cooper & Fairburn, 1987; Hewitt, Flett, & Ediger, 1995), avoidance of eating in public (Cooper & Fairburn, 1987) and reluctance to seek and engage in therapy (Goldner, 1989).

Research using multidimensional measures (i.e., MPS; Hewitt & Flett, 1991a; F-MPS; Frost et al., 1990) has repeatedly demonstrated the relevance of multidimensional conceptualizations of perfectionism in eating disorder symptoms. For instance, in a sample of college women, Hewitt, Flett, & Ediger (1995) assessed the relevance of personal, social and self-presentational dimensions of perfectionism in eating disorder behaviors. These authors were also interested in other characteristics of eating disorders, such as body image avoidance, and appearance and global self-esteem. The results of this study indicated that anorexic symptoms are driven by the motivation to meet unrealistic standards set by the self, or self-oriented perfectionism, while related issues such as self-esteem and concerns about appearance are driven by the motivation to meet standards that are perceived to be set by others, or socially-prescribed perfectionism.

In another study, Pliner and Haddock (1995) assessed the relevance of self-related and externally-related goals in anorexic symptoms. They separated undergraduate women into those that were extremely weight concerned and those that were not. Subjects were then assigned to one of three goal conditions. In two conditions, performance goals were imposed on them by the experimenter and were either unrealistically high or relatively low. In the third condition, subjects chose a performance goal for themselves. After 10 trials, subjects in the two assigned conditions were given either success or failure feedback regarding their performance, and mood was measured. The results of this study indicated that weight concerned women 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 anorexic symptoms are driven by strong

needs for social approval and conformity to external standards, and not in response to self-imposed goals. These findings appear to be inconsistent with those reported by Hewitt, Flett, and Ediger (1995) who found that anorexic symptoms are driven by self-oriented perfectionism. However, since Pliner and Haddock (1995) assessed self- and externally-related goals, and not trait perfectionism, these discrepancies are difficult to resolve.

Research using clinical samples provides additional support for the role of trait perfectionism in anorexia nervosa. For instance, Bastiani, Rao, Weltzin, & Kaye (1995) assessed levels of trait perfectionism among women with anorexia nervosa, both when underweight and after restoration of a healthy body weight. Consistent with others (Cockell et al., 1996), these authors found that high scores on both self-oriented and socially-prescribed perfectionism distinguished women with anorexia nervosa who were underweight from normal controls. Once weight was restored, however, socially-prescribed perfectionism did not differentiate women with anorexia nervosa from controls. The authors concluded that anorexics experience their perfectionism as self-imposed and not in response to other's expectations.

Another study by Srinivasagam, Kaye, Platnicov, Greeno, Weltzin and Rao (1995) investigated levels of different types of perfectionism among women who had recovered from anorexia nervosa. Subjects completed the Eating Disorder Inventory (EDI; Garner, Olmsted & Polivy, 1983) and the F-MPS (Frost et al., 1990) and their scores were compared to healthy controls. The women who had recovered from anorexia nervosa reported persistent elevations of perfectionism scores on the EDI and the F-MPS. However, since the EDI measure confounds self-oriented and socially-prescribed perfectionism, and the Frost et al.

(1990) subscales are not measuring trait perfectionism, these findings neither bolster nor detract from previous research in this domain.

Although we are beginning to understand the role of trait perfectionism in anorexia nervosa, only two studies have examined the self-presentational components of perfectionism in eating disorders. Hewitt, Flett, and Ediger (1995) investigated the association between perfectionistic self-presentation and measures of eating disorder symptoms, body image and appearance self-esteem, in an undergraduate sample. Results from this study indicated that all three dimensions of perfectionistic self-presentation (i.e., perfectionistic self-promotion, nondisplay of imperfection, and nondisclosure of imperfection) were related to eating disorder symptoms, as well as body image avoidance and low self-esteem. An extension of this research in a clinical sample of women with anorexia and bulimia nervosa was conducted by Cockell et al. (1996). These authors found that, in comparison to matched normal controls, women with clinical eating disorders endorsed stronger needs to present to others an image of perfection or avoid displaying or disclosing imperfection in the self to others. As well, the need to avoid disclosing imperfection was significantly related to a composite score of purging behaviours, including fasting, exercising, vomiting, and abusing laxatives and diuretics. This suggests that women with eating disorders may feel uncomfortable disclosing information about weight control practices, perhaps because such discussions evoke feelings of shame and threaten self-esteem (Goldner, 1989).

In sum, there is evidence indicating that self-related and social facets of trait and self-presentation perfectionism are related to eating disorder symptoms and self-esteem in female undergraduate samples. As well, these dimensions of perfectionism have been found to

distinguish women with anorexia nervosa from normal controls. However, several limitations in the existing research render conclusions tentative and highlight areas in need of further investigation.

First, although self-oriented and socially-prescribed perfectionism, as well as all three dimensions of perfectionistic self-presentation, have been shown to discriminate women with anorexia nervosa from normal controls (Cockell et al., 1996), there are no studies that demonstrate whether these dimensions are specific to anorexia nervosa compared to other psychiatric disorders. In order to address this issue, both psychiatric and normal control groups were included in the present study. According to Garber and Hollon (1991), choosing between a heterogeneous and homogeneous psychiatric control group depends on two factors: a) whether the contrast of interest is between a specific nosological entity and some higher order category to which it belongs (broad specificity), or between that entity and each of the other specific nosological entities that belong to that same higher order category (narrow specificity), and b) the current state of knowledge with respect to the disorder of interest. In general, the heterogeneous psychiatric control group is preferred when the broad form of the specificity question is being addressed, and when the state of knowledge with regard to the target disorder is limited. Since we were interested in determining whether trait and self-presentation perfectionism are unique to anorexia nervosa as opposed to being a correlate of more general psychopathology, and since this question has not been previously addressed, a heterogeneous, and not a homogeneous, psychiatric control group was selected.

Second, it is not clear whether perfectionism accounts for unique aspects of anorexic symptomatology, independent from psychological distress, such as depression, and low self-

esteem. Depressive symptomatology occurs in 40% to 66% of those afflicted with anorexia nervosa (Hoffman & Halmi, 1993) and about half of the individuals who have an eating disorder and are seen in clinics have a lifetime history of depressive disorder (Cooper, 1995). Likewise, low self-esteem is a core feature of anorexia nervosa (Halmi, Goldberg, Eckert, Casper & Davis, 1977; Lask & Bryant-Waugh, 1992, Williams et al., 1993), perhaps even more so than depression (Silverston, 1992). Since trait and self-presentation dimensions of perfectionism are associated with depression (Hewitt & Flett, 1991b, 1993; Hewitt, Flett & Ediger, 1996) and low self-esteem (Hewitt et al., 1996; Flett, Hewitt, Blankstein, & O'Brien, 1991), it is possible that perfectionism scores among women with anorexia nervosa may be elevated, at least in part, due to these variables. Thus, when investigating the relationship between anorexia nervosa and different types of perfectionism, it is important to control for these variables.

Third, the relationship between trait and self-presentational dimensions of perfectionism and severity of symptomatology has not been previously examined in a clinical sample. In other words, it is not clear whether differences in levels of perfectionism dimensions exist among women with anorexia nervosa who have mild compared to more severe symptoms. As well, we do not know whether perfectionism dimensions relate differentially to the various features of anorexia nervosa. Although research using analogue samples suggests that these relationships do indeed exist (e.g., Hewitt, Flett, & Ediger, 1995), we need to assess the generalizability of these findings. Research in this domain has important implications for treatment interventions. For instance, if we can identify the motivations that drive certain anorexic symptoms, then we may be in a better position to

question these motivations and provide the grounds for effective change. Thus, in this study we explored the relationship between perfectionism dimensions and symptom severity.

Finally, at the measurement level, a concern that has not been adequately addressed in past research is the use of self-report questionnaires in assessing anorexic symptomatology. For example, Bastiani et al. (1995) and Srinivasagam et al. (1995) assessed eating disorder symptomatology using the EDI and subjects in Hewitt, Flett and Ediger's (1995) study completed the Eating Attitudes Test (Garner & Garfinkel, 1979), the Bulimia Test (Smith & Thelen, 1984), and the Body Image Avoidance Questionnaire (BIAQ; Rosen et al., 1991). Cooper, Cooper and Fairburn (1989) argue that self-report measures are not well suited for detailed research on eating disorders as many features of these disorders are difficult to elicit and define. This is particularly true for overvalued ideas about shape and weight which are central to the diagnosis, as well as behavioral features such as binge eating and excessive exercise. Other problems with self-reports include: a) vague verbal descriptions of severity (e.g., "never", "often", "always", etc.), b) no specified time frame, and c) no means to discriminate truly pathologic body image, eating attitudes and behaviors from those which may be subjectively distressing, but are widely held in our weight-conscious society (Rosen, Vara, Wendt, & Leitenberg, 1990). Overall, the implication is that self-report of eating disorder symptoms can be ambiguous and inaccurate. In order to address this issue, an investigator based diagnostic interview known as the Eating Disorder Examinations (Cooper & Fairburn, 1987) was used. Moreover, interview and self-report measures of perfectionism and depression were also used.

Purposes and Hypotheses

The purpose of this study was to assess the relationship between trait and self-presentational perfectionism and anorexic symptomatology. This relationship was examined in a number of ways. First, perfectionism scores were assessed in women with anorexia nervosa, a psychiatric control group, and a normal control group that was gender-, age-, and education-matched to the anorexic group. It was hypothesized that self-oriented, and socially-prescribed perfectionism, as well as perfectionistic self-promotion, nondisplay of imperfection, and nondisclosure of imperfection would discriminate the anorexic group from the two control groups. In order to determine whether dimensions of perfectionism account for a unique variance in anorexic symptomatology, independently from psychological distress, the differences between groups were examined while controlling for depression and self-esteem. Statistical control was also exerted on severity of psychiatric disturbance, a variable which is related to perfectionism (Hewitt & Flett, 1991a; Hewitt et al., 1991).

Second, the relationship between trait and self-presentation dimensions of perfectionism and severity of anorexic symptomatology were explored. The aim was to demonstrate the usefulness of a multidimensional approach to perfectionism by establishing that the various dimensions are associated differentially in terms of type and degree of anorexic symptoms. Although previous research (Hewitt, Flett, & Ediger, 1995) indicated that self-oriented perfectionism is related to anorexic tendencies and attitudes (i.e., dieting and concerns with being thinner), and that socially-prescribed perfectionism and self-presentation perfectionism are broadly related to eating disorder behaviors as well as global and appearance self-esteem, it is important to examine the generalizability of these findings in clinical samples of women with anorexia nervosa. As the EDE provides operationally derived

measures of anorexic symptomatology (e.g., restraint, eating concern, shape concern, and weight concern), its inclusion in the present study enabled us to address this issue. In addition, the Perceived Body Image Scale (PBIS; Manley & Le Page, 1988) and the BIAQ were included to assess whether perfectionism, and in particular the social facets of perfectionism, relate to body image disturbances.

Method

Participants

Anorexia Nervosa Group. Thirty-five women, at various stages of treatment for anorexia nervosa, were recruited from in-patient and outpatient programs at a Canadian metropolitan eating disorder clinic. At the time of assessment, 21 met criteria for anorexia nervosa specified in the Eating Disorder Examination (Cooper & Fairburn, 1987). The average age and years of formal education in this sample was 29.0 ($SD=9.21$; range=18-47 years) and 14.0 ($SD=2.69$; range=11-20 years), respectively. The average age of symptom onset was 15.4 ($SD=7.11$; range=3-38 years). The average length of illness was 5.2 years ($SD=4.65$; range=1-17 years). The average Body Mass Index (BMI) was 15.3 ($SD=1.95$; range=12.11-18.62), which is very low compared to the healthy range of 19 to 27 for women in this age range (National Research Council, 1989, p. 564), but similar to the anorexic range reported in other studies (e.g., Cooper & Fairburn, 1992).

Psychiatric Control Group. Thirty-nine women with a variety of psychiatric disorders were recruited from in-patient and out-patient programs at a Canadian metropolitan hospital and an outpatient program at a university hospital. The diagnostic items of the EDE were used to screen for eating disorder symptomatology. As well, individuals were asked if they

had received a diagnosis or treatment for an eating disorder in the past. Three individuals met criteria for current eating disorder, and five reported an eating disorder in the past; thus eight women were excluded from the study. Of the remaining thirty-one women, 21 were matched, as closely as possible, to the anorexic group on age and education. The mean age and years of formal education in this reduced sample was 38.7 ($SD=6.63$; range=24-48), and 15.4 ($SD=3.01$; range=9-20), respectively. According to clinical diagnoses provided by the therapist, 11 (52.4%) of the women received a diagnosis of major depressive episode, 9 (42.9%) bipolar disorder, and one (4.8%) dysthymic disorder. The average age of onset was 30.2 ($SD=7.81$; range=15-43 years). The average length of illness was 7.8 years ($SD=7.57$; range=1-26 years). The average BMI was 24.4 ($SD=4.66$; range=18.6-36.8).

Normal Control Group. Thirty-four women were recruited from hospital staff, restaurant staff, and recreation center staff in a Canadian metropolitan city. Based on the same screening procedures used for the psychiatric control group, one woman who met criteria for bulimia nervosa, was excluded from the study. Of the remaining subjects, 21 were matched, as closely as possible, to the anorexic group on age and education. The mean age and years of education in this reduced sample was 28.7 ($SD=8.36$; range=19-44) and 14.4 ($SD=1.73$; range=12-18), respectively. The average BMI was 22.1 ($SD=3.05$; range=17.7-29.4).

Measures

Eating Disorder Examination: (EDE; Cooper & Fairburn, 1978). The primary measure of eating disorder symptoms in this study was the EDE. This standardized investigator-based interview elicits information concerning regular eating habits (descriptive

items) and attitudes, and feelings and behaviors associated with eating, shape and weight.

The interviewer rates the frequency of key behaviors (e.g., eating meals and snacks, restricting, overeating, purging) and the severity of features such as concern about shape and weight, based on the past 28 days. Symptoms are rated only if they are motivated by weight or shape concerns. Based on 23 clinical items, four subscales can be derived: Restraint (5 items) measures attempts to restrict food intake to control shape or weight; the Shape Concern (8 items) and Weight Concern (5 items) scales measure disturbed attitudes regarding body shape and body weight; the Eating Concern (5 items) scale assesses a range of concerns about eating commonly found among individuals with eating disorders, such as eating in secret, or guilt about eating. Subscale scores are derived by summing across appropriate items (each rated from 0 to 6) and dividing the total by the number of items on each subscale. The EDE total score is an average of the 4 subscale scores. Importantly, the EDE permits operationalized eating disorder diagnoses based on DSM-IV (American Psychiatric Association, 1994). Diagnoses are based on items that measure clinical symptoms of eating disorders. The definition of a clinical symptom specifies both the type (e.g., feelings of fatness) and minimum frequency of occurrence (i.e., > 50% of the time during the past 28 days), or minimum degree of severity (i.e., > 4 on a scale from 0 to 6). The EDE has been shown to be internally consistent, alpha coefficients range from .68 to .90 in a clinical sample (Cooper et al., 1989) and tests of its concurrent (Rosen et al., 1990) and discriminant validity (Cooper et al., 1989) support its use. For example, the EDE has been found to discriminate well between patients with an eating disorder and individuals concerned about eating, shape and weight, but who do not have an eating disorder (Wilson & Smith, 1989).

Perceived Body Image Scale: (PBIS; Manley & LePage, 1988). The PBIS is a measure of body image dissatisfaction. The PBIS consists of 11 cards (5" X 7 ½") containing profile and full frontal outlines of female figures. The figures range from emaciated to obese and were drawn by an artist such that the increase in torso size from each card to the next is approximately equal. The PBIS is conducted in the form of a card sort, with subjects being asked to make the following judgments: (1) Which body best represents the way you see yourself when you look in the mirror?, (2) Which body best represents the way you think you look?, (3) Which body best represents the way you feel you are in your body?, and (4) Which body best represents the way you would like to look? The "mirror" question reflects the perceptual component of body image, the "think" judgment a cognitive appraisal of body image, and the "feel" question an affective component of body image. Questions are asked and subjects are to select one of the PBIS plates. A number from 1 to 11 appears on the back of each plate, and this is recorded by the investigator. Difference scores calculated on the basis of mirror-ideal, think-ideal, and feel-ideal constitute the three indexes of body image dissatisfaction. This measure has good reliability and validity; interrater reliability of .87 and test-retest reliability over a 60 day period of .78 for perceptual, .67 for cognitive, and .81 for affective indices of body image dissatisfaction, demonstrates that this measure is stable over time (Manley & Le Page, 1988). Furthermore, the PBIS discriminates eating disorder groups from normal controls (Manley, Tonkin, & Hammond, 1988). It was used in the present study to test the hypothesis that perfectionism is positively associated with symptom severity.

Body Image Avoidance Questionnaire: (Rosen et al., 1991). The BIAQ is a 19-item self-report measure of behavioral tendencies that frequently accompany body image

disturbance. There are four subscales and items are answered on a 6-point scale with higher scores indicating more avoidance behaviors. The Restraint subscale assesses restriction of food consumed, the Clothing subscale assesses dissatisfaction with clothing, the Social Activities subscale assesses the avoidance of social situations where weight or appearance may be a focus, and the Grooming subscale assesses preoccupation with grooming and weighing. The BIAQ has good internal consistency (alpha coefficient = .89) and test-retest reliability ($r = .87$). This measure has been shown to correlate with negative attitudes about weight and shape, as assessed by the Body Shape Questionnaire (Cooper, Taylor, Cooper, & Fairburn; 1987) and the EDE (Cooper & Fairburn; 1987).

Beck Depression Inventory: (BDI, Beck, Rush, Shaw, & Emery, 1979). The BDI is a 21-item measure of symptoms of depression. Items are presented on a 4-point forced choice format, and scores can range from 0 to 63, where higher scores reflect greater depression symptomatology. A review of the BDI's internal consistency yielded a mean coefficient alpha of .86 for psychiatric patients and .81 for nonpsychiatric subjects. As well, in a test-retest design, changes in the BDI paralleled those in clinical ratings indicating a consistent relationship between clinician's perceptions and patient's self-report. The BDI demonstrates good concurrent and discriminant validity in clinical and nonclinical samples (see Beck, Steer & Garber, 1988). The BDI appears to be an adequate measure of depression in patients with an eating disorder (Pulos, 1996).

Hamilton Depression Rating Scale (HDRS; Hamilton, 1967). The HDRS is a 21 item, structured interview designed to assess severity of depressive symptoms. Symptoms are defined by anchor-point descriptions that increase in intensity. Interviewers consider both

intensity and frequency of a symptom when assigning a rating value. The HDRS has been shown to possess good reliability and a high degree of concurrent and differential validity, particularly when the structured interview guide is used (Williams, 1988), as was the case in this study. For example, test-retest reliability over 4 days ranged from .60 to .87 for most of the items. The HDRS was used in this study as a second measure of depression and to control for potential method variance (Campbell & Fiske, 1959). This measure was significantly correlated with the BDI, $r(62) = .87, p < .001$.

Rosenberg Self-Esteem Scale (SES; Rosenberg, 1965). The SES is a 10-item scale measuring general self-esteem. Respondents report feelings about the self directly using a 4-point response format (i.e., strongly agree, agree, disagree, strongly disagree), resulting in a scale of 10 to 40 with lower scores representing higher self-esteem. This scale has been shown to be unidimensional when used to measure global self-esteem (Shevlin, Bunting, & Lewis, 1995) and many studies have demonstrated its reliability and validity (see Blasovich & Tomaka, 1991).

Global Assessment Scale (GAS; Endicott, Spitzer, Fleiss, & Cohen, 1976). The GAS is a 100 point scale that provides a summary measure of psychiatric disturbance. The scale is divided into 10 intervals. Definitions for lower intervals primarily describe psychotic and severely regressed behavior, whereas points at the intermediate levels are given for moderate symptoms or a generally less adequate functioning. High scores indicate good mental health not only in the absence of symptoms but also in the presence of positive signs of mental health. This scale has good reliability and validity (Sohlberg, 1989). For example, interrater reliability was reported to range from .83 to .92. As well, this scale has been shown to

correlate with measures of psychopathology (e.g., with the BDI, $r(26) = -.87, p < .01$).

Furthermore, the GAS has been shown to have a fair amount of predictive efficiency over a 1-year period and that efficiency was increased when the follow-up period was longer. This scale was used to compare severity of psychiatric disturbance between the three groups.

Multidimensional Perfectionism Scale: (MPS; Hewitt & Flett, 1991a). The MPS is a self-report measure of perfectionism traits, composed of three 15-item subscales measuring self-oriented, other-oriented and socially-prescribed perfectionism. It was developed and validated using university students, clinical and community samples (Hewitt & Flett, 1991a; Hewitt et al, 1991). Subjects make 7-point ratings of agreement with statements such as "One of my goals is to be perfect in everything I do" (Self-Oriented Perfectionism), "I have high expectations for the people who are important to me" (Other-Oriented Perfectionism) and "I feel that people are too demanding of me" (Socially-Prescribed Perfectionism). Subscale scores can range from 15 to 105, where higher scores indicate greater perfectionism. The MPS has been shown to be internally consistent; alpha coefficients range from .74 to .88 and .70 to .89 in clinical and nonclinical samples respectively. Scores on subscales correlated with clinician ratings and are not influenced by response bias (Hewitt & Flett, 1991a). Furthermore, test-retest over a three month period ranged from .60 to .69 for patients and .75 to .88 for students (Hewitt & Flett, 1991a), demonstrating that this measure taps a stable personality trait. The MPS subscales correlate differentially with concurrent measures in both clinical (Hewitt et al., 1991) and nonclinical samples (Flett, Hewitt, Blankstein, & Koledin, 1991; Hewitt & Flett, 1991a).

Perfectionistic Self-Presentation Scale: (PSPS; Hewitt et al., 1996). The PSPS is a 27-item measure of three dimensions of perfectionistic self-presentation. The Perfectionistic Self-Promotion subscale (10 items) measures the desire to present oneself as perfect to others (e.g. "It is very important that I always appear to be "on top of things"). The Nondisplay of Imperfection subscale (10 items) measures the need to avoid being seen as less than perfect to others (e.g. "I do not want people to see me do something unless I am very good at it"). The Nondisclose of Imperfection subscale (7 items) measures the need to avoid admitting failures to others (e.g., "I try to keep my faults to myself"). Subjects rate their agreement with items on a 7-point scale with higher scores indicating greater perfectionistic self-presentation. The PSPS has been found to possess good internal consistency (alpha coefficients range from .74 to .84) and test-retest reliability (correlations range from .74 to .88). The PSPS has also been found to possess adequate convergent and discriminant validity and the subscales appear to tap related yet distinct motivational aspects of perfectionistic self-presentation. For example, whereas needs to avoid displaying and disclosing imperfections tend to be related to avoidance of failure orientations, perfectionistic self-promotion is associated with both success and failure orientations (Hewitt et al., 1996).

Interview for Perfectionistic Behavior: (IPB; Hewitt, Flett, Flynn, & Neilsen, 1995). The IPB is a structured interview that assesses the various trait and stylistic dimensions of perfectionism. This interview measures various facets of perfectionistic behavior, including traits, cognitions, and concerns over mistakes. It has been shown to possess good reliability and validity (Hewitt et al., 1995). For instance, the coefficient alpha for each of the subscales ranged between .83 and .86, indicating a high degree of internal consistency. Interrater

reliabilities correlated between .73 and .82, indicating appropriate degree of agreement. The interview was used as an additional measure of trait perfectionism that is not based on questionnaires. Due to time constraints, only the Self-Oriented and Socially-Prescribed subscale items, were administered. Since perfectionism is central to the investigation and in order to control for experimenter bias, the IPB was administered by alternate interviewers. No significant differences were found between raters and the IPB and MPS measures of self-oriented and socially-prescribed perfectionism were significantly correlated ($r(62) = .79$, $p < .001$, and $r(62) = .85$, $p < .001$, respectively).

Procedure

All subjects participated on a voluntary basis and informed consent procedures were followed. The interviewer worked with each individual in the anorexic group for approximately 2 hours, and control subjects for approximately ½ hour. All of the subjects completed interview measures of body image dissatisfaction (i.e., PBIS), perfectionism (i.e., IPB), depression (i.e., HDRS) and global functioning (i.e., GAS). The PBIS was always presented first. In order to facilitate scheduling with an alternate IPB interviewer, the IPB was administered second. The HDRS was administered third, and then following the prescribed guidelines, the GAS was scored. The full EDE was administered only to women with anorexia nervosa. Following the interviews, all subjects completed a packet of questionnaires, including the MPS, PSPS, BDI, SES, and BIAQ. Questionnaires were counterbalanced to control for order effects. Upon completion of the study, subjects were debriefed. Anorexic group subjects, because of the time commitment, were remunerated \$10.00.

Results

Treatment of the data

Before conducting analyses of specific test hypotheses, the data were inspected following procedures outlined by Tabachnick and Fidell (1989). For instance, the data were inspected for missing data and the few cases that were detected were replaced by subscale means. The possibility of outliers was also examined, but none were found. All of the data were normally distributed, except for slight departures on the BDI, two EDE subscales, and two BIAQ subscales. Transformations were considered, but since a number of researchers (e.g., Glass, Peckham, and Sanders, 1972; Tabachnick & Fidell, 1989) have indicated that in a balanced layout, as is the case in this study, the data are robust to violations of normality, the data were left unchanged. Finally, since multivariate analysis of covariance (MANCOVA) was used, the assumptions of multivariate normality, homogeneity of covariance, and homogeneity of regression were examined. Although violations were detected in a few cases (i.e., heterogeneity of covariance for between group comparisons on psychological distress variables, controlling for age, and heterogeneity of regression for self-esteem in self-oriented perfectionism and perfectionistic self-promotion), Glass, Peckham, and Sanders (1972) indicated that when samples are equal across groups, the analysis of covariance is robust to violation of these assumptions. It is arguable that this result extends to MANCOVA; thus, alternate analyses were not conducted.

The alphas and intercorrelations for perfectionism and psychological distress measures are shown in Table 1. All measures, had good internal consistency (α s = .75 -.97). It

can be seen that trait and self-presentation dimensions of perfectionism were significantly correlated with depression, self-esteem, and severity of psychiatric disturbance.

Between-Group Comparisons on Demographic Variables

In order to test the extent to which women in the control groups were successfully matched to those in the anorexic group, two analyses of variance (ANOVAs) were conducted. The three groups did not differ significantly on education, but did differ on age, $F(2,60) = 9.79, p < .001$. Tukey's HSD comparison revealed that psychiatric control women were significantly older than anorexic and normal control women, who did not differ from one another. Thus, age was used as a covariate in subsequent analyses.

Between Group-Analyses on Psychological Distress

To compare overall levels of psychological distress, the three groups were compared on BDI, SES and GAS scores. Between groups differences were examined with the MANCOVA procedure, with age as the covariate, and followed up with analyses of covariance (ANCOVAs) and Tukey's HSD comparisons. Unadjusted means and standard deviations for the three measures are reported in Table 2. The MANCOVA was significant, $F(6,114) = 27.60, p < .001$. Univariate tests revealed significant group differences on all three variables, including BDI, $F(2,59) = 90.35, p < .001$, SES, $F(2,59) = 43.16, p < .001$, and GAS, $F(2, 59) = 66.56, p < .001$. As shown in Table 2, post hoc comparison revealed that women with anorexia nervosa reported significantly more depression than psychiatric and normal control women, but there was no statistically significant difference between the two control groups. On the self-esteem score, anorexic women reported lower self-esteem than psychiatric control women, who reported lower self-esteem than normal control women. On the GAS,

the same pattern emerged; the anorexic women reported more impairment due to psychiatric disturbance than psychiatric control women, who reported more impairment than normal control women.

Between-Group Comparisons on Perfectionism

Group differences on trait and self-presentation perfectionism were examined using MANCOVA with group status as the independent variable, the MPS and PSPS subscale scores as the dependent variables, and age as the covariate. Unadjusted means and standard deviations for the measures are reported in Table 3. The multivariate effect of group status was significant, $F(12,108) = 8.61, p < .001$. Univariate tests indicated that the three groups differed on two trait dimensions of perfectionism: Self-Oriented $F(2,59) = 35.98, p < .001$, and Socially-Prescribed $F(2,59) = 35.22, p < .001$, and all three styles of perfectionistic self-presentation: Perfectionistic Self-Promotion, $F(2,59) = 23.82, p < .001$, Nondisplay of Imperfection, $F(2,59) = 17.89, p < .001$, and Nondisclosure of Imperfection, $F(2,59) = 39.56, p < .001$. Tukey's HSD comparisons revealed that, for all of the dimensions of perfectionism, women with anorexia nervosa reported higher scores than psychiatric and normal control women, but control subjects did not statistically differ from one another.

Because BDI, SES and GAS scores were significantly different across groups and significantly related to the dependent measures of interest (i.e., trait and self-presentation perfectionism), an additional set of between group analyses were performed to assess whether perfectionism accounts for unique aspects of anorexic symptomatology, independent from psychological distress. Adjusted means and standard deviations for the measures are reported in Table 4. A MANCOVA was conducted with group status as the independent variable,

MPS and PSPS subscale scores as the dependent variables, and age, BDI, SES and GAS as the covariates. The multivariate effect of group status was significant, $F(12,102) = 2.08$, $p < .05$. Univariate tests indicated that the three groups differed on Self-Oriented Perfectionism, $F(2,56) = 6.94$, $p < .01$, Socially-Prescribed Perfectionism $F(2,56) = 3.26$, $p < .05$, and Nondisclosure of Imperfection, $F(2,56) = 6.06$, $p < .01$. Tukey's HSD comparisons revealed that women with anorexia nervosa reported higher scores on all three measures, in comparison to control women who did not differ from one another.

Interview Measures

An additional series of MANCOVAs, parallel to the ones mentioned above, were conducted using the interview measures of trait perfectionism and depression. First, group differences on psychological distress were examined using a MANCOVA with group status as the independent variable, HDRS, SES and GAS as the dependent variables, and age as the covariate. The multivariate effect of group status was significant, $F(6,114) = 19.32$, $p < .001$. Univariate tests and post-hoc analyses revealed a pattern of results that were the same as the analyses that used the self-report measure of depression (i.e., the BDI).

Next, a MANCOVA was conducted with group status as the independent variable, interview measures of Self-Oriented and Socially-Prescribed Perfectionism, and self-report measures of the three dimensions of perfectionistic self-presentation as the dependent variables, and age as the covariate. The multivariate effect of group status was significant, $F(10,110) = 9.01$, $p < .001$. Again, univariate tests and post-hoc analyses produced results that were the same as the analyses based strictly on self-report measures.

Finally, a MANCOVA was conducted with group status as the independent variable, interview measures of Self-Oriented and Socially-Prescribed Perfectionism, and self-report measures of the perfectionistic self-presentation dimensions as the dependent variables, and age, HDRS, SES and GAS entered as covariates. The multivariate effect of group status was significant, $F(10,104) = 2.05$, $p < .05$. Univariate tests indicated that the three groups differed on Self-Oriented Perfectionism, $F(2,56) = 3.34$, $p < .05$, and Nondisclosure of Imperfection, $F(2,56) = 9.76$, $p < .001$, but not on Socially-Prescribed Perfectionism as found using self-report measures. Also, different from the original analyses, group differences were found for Perfectionistic Self-Promotion, $F(2,56) = 3.50$, $p < .05$. Tukey's HSD comparisons revealed that women with anorexia nervosa reported higher scores on all three measures, and the control groups did not differ from one another ($p < .05$ for Self-Oriented Perfectionism and Perfectionistic Self-Promotion, and $p < .01$ for Nondisclosure of Imperfection).

Perfectionism and Anorexic Symptomatology

To assess the relationship between perfectionism and anorexic symptomatology, bivariate correlations were computed. Means and standard deviations for EDE, PBIS, and BIAQ subscales are reported in Table 5, and correlations between these measures and perfectionism dimensions are reported in Table 6. There were no significant correlations between trait perfectionism and EDE subscales; however correlations between Self-Oriented Perfectionism and Eating Concerns, $r = .35$, $p = .12$, and Socially-Prescribed Perfectionism and Weight Concerns, $r = .38$, $p = .08$, approached significance. As well, there were no significant correlations between trait perfectionism and BIAQ scores, but the correlation between Socially-Prescribed Perfectionism and BIAQ-Restraint, $r = .38$, $p = .09$, approached

significance. Socially-Prescribed Perfectionism was significantly correlated with the Perceptual, Cognitive and Affective indices of body image dissatisfaction.

With respect to perfectionistic self-presentation, no subscales were significantly correlated with either the EDE or BIAQ subscale scores. However, all three subscales were positively correlated with body image dissatisfaction as assessed by the PBIS.

Perfectionistic-Self-Promotion, as well as the Nondisplay and Nondisclosure of Imperfection were significantly correlated the PBIS Cognitive index. In addition, Nondisplay and Nondisclosure of Imperfection were significantly correlated with the PBIS Affective index, and Perfectionistic Self-Promotion was significantly correlated with the PBIS Perceptual index.

Interview Measures

These correlations were re-run with the interview measures of Self-Oriented and Socially-Prescribed perfectionism. Significant correlations emerge between Self-Oriented Perfectionism and the PBIS Cognitive and Affective indices. There were no significant correlations between trait perfectionism scores and either EDE or BIAQ scores.

Discussion

The purpose of this study was twofold: first, to examine trait and self-presentation dimensions of perfectionism among women with anorexia nervosa compared to psychiatric and normal control women; and second, to explore the relationship between perfectionism scores and symptom severity within a sample of women with anorexia nervosa. As predicted, women with anorexia nervosa endorsed significantly higher levels of trait and self-presentation perfectionism, compared to both psychiatric and normal control women.

Moreover, even after controlling for psychological distress, women with anorexia nervosa continued to be elevated on Self-Oriented and Socially-Prescribed perfectionism, as well as the Nondisclosure of Imperfection. Finally, a relationship was established between different dimensions of perfectionism and anorexic symptom severity. These results demonstrate the usefulness of a multidimensional approach to perfectionism in anorexia nervosa.

Perfectionism and Anorexia Nervosa

The extent to which trait and self-presentation perfectionism distinguish women with anorexia nervosa from both psychiatric and normal controls has not been previously examined. As predicted, this study indicated that women with anorexia nervosa reported significantly higher levels of Self-Oriented and Socially-Prescribed Perfectionism, and all three facets of perfectionistic self-presentation, than did women in the psychiatric and normal control groups. These findings, resulting from a methodologically rigorous study that includes operationalized eating disorder diagnoses, as well as both interview and self-report measures, underscores the importance of both trait and self-presentation dimensions of perfectionism in the prediction of anorexia nervosa group status.

The finding that both self-oriented and socially-prescribed perfectionism are related to group status suggests that women with anorexia nervosa demonstrate an unrelenting motivation to meet their own, or perceived others' expectations of perfection, and that this level of motivation surpasses levels reported by women with other psychiatric disorders as well as normal controls. Thus, although these dimensions of trait perfectionism have been shown to play an important role in severe psychopathology (e.g., Hewitt et al., 1991; Hewitt & Flett, 1991a, 1991b; 1993, Hewitt, Flett, & Ediger, 1996; Hewitt, Flett, & Turnbull, 1992;

Hewitt, Flett, & Turnbull-Donovan, 1992), the current results suggest that they are most pronounced among women with anorexia nervosa. For instance, whereas mean scores for self-oriented and socially-prescribed perfectionism among individuals with unipolar depression have been reported to be 76.05 (SD=17.5) and 60.50 (SD=20.1), respectively, the scores reported by the anorexic group in this study were more than one standard deviation higher.

These findings corroborate previous results indicating that high levels of self-oriented and socially-prescribed perfectionism distinguish women with anorexia nervosa from normal controls (Bastiani et al., 1995; Cockell et al., 1996). They are also consistent with claims that both self-related and social aspects of perfectionism play an important role in the etiology of anorexia nervosa. For instance, various theorists have posited that women with anorexia nervosa seek complete control over eating, shape and weight (Casper et al., 1992; Slade, 1982), and employ stringent evaluation criteria (Garner, 1986), often resulting in the perception that one is never measuring up (Bers & Quinlan, 1992). Also, they are said to be extremely sensitivity to perceived expectations of others (e.g., Bruch, 1973), and are committed to cultural ideals of thinness (Brownell, 1991). Overall, this research consolidates previous speculations and observations, and more importantly, it lays the ground work for a more detailed account of the ways in which different facets of trait perfectionism play out in anorexia nervosa.

Going beyond trait perfectionism, it also seems that perfectionistic self-presentation is elevated among women with anorexia nervosa. That is, strong needs to present an image of perfection to others or avoid revealing perceived imperfections in the self seem to be central

to the diagnosis of anorexia nervosa, and not a function of general psychopathology. Thus, although perfectionistic self-presentation has been related to various forms of psychopathology (Hewitt & Flett, 1993b; Hewitt et al., 1996), the results of this study indicate that levels of perfectionistic self-promotion, as well as nondisplay and nondisclosure of imperfection, are especially salient among women anorexia nervosa. This is consistent with previous research indicating that all three dimensions of perfectionistic self-presentation differentiate women with anorexia nervosa from normal controls (Cockell et al., 1996). This also resonates with conceptualizations suggesting that striving to appear perfect is linked to strong needs to gain approval from others (Bruch, 1973), and striving to conceal imperfection is linked to strong needs to avoid criticism, both of which are very important in anorexia nervosa (Rosen et al., 1991). For instance, the nondisplay of imperfection may be particularly relevant to negative body image whereby women with anorexia nervosa avoid exposing their bodies to others (Hewitt, Flett, & Ediger, 1995) and the nondisclosure of imperfection may be linked to negative attitudes toward help-seeking, such that they are reluctant to seek and engage in treatment (Goldner, 1989).

This study is unique in that the data address the possibility that elevated scores may be accounted for by high rates of depression (Cooper et al., 1995; Hoffman & Halmi, 1993) and low levels of self-esteem (Casper & Davies, 1977; Lask & Bryant-Waugh, 1992; Williams et al., 1992), both of which are correlates of anorexic symptomatology and perfectionism dimensions. It is also possible that group differences in perfectionism may be accounted for by severity of psychiatric disturbance. However, even though the women with anorexia nervosa studied here reported greater depression, lower self-esteem, and more

psychiatric disturbance than the two control groups, when these factors were statistically controlled, women with anorexia nervosa continued to be elevated on Self-Oriented and Socially-Prescribed Perfectionism, as well as Nondisclosure of Imperfection. Thus, the results of this study indicate that there is something unique about the motivation to meet one's own, or perceived others' expectations of perfection, as well as the need to avoid verbal acknowledgment of imperfection, that distinguishes women who present with anorexia nervosa, from those who present with other disorders.

These findings have implications for etiological models of anorexia nervosa. For instance, instead of conceptualizing perfectionism as a unidimensional construct, the results of this study suggest that multidimensional conceptualizations that recognize both personal and social aspects, as well as traits and styles of self-presentation should be included. As well, more important than cognitions, the role of perfectionistic motivations should be acknowledged. Taking Slade's (1982) etiological model as an example, it seems that a more detailed description of "perfectionistic tendencies" is warranted. That is, instead of discussing one broad conceptualization of perfectionism, distinctions should be made between self-oriented and socially-prescribed motivations to be perfect. As well, special attention should be given to the self-presentation style of striving to avoid acknowledgment of perceived imperfections. Finally, the different mechanisms by which these dimensions of perfectionism function in anorexia nervosa should be addressed in the model.

Perfectionism and Symptom Severity

The extent to which trait and self-presentation dimensions of perfectionism are relevant to anorexic symptomatology has not been previously examined in a clinical sample.

This study provided preliminary evidence indicating various trends between dimensions of perfectionism and anorexic symptom severity. For instance, women high on Self-Oriented Perfectionism tended to give higher ratings of Eating Concerns, indicating that they may be more inclined to experience disturbed attitudes such as preoccupation with food, eating and calories, guilt about eating, fear of losing control over eating, and concern about eating in public. In addition to self-imposed expectations, women high on Socially-Prescribed Perfectionism tended to endorse higher ratings of Weight Concerns, suggesting that they may be the most motivated to lose weight, and most inclined to feel dissatisfied with weight and to equate success at losing weight with self-worth. Perhaps most importantly, a significant relationship was found between Socially-Prescribed Perfectionism and body image dissatisfaction, one of the core cognitive features of anorexia nervosa. This finding suggests that women with anorexia nervosa who endorse high levels of socially-prescribed perfectionism are in a serious bind; that is, the more they are motivated to meet unrealistically high social expectations, the more they perceive their bodies to be larger than desired. These results are consistent with previous research indicating that whereas self-oriented perfectionism may be specifically linked to eating concerns and dietary restraint, socially-prescribed perfectionism may be more important to concerns about appearance and self-esteem (Hewitt, Flett, & Ediger 1995).

Although it is necessary to design studies that directly test the proposed model that heightened anorexic symptomatology may be accounted for by the generation, exacerbation, and prolongation of stress, the current results provide some hints regarding which situations are most stressful for those high on self-oriented compared to socially-prescribed

perfectionism. That is, women with anorexia nervosa who experience their perfectionism as self-imposed are likely to perceive situations that focus on eating (e.g., eating a chocolate mint, family dinners, and increase in appetite), as particularly distressing. By contrast, those who experience their perfectionism as imposed by others are likely to feel most distressed in situations that focus on body weight and shape (e.g., stepping on a scale, looking in a mirror). This is consistent with the conceptualization that different dimensions of perfectionism may interact with specific stress to produce worsened symptoms (Hewitt & Flett, 1993a; Hewitt, Flett, & Ediger, 1996).

The finding that was perhaps the most intriguing for the proposed model was the relationship between perfectionistic self-presentation and anorexic symptom severity, because of the implications for coping. Given that individuals who are most concerned about presenting an image of perfection or concealing imperfection from others tend to endorse negative attitudes toward help-seeking (Nielsen et al., 1997), it seems that women with anorexia nervosa who score highest on these self-presentation dimensions will cope poorly. In particular, because help-seeking may be construed as an open admission of failure that is threatening to self-esteem (Nadler & Fisher, 1986), individuals who are high on perfectionistic self-presentation may be especially unlikely to seek help or maintain contact with health providers. Thus whereas trait perfectionism may relate to the generation and exacerbation of stress, perfectionistic self-presentation may be related to the duration of stress by influencing whether women with anorexia nervosa seek, engage in and benefit from treatment. For instance, based on the current findings, reluctance to discuss shortcomings, fears and negative feelings would appear to preclude opportunities to challenge disturbed

attitudes about body shape and appearance, the result of which is extreme body image dissatisfaction and low self-esteem.

Thus, once in therapy, in addition to challenging the motivation to be perfect, it would seem necessary to address the motivation to present oneself as perfect to others. Typically, the treatment of perfectionism in anorexia nervosa has focused on traits, and not self-presentation dimensions of perfectionism. As well, interventions have been directed at distorted cognitions that reflect perfectionistic thinking (e.g., Barrow & Moore, 1983; Burns, 1980), with relatively little attention to motivational features of perfectionism. Since the results of this study suggest that both the need to present an image of perfection or avoid revealing imperfection in the self may be related to anorexic symptom severity, addressing these motivations may improve overall outcome. This might be accomplished in a number of ways, including an examination of the role that perfectionistic self-presentation plays in issues of self-definition and self-worth (Hewitt et al., 1996), and to explore the personal and interpersonal costs (e.g., lack of intimacy and social support) and benefits (e.g., protect self-esteem) of this interpersonal style. It is important to note, however, that a substantial period of time will likely be required to change these deeply entrenched interpersonal styles (Blatt, 1995).

Some limitations of the current work should be acknowledged. First, although efforts were made to match the control groups to the anorexic group on age and education, the psychiatric group were significantly older. In this study, age was used as a covariate in the analyses; however, future studies should recruit psychiatric controls from a younger cohort. Second, an examination of the diagnostic breakdown for the psychiatric control group

revealed a lack of diagnostic breadth. Indeed, a more diverse group of women would have been preferred, perhaps including those meeting criteria for anxiety disorders, sleep disorders, substance disorders, and adjustment disorders. However, even though the psychiatric control women in this study were not as diagnostically diverse as desired, they were heterogeneous in terms of distress symptoms, such as depression, self-esteem, suicidal ideation, occupational and social functioning. Third, although interview and self-report measures of trait perfectionism were significantly correlated, they produced a few differences in the between-group and correlational analyses. These discrepancies may be due to dissimilar rating scales (i.e., 4-point for interview vs. 7-point for self-report), or problems inherent in the interview measure. Indeed, the interview measure is currently being assessed and revised (Hewitt et al., 1995). Fourth, although this study provided preliminary evidence indicating that various dimensions of perfectionism are related to anorexic symptom severity, due to the number of correlations and relatively small sample size these findings should be treated with caution. Future work should include more participants, perhaps by collaborating with researchers at multiple sites. Fifth, an inspection of the alpha levels for the various measures of anorexic symptom severity revealed that the internal reliability of the EDE and BIAQ subscales were substandard. This may be explained by the small sample used in this study. Alternatively, some of the subscales may include more than one factor. Future research should address this psychometric issue. Finally, it is important to remember that assessment procedures were concurrent in nature, thus no causal interpretations or conclusions regarding the direction of causality are permitted.

This research lays the ground work for future studies on perfectionism and anorexia nervosa. One focus will be research designed to increase our understanding of the possible causal role of trait and self-presentation perfectionism in the development of anorexia nervosa. Longitudinal studies assessing high risk groups would supply valuable evidence regarding this matter. Another important direction for research involves the role of perfectionistic self-presentation in help-seeking behavior and motivation for change. Since help-seeking may be experienced as an acknowledgment of imperfection that evokes feelings of shame and threatens self-esteem (Goldner, 1989), the possibility exists that the women with anorexia nervosa who have high levels of perfectionistic self-presentation may be especially ambivalent about seeking help and remaining in treatment. Finally, future work might also explore whether treatment interventions that directly address the role of trait and self-presentation perfectionism in women with anorexia nervosa are more successful than existing treatment modalities at increasing motivation for change and reducing anorexic symptomatology.

In summary, the results of the present study extend past observations about the relevance of trait and self-presentation perfectionism in anorexia nervosa. Although past research has shown that various trait and self-presentation perfectionism dimensions distinguish women with anorexia nervosa from normal controls, the current study included a heterogeneous psychiatric control group and revealed that very high levels of these dimensions are particular to anorexia nervosa as opposed to a function of general psychopathology. Moreover, even after controlling for depression, self-esteem and severity of psychiatric disturbance, women with anorexia nervosa were distinguished from psychiatric

and normal controls by higher levels of self-oriented and socially-prescribed perfectionism, as well as the nondisclosure of imperfection. Finally, this study uncovered various relationships between different dimensions of perfectionism and anorexic symptom severity. It is hoped that subsequent research will build on the foundations established here, and thereby contribute to the body of knowledge concerning the important links between trait and self-presentation perfectionism and anorexia nervosa.

References

- Ansari, F. (1994). What information would be important to give to the family of an individual with bulimia or anorexia nervosa? European Eating Disorders Review, 2, 163-167.
- American Psychiatric Association.(1994). Diagnostic and Statistical Manual of Mental Disorders. (4th ed.). Washington, D.C.
- Barrow, J.C. & Moore, C.A.(1983). Group interventions with perfectionistic thinking. The Personnel and Guidance Journal, 61, 612-615.
- Bastiani, A.M., Rao, R., Weltzin, T., & Kaye, W.H.(1995). Perfectionism in anorexia nervosa. International Journal of Eating Disorders, 17 (2), 147-152.
- Beaumont, P. J.V. (1995). The clinical presentation of anorexia and bulimia nervosa. In K.D. Brownell & J.P. Foreyt (Eds.), Handbook of Eating Disorders: Physiology, Psychology, and Treatment of Obesity, Anorexia, and Bulimia. (pp.151-158). New York: Basic Books
- Beck, A.T., Rush, A.J., Shaw, B.F., & Emery, G. (1979). Cognitive therapy for depression: A treatment manual. New York: Guilford Press.
- Beck, A.T., Steer, R.A., & Garbin, M.G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. Clinical Psychology Review, 8, 77-100.
- Bers, S.A. & Quinlan, D.M. (1992). Perceived-competence deficit in anorexia nervosa. Journal of Abnormal Psychology, 101, 423-431.
- Blasovich, J., & Tomaka, J., (1991). Measures of self-esteem. In J.P. Robinson, P.R. Shaver, L.S. Wrightsman, F.M. Andrews (Eds.) Measures of Personality and Social Psychological Attitudes. San Diego: American Press.
- Blatt, S. (1995). The destructiveness of perfectionism: Implications for the treatment of depression. American Psychologist, 50, 1003-1020.
- Brownell, K. (1991). Dieting and the search for the perfect body: Where physiology and culture collide. Behavior Therapy, 22, 1-12.
- Bruch, H.(1973). Eating Disorders: Obesity, Anorexia Nervosa and the Person Within New York: Basic Books Inc.
- Bruch, H.(1978). The Golden Cage: The Enigma of Anorexia Nervosa. Cambridge, Mass: Harvard University Press.

- Burns, D.D. (1980, November). The perfectionist's script for self-defeat. Psychology Today, pp.34-53.
- Campbell, D.T., & Fiske, D.W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. Psychological Bulletin, 56, 81-105.
- Casper, R.C., & Davis, J.M.(1977). On the course of anorexia nervosa. American Journal of Psychiatry, 134, 974-977.
- Casper, R.C., Hedeker D., and McClough J.F.(1992). Personality dimensions in eating disorders and their relevance for subtyping. Journal of American Academy of Child and Adolescent Psychiatry, 31 (5), 830-840.
- Cockell, S.J., Hewitt, P.L., Goldner, Srikaneswaran, S., & Flett, G.L. (1996, August). Levels of perfectionism among women with anorexia and bulimia nervosa. Poster presented at the XXVI International Congress of Psychology, Montreal, Canada.
- Cooper, P.J.(1995). Eating Disorders and Obesity: A Comprehensive Handbook. In K. D. Brownell & C. G. Fairburn (Eds.), Eating disorders and their relationship to mood and anxiety disorders. (pp. 159-164). New York: The Guilford Press.
- Cooper, Z., Cooper, P.J., & Fairburn, C.G.(1989). The validity of the Eating Disorder Examination and its Subscales. British Journal of Psychiatry, 154, 807-812.
- Cooper, Z., & Fairburn, C.G.(1987). The Eating Disorder Examination: A semi-structured interview for the assessment of the specific psychopathology of eating disorders. International Journal of Eating Disorders, 6 (1), 1-8.
- Cooper, Z. & Fairburn, C.G. (1992). Thoughts about eating, weight and shape in anorexia nervosa and bulimia nervosa. Behavior Research and Therapy, 30, 501-511.
- Cooper, P.J., Taylor, M.J., Cooper, Z. & Fairburn, C.G. (1987). The development and validation of the Body Shape Questionnaire. International Journal of Eating Disorders, 6, 485-494.
- Endicott, J., Spitzer, R.L., Fleiss, J.L., & Cohen, J. (1976). The Global Assessment Scale: A procedure for measuring overall severity of psychiatric disturbance. Archives of General Psychiatry, 33, 766-771.
- Endler, N.S., & Parker, J.D. (1990). CISS: Coping Inventory for Stressful Situations Manual. Toronto: Multi-Health Systems Inc.

- Flett, G.L., Hewitt, P.L., Blankstein, K.R., & Koledin, S. (1991). Dimensions of perfectionism and irrational thinking. Journal of Rational-Emotive and Cognitive-Behavior Therapy, 9, 185-201.
- Flett, G.L., Hewitt, P.L., Blankstein, K.R., & Mosher, S.W. (1995). Perfectionism, life events, and depressive symptoms: A test of the diathesis-stress model. Current Psychology, 14, 112-137.
- Flett, G.L., Hewitt, P.L., Blankstein, K., & O'Brien, S. (1991). Perfectionism and learned resourcefulness in depression and self-esteem. Personality and Individual Differences, 12, 61-68.
- Flett, G.L., Hewitt, P.L., & Dyck, D.G. (1989). Self-oriented perfectionism, neuroticism, and anxiety. Personality and Individual Differences, 10, 731-735.
- Flett, G.L., Hewitt, P.L., Endler, N. S. & Tassone, C. (1995). Perfectionism and components of state and trait anxiety. Current Psychology, 13, 326-350.
- Flynn, C. (1996). Self-oriented perfectionism and stress enhancement: Physiological and emotional reactivity in response to an achievement related stressor. Unpublished master's thesis, University of British Columbia, Vancouver, B.C.
- Frost, R.O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. Cognitive Therapy and Research, 15, 469-490.
- Garber, J. & Hollon, S.D. (1991). What can specificity say about causality in psychopathology research? Psychological Bulletin, 110 (1), 129-136.
- Garner, D.M. (1986). Cognitive therapy for anorexia nervosa. In K.D. Brownell & J.P. Foreyt (Eds.), Handbook of Eating Disorders: Physiology, Psychology, and Treatment of Obesity, Anorexia, and Bulimia. (pp.301-327). New York: Basic Books
- Garner, D.M. & Garfinkel, P.E. (1979). The Eating Attitudes Test: An index of the symptoms of anorexia nervosa. Psychological Medicine, 9, 273-279.
- Garner, D.M., Olmsted, M.P., & Polivy, J. (1983). The Eating Disorder Inventory: a measure of cognitive-behavioral dimensions of anorexia nervosa and bulimia. In P.L. Darby, P.E. Garfinkel, D.M. Garner, & D.V. Coscina (Eds.) Anorexia Nervosa: Recent Developments in Research (pp.173-184) New York: Alan R. Liss
- Garner, D.M., Olmsted, M.P., Polivy J., & Garfinkel, P.E. (1984). Comparison between weight-preoccupied women and anorexia nervosa. Psychosomatic Medicine, 46, 255-266.

- Geller, J., Johnston, C. & Madsen, K. (1997). A new measure of the role of shape- and weight-based in self-concept: The Shape and Weight Based Self-Esteem Inventory. Cognitive Therapy and Research, 21, 5-24.
- Geller, J., Johnston, C., Madsen, K., Goldner, E., Remick, R., & Birmingham, L. (1996). Shape and weight based self-esteem in the eating disorders. Paper presented as part of a symposium at the XIVth Biennial Meeting of the International Society for the Study of Behavioral Development, Quebec City.
- Glass, G.V., Peckham, P.D., & Sanders, J.R. (1972). Consequences of failure to meet assumptions underlying the fixed effects analyses of variance and covariance. Review of Educational Research, 42, 237-288.
- Goldner, E. (1989). Treatment refusal in anorexia nervosa. International Journal of Eating Disorders, 8, 297-306.
- Halmi, K.A., Goldberg, S.C., Eckert, E., Casper, R., & Davis, J.M. (1977). Pretreatment evaluation in anorexia nervosa. In R.A. Vigersky (Ed.), Anorexia Nervosa (pp.47-54). New York: Raven Press.
- Hamacheck, D.E. (1978). Psychodynamics of normal and neurotic perfectionism. Psychology, 15, 27-33.
- Hamilton, M. (1967). Development of a rating scale for primary depressive illness. British Journal of Social and Clinical Psychology, 6, 278-296.
- Heatherton, T.F., & Baumeister, R.F.(1991). Binge eating as escape from self-awareness. Psychological Bulletin, 110, 86-108.
- Heilbrun, A.B. & Witt, N. (1990). Distorted body image as a risk factor in anorexia nervosa: Replication and clarification, Psychological Reports, 66, 407-416.
- Hewitt, P.L. & Dyck, D.G. (1989). Perfectionism, stress, and vulnerability to depression. Cognitive Therapy and Research, 10, 137-142.
- Hewitt, P.L., & Flett, G.L. (1990). Perfectionism and depression: A multidimensional analysis. Journal of Personality and Social Behavior Research, 5, 423-438.
- Hewitt, P.L., & Flett, G.L.(1991a). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology. Journal of Personality and Social Psychology, 60 3. 456-470.
- Hewitt, P.L., & Flett, G.L. (1991b). Dimensions of perfectionism in unipolar depression. Journal of Abnormal Psychology, 100, 98-101.

- Hewitt, P.L., & Flett, G.L. (1993a). Dimensions of perfectionism, daily stress, and depression: A test of the specific vulnerability hypothesis. Journal of Abnormal Psychology, 102, 58-65.
- Hewitt, P.L., & Flett, G.L. (1993b). Perfectionistic self-presentation and maladjustment. Paper presented at the Annual Meeting of the American Psychological Association, Toronto, Canada.
- Hewitt, P.L., & Flett, G.L. (1996). Perfectionistic self-presentation in a clinical sample. Unpublished manuscript.
- Hewitt, P.L., Flett, G.L., & Ediger, E. (1995). Perfectionism trait and perfectionistic self-presentation in eating disorder attitudes, characteristics, and symptoms. International Journal of Eating Disorders, 18 (4), 317-326.
- Hewitt, P.L., Flett, G.L., & Ediger, E. (1996). Perfectionism and depression: Longitudinal assessment of a specific vulnerability hypothesis. Journal of Abnormal Psychology, 105 2.
- Hewitt, P.L., Flett, G.L., & Endler, N.S. (1995). Perfectionism, coping, and depression symptomatology in a clinical sample. Clinical Psychology and Psychotherapy, 2, 47-58.
- Hewitt, P.L., Flett, G.L., Fehr, B., Habke, M., & Fairlie, P. (1996). Self-presentational style and maladjustment: Presenting the perfect self.
- Hewitt, P.L., Flett, G.L., Flynn, C., & Neilsen, A. (1995). Development and validation of an interview measure of perfectionistic behavior. Charlottetown, P.E.I. Annual Convention of the Canadian Psychological Association.
- Hewitt, P.L., Flett, G.L., & Mikail, S.F. (1995). Perfectionism and relationship adjustment in pain patients and their spouses. Journal of Family Psychology, 3, 335-347.
- Hewitt, P.L., Flett, G.L., & Turnbull, W. (1992). Perfectionism and Multiphasic Personality Inventory (MMPI) Indices of Personality Disorder. Journal of Psychopathology and Behavioral Assessment, 14, 323-335.
- Hewitt, P.L., Flett, G.L., & Turnbull, W. (1994). Borderline Personality Disorder: An investigation with the Multidimensional Perfectionism Scale, European Journal of Psychological Assessment, 10, 28-33.
- Hewitt, P.L., Flett, G.L., & Turnbull-Donovan, W. (1992). Perfectionism and suicide potential. British Journal of Clinical Psychology, 31, 181-190.

- Hewitt, P.L., Flett, G.L., Turnbull-Donovan, W., & Mikail, S.F. (1991). The multidimensional perfectionism scale: Reliability, validated, and psychometric properties in psychiatric samples. Psychological Assessment, 3 (3), 464-468.
- Hewitt, P.L., Flett, G.L., & Weber, C. (1994). Dimensions of perfectionism and suicide ideation. Cognitive Therapy and Research, 18 (5), 439-460.
- Hewitt, P.L., & Genest, M. (1990). Ideal-self: Schematic processing of perfectionistic content in dysphoric university students. Journal of Personality and Social Psychology, 59, 802-808.
- Hewitt, P.L., Newton, J., Flett, G.L., & Callander, L. (in press). Perfectionism and suicide ideation in adolescent psychiatric patients. Journal of Abnormal Psychology.
- Hoffman, L. & Halmi, K. (1993). Comorbidity and course of anorexia nervosa. Eating and Growth Disorders, 2 (1), 129-145.
- Hollender, M.H. (1965). Perfectionism. Comprehensive Psychiatry, 6, 94-103.
- Hsu, L.K.G. (1990). Eating Disorders. New York: Guilford Press
- Huon, G. & Brown, L.B. (1984). Psychological correlates of weight control among anorexia nervosa patients among normal girls. British Journal of Medical Psychology, 57, 61-66.
- Lask, B., & Bryant-Waugh, R. (1992). Early-onset anorexia nervosa and related eating disorders. Journal of Child Psychology and Psychiatry, 33, 281-300.
- Manley, R.S., & Le Page, T. (1988). The Perceived Body Image Scale. Manual. B.C.'s Children's Hospital
- Manley, R.S., Tonkin, R. & Hammond, C. (1988). A method for the assessment of body image disturbance in patients with eating disorders. Journal of Adolescents Health Care, 9, 384-388.
- Monroe, S.M., & Simons, A.D. (1991). Diathesis-stress theories in the context of life stress research: Implications for the depressive disorders. Psychological Bulletin, 110, 406-425.
- Nadler, A. & Fisher, J.D. (1986). The role of threat to self-esteem and perceived control in recipient reactions to aid: Theory development and empirical validation. In L. Berkowitz (Ed.), Advances in Experimental Social Psychology, (vol. 19, pp.81-124). New York: Academic Press.

- National Research Council, Committee on Diet and Health. (1989). Diet and health: Implications for reducing chronic disease risk (pp.563-565). Washington, D.C.: National Academy Press.
- Neilsen, A., Hewitt, P.L., Han, H., Habke, M., Cockell, S.J., Stager, G., & Flett, G.L. (1997, August). Perfectionistic self-presentation styles and attitudes toward professional help seeking. Paper to be presented at the Canadian Psychological Association conference, Toronto, ON.
- Pacht, A.R.(1984). Reflections of perfection. American Psychologist, 39 4. 386-390.
- Pliner, P. & Haddock, G. (1995). Perfectionism in weight-concerned and -unconcerned women: An experimental approach. International Journal of Eating Disorders, , 381-389
- Pulos, S.(1996). Validity of the Beck Depression Inventory with eating disorder patients. Educational and Psychological Measurement, 56 (1), 139-141.
- Rosen, J.C., Srebnik, D., Saltzberg, E., & Wendt, S. (1991). Development of a Body Image Avoidance Questionnaire. Psychological Assessment, 3, 32-37.
- Rosen, J.C. , Vara, L., Wendt, S., & Leitenberg, H. (1990) Validity of the Eating Disorder Examination. International Journal of Eating Disorders, 9, 519-528.
- Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press
- Roth, D.L., Snyder, C.R. & Pace, L.M. (1986). Dimensions of favorable self-presentation. Journal of Personality and Social Psychology, 51, 867-874.
- Slade, P.(1982). Towards a functional analysis of anorexia nervosa and bulimia nervosa. British Journal of Clinical Psychology, 21, 167-179.
- Shevlin, M.E., Bunting, B.P., & Lewis, C.A. (1995). Confirmatory factor analysis of the Rosenberg Self-Esteem Scale. Psychological Reports, 76, 707-710.
- Silverstone, P.H. (1990). Low self-esteem in eating disordered patients in the absence of depression. Psychological Reports, 67, 276-278.
- Smith, M.C. & Thelen, M.H. (1984). Development and validation of a test for bulimia. Journal of Consulting and Clinical Psychology, 52, 863-872.
- Sohlberg, S. (1989). There's more in a number than you think: New validity data for the Global Assessment Scale. Psychological Reports, 64, 455-461.

- Sorotzkin, B. (1985). The quest for perfection: Avoiding guilt or avoiding shame? Psychotherapy, 3, 564-571.
- Soukup, V.M., Beiler, M.E. & Terrell, F. (1990). Stress, coping style and problem solving ability among eating-disordered inpatients. Journal of Clinical Psychology, 46, 592-599.
- Srinivasagam, N.M., Kaye, W.H., Platnicov, K.H., Greeno, C., Weltzin, T.E., & Rao, R. (1995). Persistent perfectionism, symmetry, and exactness after long-terms recovery from anorexia nervosa. American Journal of Psychiatry, 152 (11), 1630-1634.
- Striegel-Moore, R.H., Silberstein, L.R., Frensch, P., & Rodin, J. (1988). A prospective study of disordered eating among college students. International Journal of Eating Disorders, 8, 499-509.
- Tabachnick, B.G., & Fidell, L.S. (1989). Using Multivariate Statistics. New York: Harper Collins Publishers Inc.
- Vitousek, K., & Manke, F. (1994). Personality variables and disorders in anorexia nervosa and bulimia nervosa. Journal of Abnormal Psychology, 103 (1), 137-147.
- Williams, J.B.W. (1988). A structured interview guide for the Hamilton Depression Rating Scale. Archives of General Psychiatry, 45, 742-746.
- Williams, G.J., Power, K.G., Millar, H.R., Freeman, C.P., Yellowlees, A., Dowds, T. Walker, M., Campsie, L., MacPherson, F., & Jackson, M.A. (1993). Comparison of eating disorders and other dietary/weight groups on measures of perceived control, assertiveness self-esteem, and self-directed hostility. International Journal of Eating Disorders, 14, 27-32.
- Wilson, G.T., & Smith, D. (1989). Assessment of bulimia nervosa: An evaluation of the Eating Disorder Examination and its subscales. British Journal of Psychiatry, 154, 807-812.

Table 1.

Intercorrelations and Alphas for the Perfectionism, Psychological Distress and EatingDisorder Measures

	MPS- Self	MPS- Other	MPS- Social	IPB- Self	IPB- Social	PSPS- Promote	PSPS- Display	PSPS- Disclose	α
BDI	.67*	-.12	.71*	.81*	.74*	.68*	.60*	.72*	.97
HDRS	.66*	-.10	.71*	.80*	.74*	.63*	.62*	.65*	.91
SES	.59*	-.16	.72*	.76*	.72*	.64*	.65*	.71*	.94
GAS	-.64*	.13	-.69*	-.76*	-.66*	-.61*	-.60*	-.67*	
α	.92	.78	.93	.97	.94	.93	.75	.89	

Note: N=63. Bivariate correlations are presented below the diagonal. The following labels were used: MPS=Multidimensional Perfectionism Scale; IPB=Interview for Perfectionistic Behavior; PSPS=Perfectionistic Self-Presentation Scale; BDI=Beck Depression Inventory; HDRS=Hamilton Depression Rating Scale; SES=Self-Esteem Scale; GAS=Global Assessment Scale

* $p < .001$

Table 2.

Means and Standard Deviations for Psychological Distress Variables in Anorexic, Psychiatric Control, and Normal Control Women.

	Anorexic		Psychiatric		Normal	
	Group		Control Group		Control Group	
	(n=21)		(n=21)		(n=21)	
	M	SD	M	SD	M	SD
BDI	41.6	9.11 ^a	13.0	11.1 ^b	6.4	5.25 ^b
SES	31.7	5.2 ^a	23.0	6.2 ^b	16.1	4.94 ^c
GAS	42.8	4.6 ^a	59.0	15.5 ^b	79.3	7.0 ^c

Note: Different superscripts in the table refer to statistically significant group differences at $p < .01$ in Tukey's HSD. The following labels were used: BDI=Beck Depression Inventory; SES=Self-Esteem Scale; GAS=Global Assessment Scale

Table 3.

Unadjusted Means and Standard Deviations for Trait and Self-Presentation Perfectionism in Anorexic, Psychiatric and Normal Control Women.

	Anorexic Group (n=21)		Psychiatric Control Group (n=21)		Normal Control Group (n=21)	
	M	SD	M	SD	M	SD
MPS						
Self-Oriented	93.4	9.0 ^a	63.9	17.8 ^b	59.6	13.3 ^b
Socially-Prescribed	79.4	14.1 ^a	53.3	15.4 ^b	42.7	15.4 ^b
Other-Oriented	48.6	14.8	49.1	13.0	53.5	10.2
PSPS						
Promote	58.8	9.0 ^a	38.1	13.2 ^b	35.3	12.7 ^b
Nondisclosure	38.8	6.8 ^a	23.2	8.3 ^b	20.3	7.6 ^b
Nondisplay	59.7	7.6 ^a	43.5	15.9 ^b	37.8	13.8 ^b

Note: Different superscripts in the table refer to statistically significant group differences at $p < .01$ in Tukey's HSD comparison. The following labels were used: MPS=Multidimensional Perfectionism Scale; PSPS=Perfectionistic Self-Presentation Scale

Table 4.

Adjusted Means and Standard Deviations for Trait and Self-Presentation Perfectionism in Anorexic, Psychiatric and Normal Control Women., Controlling for Age, Depression, Self-Esteem and Psychiatric Disturbance.

	Anorexic Group (n=21)		Psychiatric Control Group (n=21)		Normal Control Group (n=21)	
	M	SD	M	SD	M	SD
MPS						
Self-Oriented	89.9	9.0 ^a	61.8	17.8 ^b	65.3	13.3 ^b
Socially-Prescribed	70.9	14.1 ^a	51.4	15.4 ^b	53.0	15.4 ^b
Other-Oriented	48.9	14.8	49.0	13.0	53.4	10.2
PSPS						
Promote	51.0	9.0	38.4	13.2	42.8	12.7
Nondisplay	53.7	7.6	42.4	15.9	44.3	13.8
Nondisclosure	34.7	6.8 ^a	21.7	8.3 ^b	25.8	7.6 ^b

Note: Different superscripts in the table refer to statistically significant group differences at $p < .01$ in Tukey's HSD comparison. The following labels were used: MPS=Multidimensional Perfectionism Scale; PSPS=Perfectionistic Self-Presentation Scale

Table 5.

Means and Standard Deviations for Anorexic Symptom Severity

	M	SD	α
EDE-Total	4.6	.77	.84
Restraint	4.7	.87	.26
Eating Concern	4.0	1.22	.70
Shape Concern	4.9	.67	.68
Weight Concern	4.8	.92	.60
BIAQ-Total	60.3	8.0	.32
Restraint	10.0	3.8	.59
Clothing	29.7	5.5	.56
Social	12.6	4.4	.69
Grooming	8.0	3.8	.41
PBIS			
Perceptual	125.2	29.1	
Cognitive	141.4	29.9	
Affective	145.2	30.1	

Note: N=21. The following labels were used: EDE=Eating Disorder Examination;

PBIS=Perceived Body Image Scale; BIAQ=Body Image Attitudes Questionnaire

Table 6.

Correlations Between Trait and Self-Presentation Perfectionism and AnorexicSymptomatology in Women with Anorexia Nervosa

	Self	Social	Other	Promote	Nondisplay	Nondisclose
EDE-Total	.26	.28	-.23	.22	-.09	.19
Restraint	.21	.20	-.09	.26	.01	.21
Eating	.35	.18	-.33	.11	-.23	.13
Shape	.22	.22	-.24	.27	.01	.33
Weight	.10	.38	.00	.19	-.02	.07
BIAQ-Total	.12	.23	.17	.06	.33	.30
Restraint	.21	.38	-.02	.14	.19	.21
Clothing	.14	.19	.19	.02	.29	.26
Social	.05	-.11	.06	.18	.31	.28
Grooming	-.28	-.03	-.01	-.20	-.28	-.28
PBIS						
Perceptual	.18	.51*	.07	.51*	.40	.38
Cognitive	.31	.48*	.03	.61**	.61**	.58**
Affective	.13	.54*	-.03	.42	.45*	.44*

Note: The following labels were used: Self=self-oriented perfectionism; Social=socially-prescribed perfectionism; Other=other-oriented perfectionism; Promote=perfectionistic self-promotion; Nondisplay=nondisplay of imperfection; Nondisclose=nondisclosure of imperfection; EDE=Eating Disorder Examination; PBIS=Perceived Body Image Scale; BIAQ=Body Image Attitudes Questionnaire

* $p < .05$, ** $p < .01$