Perfectionism, Goal Adjustment, and Self-Regulation: A Short-term Follow-up Study of Distress and Coping

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Abstract:

This study examined socially-prescribed and self-oriented perfectionism (SPP and SOP) and goal adjustment in relation to goal pursuit, depression, and coping. Students (N = 388) completed measures of perfectionism, idiographic goal pursuit, goal adjustment, and depressive symptoms, and a subset (n = 138) completed an online follow-up assessing stress-related depression and coping. SPP, but not SOP, was associated with current depressive symptoms at both time points. SPP was associated with less optimism about goal success, and the interaction between SPP and goal disengagement predicted stress-related depression and maladaptive coping. SOP was associated with greater optimism about the likelihood of goal success and stronger emotional responses to goal success and failure, and SOP interacted with goal reengagement to predict adaptive coping.

Keywords: Perfectionism | Goal adjustment | Depression | Coping | Self-regulation

Article:

Perfectionism is a complex and multidimensional construct (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991b). Perfectionistic standards for one's own behavior can be held internally (personal standards) or externally (standards imposed on a person by a parent, spouse, or other), and perfectionistic standards can be applied to others' behavior (e.g., an intolerance for mistakes from one's employees). The duality of perfectionism has been recognized by researchers who often distinguish between *adaptive* and *maladaptive* varieties (Bergman, Nyland, & Burns, 2007; Enns, Cox, & Clara, 2002; Frost, Heimberg, Holt, & Mattia,1993; Hamachek, 1978; Slade & Owens, 1998; Terry-Short, Glynn Owens, Slade, & Dewey, 1995). The latter is thought to be defined in part by rigid adherence to unattainable

standards, especially those imposed upon the individual by others, along with excessive self-criticism. Some have argued that perfectionistic strivings in the absence of the rigidity and negative evaluative concerns may be largely constructive (Powers, Koestner, Zuroff, Milyavskaya, & Gorin, 2011; Stoeber & Otto, 2006).

Socially prescribed perfectionism (SPP) is defined by a sense that others expect one to be perfect or to meet exceeding high standards, and SPP is associated with a variety of poor outcomes and risk for clinical disorders, including depression and anxiety (e.g., Enns & Cox, 2005; Flett, Hewitt, Blankstein, & Gray, 1998; Hewitt & Flett, 1991a). SPP correlates with depressive symptom severity (Enns & Cox, 1999), increases in depressive symptoms over time (Hewitt, Flett, & Ediger, 1996), and rumination (Blankstein & Lumley, 2008). Self-critical perfectionism (defined in part by SPP) is associated with maladaptive coping strategies such as self-blame, avoidance, and lack of active problem-solving attempts (Dunkley, Zuroff, & Blankstein, 2003; Weiner & Carton, 2011). By contrast, self-oriented perfectionism (SOP), an internally-driven desire to meet one's own perfectionistic standards, is often considered adaptive, akin to “positive strivings.” In nonclinical samples, SOP and related constructs have been shown to be associated with aspects of well-being such as personal growth (Chang, 2006), lower levels of psychological distress (Chang & Rand,2000), and active coping (Weiner & Carton, 2011). However, other studies have shown SOP to be modestly positively correlated with depressive symptoms (e.g., Bieling, Israeli, & Antony, 2004; Hewitt et al., 1996), suggesting that the characterization of SOP as an adaptive form of perfectionism may not be so straightforward.

Perfectionism has been characterized as a vulnerability factor, increasing the risk for poor outcomes such as depression in the face of life stress (Enns & Cox, 2005; Hewitt & Flett, 1993). Studies have produced mixed findings, with some supporting a stress vulnerability model for SOP, but not SPP (Enns & Cox, 2005; Hewitt et al., 1996; Joiner & Schmidt, 1995) and others showing the opposite pattern (Chang & Rand, 2000; O'Connor, Rasmussen, & Hawton, 2010). This apparent inconsistency suggests that both forms of perfectionism have some potential to increase risk for distress but perhaps under different circumstances. In an attempt to disentangle these inconsistencies, researchers have looked at the nature of the stress, hypothesizing that interpersonal stress may have a greater impact in individuals with high SPP while achievement stress may have a greater impact on those with high SOP. Results have been somewhat encouraging for SOP and achievement stress, but for SPP type of stress appears to be irrelevant (Enns & Cox, 2005; Hewitt et al., 1996).

A motivational framework may shed some light on the nature of the relationship between perfectionism and behavioral and emotional responses to stress. Self-regulation refers to a motivational process in which ongoing evaluations compare a current state to a desired state consistent with one's personal goals (Carver & Scheier, 1990; Higgins, 1997). Depression has been characterized as a disorder of self-regulation involving chronic failure to make progress toward goals (Strauman, 2002). Perfectionism may impede effective self-regulation due to the nature of perfectionistic goals themselves but also due to its social-cognitive correlates. For

example, achievement of socially-prescribed perfectionistic goals may have less impact on mood and well-being because those goals may be extrinsically motivated (e.g., Burton, Lydon, D'Alessandro, & Koestner, 2006), and the pursuit of extrinsic goals is associated with lower indices of well-being compared to intrinsic goals (e.g., Kasser & Ryan, 1996, 2001). Among college students, SOP and SPP are positively correlated with intrinsic and extrinsic academic motivation, respectively (Miquelon, Vallerand, Grouzet, & Cardinal,2005; Van Yperen, 2006). Gaudreau and Antl (2008) examined the role of motivational orientation in the relationship between perfectionism and coping among athletes in competition. They reported that extrinsic motivation partially mediated the relationship between maladaptive perfectionism and avoidant coping while intrinsic motivation partially mediated the relationship between adaptive perfectionism and task-focused coping. These studies suggest that perfectionistic goals carry with them motivational "baggage" that may be critical for understanding their emotional and behavioral consequences.

The ability to adjust one's goals, disengaging from unattainable goals and/or reengaging with alternative goals, is an important adaptive response to poor goal progress (Brandtstadter & Renner, 1990; Wrosch, Scheier, Carver, & Schulz, 2003). Clinging to goals when success is out of reach may set the stage for chronic goal failure. The observed positive correlation between SPP and rumination (e.g., Blankstein & Lumley, 2008; Randles, Flett, Nash, McGregor, & Hewitt, 2010) hints at a cognitive style consistent with the inability to "let things go" in the face of setbacks. Stressful events magnify this effect because they challenge effective self-regulation and break down adaptive patterns and processes (Baumeister & Heatherton, 1996). Particularly in the face of stress, flexibility in goal pursuit may attenuate distress and enhance emotional well-being. O'Connor and colleagues looked at goal adjustment in two studies involving hospital patients, one focused on suicidal ideation (O'Connor, Fraser, Whyte, MacHale, & Masterton, 2009) and the other on repetitive self-harm (O'Connor, O'Carroll, Ryan, & Smyth, 2012). Both studies showed that low reengagement predicted greater suicidal ideation and risk for repetitive self-harm. However, this relationship was qualified by an interaction with disengagement. Patients who were high on disengagement (able to let go of unsuccessful goals) and also low on reengagement (unable to take on new goals) were at particularly high risk for suicidal ideation and self-harm.

The O'Connor et al. findings highlight the importance of flexible goal pursuit in emotional well-being, but the relationship between goal adjustment and perfectionism has not been systematically investigated. Campbell and Di Paula (2002) found that SPP was negatively correlated with a measure of the extent to which people can alter goal-directed behavior in the face of failure. Using perfectionism subscales created by their own factor analysis, they reported that Conditional Acceptance (beliefs that acceptance by others is contingent upon being perfect) was positively correlated with the experience of intrusive, unwanted thoughts about personal goals; negatively correlated with satisfaction with personal goal progress; and positively correlated with abandonment of personal goals. These results suggest that perfectionism may be

associated with problems in goal pursuit, but the study did not use standard scales to measure either perfectionism or goal adjustment. Their measure of goal abandonment consisted of an item asking whether the respondent had abandoned any of their personal goals in the previous five months, so it is unclear whether this reflects adaptive goal adjustment as defined in previous studies (Wrosch, Scheier, Miller, Schulz, & Carver, 2003) or a premature "giving up."

The primary aim of the current study was to examine adaptive and maladaptive forms of perfectionism and their impact on coping and emotional distress (defined as depressive symptoms) from a self-regulatory framework, proposing moderating effects of goal adjustment. At the beginning of the academic year, college students completed measures of perfectionism, goal adjustment, ratings of important personal goals, and current (past two weeks) depressive symptoms. At the end of the academic year, distress was assessed a second time when participants were asked to again rate current depressive symptoms (over the past two weeks) as well as depressive symptoms and coping strategies associated with the period of highest stress in the time since the beginning of the year (stress-related depression and coping as well as utilization of mental health services).

It was hypothesized that current depressive symptoms (assessed at two time points) would be predicted by SPP alone, replicating previous findings. Based on the observed relationship between SPP and ruminative brooding (Blankstein & Lumley, 2008; Randles et al., 2010), risk for depressive symptoms among those with high SPP was expected to be highest among those with low goal disengagement, or an inability to let go of goals in the face of poor progress. However, the role of disengagement was thought to be particularly important under conditions of stress, which challenges effective self-regulatory processes. As such, it was hypothesized that the combination of high SPP and low disengagement would be associated with an elevated risk for stress-related depressive symptoms and reliance on poor coping strategies when compared to those with low SPP and to those with high SPP but high disengagement. Regarding the relationship between SOP and these outcome variables, the existing theoretical foundation is less clear. To the extent that SOP is accurately conceptualized as a measure of adaptive "positive strivings," SOP would not be expected to correlate highly with current depression and would be associated with better coping and pursuit of mental health services (an adaptive coping strategy). Analyses of the combined effects of SOP and goal adjustment are presented as exploratory.

A secondary aim of this study was to examine relationships between the two forms of perfectionism and characteristics of the pursuit of important personal goals. It was hypothesized that SPP would be associated with important personal goals that are perceived as more difficult and less likely to be achieved. Consistent with the notion that intrinsically motivated goals may have more emotional impact, SOP was expected to correlate more strongly with emotional reactions to goal success or failure compared with SPP.

Method

Subjects

Participants at Time 1 were 388 university students enrolled in an introductory psychology course who volunteered for the study and received course credit for their participation. Time 1 data collection occurred within a five-week window at the start of the fall semester. The sample was largely female (74%) with a mean age of 18.8 (*SD* 1.5; range 18 to 28) and was ethnically diverse (59% Caucasian; 30% African American; 7% Asian or Pacific Islander; 4% Latino). Eleven participants did not report age and 20 did not report gender. Most of the participants (70%) were in their first semester of college at the time of data collection. Procedures were approved by the IRB, and informed consent was obtained.

Approximately two weeks before the end of the spring semester (Time 2), all participants were invited via e-mail to complete an online follow-up study for a small cash incentive. A link to the secure online site was included in the e-mail along with instructions for completing the follow-up measures. A proportion (11%) of the e-mails that were sent for the follow-up invitation were undeliverable, indicating that those individuals likely left the university. Of the 388 participants who had completed the larger survey study, 136 (35%) completed the online follow-up. Those who completed the online follow-up were mostly female (82%) and in their first year of college (75%). The mean age was 18.56 (*SD* = 0.97) and the ethnic diversity reflected the larger sample: Caucasian (59%), African American (26%), Latino (7%), and Asian (6%). The participants who completed the follow-up study were younger than those who did not, $t(375) = 2.63$; $p < .01$; mean difference = 0.33 years, and a slightly greater proportion of the follow-up sample was female, a difference that was not significant, $\chi^2(3) = 9.11$; *ns*. The follow-up sample also had slightly higher BDI-II scores, $M = 9.9$, $SD = 8.3$
vs. $M = 8.3$, $SD = 7.3$; $t(254) = -1.96$, $p = .051$.1 However, the two groups did not differ on SOP, $t(386) = 0.67$; *ns*, or SPP scores, $t(386) = -0.73$; *ns*.

Measures and Procedures

Each participant completed a battery of randomly-ordered questionnaires that included the following measures administered at Time 1.

Multidimensional Perfectionism Scale (MPS; Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991)

The MPS is a 45-item scale measuring SPP, SOP, and other-oriented perfectionism (OOP). Item statements are rated on a scale of 1 to 7 (1 = *Strongest disagreement* and 7 = *Strongest agreement*) such that higher scores indicate greater perfectionism. Previous studies have demonstrated good internal consistency (Cronbach's α) of these scales in nonclinical samples (SOP α = .88; SPP α = .75; Hewitt & Flett, 1991b), and in the current study, α = .86 for SOP and α = .81 for SPP.

Goal Adjustment Scale (GAS; Wrosch, Scheier, Miller, et al., 2003)

The GAS consists of 10 items, four measuring goal disengagement (GAS-D) and six measuring goal reengagement (GAS-R). Item statements are rated on a scale of 1 to 5 (1 = *Almost never true* and 5 = *Almost always true*), with higher scores indicating better ability to disengage from goals (GAS-D) or to reengage in alternative goals (GAS-R) in the face of failure. Good internal consistency of the GAS-D (Cronbach's $\alpha = .84$) and GAS-R (Cronbach's $\alpha = .86$) have been reported (Wrosch, Scheier, Miller, et al., 2003); in the current study $\alpha = .76$ for the GAS-D and $\alpha = .85$ for the GAS-R.

Personal Goals Inventory

This inventory is based in part on Emmons' idiographic measure of personal strivings (Emmons, 1986). Using Emmons' instructions and format, respondents generated a list of eight important personal goals and were asked to rate each goal as follows: “How difficult is it for you to succeed at this goal?” (1 = *Extremely easy* to 5 = *Extremely difficult*); “How much progress have you made toward this goal?” (0 = *None, haven't even tried* to 5 = *I've already met this goal*); and “How likely is it that you will be able to accomplish this goal in the future?” (1 = *Completely unlikely* to 7 = *Certain*). For the purposes of this study, respondents were also asked to rate progress on the goal to date as well as emotional responses to goal progress (happy, proud) or lack of progress (sad, anxious) on a scale of 1 to 5 (1 = *Not at all* to 5 = *Extremely*); these items were not part of Emmons' original strivings measure. Ratings were averaged across the eight goals to produce one mean rating for each item.

Beck Depression Inventory–II (BDI-II; Beck, Steer, & Brown, 1996)

This measure of current depressive symptoms (during the past two weeks) has 21 items rated on a 4-point (0 to 3) scale. The psychometric properties of this scale are excellent in both clinical and undergraduate samples (Dozois, Covin, Hilsenroth, & Segal,2004; Dozois, Dobson, & Ahnberg, 1998). Cronbach's α for the BDI-II in the current study was .91, indicating high internal consistency.

The Time 2 online follow-up included a second administration of the BDI-II as well as the measures listed below. As part of the online follow-up, respondents were instructed to briefly describe, in three sentences or less, the most difficult two-week period of time since the initial survey completion assessment along with the following measures.

Ways of Coping–Revised (Folkman & Lazarus, 1985)

The Ways of Coping scale is widely used to assess different adaptive and maladaptive coping skills associated with a specific event or series of events. Respondents were instructed to think about the previously identified most difficult two-week period of time and rate the extent to which they used each of 66 strategies to deal with the identified event or events. Two composite coping scales were created by standardizing and averaging the individual scale scores: *Adaptive Coping* (Problem-focused coping, Focusing on the positive, and Seeking social support)

and *Maladaptive Coping* (Isolation, Self-blame, Wishful thinking, and Detachment). Reliability coefficients in the current sample were good, α = .85 for Adaptive Coping and α = .83 for Maladaptive Coping.

Patient Health Questionnaire–Depression scale (PHQ-9; Kroenke, Spitzer, & Williams, 2001; Spitzer, Kroenke, & Williams, 1999)

The PHQ-9 is a widely used, brief measure of depressive symptoms with good internal reliability (α = .86 to .92), good correspondence with interviewer ratings (*r* = .83), and high sensitivity and specificity (Kroenke, Spitzer, Williams, & Löwe, 2010). For the purposes of the current study, participants were asked to base the PHQ-9 ratings on the two-week stressful period identified previously. Internal consistency of this scale was high (Cronbach's α = .89).

Report of Mental Health Services

Participants were asked whether they had received treatment for any psychological problem since the time of the initial survey. Treatment could include pharmacotherapy (medications), psychotherapy/counseling, or both. Responses were coded as a simple “yes” (coded 1) or “no” (coded 0).

Data Analytic Strategy

A log transformation was applied to the BDI-II scores to normalize the skewness in the distribution; no transformation was necessary for PHQ-9 scores, which were normally distributed. Hierarchical regressions were used to test hypotheses regarding the roles of perfectionism and goal adjustment in predicting current and subsequent stress-related distress and coping. In each regression, age and gender along with either SOP (in models testing for SPP effects) or SPP (in models testing for SOP effects) were entered in the first step, main effects of the relevant perfectionism and goal adjustment scales were entered in the second step, and the interaction term was entered in the third step. Before interactions were tested, all scales were mean centered, and significant interactions were explored by plotting values of plus and minus one standard deviation (Aiken & West, 1991) and using analyses of simple slopes. Simple slopes analyses were run using the Simple Slopes Syntax (Schubert & Jacoby, 2004) calculating stand-in variables for the moderator (GAS scores) by adding (or subtracting) its *SD* from its mean. The results for the longitudinal analyses are interpreted using a cutoff of $p < .05$; however, due to the large sample size at Time 1, a more conservative cutoff of $p < .01$ was used for the cross-sectional analyses.

Results

Perfectionism and Goal Adjustment: Predicting Depression and Coping

Means and standard deviations for all the predictors and outcome variables used in the regressions, as well as their zero-order correlations, are shown in Table 1. Hierarchical

regression results showed that both SOP and SPP alone predicted Time 1 current (past two weeks) depressive symptoms, as shown in Table 2. Higher SOP was associated with lower BDI-II scores at Time 1 only, but higher SPP predicted higher scores at both time points. Not surprisingly, results showed that Time1 depressive symptoms accounted for a large proportion of the variance in Time 2 BDI-II scores; the SPP × GAS-D interactions were not significant in predicting current depressive symptoms at either time point.

Table 1 Descriptive Statistics and Zero-Order Correlations

	M (SD)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Time 1									
1. SOP	67.1 (14.8)								
2. SPP	54.4 (13.0)	.39**							
3. GAS dis	9.7 (3.0)	− .38**	− .17*						
4. GAS re	21.7 (3.7)	.02	− .16*	.24**					
5. BDI-II	8.9 (7.7)	.02	.38**	− .07	− .16*				
Time 2									
6. BDI-II	10.7 (9.1)	.05	.44**	− .08	− .11	.60**			
7. PHQ-9	10.6 (6.5)	.09	.32**	− .18	− .13	.40**	.55**		
8. WOC-A	1.18 (0.49)	.09	.01	− .05	.10	− .02	− .07	− .01	
9. WOC-M	1.27 (0.53)	.02	.27**	.06	− .12	.30**	.43**	.43**	.22*

Notes: Intercorrelations among Time 1 measures, $n = 388$; correlations involving Time 2 measures, $n = 138$. WOC-A: Ways of Coping Adaptive; WOC-M: Ways of Coping Maladaptive (unstandardized item averages). *$p < .01$; **$p < .001$.

Table 2 Hierarchical Regression Predicting Time 1 and Time 2 Depressive Symptoms from Perfectionism and Goal Disengagement

Predictor		***B***	***SE B***	**β**	**ΔR^2**	***p***	***sr***
Time 1 current depressive symptoms (BDI-II)							
Step 1					.00	.59	
	Age	0.07	0.03	0.10*			.10

	Gender	0.05	0.10	0.02			.02
	SOP	− 0.02	0.00	− 0.29***			− .22
Step 2: Main effects					.11	< .001	
	SPP	0.02	0.00	0.42***			.33
	GAS-D	− 0.02	0.02	− 0.08			− .07
Step 3: Interaction					.00	.51	
	SPP × GAS-D	0.00	0.00	0.04			.03
Time 2 current depressive symptoms (BDI-II)							
Step 1					.26	< .001	
	Age	0.07	0.09	0.07			.07
	Gender	0.19	0.20	0.08			.08
	Time 1 BDI-II	0.34	0.10	0.30**			.27
	SOP	0.00	0.01	− 0.03			− .02
Step 2: Main effects					.05	.02	
	SPP	0.02	0.01	0.27**			.23
	GAS-D	0.02	0.03	0.05			.05
Step 3: Interaction					.00	.68	
	SPP × GAS-D	0.00	0.00	− 0.04			− .03
Time 2 Stress-related depressive symptoms (PHQ-9)							
Step 1					.11	< .01	
	Age	− 0.19	0.54	− 0.03			− .03
	Gender	1.62	1.40	0.09			.09
	Time 1 BDI-II	1.15	0.07	0.15			.13
	SOP	− 0.02	0.04	− 0.04			− .04
Step 2: Main effects					.05	.02	

	SPP	0.12	0.05	0.24*			.20
	GAS-D	− 0.16	0.19	− 0.07			− .06
Step 3: Interaction					.05	< .01	
	SPP × GAS-D	− 0.04	0.01	− 0.24**			− .23

Notes: SPP = Socially prescribed perfectionism; GAS-D = Goal adjustment scale disengagement subscale; BDI-II = Beck Depression Inventory II; PHQ-9 = Patient health questionnaire 9-item depression scale. All coefficients are reported for the final step. $N = 136$. *$p < .05$; **$p < .01$; ***$p < .001$.

The hypothesis that the interaction of SPP and goal disengagement would predict stress-related depressive symptoms was supported. Note that the zero-order correlation between Time 2 current depressive symptoms (BDI-II scores) and stress-related depression as measured by the PHQ-9 was significant ($r = .55$, $p < .001$), suggesting that these measures were overlapping but not redundant. As shown in Table 2, higher Time 1 BDI-II predicted higher stress-related depressive symptoms. There was a main effect of SPP and a significant SPP × GAS-D interaction. When Time 2 BDI-II was entered in Step 1 rather than Time 1 BDI-II, Time 2 BDI-II scores significantly predicted PHQ-9 scores ($\beta = 0.37$; $p < .001$) but SPP did not ($\beta = 0.14$; *ns*). The interaction remained significant ($\beta = -0.21$; $p < .01$). The direction of the interaction is illustrated in Figure 1. Simple slopes analyses showed that the slope for low GAS-D was significantly different from zero ($\beta = 0.50$; $p < .001$); goal disengagement had a moderating effect such that those with *high* SPP and low goal disengagement reported significantly greater severity of depressive symptoms compared to those with *low* SPP and low goal disengagement.

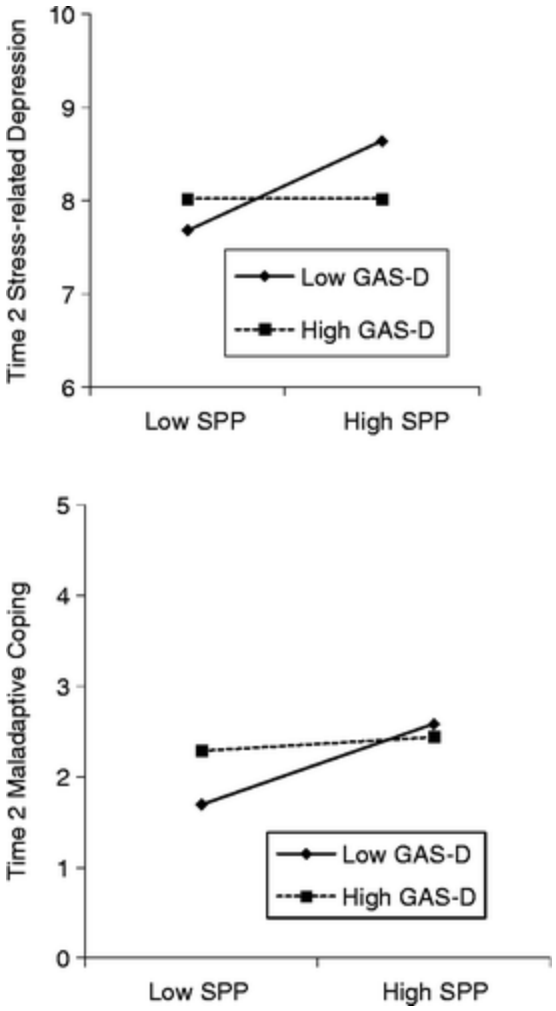

Figure 1 Relationship between socially-prescribed perfectionism and coping and depressive symptoms at high and low levels of goal disengagement. *Notes*: SPP = Socially-prescribed perfectionism; GAS-D = Goal adjustment scale disengagement subscale; Maladaptive Coping is a subscale of the Ways of Coping scale. Low and High SPP correspond to 1 *SD* below and above the sample mean, respectively.

Results from the regression analyses using stress-related coping as the dependent variable were consistent with the hypothesis that the interaction of SPP and goal disengagement would predict maladaptive coping. Maladaptive coping was predicted by SPP alone and by the SPP × GAS-D interaction (shown in Table 3). Simple slopes analyses (see Figure 1) showed that the slope for low GAS-D was significantly different from zero ($\beta = 0.43$; $p < .001$). Thus, similar to the PHQ-9 results, those with high SPP and low goal disengagement reported using more maladaptive coping strategies compared to those with low SPP and low goal disengagement. There was no main effect of SOP on adaptive coping, contrary to predictions; however adaptive coping was predicted by a SOP × GAS-R interaction, and marginally by GAS-R alone ($p = .06$). Simple

slopes analyses (see Figure 2) showed that the slope for low GAS-R was significantly different from zero (β = 0.23; $p < .05$). Thus, those with high SOP and low goal reengagement reported using more adaptive coping strategies compared to those with low SOP and low reengagement.

Table 3 Hierarchical Regression Predicting Adaptive and Maladaptive Coping from Perfectionism and Goal Adjustment

Predictor		***B***	***SE B***	**β**	**ΔR^2**	***p***	***sr***
Adaptive coping							
Step 1					.01	.81	
	Age	− 0.05	0.05	− 0.10			− .09
	Gender	0.01	0.11	0.01			.01
	SPP	0.00	0.00	0.03			.03
Step 2: Main effects					.02	.31	
	SOP	0.00	0.00	0.05			.04
	GAS-R	0.02	0.01	0.18			.16
Step 3: Interaction					.03	.05	
	SOP × GAS-R	0.00	0.00	− 0.18*			− .17
Maladaptive coping							
Step 1					.02	.43	
	Age	− 0.05	0.05	− 0.09			− .09
	Gender	− 0.07	0.12	− 0.05			− .05
	SOP	0.00	0.00	− 0.05			− .04
Step 2: Main effects					.07	< .01	
	SPP	0.01	0.00	0.26**			.24
	GAS-D	0.02	0.02	0.11			.10
Step 3: Interaction					.03	.04	
	SPP × GAS-D	0.00	0.00	− 0.18*			− .18

Notes: SOP = Self-oriented perfectionism; SPP = Socially prescribed perfectionism; GAS-D = Goal adjustment scale disengagement subscale; GAS-R = Goal adjustment scale reengagement subscale; Maladaptive Coping and Adaptive Coping are subscales of the Ways of Coping scale measured at Time 2. All coefficients are reported for the final step. $N = 136$. *$p < .05$; **$p < .01$.

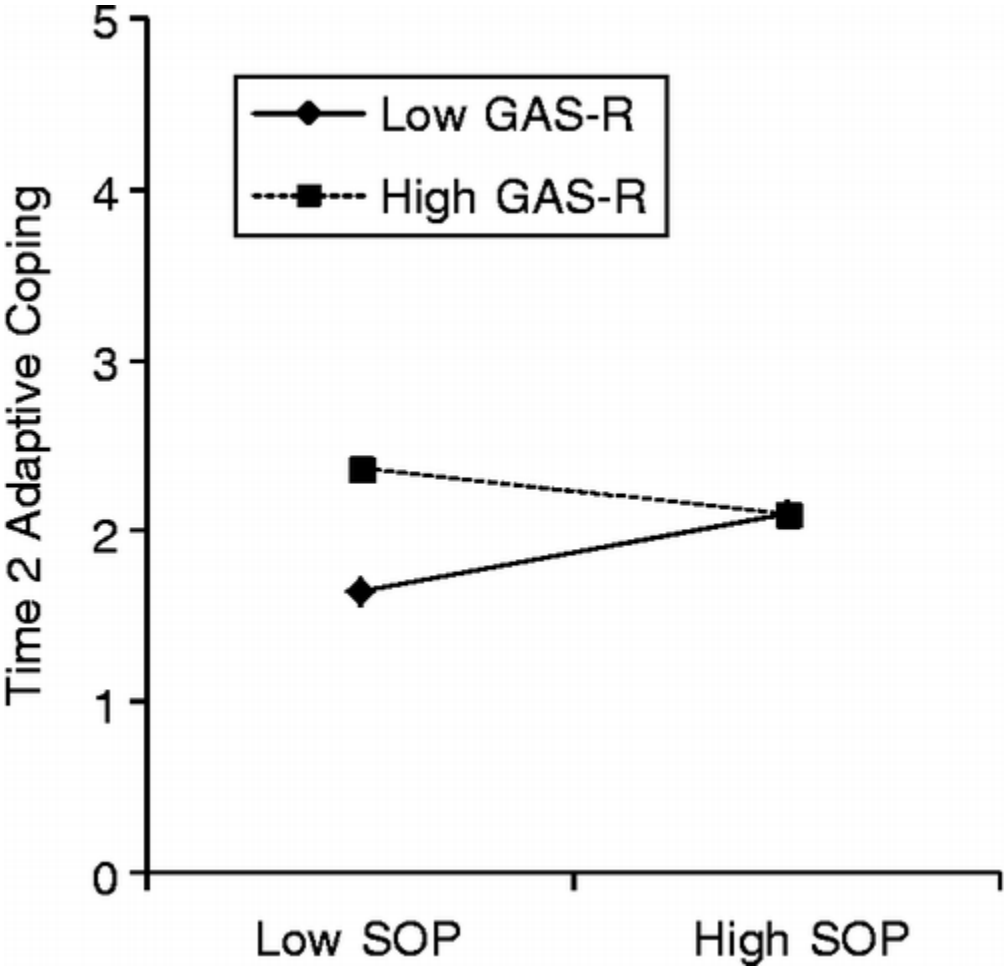

Figure 2 Relationship between self-oriented perfectionism and coping at high and low levels of goal reengagement. *Notes*: SOP = Self-oriented perfectionism; GAS-R = Goal adjustment scale reengagement subscale; Adaptive Coping is a subscale of the Ways of Coping scale. Low and High SOP correspond to 1 *SD* below and above the sample mean, respectively.

Data were missing for two participants on the mental health services item. Of the remaining 134, 18 (13.4%) indicated that they had received some form of mental health treatment during the academic year. These 18 participants had significantly higher PHQ-9 scores compared to those who did not pursue treatment, $M = 16.1$ and $SD = 6.9$ versus $M = 9.6$ and $SD = 6.1$; $t(132) = 4.10$,$p < .001$. Binary logistic regression was used to test whether SOP alone, or in combination with goal adjustment, predicted treatment during the course of the academic year. Given that SOP and goal reengagement predicted the use of adaptive coping

strategies, the interaction with GAS-R was explored. Again, the interaction between SOP and GAS-R was significant. When this interaction was added to the model, the omnibus test was significant, $\chi^2(6) = 21.70$; $p < .001$, and the resulting change in R^2(Nagelkerke) was .27. The significant predictors in the model were BDI-II scores (Odds Ratio = 1.08; $p < .05$) and the SOP × GAS-R interaction (Odds Ratio = 1.02; $p < .01$). Examination of the simple slopes indicated that, for those with high SOP, lower GAS-R was associated with a greater likelihood of seeking treatment compared to higher GAS-R.

Specificity of Results

In order to examine issues of specificity, additional models were tested, and a summary of these results is presented. For predicting depression and maladaptive coping, models that included SPP and substituted the GAS-R for GAS-D were tested; only the main effect of SPP (but not the interaction) was significant in predicting current or stress-related depression. However, for maladaptive coping the results using GAS-R were virtually identical to those using GAS-D. Both SPP ($\beta = 0.28$; $p < .01$) and SPP × GAS-R ($\beta = -0.19$; $p < .05$) were significant predictors, suggesting that this effect was not specific to a single component of goal adjustment.

For predicting adaptive coping, a model that replaced SOP with SPP (in combination with GAS-R) showed no significant main effects or interactions. Likewise, a model with SOP that replaced GAS-R with GAS-D showed no significant main effects or interaction. Complete results are available upon request from the author.

Perfectionism and Personal Goal Characteristics

To test the hypothesized relationships among perfectionism and aspects of personal goal pursuit, zero-order correlations between SOP, SPP, and personal goal inventory ratings (all assessed at Time 1 only) were computed as shown in Table 4. Examples of the types of goals identified by participants included: “Get into pharmacy school”; “Have healthy relationships”; and “Gain self-confidence.” Mean goal difficulty as rated on the personal goals inventory across the sample was 2.7 (*SD* = 0.65), indicating moderate difficulty, and mean goal progress was 2.7 (*SD* = 0.78), indicating “a little” to “moderate” progress. Participants overall were optimistic about the likelihood of achieving success on their important personal goals (*M* = 5.5, *SD* = 0.74). Perfectionism was unrelated to perceived goal progress.

Table 4 Correlation Coefficients for Time 1 Perfectionism Scales and Personal Goal Ratings

	SOP	**SPP**
Goal difficulty	.00	− .12
Goal progress	.07	− .09
Likelihood of success	.17*	− .21**

Success happiness	.16*	− .11
Success pride	.23**	− .01
Failure sadness	.19**	.08
Failure anxiety	.05	.09

Notes: SOP = Self-oriented perfectionism; SPP = Socially prescribed perfectionism; GAS-D = Goal adjustment scale disengagement subscale; GAS-R = Goal adjustment scale reengagement subscale. $N = 388$. *$p < .01$; **$p < .001$.

The hypothesis that higher SPP would be associated with increased goal difficulty and lower likelihood of success was partially supported. SPP was negatively correlated with likelihood of success but was unrelated to goal difficulty; likelihood of success was also positively correlated with SOP. The hypothesis that SOP would correlate more strongly with emotional reactions to goal success or failure was supported for three of the four emotion items. Success-related happiness, success-related pride, and failure-related sadness (but not failure-related anxiety) were all significantly positively correlated with SOP.

Discussion

Perfectionism recently has been conceptualized as having adaptive and maladaptive components that are differentially related to well-being. The current study examined these two forms of perfectionism from a motivational framework, first exploring the extent to which (either alone or in combination with poor goal adjustment) they predict depressive symptoms and stress-related coping. Consistent with previous studies, SPP alone was strongly associated with depressive symptoms assessed at two different time points. The addition of goal disengagement, and its interaction with SPP, did not account for a significant proportion of unique variance in the occurrence of symptoms in the past two weeks. However, a different picture emerged when examining stress reactions. Consistent with hypotheses, the interaction of SPP and goal disengagement was a significant predictor of both depressive symptoms and the use of poor coping strategies (e.g., isolation, detachment, and self-blame) during a stressful two-week period.

This interaction was attributable primarily to the effects of low disengagement, which was associated with increased risk of depression and maladaptive coping among those high (vs. low) in SPP. The coping results were similar across both forms of goal adjustment, but the depression results were specific to goal disengagement. Together, these finding suggests that a subset of people with high SPP who struggle to let go of their high standards (or struggle to adopt new ones), even when it is adaptive to do so, are at high risk of responding poorly in the face of stress. Tenacity is often an asset when it comes to self-regulation, especially when goals are long term or challenging, but when goals are nearly impossible to attain, it may be counterproductive.

The hypothesis that SOP, as an adaptive form of perfectionism, would predict the use of adaptive coping strategies and would not be associated with depressive symptoms, was partially supported. Higher SOP predicted lower depression at Time 1 only but was unassociated with measures of stress-related depression and maladaptive coping, either alone or in combination with goal adjustment. Adaptive coping during stress (e.g., problem-focused coping, seeking social support) was not associated with SOP alone but was predicted by its interaction with goal reengagement. Once again, the interaction effect was attributable primarily to the effects at the low end of goal adjustment (this time reengagement). There was a marginal main effect of reengagement such that higher reengagement was associated with more adaptive coping but this was qualified by SOP. For those with high SOP, reengagement had little effect; for low SOP, higher reengagement predicted more adaptive coping. Results were similar for the second measure of adaptive coping, utilization of mental health services, but the size of the effect, while statistically significant, was trivial. The proportion of participants who actually sought treatment in the current study was quite low, so replication of this finding is warranted.

Across all analyses, the linear relationships between perfectionism and depression or coping were relatively flat for those with high goal adjustment. Given that previous studies have consistently shown SPP to be correlated with depression and maladaptive coping, the nonsignificant slopes associated with high disengagement could be suggestive of a protective effect among those with high SPP. High reengagement was associated with more adaptive coping across levels of SOP, suggesting that refocusing on new goals, even if those goals are perfectionistic, may reflect a general proactive approach toward dealing with stress. Merging these results with those of O'Connor et al. (2009, 2012), the inability to reengage in alternative goals may reflect a sense of hopelessness or lack of control in the face of stress. An important question is whether lack of reengagement arises from an inability to generate alternative goals (e.g., feeling as if there are no other options) or other obstacles such as a basic amotivational orientation toward the alternatives. Consideration of how the two components of goal adjustment may interact with each other may also be important and may provide a clearer picture of their relative contributions. However, given the challenges of detecting and interpreting three-way interactions, this was not explored in the current study.

Goal adjustment may represent one aspect of psychological flexibility, a broad construct that has been proposed as a component of well-being (Kashdan & Rottenberg, 2010). High maladaptive perfectionism is associated with dichotomous thinking in clinically depressed and anxious samples (Egan, Piek, Dyck, & Rees, 2007), suggesting a possible mechanism for faulty self-evaluations in goal pursuit that may result in emotional distress. Perfectionism is also negatively correlated with self-reported attitudinal flexibility (Ferrari & Mautz, 1997). The combination of high SPP and an unwillingness to let go of unsuccessful goals may represent a more extreme case of rigidity or inflexibility than that found in perfectionism alone, and that combination may be particularly toxic during times of high stress when self-regulatory capacities are challenged.

From the cross-sectional data, higher SPP was associated with less optimism about likelihood of success in pursuing personal goals but was unrelated to emotional consequences of goal pursuit. By contrast, higher SOP was associated with greater optimism about the likelihood of future success and, consistent with predictions, was more consistently related to goal-related affective consequences, including feelings of happiness and pride in response to goal success and sadness in response to goal failure. The latter finding lends credence to the possibility that the extrinsic/intrinsic nature of perfectionistic goals may be an important factor in their relation to emotional well-being. No relationship was found between SOP and perceptions of actual (current) goal progress, so those with high SOP did not necessarily feel that they had made better goal progress, but they did report more confidence in the possibility of future success and appear to have more "at stake" emotionally when it comes to their personal goals.

Although the view of perfectionism as having adaptive and maladaptive components is controversial (e.g., Gotwals, Stoeber, Dunn, & Stoll, 2012; Owens & Slade, 2008; Stoeber & Otto, 2006), researchers must consider the circumstances under which holding on to excessively high standards serve to motivate or defeat. This study suggests that when these goals are pursued with too much tenacity and without the capacity for flexible adjustment, the outcome is poor, particularly when the goals have a social-evaluative component. For example, the college student who majors in pre-med, despite her passion and talent for creative writing, because her parents want her to get into the top medical school in the country may face years of feeling like a failure if she is not at the top of her class. Furthermore, her goals are not her own, so even when she is at the top, her success may be met with little emotional satisfaction other than pleasing her parents. This student's "real" goal, however, is to please her parents. If she could learn to think more flexibly about her goals, perhaps she could find a way to please her parents and pursue her true passion.

A recent study showed that intervention can reduce some aspects of perfectionism, including concern over mistakes and perfectionistic personal standards (Kearns, Forbes, & Gardiner, 2007). However, the current study suggests that targeting perfectionism alone may not adequately address problems with self-regulation that are associated with, or amplify the negative effects of, perfectionism. Treatments like self-system therapy, which targets deficits in incentive motivation and teachings skills to enhance goal pursuit (Strauman et al., 2006), may be an especially promising approach for dealing with perfectionism.

This study had several notable limitations. First, only roughly a third of the participants from the larger survey study completed the follow-up, reflecting a very high rate of attrition. Although the follow-up completers did not differ from the non-completers on level of perfectionism, they were somewhat more depressed, and this low response rate may nonetheless mean that the follow-up group differed in other important ways, such as being generally more motivated by incentives. Although reward responsiveness was not assessed in this study, it should be noted that completers and noncompleters did not differ significantly on any of the goal rating items from the goals inventory. Still, other unmeasured factors may distinguish the completers from the non-

completers, thereby limiting the generalizability of these results. Furthermore, the amount of data loss from Time 1 to Time 2 may have produced biased parameter estimates in the regression analyses, suggesting that the results be interpreted with caution pending replication.

Second, the follow-up measures required retrospective reporting on stress-related depressive symptoms and coping, and not all measures were administered at both time points (e.g., the PHQ-9 was administered only at follow-up). A design that allows for more frequent assessments of these outcomes would avoid problems with retrospective reporting biases. In addition, a design that includes complete assessment of all variables at both time points would allow for more sophisticated and complex longitudinal modeling of the constructs of interest (e.g., examining how changes in perfectionism or goal adjustment relate to changes in depressive symptoms). Finally, it is unclear whether the interaction of SPP and GAS-D is specific to depression. In this study, depression was used as a general index of distress, and the aim of the study was not to tease apart questions of specificity of outcomes. However, it is possible that the same results would have been found using measures of anxiety. Future studies are needed to adequately address questions of specificity and to corroborate the current findings.

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Notes

[1.] The variances in the two groups were unequal, Levene's test, $F(1, 386) = 4.10$; $p < .05$, so the mean comparison used adjusted degrees of freedom.

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