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ORIGINAL ARTICLE

Brooding Perfectionism: Refining the Roles of Rumination and Perfectionism in the Etiology of Depression

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Abstract The current study examines the hypothesized interaction between certain dimensions of both perfectionism and rumination as diatheses for depressive symptoms. Three hundred and five participants completed measures of perfectionism, rumination, and depressive symptoms at Time 1, and then returned 4 weeks later at Time 2 to complete measures of stress and depressive symptoms. In line with our hypotheses, results indicated that individuals with high levels of certain dimensions of perfectionism (i.e., self-oriented and socially prescribed, but not other-oriented), high levels of brooding rumination (but not the reflection dimension of rumination), and high stress experienced the greatest increases in depressive symptoms over time. Moreover, results revealed that the role of self-oriented and socially prescribed perfectionism as diatheses for depression is dependent upon brooding rumination. This work has potential benefits for understanding the cognitive mechanisms that lead to depression.

Keywords Rumination · Brooding · Perfectionism · Depressive symptoms · Longitudinal

Introduction

Research has shown that certain elements of rumination and perfectionism are risk factors for the onset of depressive symptoms. We believe that both of these risk factors are interactive components of a particularly insidious cognitive style that we will call *brooding perfectionism*.

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We begin with a review of these two risk factors, followed by our model of how these vulnerabilities may interact as diatheses for depression.

Perfectionism

Perfectionism is a personality trait that is characterized by setting excessively high personal standards of performance (Frost et al. 1990). Perfectionists are characterized as having frequent cognitions about attaining ideal standards (Blatt and Shichman 1983). Research has shown that perfectionism is associated with a variety of psychological and physical difficulties including depression, anorexia, obsessive-compulsive disorder, abdominal pain, and irritable bowel syndrome (Frost et al. 1990).

The maladaptive effects of perfectionism have been recognized for years (i.e., Hollender 1965). Perfectionism leads to a chronic sense of failure, indecisiveness, and shame (Burns 1980; Pacht 1984). Perfectionists hold high self-standards and rigidly evaluate themselves (Frost et al. 1990). Perfectionists tend to use all-or-none thinking in which they equate success with perfection, and anything other than perfection is seen as a failure (Hamachek 1978). Such individuals are sharply critical of themselves and are rarely satisfied with their performance. Given these effects, it is not surprising that numerous studies have shown that perfectionism is associated with depressive symptoms (e.g., Enns and Cox 1999; Frost et al. 1990; Hewitt and Flett 1991b), greater suicidal ideation (Chang 1998), and a vulnerability to distress (Hewitt and Flett 1991b).

Overall, early research focused primarily on perfectionists' tendency to focus on self-standards and thus, examined perfectionism from the unidimensional standpoint of measuring self-oriented perfectionism (Flett et al. 1995). Recent research has shown perfectionism to be a multidimensional construct, and that each of these dimensions relate differently to depression (Bieling et al. 2004).

Frost et al. (1990) developed a multidimensional perfectionism measure consisting of six subscales that measure both personal and social aspects of perfectionism (i.e., personal standards, concern over mistakes, parental expectations, parental criticisms, doubts about actions, and organization). Research utilizing a college student population (Frost et al. 1990) indicated the strongest correlations between self-critical depression (i.e., reflecting feelings of inferiority, worthlessness, guilt, and having a tendency to be critical of oneself, as measured by the Depressive Experiences Questionnaire; Blatt et al. 1982) and the doubts about actions, personal standards, and concern over mistakes dimensions. Results suggested that the concern over mistakes dimension was more central to perfectionism than was setting excessively high standards, and that it was most related to psychopathology symptoms. Similarly, Frost et al. (1993) found the concern over mistakes dimension to be most consistently related to various forms of psychopathology and negative affect. In contrast, the personal standards and organization dimensions have demonstrated small or negative correlations with depressive symptoms (Frost et al. 1990, 1993).

Hewitt and Flett (1991b) also developed a multidimensional perfectionism model, and it is the perfectionism model most frequently studied (Enns and Cox 2002). Although all of the dimensions in Hewitt and Flett's model [i.e., self-oriented perfectionism (high, unrealistic standards for oneself), other-oriented perfectionism (high, unrealistic standards for others), and socially prescribed perfectionism (belief that others demand perfection for oneself)] are potentially detrimental, self-oriented and socially prescribed perfectionism appear to be particularly related to maladjustment (Hewitt and Flett 1991b).

Self-oriented perfectionists tend to have a depression-prone personality because they have characteristics such as compulsive striving and generalization of unrealistic self-standards

(Hewitt and Flett 1991a). Setting unrealistic standards, combined with harsh evaluations of one's own performance, increases instances of perceived failure, contributing to deficits in self-esteem and self-evaluation. It has been suggested that self-oriented perfectionists may generate their own failures and stress, making them vulnerable to depression (Hewitt and Flett 1991a).

Socially prescribed perfectionism is associated with a fear of negative social evaluation and a need for the approval of others (Hewitt and Flett 1991a). Holding these standards leads one to attribute control to external forces, but can also lead to depressive symptoms that involve self-blame (Rude 1989). That is, socially prescribed perfectionists do not have direct control over the evaluations that others make about them, yet these evaluations still affect individuals' perceptions of themselves and their self-worth. Therefore, a perceived lack of control and depressive symptoms appear to be consequences of socially prescribed perfectionism (Hewitt and Flett 1991a). In addition, studies have shown that socially prescribed perfectionism is associated with tendencies to overgeneralize negative outcomes, to cognitively dwell on negative outcomes, and to have a helplessness orientation (e.g., Flett et al. 1994, 1996).

In a 4-month prospective study of current and former depressed patients, Hewitt et al. (1996) found preliminary support that certain perfectionism dimensions may serve as a specific vulnerability to depression over time. That is, self-oriented perfectionism interacted with achievement life stress to predict depression at Time 2, and socially prescribed perfectionism predicted Time 2 depression as a main effect. The interaction between socially prescribed perfectionism and events in the social domain was not significant.

In another longitudinal study, Flett et al. (1995) found that self-oriented perfectionism interacted with life events stress to predict depressive symptoms. Findings with socially prescribed perfectionism were less clear-cut. Results from the two student samples in the study were inconsistent, with one indicating a less robust effect than the one found with self-oriented perfectionism, and the other indicating that the interaction between socially prescribed perfectionism and stress was not significant. Overall, as indicated above, research has begun to examine perfectionism dimensions within a diathesis-stress model, but findings have been inconsistent.

In contrast to the findings above with self-oriented and socially prescribed perfectionism, other-oriented perfectionism was related to a decrease in depressive symptoms over time. Past research suggests that other-oriented perfectionism does not seem to be related to depression (Hewitt and Flett 1991a, b). These findings are in line with self-focused attention models, such as the literature on response styles theory and rumination (Nolen-Hoeksema 1987). According to this work, depression results from heightened attention on oneself rather than on others. This work suggests that distraction from one's depressive thoughts and behaviors is related to a decrease in depressive symptoms (Lyubomirsky and Nolen-Hoeksema 1995).

Rumination

Rumination is a maladaptive coping response style that is defined as the unintentional process of repetitively and passively thinking about one's negative emotions and focusing on one's depressive symptoms and their meaning. Rumination involves behaviors or thoughts that focus an individual's attention on his or her depressed mood and the possible causes and consequences of that mood (Lyubomirsky and Nolen-Hoeksema 1995). Some examples of rumination include isolating oneself to dwell on one's depressed symptoms and worrying about the possible effects of these symptoms (Koole et al. 1999; Nolen-Hoeksema 2000; Nolen-Hoeksema et al. 1994).

Research has found that a ruminative response style is related to depressive episodes in several ways. Ruminators tend to dwell on their problems instead of engaging in behavior to eliminate or prevent them from occurring, increasing the risk for the onset of a depressive episode (Just and Alloy 1997; Nolen-Hoeksema 2000). Ruminators tend to be affected more by stress because they do not seek out distractions and instead prefer to isolate themselves and dwell on the stress, which leads to a heightened level of perceived stress (Just and Alloy 1997; Lyubomirsky et al. 1998; Nolen-Hoeksema 2000).

A ruminative response style has also been shown to prolong depressive episodes (e.g., Lyubomirsky and Nolen-Hoeksema 1995). Rumination leads to irrational, negative interpretations of life events (Nolen-Hoeksema 1991; Nolen-Hoeksema et al. 1993). In addition, a focus on negative thoughts leads to an absence of potential efforts to ameliorate the consequences of a negative life event (Lyubomirsky et al. 1999; Nolen-Hoeksema 1991; Nolen-Hoeksema et al. 1993). The combination of a depressed mood and rumination may activate doubt regarding one's problem solving abilities, leading the individual to give up hope on solving problems. Individuals may also believe that their problems are less controllable than they actually are. These individuals are unsuccessful in efforts to diminish the problems, focusing more on their emotions than on productive behaviors that could potentially correct the problems (Carver et al. 1989; Lyubomirsky and Nolen-Hoeksema 1995).

Finally, a ruminative coping response has been shown to increase the severity of depressive episodes after controlling for baseline depression. Nolen-Hoeksema et al. (1994) measured the severity of depressive episodes by comparing moods immediately after a negative life event and at increasingly larger intervals thereafter. Ruminators experience more severe episodes of depression because they tend to get caught in a cycle of negative thinking about their stress without making efforts to move past it (Lyubomirsky et al. 1998). Depression intensifies because their negative thinking leads to more depression, which eventually triggers more rumination, and strengthens the severity of the emotional and cognitive vicious cycle (Spasojevic and Alloy 2001).

Overall, individuals who respond to depressive moods with rumination tend to have an increased likelihood for experiencing exacerbated depressed moods (Just and Alloy 1997), and to have more persistent and severe depressive episodes than those who respond to depressive moods with distraction (Nolen-Hoeksema 1987, 1991; Spasojevic and Alloy 2001). Distraction from depressed moods eliminates the opportunity for individuals to ruminate and dwell on their interpretations of negative life events and their effects (Lyubomirsky and Nolen-Hoeksema 1995).

The most commonly used measure to study rumination is the Response Styles Questionnaire (RSQ) developed by Nolen-Hoeksema and Morrow (1991). Recent research has suggested that rumination has two dimensions: brooding and reflective pondering, also referred to as reflection (Treynor et al. 2003). Treynor et al. (2003) suggested dividing the rumination subscale of the RSQ into these two dimensions and omitting other items that are confounded with depressive symptoms. The reflective pondering dimension is proposed to be adaptive as it involves turning inward to problem solve and alleviate one's depressive symptoms, whereas the brooding dimension is proposed to be maladaptive as it involves passively comparing one's current situation with an unattained standard.

Brooding Perfectionism: A Proposed Interaction

Despite the various difficulties associated with perfectionism, recent research has suggested that perfectionism may contain some adaptive features (e.g., Bieling et al. 2004; Hill et al. 1997). That is, perfectionism may help individuals who strive for success with

conscientiousness, but may impair individuals who are never satisfied with their performance and are self-critical and unsatisfied with oneself (Frost et al. 1990). We propose that the presence or absence of brooding rumination may be the variable that helps to create a distinction between adaptive and maladaptive perfectionism. In essence, it makes theoretical sense to postulate that self-oriented and socially prescribed perfectionists who do not brood should function adaptively. These individuals can strive toward their lofty goals while avoiding excessive self-criticism, deflated sense of self, and poor problem-solving. Brooding self-oriented and socially prescribed perfectionists, on the other hand, are likely to be at a high risk for the cognitive and mood difficulties discussed earlier.

Perfectionists have frequent thoughts about attaining ideal standards (Blatt and Shichman 1983). However, we would speculate that this tendency could be beneficial in the absence of brooding rumination. Such thoughts could help in the development of appropriate, constructive strategies for achievement. In the presence of brooding rumination, however, one would expect that these thoughts would take an overly negative valence, bringing forth the paralyzing self-doubt, self-criticism, and poor problem-solving that hinders performance. Consistent with our line of reasoning, past research indicates that avoidance coping, a feature of brooding, moderated the relationship between perfectionism and psychological well-being (O'Connor and O'Connor 2003).

Returning to Hewitt and Flett's (1991b) model of perfectionism, we know that self-oriented perfectionists tend to set unrealistic standards, leading to self-esteem deficits. In addition, socially prescribed perfectionism is associated with a sense of being negatively evaluated by others. Although these have been treated in the literature as general tendencies, we believe that these difficulties are associated with only a subset of self-oriented perfectionists and a subset of socially prescribed perfectionists. Moreover, we believe that brooding is the key variable that delineates these subsets. To our knowledge, previous research has not examined the interactions between the specific dimensions of the perfectionism and rumination constructs within a diathesis-stress model.

We conducted a longitudinal study to examine these relations, and hypothesize that the interaction between socially prescribed or self-oriented perfectionism and brooding will serve as a diathesis to stress in accounting for changes in depressive symptoms. Given that other-oriented perfectionism has not been shown to be related to depression (Hewitt and Flett 1991a, b), we hypothesize that this dimension of perfectionism will not interact with brooding and stress to predict individual's level of dysphoria. Also, as the reflective pondering dimension of rumination is proposed to be adaptive (Treynor et al. 2003), we hypothesize that this dimension will not interact with socially prescribed or self-oriented perfectionism.

Method

Participants

Participants were 305 (62 male, 227 female, 16 not indicated) undergraduate students from a large university in the Northwest. They were recruited from the university's subject pool and received course credit for their participation. The mean age of the participants was 18.6 years (SD = 1.6; range = 17–28). Of the initial pool of 388 participants, data from 63 participants were discarded due to their failure to return at Time 2 to complete the second part of the study, and data from an additional 20 participants were discarded due to their failure to follow questionnaire instructions, including not completing entire questionnaires.

Procedure

At Time 1, participants completed the Multidimensional Perfectionism Scale (MPS; Hewitt and Flett 1991b), Response Styles Questionnaire (RSQ; Nolen-Hoeksema and Morrow 1991), and Beck Depression Inventory-II (BDI; Beck et al. 1996). Four weeks later, at Time 2, participants returned and completed the BDI and Inventory of College Students' Recent Life Experiences (ICSRLE; Kohn et al. 1990).

Materials

Multidimensional Perfectionism Scale (MPS; Hewitt and Flett 1991b). This measure consists of 3 subscales of 15 items each. On a 1 to 7 point scale (1 = strongly disagree, 7 = strongly agree), participants rate statements that represent self-oriented perfectionism (e.g., "When I am working on something, I cannot relax until it is perfect," "One of my goals is to be perfect in everything I do"), other-oriented perfectionism (e.g., "I have high expectations for the people who are important to me," "The people who matter to me should never let me down"), and socially prescribed perfectionism (e.g., "My family expects me to be perfect," "The better I do, the better I am expected to do"). In a sample of psychiatric patients, reported coefficient alphas were .88 for self-oriented, .74 for other-oriented, and .81 for socially prescribed perfectionism subscales (Hewitt and Flett 1991b). Test-retest reliabilities over 3 months were .75 for self-oriented, .65 for other-oriented, and .78 for socially prescribed perfectionism. In the present study, the coefficient alphas were .87 for self-oriented, .71 for other-oriented, and .80 for socially prescribed perfectionism.

Response Styles Questionnaire (RSQ; Nolen-Hoeksema and Morrow 1991). The 22-item subscale of the 71-item questionnaire (RSQ) measures the participants' inclination to ruminate about negative events by assessing their responses to a depressed mood. These items are self-focused, symptom-focused, and focused on the possible causes and consequences of one's mood. As mentioned previously, recent research has suggested further dividing the rumination subscale of the RSQ into two scales, brooding (RSQ-Brood) and reflection (RSQ-Reflect) (Treynor et al. 2003). In the present study, it is predicted that RSQ-Brood, but not RSQ-Reflect, will moderate the relationship between perfectionism (i.e., self-oriented and socially prescribed) and depressive symptoms.

Participants rate each item on a scale ranging from 1 to 4. They indicate whether they never (1), sometimes (2), often (3), or almost always (4) behave in a specific manner, such as thinking about how lonely they feel or writing down how they feel, when they are in a depressed mood. Higher scores indicate a more ruminative coping response to depressed mood. The rumination subscale has produced reliable assessments, with coefficient alphas of .77 for RSQ-Brood and .72 for RSQ-Reflect (Treynor et al. 2003). In the present study, the RSQ-Brood subscale produced a coefficient alpha of .72 and the RSQ-Reflect subscale produced a coefficient alpha of .66.

Beck Depression Inventory-II (BDI; Beck et al. 1996). This questionnaire asks 21 specific questions that assess for symptoms of depression. Participants are asked to rate each item on a 0 to 3 scale, thus total scores can range from 0 to 63. Higher scores correspond to greater symptom severity. This second edition of the inventory includes modifications of several items to assess for increases in appetite, weight, and sleep, whereas the original edition (Beck et al. 1979) only assessed for decreases. The BDI has produced reliable assessments, with reported

coefficient alphas of .92 and .93 (Beck et al. 1996). In the current study, the BDI produced a reliable assessment with a coefficient alpha of .87 at Time 1 and .89 at Time 2.

Inventory of College Students' Recent Life Experiences (ICSRLE; Kohn et al. 1990). This is a 49 item self-report measure in which college students are asked to rate the extent to which certain negative experiences have been a part of their lives. Topics are directed toward college students, and include academic demands, employment/finances, romantic relationships, domestic responsibilities, future security, and time pressures. Participants are asked to rate items on a 1–4 point scale (1 = not at all part of my life; 4 = very much a part of my life). The ICSRLE has produced good internal consistency with a coefficient alpha of .89 (Pett and Johnson 2005). In the current study, the ICSRLE produced a reliable assessment with a coefficient alpha of .91.

Results

The means, standard deviations, and intercorrelations of questionnaires are presented in Table 1. Hierarchical multiple regression analyses were conducted to examine the role of perfectionism, rumination, and their interaction in predicting level of depressive symptoms. Hierarchical multiple regression is an effective analysis that retains the independent variables as continuous variables, and also tests main effects and interactions (Aiken and West 1991). As recommended by Aiken and West (1991), predictor variables were centered to reduce multicollinearity.

Self-oriented Perfectionism

As reported in Table 2, significant main effects were found for T1 BDI, RSQ-Brood, and ICSRLE.[1] In addition, a significant two-way interaction was found for MPS-Self × ICSRLE, and a significant three-way interaction was found for MPS-Self × RSQ-Brood × ICSRLE.

Table 1 Means, standard deviations, and intercorrelations of study questionnaires

Variable	*M*	SD	2	3	4	5	6	7	8
1. Time 1 BDI	11.33	7.61	.62**	.03	.06	.30**	.56**	.42**	.35**
2. Time 2 BDI	10.78	7.64		.07	−.01	.29**	.49**	.40**	.56**
3. MPS-Self	68.68	13.97			.46**	.38**	.18**	.17**	.18**
4. MPS-Other	58.52	10.36				.30**	.06	.10	.13**
5. MPS-Social	52.39	12.27					.29**	.26**	.35**
6. RSQ-Brood	11.34	3.57						.65**	.36**
7. RSQ-Reflect	10.02	3.17							.29**
8. ICSRLE	95.15	18.49							

Note: BDI = Beck Depression Inventory-II; MPS-Self = Multidimensional Perfectionism Scale-Self-oriented subscale; MPS-Other = Multidimensional Perfectionism Scale-Other-oriented subscale; MPS-Social = Multidimensional Perfectionism Scale-Socially Prescribed subscale; RSQ = Response Styles Questionnaire-Rumination subscale; ICSRLE = Inventory of College Students' Recent Life Experiences

** $P < .01$

[1] As hypothesized, all results supporting a diathesis-stress model were found with the RSQ-Brood scale, but not the RSQ-Reflect scale. For the sake of brevity, we reported only the RSQ-Brood results.

Table 2 Analysis involving self-oriented perfectionism

Variable	*B*	SE *B*	*β*
Step 1 ($\underline{R}^2$ = .38***)			
T1 BDI	.62	.05	.62***
Step 2 ($\Delta\underline{R}^2$ = .14***)			
MPS-Self	−.02	.02	−.04
RSQ	.27	.11	.13*
ICSRLE	.16	.02	.38***
Step 3 ($\Delta\underline{R}^2$ = .01***)			
MPS-Self × RSQ	−.01	.01	−.08
MPS-Self × ICSRLE	.00	.00	.11*
RSQ × ICSRLE	.01	.01	.05
Step 4 ($\Delta\underline{R}^2$ = .01***)			
MPS-Self × RSQ × ICSRLE	.00	.00	.12**

Note: MPS-Self = Multidimensional Perfectionism Scale-Self-oriented subscale; RSQ = Response Styles Questionnaire-Rumination subscale-Brood scale; ICSRLE = Inventory of College Students' Recent Life Experiences; BDI = Beck Depression Inventory-II. Criterion variable = T2 BDI

* $P < .05$

** $P < .01$

*** $P < .001$

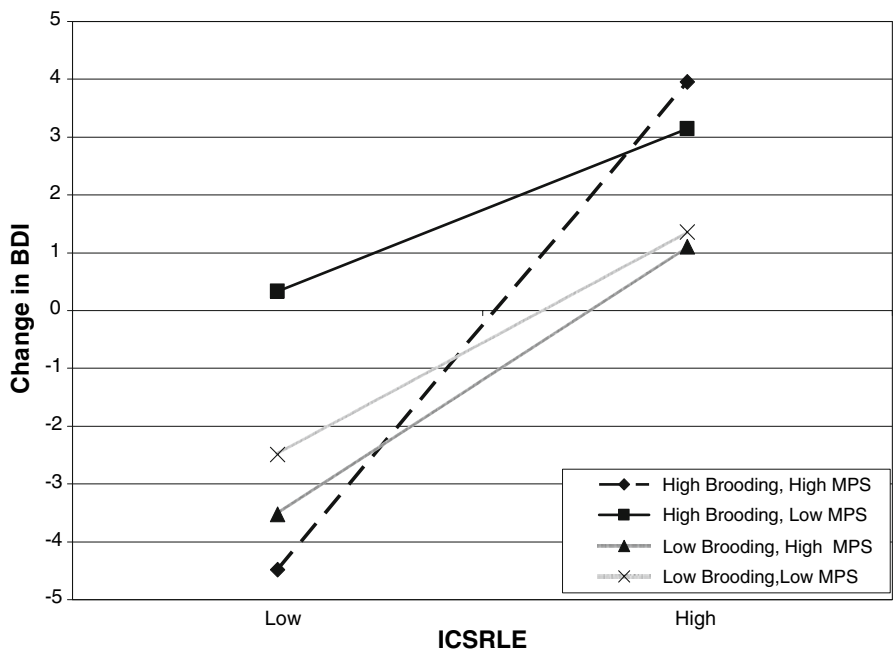

Fig. 1 Interaction between self-oriented perfectionism and brooding rumination on depressive symptoms

Thus, the results support our diathesis-stress prediction that self-oriented perfectionism, brooding rumination, and stress would interact to predict individual's level of dysphoria. In plotting the interaction (see Fig. 1), we entered high (+1SD) and low (−1SD) values of the independent variables. Figure 1 revealed several interesting findings. In all four groups, the depressive effect of stress was evident by the positive slopes of the lines. The highest slope was evident in the high MPS-Self—high RSQ-Brood group. The combination of high self-oriented perfectionism, high brooding rumination, and high stress led to the greatest increases in depressive symptoms. However, individuals with low self-oriented perfectionism, high brooding rumination, and high stress also had large increases in depressive symptoms. This finding indicates the depressive effect of high brooding rumination, independent of the role of self-oriented perfectionism.

We were particularly interested in how self-oriented perfectionists respond to high stress, and whether brooding rumination played a role in this relation. Consistent with our hypothesis, we found that the high self-oriented perfectionism—high brooding rumination group experienced large increases in depressive symptoms under stress, but that the high self-oriented perfectionism—low brooding rumination group did not.

Socially Prescribed Perfectionism

The results for socially prescribed perfectionism, as reported in Table 3, are similar to those found for self-oriented perfectionism. Significant main effects were found for T1 BDI, RSQ-Brood, and ICSRLE. Moreover, a significant two-way interaction was found for MPS-Social × ICSRLE, and a significant three-way interaction was found for MPS-Social × RSQ-Brood × ICSRLE. Thus, the results support our diathesis-stress prediction that socially

Table 3 Analysis involving socially prescribed perfectionism

Variable	*B*	SE *B*	*β*
Step 1 ($\underline{R}^2$ = .38***)			
T1 BDI	.63	.05	.62***
Step 2 ($\Delta\underline{R}^2$ = .14***)			
MPS-Social	.00	.03	.00
RSQ	.27	.11	.13*
ICSRLE	.15	.02	.37***
Step 3 ($\Delta\underline{R}^2$ = .01***)			
MPS-Social × RSQ	−.01	.01	−.07
MPS-Social × ICSRLE	.00	.00	.13**
RSQ × ICSRLE	.00	.01	.04
Step 4 ($\Delta\underline{R}^2$ = .03***)			
MPS-Social × RSQ × ICSRLE	.00	.00	.19***

Note: MPS-Social = Multidimensional Perfectionism Scale-Socially Prescribed subscale; RSQ = Response Styles Questionnaire-Rumination subscale-Brood scale; ICSRLE = Inventory of College Students' Recent Life Experiences; BDI = Beck Depression Inventory-II. Criterion variable = T2 BDI

* $P < .05$

** $P < .01$

*** $P < .001$

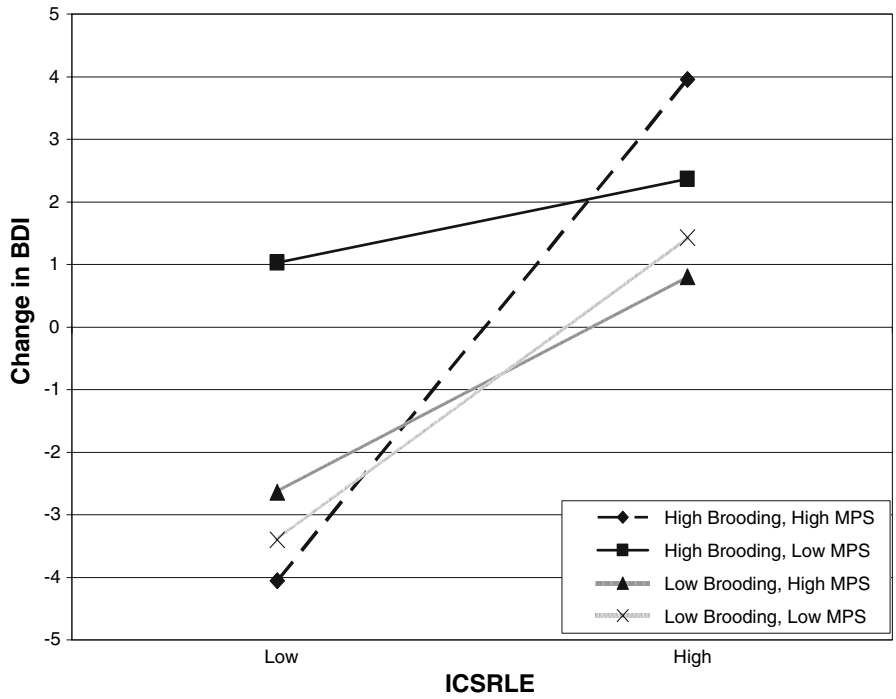

Fig. 2 Interaction between socially prescribed perfectionism and brooding rumination on depressive symptoms

prescribed perfectionism, brooding rumination, and stress would interact to predict individual's level of dysphoria. Plotting the interaction (see Fig. 2) revealed a similar pattern as Fig. 1. The major difference with Fig. 2 is that the high socially prescribed perfectionism—high brooding rumination—high stress group was more distinct in the magnitude of the increase in depressive symptoms, strengthening support for our hypothesis.

Other-oriented Perfectionism

As reported in Table 4, significant main effects were found for T1 BDI, MPS-Other, RSQ-Brood, and ICSRLE. Significant two-way interactions were not found. In contrast to the findings with self-oriented and socially prescribed perfectionism, results did not indicate a significant three-way interaction. Thus, results support the prediction that other-oriented perfectionism, brooding rumination, and stress would not interact to predict individual's level of dysphoria.

Discussion

The purpose of the present study was to investigate the proposed interaction between certain dimensions of perfectionism and rumination as diathesis for depressive symptoms. Our model expanded upon previous research on each of these constructs as it predicted and tested

Table 4 Analysis involving other-oriented perfectionism

Variable	*B*	SE *B*	*β*
Step 1 ($\underline{R}^2$ = .38***)			
T1 BDI	.62	.05	.62***
Step 2 ($\Delta\underline{R}^2$ = .14***)			
MPS-Other	−.07	.03	−.10*
RSQ	.27	.10	.13**
ICSRLE	.16	.02	.38***
Step 3 ($\Delta\underline{R}^2$ = .01***)			
MPS-Other × RSQ	−.01	.01	−.08
MPS-Other × ICSRLE	.00	.00	.03
RSQ × ICSRLE	.01	.00	.07
Step 4 ($\Delta\underline{R}^2$ = .01***)			
MPS-Other × RSQ × ICSRLE	.00	.00	.07

Note: MPS-Other = Multidimensional Perfectionism Scale-Other-oriented subscale; RSQ = Response Styles Questionnaire-Rumination subscale-Brood scale; ICSRLE = Inventory of College Students' Recent Life Experiences; BDI = Beck Depression Inventory-II. Criterion variable = T2 BDI

* $P < .05$

** $P \leq .01$

*** $P < .001$

interactions between the specific dimensions of perfectionism (i.e., self-oriented, socially prescribed, and other-oriented) and rumination (i.e., brood and reflect) within one integrated model. In line with our hypotheses, results of the present study indicate that both self-oriented and socially prescribed perfectionism interact with brooding and stress to predict individual's level of dysphoria. In both of the significant three-way interactions, the greatest increases in depressive symptoms was evident in the high self-oriented/socially prescribed perfectionism, high brooding, and high stress groups. As predicted, these interactions were found with the maladaptive, brooding dimension of rumination, but not the adaptive, reflection dimension. Also supporting our hypotheses, other-oriented perfectionism did not interact with brooding and stress to predict individual's level of dysphoria, and is in line with previous findings that other-oriented perfectionism does not seem to be related to depression (e.g., Hewitt and Flett 1991a, b).

In line with the finding of the significant three-way interactions described above, the research on perfectionism suggests that one is at increased risk for depression if one's standards of performance are set too high, and if one thinks too frequently about achieving their high standards. At an intuitive level, this likely makes some sense, but also contradicts many of the experiences we may notice in ourselves and in others. There are many examples in which striving for very lofty goals, and setting very high standards for performance, yields great rewards. Indeed, as we noted, the research suggests that perfectionism contains some adaptive facets, and that holding high standards for oneself does not necessarily translate into having depressive symptoms.

Findings from our longitudinal study provide a possible explanation as to why perfectionism may be helpful for some, and maladaptive for others. Results revealed the depressive effects of high levels of brooding, independent of the roles of self-oriented and socially prescribed perfectionism. This finding indicates that individuals with high levels of self-oriented and/or socially prescribed perfectionism, if low in brooding, are not particularly prone

to increases in depressive symptoms when faced with high stress. Thus, self-oriented and socially prescribed perfectionists who do not engage in brooding may be able to take advantage of having high standards, but be resilient and persistent in the face of obstacles. Self-oriented and socially prescribed perfectionists who do engage in brooding, on the other hand, may have high standards, but low willpower in achieving these standards, and greater fragility in the face of obstacles. Despite these likely nuances in considering the perfectionism construct, the research on perfectionism until now has primarily investigated general patterns between perfectionism and depression (e.g., Enns and Cox 1999; Lynd-Stevenson and Hearne 1999). We, however, found support for our specific hypothesis that the role of self-oriented and socially prescribed perfectionism as a diathesis for depression is dependent upon brooding. This cognitive style, which we call brooding perfectionism, reflects a particularly malicious combination of rumination and perfectionism.

We believe that our findings represent a diathesis-stress investigation and support the importance of examining a subtype of perfectionism: brooding perfectionism. We have demonstrated that perfectionism serves as a diathesis, but also that this diathesis is activated by brooding rumination. This finding does not nullify the construct of perfectionism in any way; the research findings regarding perfectionism are not challenged by our findings. However, our novel finding is that self-oriented and socially prescribed perfectionism, combined with brooding rumination, is an especially powerful diathesis. Without redefining perfectionism, our findings indicate that a subtype of perfectionism (i.e., brooding perfectionism) is particularly important with regard to increases in depressive symptoms.

The results of the present study have potential implications in treating clients with perfectionistic tendencies, such as individuals with obsessive-compulsive personality traits or disorder. It may not be helpful, or perhaps may even be detrimental, to suggest to such clients that it is important to lower their standards. Rather, a more productive line of treatment may be to reduce the level of brooding that clients have as they strive toward their goals. Reducing brooding in self-oriented and socially prescribed perfectionistic clients may allow them to conscientiously strive toward their goals, without dwelling on self-criticism and engaging in paralyzing negative thinking. Furthermore, research has shown that higher levels of hope are predictive of more positive outcomes to psychotherapy (Irving et al. 2004), and lends support to the concept that encouraging clients to lower their high expectations may not be helpful for them. Facilitating hope in psychotherapy would encourage clients to maintain high willpower in attaining future goals, while constructively dealing with obstacles that arise (i.e., rather than passively dwelling on them).

Individuals with brooding perfectionism may also benefit from treatment that assesses their coping skills and focuses on the extent to which clients engage in distraction from their depressive thoughts and behaviors. It may be particularly useful to examine the social support networks of clients with self-oriented and socially prescribed perfectionism, as they may also serve as appropriate sources of distraction. In addition, stress inoculation training may be a useful treatment approach. Chang (2000) suggests that interventions promoting positive psychological outcomes may help self-oriented and socially prescribed perfectionistic individuals. He cites the work of Meichenbaum (1985) and his three phases of training: preparing the client to confront and cope with stress, teaching coping skills, and helping the client apply the skills in actual stressful situations. It may be that through minimizing stress and utilizing more adaptive coping skills, self-oriented and socially prescribed perfectionists may be less likely to engage in brooding and, thus, less likely to develop depressive symptoms.

There are a number of limitations to the present study that warrant caution in interpreting the findings. First, given that we are testing a new model, there are several areas of research that necessitate further investigation. An interesting direction for future work would be to

replicate the findings of the present study with different measures of perfectionism, specifically Frost et al.'s (1990) multidimensional perfectionism model. Little research has compared the two perfectionism models in their effectiveness in predicting emotional distress (Cox and Enns 2003). In one study using a cross-sectional analysis of the two models of patients who currently had a major depressive episode, concern over mistakes and parental expectations from Frost et al.'s (1990) model and socially prescribed perfectionism from Hewitt and Flett's (1991a) model demonstrated incremental predictive validity in accounting for unique variance in the severity of depressive symptoms (Enns and Cox 1999). Despite this limited area of work, we predict that brooding rumination would have effects similar to those found with Hewitt and Flett's model on certain perfectionism dimensions in Frost et al.'s model.

In addition, as the results of the present study are based on self-report measures, it may be interesting to replicate the study utilizing other formats, such as naturalistic observation and self-monitoring in a more realistic setting. For example, Nolen-Hoeksema et al. (1993) instructed participants to keep a "daily emotion report" for 30 days in which they recorded their depressed moods and selected their responses to them from a list of "ruminative" and "distracting" responses. In the perfectionism literature, Frost et al. (1997) asked participants to complete a "mistakes journal" in which participants recorded the mistakes they made and wrote brief descriptions about each one. Assessing participants' levels of rumination and perfectionism in formats outside of the laboratory may more adequately capture the realistic effects of the constructs.

Finally, the present study utilized a college student sample and a stress measure specific to college life and, therefore, limits generalizability to other populations. Future work would benefit from utilizing other demographic groups and/or stress measures. Specifically, because many participants in the current sample had subclinical levels of depression, it would be important to replicate the findings in clinical samples to more confidently extend the findings toward clinical implications. It would be interesting to examine whether brooding rumination would have similar effects on the role of self-oriented and socially prescribed perfectionism in a clinically depressed population. As past research has indicated that rumination predicted level of depression in clinically depressed populations (e.g., Nolen-Hoeksema et al. 1994), we speculate that our findings with a college student population would be similar to those in a clinically depressed population. With further research, a focus on the concept of brooding perfectionism has the potential to enhance our understanding of perfectionism and related psychological constructs, potentially enhancing our efficacy in psychotherapy.

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