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Body Image 2 (2005) 29–40
Body Image
www.elsevier.com/locate/bodyimage

Perfectionistic self-presentation, body image, and eating disorder symptoms

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Received 31 August 2004; received in revised form 20 January 2005; accepted 22 January 2005

Abstract

A specific model for eating disorder symptoms involving perfectionistic self-presentation and two different moderators (i.e., body image evaluation and body image investment) was tested. Participants completed measures of perfectionistic self-presentation, body image dysfunction, and eating disorder symptoms. Findings indicated that all three dimensions of perfectionistic self-presentation were associated with eating disorder symptoms. Results also showed that perfectionistic self-presentation predicted eating disorder symptoms in women who were dissatisfied with their bodies, but that it did not predict eating problems in women who liked their bodies and felt there was little or no discrepancy between their actual and ideal appearances. Body image investment did not moderate the relationship between perfectionistic self-presentation and eating disorder symptoms, suggesting that ego-involvement alone is insufficient to promote eating disturbance in the context of perfectionism. The importance of self-presentation components of perfectionism and specific body image difficulties in predicting eating disorder symptoms are discussed.

Keywords: Body image evaluation; Body image investment; Perfectionism; Eating disorder

Introduction

Perfectionism has long been recognized as a central feature of eating disorders, and has been hypothesized to have an etiological role in eating problems. Early work by Bruch (1978) described eating disorder patients as perfectionistic, overly submissive, and constantly fearful of not being respected or valued. Others have noted that eating disordered patients may emerge from familial environments that emphasize a public image of perfection (Humphrey, 1992), where mistakes are greeted with dismay and the patient has learned to derive self-worth from the rigid pursuit of physical perfection (Reindl, 2001). Moreover, these clinical observations fit with findings that have tied

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doi:10.1016/j.bodyim.2005.01.002

perfectionism to eating disturbances in cross-sectional samples (e.g., Davis, Claridge, & Fox, 2000; Hewitt, Flett, & Ediger, 1995; Pryor, Wiederman, & McGilley, 1996), and with longitudinal evidence that perfectionism is a potent risk factor for eating disorder development (e.g., Lilenfeld et al., 2000; Tyrka, Waldron, Graber, & Brooks-Gunn, 2002; Vohs, Bardone, Joiner, & Abramson, 1999).

While there is a clearly supported link between perfectionism and eating disorders, it is meaningful to ask what type of perfectionism has been examined. As a construct, perfectionism has been variously described, ranging from unidimensional cognitive perspectives (Burns, 1983) to multidimensional trait models (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991). From a multidimensional perspective, two broad components have become prevalent in the field of perfectionism: the trait component (Hewitt & Flett) and, more recently, the self-presentation component (Hewitt et al., 2003). Trait perfectionism entails a need to *be* perfect and it speaks to the source of the perfectionistic demands (i.e., self or others). Although perfectionism may be manifest within the individual, it can also be expressed interpersonally. This suggests an important distinction between an individual's need to *be* perfect and his or her need to *appear* perfect in the eyes of others. To account for these entrenched interpersonal styles, a perfectionistic self-presentation component was developed and added to the multidimensional model (Hewitt et al., 2003). Perfectionistic self-presentation, or the need to appear to be perfect, centers on how perfectionists behave in expressing their supposed perfection to others. Although a desire to actually be perfect (as in trait perfectionism) may involve a desire to appear to be perfect (as in perfectionistic self-presentation), this is not invariably true. Nor is it inevitable that a desire to appear to be perfect necessarily entails a corresponding need to actually be perfect. Analyses involving both clinical and non-clinical samples have demonstrated that trait perfectionism and perfectionistic self-presentation are distinct and separable components of personality (e.g., Hewitt et al., 1995, 2003), and are predictive of different maladaptive outcomes (Hewitt et al., 2003).

For the purposes of this study, we elected to focus on perfectionistic self-presentation. Three perfectionistic self-presentation facets have been described (Hewitt et al., 2003): perfectionistic self-promotion (PSP), nondisclosure of imperfection (NDC), and nondisplay of imperfection (NDP). Perfectionistic self-promotion involves actively proclaiming one's successes, strengths, and achievements to others. Conversely, the latter two facets are protective or defensive orientations geared toward concealing imperfections. Each style has as its goal the maintenance of a flawless image by obscuring perceived mistakes or weaknesses, but each achieves that end in a different way. The nondisclosure of imperfection facet entails a reluctance to verbally admit personal shortcomings, whereas the nondisplay of imperfection facet involves an avoidance of behavioral displays of imperfection.

Although there is a substantial body of evidence for an association between trait perfectionism and eating disorder symptoms (e.g., Bastiani, Rao, Weltzin, & Kaye, 1995; Hewitt et al., 1995; McLaren, Gauvin, & White, 2001; Pliner & Haddock, 1996), investigators have only recently assessed the role of perfectionistic self-presentation in eating disorders. For example, Cockell et al. (2002) demonstrated that anorexic patients had higher scores on nondisclosure of imperfection than did other psychiatric patients and normal controls, suggesting that anorexic patients are concerned with presenting themselves as perfect by not admitting their imperfections. Additional work revealed that all three perfectionistic self-presentation facets were associated with anorexics' tendency to suppress negative feelings and to give priority to others' feelings (Geller, Cockell, Hewitt, Goldner, & Flett, 2000). More recently, investigators found that perfectionistic self-presentation predicted dietary restraint, and that this relationship was mediated by an individual's psychological commitment to exercise (McLaren et al.). Finally, research involving female university students demonstrated that all three self-presentational facets of perfectionism were related to eating disorder symptoms, increased body image avoidance, and decreased appearance self-esteem (Hewitt et al.). Thus, presenting a public image of perfection is associated with eating disorder symptoms and other weight and shape concerns.

Current theory conceptualizes the link between perfectionism and eating pathology in a diathesis–stress framework (e.g., Heatherton & Baumeister,

1991; Hewitt & Flett, 2002; Joiner, Heatherton, Rudd, & Schmidt, 1997). In this model, perfectionism acts as a vulnerability factor that promotes psychopathology in the presence of stressful failures. A key aspect of this theory is that ego-involvement alone will not lead to psychological symptoms in the context of perfectionism. Only a *failure* in an ego-involving domain is predicted to induce symptoms in perfectionists. Hewitt and Flett (2002) have added a level of complexity to this relationship by suggesting that perfectionism is not an inert attribute that merely reacts to stress, but is instead a dynamic trait that also interacts with and creates stress. For example, perfectionism can affect the impact of distressing events (Hewitt & Flett, 1993). Individuals with stringent evaluative criteria are more likely to be faced with a failure to meet a goal, and such failures, even when minor, will be viewed as serious downfalls. In this way, perfectionism serves to *enhance* stress. Thus, for a woman who holds rigid appearance standards and fails to achieve her weight goal, the event will be experienced as a calamity rather than as a temporary setback.

With respect to eating pathology, a diathesis–stress model could help explain evidence that perfectionism persists following long-term recovery from eating disorders (Bastiani et al., 1995; Kaye et al., 1998; Srinivasagam et al., 1995; Stein et al., 2002). That is, perfectionism may be a persistent vulnerability factor that is malignant only under certain conditions. Moreover, the particular symptoms that arise from the interaction of perfectionism with stress may depend upon the nature of the stressor. For example, while body dissatisfaction may interact with perfectionism to produce eating disorder symptoms, achievement stress in the context of perfectionism may result in depression. Therefore, the addition of variables that may moderate the effects of perfectionistic self-presentation could help clarify the perfectionism–eating disturbance relationship. We propose body image as one such moderator.

Consistent with this, Joiner et al. (1997) demonstrated that perfectionism (as measured by the Eating Disorders Inventory Perfectionism subscale) acts as a vulnerability factor for bulimic symptoms only in those individuals who perceive themselves to be overweight. In their conceptualization, perfectionism is a risk factor for eating problems only when an individual fails to meet weight standards. Moreover, actual weight status did not affect this relationship. To refine and extend this work, Vohs et al. (1999) showed that women high in perfectionism who perceive themselves to be overweight experience an increase in bulimic symptoms over time only if they also have low self-esteem. More recently, investigators used a longitudinal design with different measurement techniques to provide further support for the model's predictive ability (Vohs et al., 2001).

Thus, past work has demonstrated that a diathesis–stress model explains variance in eating disorder symptoms. However, the aforementioned studies used the Eating Disorders Inventory Perfectionism subscale (EDI-P; Garner, Olmstead, & Polivy, 1983). Although generally treated as a unidimensional subscale, the EDI-P is actually a composite of two dimensions of trait perfectionism, self-oriented perfectionism and socially prescribed perfectionism (Bardone, Vohs, Abramson, Heatherton, & Joiner, 2000; Joiner & Schmidt, 1995; Sherry, Hewitt, Besser, McGee, & Flett, 2004). The use of the EDI-P may obscure the differential relations of its self-oriented and socially prescribed components to eating pathology and it ignores the possible role of perfectionistic self-presentation in a diathesis–stress model of eating disturbance. Further, while we know that a perceived failure in an appearance domain interacts with perfectionism to predict eating problems, no one has yet tested whether it is *only* a failure that yields these results. Perhaps simply being preoccupied by appearance, or putting great importance on appearance is enough to provoke eating disorder symptoms in perfectionists. For example, Ruggiero, Levi, Ciuna, and Sassaroli (2003) examined the relationship between perfectionism and eating disorder symptoms in high school students on an average school day, an examination day, and the day on which the students were to receive the evaluation of their performance on the exam. The results indicated that perfectionism was associated with drive for thinness only on the day that the grades were to be returned, suggesting that simply *anticipating* academic failure may have been enough to prompt eating disturbance amongst perfectionists. It raises the question of whether the same could be true if the moderator was *body image* investment rather than *academic* investment.

Therefore, in the interest of building on past work, we attempted to examine two key features. First, we

elected to examine a moderational model using perfectionistic self-presentation to explore whether the need to appear to be perfect interacts with body image dysfunction to predict eating disorder symptoms. Second, we chose to measure body image using multiple measures and to examine two aspects of body image as potential moderators: body image evaluation, or the degree to which a person likes the way she looks and how close she feels she is to her ideal appearance, and body image importance or investment, the degree to which a person spends time on her appearance and how important her ideal appearance is to her (Brown, Cash, & Mikulka, 1990; Cash, 2000; Cash & Szymanski, 1995). We wanted to establish whether it is specifically a *discrepancy* between an individual's actual and ideal appearance that moderates the perfectionism–eating pathology relationship, or whether believing that appearance is *important* will also affect the relationship between perfectionism and eating disorder symptoms. The former constitutes a perceived failure experience, while the latter does not.

To summarize, the purpose of this study was to explore the relationship between self-presentational facets of perfectionism and eating disorder symptoms and to determine whether body image evaluation or body image investment influences that relationship. Consistent with research on multidimensional perfectionism (e.g., Cockell et al., 2002; Hewitt et al., 1995), we predicted that all three of the perfectionistic self-presentation facets (PSP, NDP, and NDC) would be positively related to eating disorder symptoms. Second, consistent with theory (e.g., Heatherton & Baumeister, 1991; Hewitt & Flett, 2002; Joiner et al., 1997) we predicted that the perfectionism × body image evaluation interactions would predict significant variance in eating disorder symptoms. Specifically, we anticipated that the severity of eating disturbance amongst perfectionistic self-presenters would be worse when negative body image evaluation was high. Third, we predicted the perfectionism × body image investment interactions would not predict significant variance in eating disorder symptoms. That is, level of body image investment would not affect the relationship between perfectionism and eating disturbance. This was based on the belief that, unlike body image evaluation, body image investment does not in and of itself constitute a perceived failure to meet expectations.

Methods

Participants

A sample of 145 undergraduate females in first and second year psychology courses completed measures. Participants averaged 20.6 years of age ($SD = 1.71$) with 1.25 years of university education ($SD = 0.59$); all but one of the participants reported their relationship status as single. Eighty-one percent of the sample were in their first year of university; 11% were in their second year; 6% were in their third year; 1% were in their fourth year; and 1% did not specify their years of university education. Thirty-seven percent of participants reported their ethnic identity as Caucasian; 54% as Asian; 5% as East Indian; and, 3% as "other".[1] One participant did not declare her ethnic identity. The average number of years that participants in this sample had resided in Canada at the time of the study was 14.29 ($SD = 6.56$).

Materials

Perfectionistic Self-Presentation Scale (PSPS)

The PSPS (Hewitt et al., 2003) is a 27-item measure composed of three subscales: perfectionistic self-promotion (e.g., "I try always to present a picture of perfection"), nondisplay of imperfection (e.g., "I do not want people to see me do something unless I am very good at it"), and nondisclosure of imperfection (e.g., "I should solve my own problems rather than admit them to others"). Participants rate their (dis)agreement with items on a 7-point scale, where higher scores indicate greater levels of perfectionistic self-presentation. The PSPS possesses solid internal consistency, test–retest reliability, and adequate convergent and discriminant validity (e.g., Hewitt et al., 2003). Further work has documented the factorial stability, construct validity, and predictive

[1] The ethnic composition of our sample was unusual in the literature, given the large proportion of Asian participants. Therefore, we explored what influence, if any, ethnicity had on eating disorder symptoms in our sample by using ethnicity as a covariate in our analyses. The results indicated that ethnicity was not a significant predictor of eating disorder symptoms and all significant interactions remained significant irrespective of the presence of ethnicity in the regression equation. Therefore, we chose to eliminate ethnicity as a covariate in our final analyses.

validity of the PSPS in both psychiatric patients and university students (e.g., Habke, Hewitt, & Flett, 1999; Hewitt et al., 1995, 2003).

Multidimensional Body-Self Relations Questionnaire (MBSRQ)

The MBSRQ (Brown et al., 1990; Cash, 2000) is a 69-item attitudinal body image inventory with 10 subscales. Reliability for the subscales is satisfactory, with test–retest reliabilities ranging from .74 to .94 and Cronbach's alphas ranging between .73 and .90. Three MBSRQ subscales were used in this study: Appearance Evaluation, which assesses feelings of physical attractiveness and satisfaction with one's appearance; Appearance Orientation, which evaluates the extent of investment in one's appearance as gauged by the amount of time spent grooming and the importance placed on appearance; and Body Areas Satisfaction, which assesses a person's satisfaction with discrete areas of his or her body. In this study, higher scores reflect greater body dissatisfaction or appearance investment. To accomplish this, the Appearance Evaluation and Body Areas Satisfaction subscales were reverse-scored, and it was these reverse-scored subscales that were used in all analyses. The Appearance Orientation subscale was left in its original form.

Body-Image Ideals Questionnaire (BIQ)

The BIQ (Cash & Szymanski, 1995) is a 20-item attitudinal instrument that considers one's perceived discrepancy from and degree of investment in personal ideals on multiple physical attributes. The measure consists of internally consistent Discrepancy and Importance subscales. The Discrepancy subscale reflects the difference between an individual's actual and ideal appearance, with higher scores reflecting greater discrepancy. The Importance subscale assesses the importance of each physical ideal, regardless of the discrepancy between actual and ideal self. Higher scores signal greater importance. Participants are asked to rate each item on a 4-point scale. The reliability and validity of this measure have been established (Cash & Szymanski).

Eating Attitudes Test (EAT-26)

The EAT-26 (Garner & Garfinkel, 1979; Garner, Olmstead, Bohr, & Garfinkel, 1982) is a 26-item measure of behaviors and attitudes symptomatic of eating disorders. There are subscales for bulimic behaviors and self-control of eating behaviors. Participants rate the frequency of items on a 6-point scale. The original scoring of the EAT maximizes the differences between nonclinical and clinical groups by creating a 3-point extreme score scale from a 6-point scale. As we were using a nonclinical sample and were attempting to measure a range of eating attitudes and behaviors, we summed the 6-point item ratings. Prior to scoring, the item ratings were reverse scored so that higher test scores reflect higher levels of eating disorder symptoms. The EAT-26 has acceptable criterion-related validity, good test–retest reliability, and high internal consistency (Carter & Moss, 1984; Garner, Olmstead, Polivy, & Garfinkel, 1984).

Procedure

Participants were recruited from the undergraduate participant pool at the University of British Columbia. In exchange for participating in this study, each participant received a 1% bonus added to her final course grade. Upon arriving at the laboratory, participants were informed of the purpose of the study and the details of participation. Participants were asked to sign the consent form and complete the questionnaire package at their convenience, if they agreed to participate. All participants were debriefed upon completion of the study.

Results

Although we had numerous subscales available to serve as measures of our proposed moderators, body image evaluation and body image investment, we were concerned that the large number of analyses would seriously reduce power and, thus, hamper our ability to detect effects. Therefore, we created composite measures of body image dysfunction to serve as moderators. Using the five subscale scores from the MBSRQ and the BIQ, we conducted a principal components analysis with varimax rotation. Based on a scree test,[2] a two-factor solution best fit the

[2] The eigenvalues for the PCA are as follows: 2.76, 1.05. 0.56. 0.44, and 0.20.

Table 1
Means, standard deviations, alpha reliability, and zero-order correlations of the uncentered perfectionism, body image, eating disorder symptoms, and body mass index variables

Variable	*M*	*SD*	α	EAT-26
Perfectionistic self-promotion	42.02	11.04	.89	.45*
Nondisplay of imperfection	44.67	10.25	.87	.37*
Nondisclosure of imperfection	23.10	7.76	.84	.43*
MBSRQ Appearance Evaluation[a]	2.83	.77	.89	.54*
MBSRQ Appearance Orientation	3.59	.60	.85	.39*
MBSRQ Body Areas Satisfaction[a]	2.82	.62	.77	.58*
BIQ Discrepancy	1.08	.61	.80	.34*
BIQ Importance	1.60	.55	.84	.46*
EAT-26	65.19	18.83	.90	–
BMI	20.64	2.69	–	.23
Body image evaluation factor	6.73	1.76	.91	.56*
Body image investment factor	5.18	.98	.88	.50*

Note: The following labels were used—MBSRQ (Multidimensional Body-Self Relations Questionnaire), BIQ (Body Image Ideals Questionnaire), EAT (Eating Attitudes Test-26 total scores), and BMI (body mass index).

[a] The values reported for the MBSRQ Appearance Evaluation and MBSRQ Body Areas Satisfaction subscales were based on the reverse-scored subscales. The means of these subscales in their original format were 3.17 and 3.18, respectively.

* $p < .001$ (two-tailed).

data and accounted for 76.1% of the variance. Selecting variables with loadings above .40, the first factor consisted of the MBSRQ Appearance Evaluation subscale, the MBSRQ Body Areas Satisfaction subscale, and the BIQ Discrepancy subscale. We labelled it ''body image evaluation.'' Higher scores on this factor indicate a more *negative* evaluation of one's appearance. The second factor comprised the MBSRQ Appearance Orientation and BIQ Importance subscales and we called it ''body image investment.'' Higher scores for the body image investment factor connote greater investment in one's appearance. Sums of the respective scales for each of the two factors, body image evaluation and body image investment, were used as variables in the interaction terms of the moderated regression analyses.

The means, standard deviations and coefficients alpha of the measures are presented in Table 1 and were consistent with previous reports using nonclinical samples (e.g., Cash, Ancis, & Strachan, 1997; Cash & Henry, 1995; Cash & Szymanski, 1995; Hewitt et al., 1995). Further, all scales showed adequate internal consistency.[3]

Associations among the perfectionism, body image, and eating disorder symptom variables

Zero-order bivariate correlations between the eating disorder symptoms and both perfectionism and body image variables are presented in Table 1. Family-wise Type I error rate was controlled in all analyses. A Bonferroni correction ($p = .05/11$) was applied to bivariate correlations, resulting in a significance level of .005. Consistent with the notion that perfectionistic self-presentation is associated with eating disorder symptoms, perfectionistic self-promotion, nondisplay of imperfection and nondisclosure of imperfection all exhibited significant positive correlations with EAT-26 total scores. In addition, all three body image evaluation variables (MBSRQ Appearance Evaluation, MBSRQ Body Areas Satisfaction, and BIQ Discrepancy) as well as those reflecting body image investment (MBSRQ Appearance Orientation and BIQ Importance) displayed significant positive correlations with eating disorder symptoms.

Testing the diathesis–stress model

In order to ascertain whether the relationship between perfectionistic self-presentation and eating disorder symptoms is moderated by body image dysfunction, we conducted a series of hierarchical multiple regression analyses. The following variables were entered into the regression analysis: Step 1—body mass index, Step 2—perfectionism dimension (PSP, NDP, or NDC), Step 3—body image factor (body image evaluation or body image investment), and Step 4—the perfectionism by body image factor product vector. The criterion variable was eating disorder symptoms, as measured by EAT-26 total

[3] Internal consistency for the body image evaluation and body image investment variables were based on individual items comprising the variables.

Table 2
Summary of Hierarchical Regression Analyses for perfectionism, body image evaluation, and the perfectionism × body image evaluation variables predicting EAT-26 total scores

Predictor	Total R	ΔR^2	ΔF	df	β	df
Analysis 1: PSP						
BMI	.23	.06*	8.28*	1, 143	.23*	143
PSP	.51	.20**	39.05**	2, 142	.45**	142
Evaluation	.64	.15**	35.19**	3, 141	.42**	141
PSP × evaluation	.68	.05**	13.03**	4, 140	1.33**	140
Analysis 2: NDP						
BMI	.23	.06*	8.28*	1, 143	.23*	143
NDP	.43	.13**	23.23**	2, 142	.37**	142
Evaluation	.59	.16**	34.03**	3, 141	.46**	141
NDP × evaluation	.62	.03*	7.46*	4, 140	1.16*	140
Analysis 3: NDC						
BMI	.23	.06*	8.28*	1, 143	.23*	143
NDC	.49	.18**	34.23**	2, 142	.43**	142
Evaluation	.62	.15**	34.89**	3, 141	.43**	141
NDC × evaluation	.65	.04*	8.55*	4, 140	.95*	140

Note: The following labels were used—BMI (body mass index), SOP (self-oriented perfectionism), SPP (socially prescribed perfectionism), PSP (perfectionistic self-promotion), NDP (nondisplay of imperfection), NDC (nondisclosure of imperfection), evaluation (body image evaluation factor).
* $p < .016$ (two-tailed).
** $p < .001$ (two-tailed).

score. Owing to the statistical difficulty of detecting moderator effects (e.g., McClelland & Judd, 1993), the family-wise Type I error rate was controlled at the .10 level for moderation analyses, resulting in a corrected significance level of .016.

Eating disorder symptoms and body image evaluation

The results presented in Table 2 indicated that each of the perfectionistic self-presentation facets interacted with body image evaluation to predict unique variance in eating disorder symptoms. That is, the PSP × body image evaluation, NDP × body image evaluation, and NDC × body image evaluation interaction terms served as significant predictors of eating disorder symptoms. It is important to note that when a study successfully detects an interaction, the reduction in variation attributable to adding the interaction term to an additive model is likely to be small (McClelland & Judd, 1993). Therefore, even interactions explaining as little as 1% of the total variance should be considered important (Chaplin, 1991; Evans, 1985). In the present study, the significant interactions accounted for between 3 and 5% of the total variance in eating disorder symptoms, underscoring the importance of the interactions.

The significant interactions indicate that the relationship between perfectionistic self-presentation and eating disorder symptoms changes depending on the level of body image evaluation. To clarify the nature of these significant interactions, we calculated

Table 3
Simple Slope Regression Analyses of significant perfectionism × body image evaluation interactions predicting EAT total scores

Predictor	t For within-set predictors	df	β
PSP × evaluation			
PSP at low (positive) evaluation	1.11	140	.10
PSP at high (negative) evaluation	5.82**	140	.51**
NDP × evaluation			
NDP at low (positive) evaluation	.10	140	.01
NDP at high (negative) evaluation	3.38*	140	.34*
NDC × evaluation			
NDC at low (positive) evaluation	.91	140	.09
NDC at high (negative) evaluation	4.90**	140	.41**

Note: The following labels were used—PSP (perfectionistic self-promotion), NDP (nondisplay of imperfection), NDC (nondisclosure of imperfection), evaluation (body image evaluation factor).
* $p < .016$.
** $p < .001$.

Table 4
Summary of Hierarchical Regression Analyses for perfectionism, body image investment, and the perfectionism × body image investment variables predicting EAT-26 total scores

Predictor	Total R	ΔR^2	ΔF	df	β	df
Analysis 1: PSP						
BMI	.23	.06*	8.28*	1, 143	.23*	143
PSP	.51	.20**	39.05**	2, 142	.45**	142
Investment	.58	.08**	16.50**	3, 141	.33**	141
PSP × investment	.59	.02	3.30	4, 140	.88	140
Analysis 2: NDP						
BMI	.23	.06*	8.28*	1, 143	.23*	143
NDP	.43	.13**	23.23**	2, 142	.37**	142
Investment	.56	.13**	25.90**	3, 141	.39**	141
NDP × investment	.58	.02	3.95	4, 140	.92	140
Analysis 3: NDC						
BMI	.23	.06*	8.28*	1, 143	.23*	143
NDC	.49	.18**	34.23**	2, 142	.43**	142
Investment	.61	.14**	30.96**	3, 141	.39**	141
NDC × investment	.63	.02	3.82	4, 140	.90	140

Note: The following labels were used—BMI (body mass index), SOP (self-oriented perfectionism), SPP (socially prescribed perfectionism), PSP (perfectionistic self-promotion), NDP (nondisplay of imperfection), NDC (nondisclosure of imperfection), and investment (body image investment factor).

* $p < .016$ (two-tailed).

** $p < .001$ (two-tailed).

the slopes of the regression of eating disorder symptoms on a given facet of perfectionistic self-presentation (e.g., PSP) at two levels of body image evaluation (1*SD* above and below the mean). This procedure was adopted in each simple slope regression analysis of a significant interaction. The results of the simple slope regression analyses revealed the same pattern for each of the three significant interactions (Table 3). For example, for the PSP × body image evaluation interaction, the simple slope analysis indicated that the slope for the high value of body image evaluation was significant, but that the slope for the low value was not significantly different from zero. Thus, at high levels of body image evaluation, when women were dissatisfied with how they look, higher levels of perfectionistic self-promotion predicted higher levels of eating disorder symptoms. At low levels of body image evaluation, when women felt their actual appearance was close to their ideal, higher levels of perfectionistic self-promotion did not predict higher levels of eating disorder symptoms. This same pattern of results was found for both the NDP × body image evaluation and NDC × body image evaluation interactions.

Eating disorder symptoms and body image investment

As predicted, there were no significant interactions involving body image investment (see Table 4). Thus, the relationship between perfectionistic self-presentation and eating disorder symptoms was not affected by the amount of time spent grooming or by the importance associated with personal appearance.

Discussion

This study was a first step in establishing support for a diathesis–stress model of the associations among perfectionistic self-presentation, body image, and eating disorder symptoms. The findings support and extend the diathesis–stress model and suggest new avenues for future research. The results demonstrated that various dimensions of perfectionistic self-presentation, body image evaluation, and body image investment each predict symptoms of eating disorders. Moreover, consistent with our proposed model, the relationship between perfectionistic self-presentation and eating disorder symptoms was shown to depend upon the level of body image evaluation, such that

higher levels of perfectionistic self-presentation predict greater eating disturbance only for women who are dissatisfied with how they look. Importantly, although body image investment exhibited a main effect relation to eating disorder symptoms, as predicted, it did not moderate the perfectionism–eating disturbance link. This is consistent with current theory (e.g., Heatherton & Baumeister, 1991; Hewitt & Flett, 2002; Joiner et al., 1997) in that ego-involvement did not in and of itself act as a stressor to promote eating disturbance, but that a perceived *failure* in an ego-involving domain did interact with perfectionism to predict eating problems.

Of note, recent work by Cash, Melnyk, and Hrabosky (2004) suggests that body image investment is not a unidimensional construct. They demonstrated that it can be decomposed into two distinct components: Self-Evaluative Salience and Motivational Salience. Self-Evaluative Salience corresponds to investment in one's appearance as a source of self-worth, whereas Motivational Salience is a more benign construct that reflects the desire to be attractive and manage one's appearance. It is likely that the subscales used in our body image investment factor more closely approximate the Motivational Salience component of body image investment. Therefore, future research on the interaction between perfectionistic self-presentation and Self-Evaluative Salience to predict eating behaviors is warranted. Such investigations would indicate whether our findings are also true for the more dysfunctional component of body image investment.

When we examined the various facets of perfectionistic self-presentation, we found that actively promoting one's strengths (PSP), eschewing overt displays of imperfection (NDP), and refusing to tell others about one's shortcomings (NDC) were each predictive of eating problems. These findings parallel past research (Cockell et al., 2002; Hewitt et al., 1995) and agree with reports that eating disordered patients are often ''preoccupied with satisfying the image others have of them'' (p. 43) and are concerned with hiding the fatal flaw of their perceived inadequacy (Bruch, 1978).

Our results extended the diathesis–stress model to perfectionistic self-presentation, or the need to appear perfect to others. It is noteworthy that we found the same moderational relationship for all three facets of perfectionistic self-presentation. This raises an important issue: why is there no specificity? We know from past work (e.g., Hewitt et al., 1995) that all three facets are associated with eating disorder symptoms, but we also know that these components are distinct aspects of personality and are differentially predictive of outcome in other domains (e.g., depression; Hewitt et al., 2003). Each facet of perfectionistic self-presentation is understood as an inflexible and maladaptive interpersonal coping style, a style that leads to negative outcomes under conditions of stress. In the face of body image stress, theory would suggest that eating disturbances are a likely outcome.

For example, a woman high on perfectionistic self-promotion attempts to create a façade of perfection through assertions or demonstrations of her strengths. One of those strengths may be her physical appearance. In this way, she may use her body as a tool to promote her own perfection. If this same woman were to experience body dissatisfaction, she would be likely to see it as a disruption to her goal of perfectionistic self-promotion. More importantly, because of the public nature of appearance, it is a flaw that will be apparent to other people. To alleviate her aversive self-perceptions and to restore the ability to use her body for self-promotion, she may engage in dieting or binge–purge behaviors. Nondisplay of imperfection likely functions in a similar capacity. A woman high on this facet abhors public displays of imperfection. In the face of a negative self-evaluation of her appearance, which is necessarily also a public display of her perceived failings, she is likely to experience distress and to act to relieve that distress or to correct her physical flaws through dieting or binge–purge behaviors. With respect to nondisclosure of imperfection, women high on this facet are highly resistant to talking to other people about their flaws. As a result, they have effectively cut themselves off from any interpersonal means of dealing with distress. That is, a woman who is dissatisfied with her physical appearance may be unwilling to talk to her family or friends about her concerns and may instead attempt to reduce her aversive self-awareness or correct the problem through disturbed eating behaviors.

Our findings are consistent with the interactive model of Joiner et al. (1997), but we have extended the model beyond trait perfectionism to perfectionistic self-presentation. These results are particularly interesting

in light of recent research that failed to find support for either the Perfectionism × Body Dissatisfaction or the Perfectionism × Body Dissatisfaction × Self-Esteem models of bulimic symptomatology (Shaw, Stice, & Springer, 2004). The original models used a composite of two dimensions of trait perfectionism, self-oriented and socially prescribed perfectionism. In future longitudinal work, we can assess whether perfectionistic self-presentation is a more robust predictor of eating disorder symptoms in the context of a moderational model.

It is interesting that the self-presentation facets of perfectionism interacted with body image evaluation to predict eating difficulties. Eating disordered women are thought to attempt to construct an adequate social self through heightened attention to their physical appearance (Striegel-Moore, Silberstein, & Rodin, 1993). Many suffer from an overdeveloped false self (Johnson & Connors, 1987), and in the absence of a true self they become hypervigilant to public presentation and the opinions of others. Thus, they may be more prone to internalize cultural ideals of thinness, which is known to predict onset of eating pathology (Stice & Agras, 1998). Meyer and Waller (2001) argued that some individuals are more likely than others to adopt social norms to establish their own identity. Perfectionistic self-presenters may be such people. The goal of these perfectionists is to appear to be perfect in the eyes of other people. They are preoccupied with self-presentation and overly attuned to the opinions of others. Thus, our findings are consistent with the view that many eating disordered women lack a well-developed identity and valid self-concept and substitute social standards and external validation for personal goals and authenticity (Bruch, 1978; Striegel-Moore et al., 1993). In so doing, they make themselves vulnerable both to the perceived opinions of others and to perceived social norms, including norms for appearance.

In this study, we extended previous work by examining perfectionistic self-presentation and incorporating two different aspects of body image dysfunction (i.e., body image evaluation and body image investment) into a diathesis–stress model. Consistent with theory (e.g., Heatherton & Baumeister, 1991; Hewitt & Flett, 2002; Joiner et al., 1997), our findings suggest that perfectionistic self-presentation facets interact with a specific type of appearance stress, body image evaluation, to predict eating disorder symptoms, but that body image investment does not serve the same function. This is consistent with diathesis–stress models from the depression literature, which indicate that only particular forms of life stress interact with perfectionism dimensions to predict depression (e.g., Hewitt & Flett, 1993; Joiner & Schmidt, 1995). In our case, only the body image variable that entails a perceived failure experience moderated the perfectionism–eating disturbance link. This fits with the knowledge that perfectionists abhor failure and that they tend to catastrophize even small setbacks (Hewitt & Flett, 1993). Moreover, these findings are consistent with outcome studies on eating disordered patients that indicate perfectionism persists even after recovery (e.g., Bastiani et al., 1995; Srinivasagam et al., 1995; Stein et al., 2002), suggesting that perfectionism may act as a general vulnerability factor, independent of illness status, that can predict eating problems under certain conditions.

Current limitations and future directions

It is important to consider these results in light of this study's limitations. First, this study is cross-sectional in nature, so it does not permit us to examine whether the diathesis–stress model can predict change in eating disorder symptoms over time. A longitudinal design would advance our understanding of the effect of perfectionism and body image on eating problems. Second, this study uses a university student sample rather than a clinical one. It may be that perfectionism plays a somewhat different role in eating disorder patients. Third, we made no attempt to tease apart the eating disorder types and subtypes and this too could affect the perfectionism-eating pathology relationship. Finally, we used only self-report measures. Although self-report instruments are particularly valuable in the assessment of internalizing problems such as eating disorders, interviews, collateral reports, and behavioral observations may enhance the validity of our results.

In summary, the findings suggest that perfectionistic self-presentation is involved in disordered eating and that body image evaluation, but not body image investment, may be an important moderator of the relationship between perfectionistic self-presentation and disordered eating. Further research into perfectionistic self-presentation as a vulnerability factor for eating pathology is encouraged.

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