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

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Trait and self-presentational dimensions of perfectionism were examined in women with anorexia nervosa (AN), a psychiatric control group of women with mood disorders, and a normal control group of women without mental disorders. With one exception, self-report measures and interview measures indicated that, after controlling for self-esteem, depression, and overall psychiatric severity, compared to women with mood disorders, women with AN were distinguished by substantially higher levels of self-oriented perfectionism (i.e., striving to meet one's own perfectionistic expectations), socially prescribed perfectionism (i.e., striving to meet perceived others' perfectionistic expectations), and nondisclosure of imperfection (i.e., avoiding verbal admissions of one's perceived imperfections). Trait and self-presentational dimensions of perfectionism in women with AN are considered in relation to familial environment and identity disturbance.

KEY WORDS: anorexia nervosa; eating disorders; perfectionism; personality.

Extensive empirical research has examined the role of perfectionism in eating disorders and appearance-related phenomena (Vitousek & Manke, 1994). The majority of this research has been based on a unidimensional conceptualization of perfectionism assessed by the perfectionism subscale of the Eating Disorders Inventory (Garner, Olmsted, & Polivy, 1983). Recent studies have examined perfectionism from a multidimensional trait perspective that incorporates self-and other-related facets (e.g., Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991a).

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The distinction between the personal and interpersonal trait aspects of perfectionism is perhaps most evident in the multidimensional framework proposed by Hewitt and Flett (1991a) who described an intrapersonal component of perfectionism, known as "self-oriented perfectionism," which involves compulsive striving to meet unrealistic expectations for oneself. Two interpersonal components were also described: Other-oriented perfectionism, which involves setting unrealistic expectations for and stringent evaluation of others, and socially prescribed perfectionism, which involves the perception that others require perfection of oneself. These dimensions have been shown to be independent, using the Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991b; Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991).

More recently, Hewitt et al. (2002) proposed another interpersonal aspect of perfectionism that entails striving to create an image of flawlessness to others rather than attempting to be perfect. This stylistic aspect of perfectionism encompasses "perfectionistic self-promotion" or the need to actively present oneself as perfect, "nondisplay of imperfection," which involves not demonstrating behaviorally any imperfections, and "nondisclosure of imperfection," which involves the need to avoid disclosures of imperfection. Hewitt et al. (2002) demonstrated subscales of the Perfectionistic Self-Presentation Scale (PSPS) were related to distress, motivational variables, and the self-concept, and account for significant unique variance in distress, beyond trait perfectionism.

Several studies have examined eating disorders and trait components of perfectionism. These studies have used measures developed either by Frost et al. (1990) or by Hewitt and Flett (1991a) and a pattern has emerged such that participants with anorexia nervosa had substantially higher levels of perfectionism dimensions than the comparison participants. For example, Bastiani, Rao, Weltzin, and Kaye (1995) found that underweight and weight-restored anorexic women had higher scores than normal controls on self-oriented perfectionism and on the Frost et al. (1990) measures of concern over mistakes, personal standards, and parental criticism. Moreover, underweight anorexic women had higher levels of socially prescribed perfectionism than the normal controls. Other studies have similar findings suggesting that trait facets of perfectionism are elevated among women with anorexia nervosa as well as other eating disorders in comparison to normal controls (Davis, 1997; Halmi et al., 2000; Pratt, Telch, Labouvie, Wilson, and Agras, 2001; Srinivasagam et al., 1995).

Despite accumulating evidence on trait facets of perfectionism in anorexia nervosa (AN), few studies have examined perfectionistic self-presentation. It is generally accepted that individuals with eating disorders are highly preoccupied with self-presentational concerns (e.g., Striegel-Moore, Silberstein, and Rodin, 1993) and we would argue that this desire to hide flaws and shortcomings reflects an interpersonal style of perfectionistic self-presentation that is a defensive extension of the social self. One study found in a sample of university women that perfectionistic self-presentation was associated with anorexic and bulimic symptoms and body image avoidance (Hewitt, Flett, and Ediger, 1995). Likewise, Geller, Cockell, Hewitt, Goldner, and Flett (2000) showed in anorexic women that all three perfectionism self-presentation dimensions and self-oriented and socially prescribed perfectionism were highly correlated with measures of self-silencing and reduced expression of anger, suggesting that perfectionistic self-presentation involves restrictions of affect.

This paper is based on an extended analysis of some of the measures administered to the participants described in the Geller et al. (2000) study.

There are several other reasons for a link between AN and perfectionistic self-presentation. For example, perfectionistic self-presentation may represent an outgrowth of the familial environment of women with AN. As Humphrey (1992) noted, "the clinical picture of the anorexic family [is one of] trying to present a public image of perfection and psychological health while underneath the façade are many unacknowledged needs and problems" (p. 14). In such a familial environment, women with AN may have learned to maintain a façade of domestic tranquility by promoting a picture of perfection and concealing any hint of imperfection.

The current paper extends research on perfectionism and AN in several ways. First, in addition to trait facets of perfectionism, we examined levels of perfectionistic self-presentation in women diagnosed with AN. Second, we included a group of patients with various depressive disorders so that we could test the specificity issue. Third, with the exception of Pratt et al. (2001), previous research has not examined levels of perfectionism after controlling for individual differences in psychological distress. Accordingly, in this study, we tested whether the expected group differences in perfectionism could still be detected after controlling for levels of self-esteem, depression, and global psychiatric severity. Finally, facets of perfectionism were measured with both self-report measures and interviewer ratings.

METHOD

Participants[6]

Anorexia Nervosa Group

Twenty-one women were recruited from inpatient and outpatient programs at an eating disorder clinic. These 21 women were selected from a group of 35 women who had anorexia nervosa symptomatology. Overall, 21 of these women met criteria for anorexia nervosa according to the Eating Disorder Examination (EDE; Fairburn & Cooper, 1993) and were retained in the final analyses. The average age of the group was 29.0 ($SD = 9.2$) and the number of years of education was 14.0 ($SD = 2.7$). The mean age of symptom onset was 23.8 ($SD = 9.7$), the length of disorder was 5.2 years ($SD = 4.6$), and the average Body Mass Index (BMI) was 15.3 ($SD = 2.0$), which is comparable to the BMI's of other anorexia nervosa patients (Fairburn & Cooper, 1993). Finally, levels of impairment were assessed with the Global Assessment Scale (GAS; Endicott, Spitzer, Fleiss, & Cohen, 1976; see Measures for a description) and this group's mean level ($M = 42.8$, $SD = 5.0$) indicated serious impairment in social, occupational, or school functioning.

[6]Some of the data from this study were presented in another paper (Geller et al., 2000) that examined inhibited expression of negative emotions and passive interpersonal styles and beliefs among women with AN, women with other psychiatric disorders, and normal control women. For example, the AN group, psychiatric and normal control group, and several of the measures (the two perfectionism questionnaires and the three distress measures) were reported in Geller et al. (2000).

Normal Control Group

Twenty-one women recruited from hospital, restaurant, and recreation center staff in the same city were matched to the anorexic group on age and education. These women did not meet *DSM-IV* criteria for current or past eating disorders, as assessed by the EDE diagnostic items. In addition, during the interview they reported no current or past psychiatric disorders. The mean age of this group was 28.7 ($SD = 8.36$) and years of education was 14.4 ($SD = 1.73$). The average BMI was 22.1 ($SD = 3.05$), which is in the normal range (Zeman, 1991).

Psychiatric Control Group

As noted earlier, there were 17 participants in the psychiatric control group. We began with 39 women with a variety of affective disorders; these were recruited from in- and outpatient programs. A total of 14 women were excluded due to low depression scores (BDI ≥ 9) and another 8 women were excluded because of a history of eating disorder as indicated by the EDE diagnostic items.[7] Primary *DSM-IV* diagnoses were provided by the referring psychiatrists; 9 (53%) of the women received a diagnosis of major depressive disorder, 7 (41%) had bipolar disorder, and 1 (6%) had dysthymic disorder. The mean age in this sample was 41.7 years ($SD = 7.8$) and the number of years of formal education was 15.7 ($SD = 3.3$). The average age of symptom onset was 28.5 years ($SD = 8.3$) and length of illness was 12.3 years ($SD = 8.4$). The average BMI was 24.7 ($SD = 5.0$), which is in the normal range (Zeman, 1991). The psychiatric control group's mean level of Global Assessment Scale (GAS) was 50.3 ($SD = 7.1$), indicating moderate levels of difficulty in social, occupational, or school functioning.

Measures

Eating Disorder Examination (EDE; Fairburn & Cooper, 1993)

The EDE is a standardized interview that determines the presence of eating disorder diagnoses based on *DSM-IV* criteria. Reliability and both concurrent and discriminant validity of the instrument is adequate (Fairburn & Cooper, 1993) and it yields frequency and intensity assessments of the behavioral and psychological aspects of eating disorders. The EDE measures characteristics such as restraint, eating concern, shape concern, and weight concern and it was administered by the first author, a masters level clinical psychology student, under the supervision of the fifth author, a psychiatrist trained to administer, train, and supervise others on the EDE. The consensus of both authors, based on the interview, was required for participant's inclusion in the study.

[7]Beck and Steer (1987) have indicated that scores in the range of 10–18 indicate mild to moderate depression symptom severity. We eliminated individuals with depression symptom severity in the normal range.

Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991b)

The MPS is a self-report measure of perfectionism traits, composed of three 15-item subscales measuring self-oriented (e.g., "When I am working on something, I cannot relax until it is perfect"), other-oriented ("I have high expectations for the people who are important to me"), and socially prescribed perfectionism ("I feel that people are too demanding of me"). Subjects rate their agreement with items on a 7-point scale, with higher scores indicating greater perfectionism. Extensive data have been presented, supporting the dimensionality, reliability, and validity of the MPS in clinical, student, and community samples (Hewitt & Flett, 1991b; Hewitt, Flett, Turnbull-Donovan et al., 1991). For example, coefficients alpha range between .74 and .89 and subscales are correlated with clinician ratings and with theoretically similar constructs, and are not influenced by response biases (Hewitt & Flett, 1991b).

Perfectionistic Self-Presentation Scale (PSPS; Hewitt et al., 2002)

The PSPS is a 27-item measure of three facets of perfectionistic self-presentation, namely perfectionistic self-promotion, nondisplay of imperfection, and nondisclosure of imperfection. Subjects rate their agreement with items on a 7-point scale with higher scores indicating greater perfectionistic self-presentation. A large body of research supports the factor structure, reliability, and validity of the PSPS in diverse samples. For example, reliability, internal consistency, and test–retest reliability has been shown to be high, with alpha coefficients of .86, .83, and .78, and correlations between respective PSPS subscales over 3 weeks of .83, .84, and .74, for perfectionistic self-promotion, nondisplay of imperfection, and nondisclosure of imperfection, respectively. There is also evidence that the PSPS is related to theoretically related constructs, such as self-monitoring, self-concealment, and self-handicapping and with maladjustment independently of trait perfectionism (see Hewitt et al., 2002).

Interview for Perfectionistic Behavior (IPB; Hewitt, Flett, Flynn, & Neilsen, 1995)

This IPB is very brief semistructured interview that assesses trait and stylistic dimensions of perfectionism. Descriptions of needing to be perfect, criticism, fear of making mistakes, and performance satisfaction are provided (based closely on items from self-report measures of Hewitt & Flett [1991b] and Frost et al. [1990]), and interviewees are asked to report the degree to which these descriptions are relevant to them. This measure has been shown to possess good reliability and validity with coefficients alpha ranging between .83 and .86, and with correlations with the MPS subscales ranging between .79 and .85 (Hewitt, Flett, Flynn, et al., 1995). In this study the correlations between the IPB self-oriented and MPS self-oriented subscales was .76 and between the IPB socially prescribed and MPS socially prescribed perfectionism subscales was .86.

Beck Depression Inventory (BDI; Beck & Steer, 1987)

The BDI is a 21-item measure of symptoms of depression. Extensive research indicates that the BDI has adequate psychometric properties in clinical and nonclinical samples (Beck & Steer, 1987).

Hamilton Depression Rating Scale (HDRS; Hamilton, 1967)

The HDRS is a 21-item, structured interview designed to assess severity of depressive symptoms. 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. The HDRS was used in this study as a second measure of depression and to control for potential method variance.

Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965)

The RSES is a 10-item scale measuring general self-esteem. Respondents report feelings about self worth using a 4-point scale, with higher scores representing lower self-esteem. Many studies have demonstrated the reliability and validity of this measure (see Rosenberg, 1979). The RSES was scored in this study such that higher scores represented lower self-esteem in order to facilitate comparisons with the depression measures.

Global Assessment Scale (GAS; Endicott et al., 1976)

The GAS is a 100-point scale that provides a summary measure of psychiatric disturbance. High scores indicate mental health. This scale has good reliability and both concurrent and predictive validity (Sohlberg, 1989). This scale was used to compare severity of psychiatric disturbance between the three groups.

Procedure

All participants volunteered in response to clinic announcements and bulletins, and informed consent procedures were followed. The full EDE was administered to women with anorexia nervosa, while only the diagnostic items were administered to controls. The HRSD and the GAS interviews were then conducted by the first author under the supervision of the fifth author and the IPB was administered by a trained research assistant under the supervision of the first author. Subsequent to interviewing, all participants completed a packet of questionnaires, including the MPS, PSPS, BDI, and RSES. Questionnaires were counterbalanced to control for order effects. Participants in the anorexia nervosa group received $10 for taking part in recognition of the greater time commitment involved for them.

RESULTS

The intercorrelations among the MPS, PSPS, and IPB subscales were calculated based on collapsed groups. As shown in the upper part of Table I, the perfectionism subscales were correlated and, in some cases, the correlations were higher than in other samples (Hewitt et al., 2002). Correlations between perfectionism and distress measures were also calculated (see lower part of Table I). Trait and self-presentation dimensions were significantly associated with depression, self-esteem, and severity of psychiatric disturbance.

Table I. Intercorrelations Among the Perfectionism and Distress Measures

	MPS			PSPS			IPB	
	Self-oriented	Socially prescribed	Other-oriented	Promote	Disclose	Display	Self-oriented	Socially prescribed
Perfectionism measures								
MPS								
Self-oriented	—							
Socially prescribed	.76*	—						
Other-oriented	.16	.01	—					
PSPS								
Promote	.81*	.81*	.03	—				
Disclose	.72*	.81*	−.05	.81*	—			
Display	.69*	.78*	−.08	.83*	.79*	—		
IPB								
Self-oriented	.77*	.80*	−.12	.81*	.76*	.83*	—	
Socially prescribed	.61*	.83*	.05	.71*	.75*	.76*	.83*	—
Psychological distress								
BDI	.68*	.75*	−.12	.71*	.76*	.71*	.84*	.78*
HDRS	.57*	.65*	−.12	.56*	.58*	.62*	.74*	.74*
RSES	.61*	.73*	−.12	.65*	.71*	.73*	.78*	.73*
GAS	−.53*	−.60*	.21	−.49*	−.56*	−.57*	−.72	−.66*

Note. MPS: Multidimensional Perfectionism Scale; PSPS: Perfectionistic Self-Presentation Scale; IPB: Interview for Perfectionistic Behavior; BDI. Beck Depression Inventory; HDRS: Hamilton Depression Rating Scale; RSES: Rosenberg's Self-Esteem Scale; GAS: Global Assessment Scale. These correlations must be interpreted with caution, given that several assumptions are violated when treating data from discrete groups as continuous.
*$p < .001$.

Between-Group Comparisons on Demographic Variables

The three groups were compared on demographic variables, including age and education. Only the ANOVA for age, $F(2, 56) = 13.2$, $p < .001$, was significant. Tukey's test revealed that psychiatric control women were older than either women with AN or normal control women. As a result, age was used as a covariate in all subsequent analyses.

Between Group-Analyses on Psychological Distress

The three groups were compared on BDI, HDRS, RSES, and GAS scores in order to assess overall levels of psychological distress. For this family of measures, an alpha of .0167 (.05 divided by 3) was used. Means and standard deviations for the measures are reported in Table II.[8] All four ANCOVAs were significant [$F(2, 55) = 101.08$, $p < .001$ for BDI; $F(2, 55) = 102.28$, $p < .001$ for HDRS; $F(2, 55) = 50.40$, $p < .001$ for RSES; and $F(2, 55) = 193.61$, $p < .001$ for GAS]. Multiple comparisons revealed that women with AN reported higher levels of

[8]Some data in Table II for the measures of depression, self-esteem, and the global assessment scale were presented in Geller et al. (2000) for the AN and normal control groups.

Table II. Means and Standard Deviations for Perfectionism and Distress Measures in Anorexic, Psychiatric Control, and Normal Control Women

	Anorexic group ($N = 21$)		Psychiatric control group ($N = 17$)		Normal control group ($N = 21$)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Psychiatric distress						
BDI	41.6[a]	9.1	20.0[b]	9.2	6.4[c]	5.2
HDRS	26.3[a]	5.6	19.9[b]	4.3	6.6[c]	4.5
RSES	31.7[a]	5.2	26.2[b]	4.9	16.1[c]	4.9
GAS	42.8[a]	4.6	50.3[b]	7.0	79.3[c]	7.0
MPS						
Self-oriented	93.4[a]	9.0	62.6[b]	20.2	59.6[b]	13.3
Social prescribed	79.4[a]	14.1	50.2[b]	14.2	42.7[b]	15.4
Other-oriented	48.6	14.8	50.1	14.7	53.5	10.2
PSPS						
Promote	58.8[a]	9.0	36.0[b]	14.4	35.3[b]	12.7
Disclose	38.8[a]	6.8	21.7[b]	8.9	20.3[b]	7.6
Display	59.7[a]	7.6	40.7[b]	13.3	37.8[b]	13.8
IPB						
Self-oriented	34.7[a]	6.9	19.5[b]	7.0	13.2[c]	7.0
Socially prescribed	17.0[a]	5.2	9.0[b]	5.3	4.9[c]	4.1

Note. MPS: Multidimensional Perfectionism Scale; PSPS: Perfectionistic Self-Presentation Scale; IPB: Interview for Perfectionistic Behavior; BDI: Beck Depression Inventory; HDRS: Hamilton Depression Rating Scale; RSES: Rosenberg's Self-Esteem Scale; GAS: Global Assessment Scale. Different superscripts in the table refer to statistically significant group differences at $p < .001$ in Tukey's HSD.

psychiatric distress, including depression, low self-esteem, and functioning, than psychiatric control women, who reported significantly higher levels of distress than normal control women.

Between-Group Comparisons on Perfectionism

Group differences on trait and self-presentation perfectionism were examined. An alpha level of .008 (.05 divided by 6) was used. Means and standard deviations for the measures are reported in Table II. The ANCOVAs for two types of trait perfectionism were statistically significant: self-oriented perfectionism [$F(2, 55) = 35.51$, $p < .001$] and socially prescribed perfectionism [$F(2, 55) = 37.46$, $p < .001$]. In addition, ANCOVAs for all three PSPS subscales were significant, including, perfectionistic self-promotion [$F(2, 55) = 23.30$, $p < .001$], nondisplay of imperfection [$F(2, 55) = 22.29$, $p < .001$], and nondisclosure of imperfection [$F(2, 55) = 37.27$, $p < .001$]. Multiple comparisons revealed that for both trait and self-presentation dimensions of perfectionism, women with AN reported higher scores than psychiatric and normal control women, but that the two control groups did not statistically differ from one another.

Because BDI, RSES, and GAS scores were different across groups and were related to the dependent measures of interest we also assessed whether perfectionism accounts for unique variance in anorexic symptomatology, independent of distress. Group differences on trait and self-presentation perfectionism were examined using ANCOVAs, with age, BDI, RSES, and GAS as the covariates. An alpha level

Table III. Adjusted Means and Standard Deviations for the Perfectionism Measures in Anorexic, Psychiatric Control, and Normal Control Women Controlling for Distress

	Anorexic group ($N = 21$)		Psychiatric control group ($N = 17$)		Normal control group ($N = 21$)	
	M	*SD*	*M*	*SD*	*M*	*SD*
MPS						
Self-oriented	89.0[a]	6.2	50.5[b]	5.2	65.8[a,b]	7.5
Socially prescribed	69.7[a]	5.7	47.7[b]	4.8	54.4[a,b]	6.9
Other-oriented	51.5	5.6	52.9	4.9	48.3	7.1
PSPS						
Promote	48.5	4.7	37.6	3.9	44.3	5.7
Disclose	31.7[a]	2.9	20.2[b]	2.4	28.5[a,b]	3.5
Display	47.4	4.2	37.7	3.5	51.8	5.0
IPB						
Self-oriented	27.2[a]	2.5	18.0[b]	2.1	22.1	3.2
Socially prescribed	12.0	1.7	7.9	1.4	10.7	2.2

Note. MPS: Multidimensional Perfectionism Scale; PSPS: Perfectionistic Self-Presentation Scale; IPB: Interview for Perfectionistic Behavior. Different superscripts in the table refer to statistically significant group differences at $p < .001$ in Tukey's HSD.

of .008 (.05 divided by 6) was used. Adjusted means and standard deviations are in Table III. The ANCOVAs for self-oriented perfectionism [$F(2, 52) = 7.31$, $p = .002$], socially prescribed perfectionism [$F(2, 52) = 5.20$, $p = .008$], and nondisclosure of imperfection [$F(2, 52) = 6.43$, $p = .003$] were significant. Women with AN reported higher perfectionism scores than psychiatric control women, but they did not report higher scores on these variables than normal controls. The two control groups did not differ from one another.

A stepwise discriminant function analysis was performed in order to determine the unique contribution of the perfectionism dimensions in discriminating among the three groups. In this analysis, variables providing unique contributions to the discrimination of the groups are retained in the model and variables not providing unique variance are excluded from the model. All trait and self-presentational perfectionism dimensions were included in the analysis in order to assess all possible unique contributions. Four dimensions entered into the discrimination in the following order: socially prescribed perfectionism ($\lambda = .32$), self-oriented perfectionism ($\lambda = .35$), other-oriented perfectionism ($\lambda = .33$), and nondisclosure of imperfection, ($\lambda = .32$). No variables were removed. The findings confirm that trait dimensions and the nondisclosure of imperfection uniquely discriminate the three groups.

Interview Measures

A series of ANCOVAs, parallel to the ones mentioned above, were conducted using the interview measures of trait perfectionism. Means and standard deviations are in Table II. The ANCOVAs comparing the groups on IPB self-oriented and socially prescribed perfectionism were significant [$F(2, 55) = 50.94$, $p < .001$ and $F(2, 55) = 32.54$, $p < .001$, respectively]. Follow-up analyses showed that women with AN reported higher scores than psychiatric control women, who reported higher

scores than normal control women. The results are similar to the MPS data, except that IPB data revealed differences between the two control groups.

When group differences were examined controlling for distress, only the ANCOVA for self-oriented perfectionism [$F(2, 52) = 6.56$, $p = .003$] was significant, and follow-up analyses showed that women with AN reported higher scores than psychiatric control women, but they did not report higher scores than normal control women. Although the MPS data revealed that socially prescribed perfectionism was higher among women with AN than psychiatric controls, the IPB data did not detect significant differences.

DISCUSSION

Previous research has shown that trait dimensions of perfectionism are elevated in women with AN. The purpose of this study was to assess trait and self-presentational dimensions of perfectionism among women with AN, women with mood disorders, and normal control women. A noteworthy feature of this study is that we included a psychiatric control group with no history of eating disorders. This research also sought to determine whether the group differences in perfectionism were due to group differences in depression, low self-esteem, and psychiatric severity. Finally, certain dimensions of perfectionism were assessed not only with self-report measures but also with interview measures so that we could establish the extent to which group differences in perfectionism were evident to trained interviewers. Overall, numerous differences were found suggesting that perfectionism dimensions play a role in AN.

The first goal of this study was to determine whether women with AN had elevated levels not only of self-oriented and socially prescribed perfectionism, but also higher levels of perfectionistic self-presentation. Women with anorexia had significantly elevated levels of self-oriented and socially prescribed perfectionism, relative to the two control groups. This study found that women with AN reported significantly higher levels of self-oriented perfectionism and socially prescribed perfectionism compared to normal control women, which replicates other work in this field (Bastiani et al., 1995). However, two particular aspects of these group differences should be noted. First, to our knowledge, this is the first study to show that trait levels of perfectionism are elevated among anorexic women when compared to a psychiatric control group, in addition to a normal control group. Also, the level of socially prescribed perfectionism that characterized the group of anorexic women in our current study ($M = 79.4$) was substantially higher than the means reported by Bastiani et al. (1995) for their groups of underweight restrictor anorexics ($M = 60$) and weight restored anorexics ($M = 41$). One concern is that the levels of socially prescribed perfectionism found with the MPS in this study were a reflection of the substantial level of distress that also characterized the anorexic group (mean BDI of 41.6). Thus, it was important to demonstrate that group differences in levels of perfectionism held even after controlling for related differences in levels of psychological distress. Even though the women with AN studied here reported greater depression, lower self-esteem, and more impaired functioning than the two control groups, when these factors were statistically controlled, women with AN continued

to have elevated scores on self-oriented and socially prescribed perfectionism. In the Geller et al. (2000) study, although the same distress variables were reported, the authors did not use the variables in analyses involving perfectionism. Thus, the results of this study indicate that the motivation to meet one's own or perceived others' expectations of perfection distinguishes women with AN from those with other psychological disorders, particularly mood disorders. It is not clear why the AN group did not differ on perfectionism from normal controls after controlling for distress when they did differ from the psychiatric control group. The adjusted means (see Table III) are clearly in the predicted direction, suggesting a trend, although replication with a larger sample may clarify this finding.

The high levels of trait perfectionism found in the anorexic group in this study is also evident if comparisons are made with normative values obtained in previous studies of perfectionism that focused on other forms of psychopathology. 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 (Hewitt & Flett, 1991a), the scores reported by the AN group in this study, 93.4 ($SD = 9.0$) and 79.4 ($SD = 14.1$) respectively, were approximately one standard deviation higher than these values.

Although the results on trait dimensions highlight the importance of self and social aspects of perfectionism, this is the first study to demonstrate that perfectionistic self-presentational concerns are also relevant in AN; that is, a strong need to present an image of perfection to others or avoid revealing perceived imperfections in the self seems to be a salient concern for patients with AN; and these concerns are not simply a function of distress. Thus, although perfectionistic self-presentation has been related to various forms of psychopathology (Hewitt et al., 2002), the results of this study indicate that levels of perfectionistic self-promotion, as well as nondisplay and nondisclosure of imperfection, are particularly salient among women with AN. This finding qualifies previous research on the social self and the self-presentational concerns involved in eating disorders (see Striegel-Moore et al., 1993) by showing that the self-presentational concerns of anorexic women may be quite idealistic and are focused on displaying perfection and avoiding flaws and mistakes that may be apparent to other people.

It is not altogether surprising to demonstrate that women suffering from AN are concerned with publicly displaying some form of body perfection. The literature is replete with references to this goal as a dysfunction in anorexia. However, it is important to note that the PSPS was designed to assess perfectionism as a general self-presentational style with a global emphasis on the need to appear perfect and to avoid seeming imperfect. Thus, our findings indicate that anorexic patients have a personality orientation that includes a focus on perfectionistic self-presentation, and this tendency may be revealed in different ways, in addition to attaining a public image of being perfect.

The findings that we have discussed thus far pertain to the self-report measures included in this study. Analyses of the interview measures confirmed that the anorexic group was significantly higher than the other two groups in levels of self-oriented and socially prescribed perfectionism, thus replicating the findings obtained with the MPS. Although clinicians have noted the apparent perfectionism of eating disorder

patients, the vast majority of research in this area has restricted its focus to the study of self-report measures. The current findings demonstrate that elevated perfectionism can be detected with interview measures.

Although it was not our main purpose, it is worth noting that there were some differences in the results obtained via self-reports and interviewer ratings. Specifically, the psychiatric group had higher levels of perfectionism than the nonpsychiatric control group when assessed via interview, but this difference was not apparent when the MPS subscale scores were analyzed. This pattern of findings illustrates the potential usefulness of including various types of assessment in future research on perfectionism and psychopathology.

Returning to the differences among the groups in this study, the final analysis that we conducted sought to determine which factors contribute uniquely to the separation of the three groups. The results provided some evidence that both the perfectionism traits and self-presentation variables are uniquely important in AN, and they are not redundant with one other. This is important given the rather large intercorrelations among some of the perfectionism measures.[9] Thus, it appears that both the need *to be* perfect and at least one dimension of the need *to appear to be* perfect to others (i.e., nondisclosure of imperfection) are uniquely relevant to AN. These findings are consistent with claims that both self and social aspects of perfectionism play a role in AN (e.g., Bruch, 1977; Strober, 1991). In particular, instead of conceptualizing perfectionism as a unidimensional construct, this study underscores the importance of multidimensional conceptualizations of perfectionism. These results also emphasize the unique contribution of the different trait and self-presentation dimensions to anorexic symptoms. For instance, it may be that self-oriented perfectionism drives attempts to achieve control over one's eating, shape, and weight and may fuel stringent self-evaluation, as well as the ensuing perception that one is never measuring up (Bers & Quinlan, 1992). In contrast, socially prescribed perfectionism may be linked to sensitivity to perceived expectations of others and commitment to cultural ideals of thinness.

Limitations of the Current Study

Several limitations of the present work should be acknowledged. First, to avoid using chronological age as a covariate in our analyses, ideally, psychiatric control women should have come from a younger cohort. Second, psychiatric control women reported significantly lower psychiatric distress scores than women with AN, suggesting that the current levels of symptoms in the control group were not particularly comparably severe. Selecting a psychiatric control group with higher levels of depressive symptomatology may have provided a more stringent test of group differences. On the other hand, equating groups on psychiatric distress variables still produced significant between-group effects on various perfectionism dimensions. Third,

[9] Although the magnitude of the correlations might suggest some difficulty in terms of multicolinearity, the fact that the correlations are based on collapsing across disparate groups has likely artificially inflated the coefficients (see Howell, 2002). The large magnitude of the means in the anorexic group and the findings from the discriminant function analysis showing unique contributions in predicting variance further supports this claim.

instead of using chart reviews and referring psychiatrists to assign diagnoses for the psychiatric control group based on standard clinical interviews, structured interviews could have been used, as the validity and reliability of unstructured clinical interviews may be suspect. Similarly, reliability information was not available for the interview measures in the study. Finally, we used a cross-sectional design that prevents us from drawing conclusions about the causal role of perfectionism in vulnerability to eating disorders.

In summary, the results of the present study demonstrated that women with AN have higher levels of self-oriented, socially prescribed perfectionism, and perfectionistic self-presentation, relative to clinical and nonclinical control groups. These group differences in perfectionism were evident with both self-report and interviewer measures, and the group differences held even after controlling for levels of psychological distress. Finally, the results of a discriminant function analysis showed that both trait perfectionism and perfectionistic self-presentation contributed to the differences between the groups.

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REFERENCES

Bastiani, A. M., Rao, R., Weltzin, T., & Kaye, W. H. (1995). Perfectionism in anorexia nervosa. *International Journal of Eating Disorders*, *17,* 147–152.

Beck, A. T., & Steer, R. A. (1987) *Beck Depression Inventory Manual.* San Antonio, TX: Psychological Corporation.

Bers, S. A., & Quinlan, D. M. (1992). Perceived-competence deficit in anorexia nervosa. *Journal of Abnormal Psychology*, *101,* 423–431.

Bruch, H. (1977). Psychological antecedents of anorexia nervosa. In R. A. Vigersky (Ed.), *Anorexia Nervosa* (pp. 1–10). New York: Raven Press.

Davis, C. (1997). Normal and neurotic perfectionism in eating disorders: An interactive model. *International Journal of Eating Disorders*, *22,* 421–426.

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*, *13,* 766–771.

Fairburn, C. G., & Cooper, Z. (1993). The Eating Disorder Examination (12th ed.). In C. G. Fairburn & G. T. Wilson (Ed.), *Binge eating: Nature, assessment, and treatment* (pp. 317–360). New York: Guilford.

Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research*, *15,* 465–490.

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.

Geller, J., Cockell, S. J., Hewitt, P. L., Goldner, E. M., & Flett, G. L. (2000). Inhibited expression of negative emotions and interpersonal orientation in anorexia nervosa. *International Journal of Eating Disorders*, *28,* 8–19.

Halmi, K. A., Sunday, S. R., Strober, M., Kaplan, A., Woodside, D. B., Fichter, M., et al. (2000). Perfectionism in anorexia nervosa: Variation by clinical subtype, obsessionality, and pathological eating behavior. *American Journal of Psychiatry*, *157,* 1799–1805.

Hamilton, M. (1967). Development of a rating scale for primary depressive illness. *British Journal of Social and Clinical Psychology*, *6,* 278–296.

Hewitt, P. L., & Flett, G. L. (1991a). Dimensions of perfectionism in unipolar depression. *Journal of Abnormal Psychology*, *100,* 98–101.

Hewitt, P. L., & Flett, G. L. (1991b). Perfectionism in the self and social contexts: Conceptualization, assessment and association with psychopathology. *Journal of Personality and Social Psychology*, *60,* 456–470.

Hewitt, P. L., Flett, G. L., Flynn, C., & Nielsen, A. (1995). Development and validation of an interview measure of perfectionistic behaviour. *Canadian Psychology*, *36*, 223.

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,* 317–326.

Hewitt, P. L., Flett, G. L., Sherry, S. B., Habke, M., Parkin, M., Lam, R. W., Mc Murtry, B., Ediger, E., Fairlie, & Stein, M. (2002). The interpersonal expression of perfectionism: Perfectionistic self presentation and psychological distress. Manuscript submitted for publication.

Hewitt, P. L., Flett, G. L., Sherry, S., Habke, M., Flynn, C., Parkin, M., et al. (2001). The interpersonal expression of perfection: Perfectionistic self-presentation and psychological distress. Manuscript submitted for publication.

Hewitt, P. L., Flett, G. L., Turnbull -Donovan, W., & Mikail, S. F. (1991). The multidimensional perfectionism scale: Reliability, validity, and psychometric properties in psychiatric samples. *Psychological Assessment*, *3,* 464–468.

Howell, D. (2002). *Statistical methods for psychology* (5th ed.). Pacific Grove, CA: Duxbury.

Humphrey, L. L. (1992). Family relationships. In K. Halmi (Ed), *Psychobiology and treatment of anorexia nervosa and bulimia nervosa* (pp. 263–284). Washington, DC: American Psychiatric Press.

Pratt, E. M., Telch, C. F., Labouvie, E. W., Wilson, G. T., & Agras, W. S. (2001). Perfectionism in women with binge eating disorder. *International Journal of Eating Disorders*, *29,* 177–186.

Rosenberg, M. (1965) . *Society and the adolescent self-image.* Princeton, NJ: Princeton University Press.

Rosenberg, M. (1979). *Conceiving the self*. New York: Basic Books.

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.

Srinivasagam, N. M., Rao, R., Weltzin, T. E., Greeno, C., Plotnicov, K. H., & Kaye, W. H. (1995). Persistent perfectionism, symmetry, and exactness after long-term recovery from anorexia nervosa. *American Journal of Psychiatry*, *152,* 1630–1634.

Striegel-Moore, R. H., Silberstein, L. R., & Rodin, J. (1993). The social self in bulimia nervosa: Public self-consciousness, social anxiety, and perceived fraudulence. *Journal of Abnormal Psychology*, *102,* 297–303.

Strober, M. (1991). Disorders of the self in anorexia nervosa: An organismic-developmental paradigm. In C. Johnson (Ed.), *Psychodynamic treatment of anorexia nervosa and bulimia nervosa* (pp. 354–373). New York: Guilford.

Vitousek, K., & Manke, F. (1994). Personality variables and disorders in anorexia nervosa and bulimia nervosa. *Journal of Abnormal Psychology*, *103,* 137–147.

Williams, J. B. W. (1988). A structured interview guide for the Hamilton Depression Rating Scale. *Archives of General Psychiatry*, *45,* 742–746.

Zeman, F. J. (1991). *Clinical nutrition and dietetics* (p. 481). New York: Macmillan.