

Evaluative concerns perfectionism and coping with failure: Effects on rumination, avoidance, and acceptance



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ABSTRACT

Previous research documented associations between evaluative concerns (EC) perfectionism and emotion-focused coping. However, most research was correlational in nature. The present study, therefore, aimed to investigate the relation between EC perfectionism and 3 types of emotion-focused coping in response to experimentally-induced failure. Participants were 72 young adults ($M_{age} = 21.81$; $SD = 6.44$) who took part in a tangram puzzle task and who were assigned to either a failure or success condition. A week after the experimental session, we assessed participants' coping reaction to the failure experience with an online questionnaire tapping into rumination, avoidance, and acceptance of the experience. Results showed that EC perfectionism interacted with the experimental manipulation, such that only individuals high on EC perfectionism displayed more rumination and less acceptance after failure (compared to after success). Additionally, individuals with heightened levels of EC perfectionism reported higher levels of avoidance, regardless of the experimental condition. This study yielded experimental confirmation that individuals high on EC perfectionism are more at risk for rumination about and low acceptance of a failure experience.

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1. Introduction

Evaluative concerns (EC) perfectionism is characterized by the rigid setting of unrealistically high personal standards and by doubts about one's performance, concerns over making mistakes, and harsh self-scrutiny (Blatt, 1995; Frost, Marten, Lahart, & Rosenblate, 1990). EC perfectionism has been linked to psychopathology (e.g., eating pathology; Egan, Wade, & Shafran, 2011), pervasive feelings of incompetence (Boone, Vansteenkiste, Soenens, Van der Kaap-Deeder, & Verstuyf, 2014), and academic maladjustment (Blankstein, Dunkley, & Wilson, 2008).

To explain the detrimental effects of EC perfectionism, research has examined how perfectionists cope with stressful events (such as failure) (see Dunkley, Solomon-Krakus, & Moroz, 2015 for an overview). Coping can be defined as 'efforts to prevent or diminish threat, harm, and loss, or to reduce associated distress' (Carver & Connor-Smith, 2010, p. 685). Although taxonomies of coping include many types of coping responses (Skinner, Edge, Altman, & Sherwood, 2003), herein we limited ourselves to emotion-focused coping, that is, coping aimed at reducing event-related distress (Carver & Connor-Smith, 2010). Previous research showed that this type of coping is particularly relevant to EC

perfectionism (e.g., Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000). Specifically, we focused on rumination, avoidance, and conditional acceptance of life events. Whereas rumination and avoidance aim to reduce event-related distress, respectively, by focusing on negative thoughts (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008) or by escaping the stressful event (Herman-Stahl, Stemmler, & Petersen, 1995), acceptance is aimed at adapting to the stressor (Carver & Connor-Smith, 2010).

Rumination is an emotion-focused coping response whereby individuals try to get more insight into their (dysphoric) mood following an event by repeatedly thinking about the event, without employing active problem solving techniques (Nolen-Hoeksema, 2004). Recently, Flett, Nepon, and Hewitt (2015) proposed the Perfectionism Cognition Theory, which states that perfectionism relates to a host of detrimental outcomes due to rumination, as ruminating prolongs the negative feelings associated with the negative event. Correlational studies have shown consistently that individuals high on EC perfectionism indeed tend to think and worry more frequently about their daily mistakes (e.g., Frost et al., 1997; James, Verplanken, & Rimes, 2015; Nepon, Flett, Hewitt, & Molnar, 2011).

Another emotion-focused coping response involved in EC perfectionism is avoidance, which is defined as seeking distraction from the stressful situation (e.g., Herman-Stahl et al., 1995). Such an avoidant response among individuals high on EC perfectionism stems from these individuals' tendency to be very concerned with events that may

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demonstrate their deficiencies (Dunkley, Sanislow, Grilo, & McGlashan, 2006). Many correlational studies indicated a positive relation between EC and avoidance of stressful events and experiences (e.g., Dunkley et al., 2000). For example, Dunkley and Blankstein (2000) found that EC perfectionism related to an avoidant coping style when encountering general, social, and academic hassles in daily life, which, in turn, related to current distress. Additionally, Weiner and Carton (2012) found EC perfectionism to be related to test anxiety via avoidant coping.

Besides rumination and avoidance, we also examined the relation between EC perfectionism and acceptance, that is, an active and more constructive form of coping whereby individuals try to adapt to the stressor and come to terms with the negative event and the emotions involved (Carver & Connor-Smith, 2010). Perfectionists are unlikely to accept negative events because their self-worth is heavily contingent upon experiences of success and failure (Blatt, 1995; Shafraan, Cooper, & Fairburn, 2002). Correlational studies indeed suggest that EC perfectionism is related to a tendency to accept oneself only when standards for perfection are met (e.g., DiBartolo, Frost, Chang, LaSota, & Grills, 2004). This conditional self-acceptance likely manifests in an inclination to accept only success but not failure. In line with this reasoning, Stoeber and Janssen (2011) found EC perfectionism to be related to less acceptance of daily mistakes.

In sum, previous studies have shown that EC perfectionism is related to various emotion-focused coping responses. However, these studies almost exclusively relied on correlational designs. An exception is a study by Brown and Kocovski (2014) where EC perfectionism was found to predict rumination among students who took part in an experimental anxiety-inducing speech task. In line with this study, we also adopted an experimental approach. This was deemed important to further understand the causal role of EC perfectionism and to investigate coping in a more standardized fashion. Specifically, in previous correlational studies, the severity and the intensity of the encountered stressor could have differed between individuals scoring high or low on EC perfectionism. Because individuals high on EC perfectionism have the tendency to generate stressful events (e.g., Dunkley, Zuroff, & Blankstein, 2003), the differential exposure to these stressful events could explain differences in coping responses between individuals scoring high and low on EC perfectionism.

To rule out this alternative possibility, we made use of a standardized stressor by experimentally inducing feelings of failure (and success). This procedure has been used before to investigate the relation between EC perfectionism and emotional reactions to failure, such as anger (e.g., Stoeber, Schneider, Hussain, & Matthews, 2014). However, it has never been used to assess coping responses after failure (compared to success). Because theory (e.g., Blatt, 1995) and research (e.g., Dunkley et al., 2003) suggest that individuals with high levels of EC perfectionism are especially vulnerable to competence-frustrating stressors, we focused specifically on coping responses to failure. We hypothesized that, when encountering failure (instead of success), individuals with high scores on EC perfectionism are more likely to display higher levels of rumination and avoidance, and lower levels of acceptance compared to individuals with low scores on EC perfectionism.

2. Method

2.1. Participants and procedure

Individuals were invited to participate in this study via a university's online participant panel system in return for course credits or a monetary reward. In total, 72 individuals (61 women) participated ($M_{age} = 21.81$; $SD = 6.44$).

Participation was voluntary and all data were processed confidentially. At the start of the study, which took part in the laboratory, participants gave their written consent and filled out questionnaires concerning demographics and EC perfectionism. Then, participants

were asked to perform a Tangram Puzzle Task consisting of seven puzzle pieces that needed to be correctly assembled to form geometric figures. To increase the importance of the task, the puzzle task was described as a test of intelligence. First, the experimenter described and demonstrated the puzzle task. Next, a practice phase was introduced in which all participants were given four minutes to assemble one easy and one difficult figure, followed by the test phase.

In the test phase participants were randomly assigned to either the failure or the success condition ($n = 36$ in both conditions). Success and failure were induced using a manipulation of standards and difficulty level validated in previous research (e.g., Van der Kaap-Deeder et al., 2016). Individuals were informed that 50% of their peers could assemble one out of five (success condition) or four out of five (failure condition) puzzles correctly in ten minutes. Additionally, the five puzzle assignments given in the success condition were relatively easy in comparison to the ones given in the failure condition. The difficulty of the puzzles was assessed in a pilot test.¹ Thus, success and failure conditions were created by varying both the standard of success and the level of difficulty of the figures. Both in the practice phase and in the test phase, participants were instructed to write down whether they had successfully assembled the puzzle before continuing with the next puzzle. This was done to make the experience of success or failure more salient. When participants solved all the puzzles, or if the ten minutes had passed, the test was finished and all participants were given feedback. In the success and failure condition, individuals were informed that they performed, respectively, better or worse than their peers. Subsequently, the participants were asked to fill out puzzle task-related questionnaires. One week later, participants received an e-mail in which they were asked to fill out an online survey which assessed their coping responses with respect to the experimental task. Additionally, participants were asked about their degree of previous experience (before this study) with the Tangram Puzzle Task (ranging between 0 = no experience and 4 = a lot of experience). Finally, after completing the online questionnaire, all participants received a debriefing which explained the deception of the puzzle task and the corresponding feedback. Ethical approval was obtained from the university's ethical committee.

2.2. Measures

All items were answered on a Likert scale ranging from 1 (*not at all true*) to 5 (*completely true*), unless indicated otherwise.

2.2.1. Evaluative concerns perfectionism

Two subscales from the Dutch version (Soenens, Vansteenkiste, Luyten, Duriez, & Goossens, 2005) of the Frost-Multidimensional Perfectionism Scale (Frost et al., 1990) were used to measure EC perfectionism, that is, Concerns over Mistakes (9 items, e.g., "People will think less of me if I make a mistake") and Doubts about Actions (4 items, e.g., "It takes me a long time to do something right"). As is common in perfectionism research, scores on both scales were averaged to form a composite measure of EC perfectionism (e.g., Boone et al., 2014) ($\alpha = 0.88$).

2.2.2. Manipulation check variables

To assess the effectiveness of our manipulation, we assessed incompetence (adapted Competence Frustration subscale of the Basic Psychological Need Satisfaction and Need Frustration scale; Chen et al., 2015; 4 items; e.g., "I have serious doubts about whether I performed well on

¹ To determine the difficulty of the tangram puzzles, we ran a pilot test (among 10 individuals) using 20 different tangram puzzles. Based on the average time needed to solve each puzzle, four relatively easy puzzles (success condition) and four relatively difficult puzzles (failure condition) were chosen. The fifth and last puzzle in both conditions was very difficult, as to not make the puzzle task too easy and to ensure the credibility of the manipulation.

Table 1
Descriptives of and correlations between the study variables.

	M (SD)	1	2	3	4	5	6	7	8
1. Age	21.81 (6.44)	–							
2. Previous experience with tangram puzzle	1.25 (0.47)	–0.08	–						
3. EC perfectionism	2.51 (0.70)	–0.25*	–0.17	–					
Puzzle task									
4. Incompetence	3.01 (1.04)	0.04	–0.39**	0.36**	–				
5. Negative affect	2.27 (0.90)	–0.18	–0.27*	0.52***	0.61***	–			
6. Tension	4.25 (1.68)	–0.04	–0.15	0.24*	0.51***	0.70**	–		
Coping response									
7. Rumination	1.85 (0.80)	–0.08	0.03	0.38**	0.35**	0.34**	0.27*	–	
8. Avoidance	1.93 (0.82)	–0.07	–0.34**	0.42***	0.66***	0.60***	0.27*	0.47***	–
9. Acceptance	4.07 (0.85)	0.09	0.06	–0.32**	–0.40***	–0.41***	–0.22	–0.61***	–0.47***

Note. EC = evaluative concerns.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

the puzzle task"; $\alpha = 0.78$), negative mood (Negative Affect subscale of the Positive and Negative Affect Schedule; Watson, Clark & Tellegen, 1988; 10 items; e.g., "Angry"; $\alpha = 0.90$), and tension (subscale of the Intrinsic Motivation Inventory; Ryan, Koestner, & Deci, 1991; 2 items; e.g., "I felt very tense when making the puzzles"; $\alpha = 0.78$), as experienced while assembling the puzzles. Items were rated on a Likert-scale ranging from 1 (*not at all true*) to 7 (*completely true*).

2.2.3. Coping measures

Three coping responses were assessed. First, rumination over the failure or success experience was assessed with 4 items (e.g., "I tend to 'ruminate' or dwell over this event"; $\alpha = 0.69$) from the Rumination subscale of the Rumination-Reflection Questionnaire (Trapnell, & Campbell, 1999). Second, we employed 4 items from the Impact of Event Scale (Horowitz, Wilner, & Alvarez, 1979) to assess the degree to which participants tried to avoid thinking about the failure or success experience (e.g., "I try not to think about it"; $\alpha = 0.70$). Third, acceptance of the success or failure experience was assessed with 6 items (e.g., "I accept this event"; $\alpha = 0.91$). These items were adapted from three previously used scales, namely a scale assessing acceptance of a central past life event (Weinstein, Deci, & Ryan, 2011), a subscale of the Illness Cognition Questionnaire assessing the acceptance of an illness (ICQ; Evers et al., 2001), and a subscale of the Cognitive Emotion Regulation Questionnaire assessing acceptance of a negative event (CERQ; Garnefski, Kraaij, & Spinhoven, 2001).

Table 2
Comparison of the means between the success condition and the failure condition.

	Success condition ($N = 36$)	Failure condition ($N = 36$)	Comparison conditions	
	M (SD)	M (SD)	F(1,69)-value	η^2
Puzzle task				
Incompetence	2.49 (0.78)	3.53 (1.02)	18.19***	0.21
Negative affect	1.87 (0.64)	2.66 (0.96)	13.53***	0.16
Tension	3.74 (1.54)	4.76 (1.68)	6.02*	0.08
Coping response				
Rumination	1.72 (0.70)	1.99 (0.87)	2.38	0.03
Avoidance	1.66 (0.62)	2.19 (0.92)	5.43*	0.07
Acceptance	4.24 (0.62)	3.91 (1.01)	2.56	0.04

* $p < 0.05$.

*** $p < 0.001$.

3. Results

3.1. Descriptive statistics and preliminary analyses

Descriptive statistics and bivariate correlations between the study variables can be found in Table 1. As previous experience with the tangram puzzle was related to some of the study variables, we controlled for this variable in the main analyses. Further, results of independent samples t -tests showed that there were no mean-level gender differences in the study variables.

We subsequently investigated, by means of two independent samples t -tests, whether the randomization of participants across the two conditions was successful by testing mean-level differences in EC perfectionism and previous experience with the Tangram Puzzle Task. Although participants in the success ($M = 2.51$; $SD = 0.73$) and failure ($M = 2.52$; $SD = 0.67$) condition reported similar levels of EC perfectionism ($t(70) = -0.07$; $p > 0.05$), individuals in the success condition ($M = 1.36$; $SD = 0.54$) reported more experience with tangram puzzles than those in the failure condition ($M = 1.14$; $SD = 0.35$) ($t(59.90) = 2.06$; $p = 0.04$).

To further examine condition-effects we performed two MANCOVA's, one involving the variables assessed immediately after the puzzle task (as a manipulation check) and another involving the coping responses, each time controlling for tangram experience as a covariate. The first MANCOVA indicated that condition had a multivariate effect [$F(3, 67) = 7.07$; $p < 0.001$; $\eta^2 = 0.24$], with individuals in the

Table 3
Hierarchical regression analyses with evaluative concerns perfectionism, condition and their interaction predicting rumination, avoidance, and acceptance.

	Rumination		Avoidance		Acceptance	
	Step 1 β	Step 2 β	Step 1 β	Step 2 β	Step 1 β	Step 2 β
EC perfectionism	0.40**	0.16	0.38***	0.20	−0.33**	−0.03
Condition	0.20	0.19	0.27*	0.27*	−0.21	−0.19
Interaction		0.35*		0.25		−0.43**
R ²	0.19	0.26	0.32	0.35	0.14	0.24
F for R ² change	8.06**	5.93*	10.11***	3.50	5.57**	8.84**

Note. EC = evaluative concerns. Condition was coded as '0' for the success condition and as '1' for the failure condition.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

failure, relative to those in the success, condition feeling more incompetent, tense, and negative during the puzzle task (see Table 2). However, with respect to the coping responses, the multivariate effect was not significant [$F(3, 67) = 1.89; p > 0.05; \eta^2 = 0.08$]. Only an effect on avoidance (and not on rumination or acceptance) was found, with individuals in the failure condition, compared to those in the success condition, reporting more avoidance (see Table 2).

3.2. Primary analyses

To investigate whether EC perfectionism moderated the relation between condition and the three coping responses, we performed three separate hierarchical regression analyses with rumination, avoidance, and acceptance being entered as separate outcomes, while controlling for previous experience with the tangram puzzle. In a first step, we entered simultaneously the standardized score of EC perfectionism and condition as predictors, while in a second step the interaction term between these two variables was added as a predictor (see Table 3). In the first step, EC perfectionism predicted positively rumination and avoidance and negatively acceptance. In the second step, the interaction between EC perfectionism and condition significantly predicted rumination and acceptance (but not avoidance).

The two significant interactions were further examined by means of simple slope analyses, in which the significance of the slopes of the regressions at two levels of the moderator are calculated, that is, at low (i.e., $< 1 SD$ below the mean) and high (i.e., $> 1 SD$ above the mean) levels of EC perfectionism (Hayes & Matthes, 2009). As displayed in Figs. 1 and 2, failure (compared to success) only predicted higher levels of rumination (slope = 0.71; $t = 2.99; p < 0.01$) and lower levels of acceptance (slope = $-0.87; t = -3.45; p < 0.01$) in those individuals with a high level of EC perfectionism. Individuals scoring low on EC perfectionism, experienced similar levels of rumination (slope = 0.30; $t = 1.73; p > 0.05$) and acceptance (slope = $-0.32; t = -1.74; p > 0.05$) across both conditions.

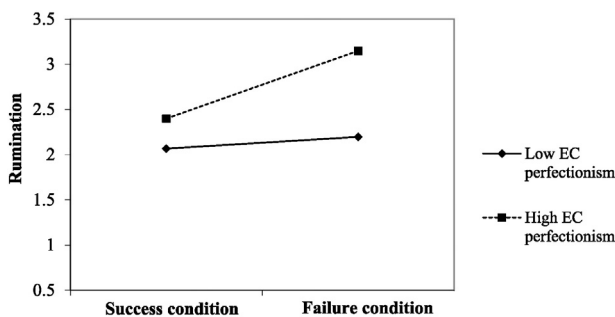
4. Discussion

The aim of this study was to investigate the relation between EC perfectionism and coping responses with respect to an experimentally-induced failure experience. The exposure to an experimentally-induced and, hence, standardized event of failure was deemed critical to rule out the possibility that associations between EC perfectionism and emotion-focused coping could be accounted for by the more severe nature of stressors encountered by EC perfectionists.

Clearly, the failure manipulation worked as it produced feelings of incompetence, tension, and negative affect directly following the task participation and greater feelings of avoidance of the event one week later. Yet, especially individuals higher in EC perfectionism had trouble in coping with the failure one week later. That is, congruent with previous studies (e.g., James et al., 2015), they ruminated more when confronted with failure (relative to success) and they were less accepting of their failure. Presumably, the latter finding is indicative of EC perfectionists' conditional attitude towards themselves, that is, their tendency to let their self-worth depend heavily on successes and failures (e.g., DiBartolo et al., 2004).

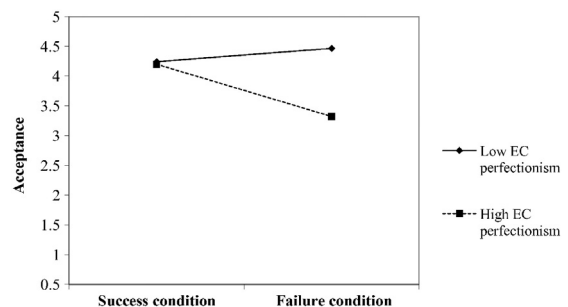
Interestingly, different from previous correlational studies (e.g., Dunkley & Blankstein, 2000), we found no significant interaction between the induction of failure and perfectionism when predicting avoidance. However, there was a main effect of EC perfectionism on avoidance, indicating that EC perfectionism was related positively to avoidance across experiences of success and failure. We also note that our sample was relatively small which could have hindered finding a significant interaction effect on avoidance. Indeed, the interaction effect was close to significance ($\beta = 0.25, p = 0.07$) and could have been significant with a larger sample. Although this interaction-effect must be interpreted with caution because it is only marginally significant, it deserves to be examined further in future experimental research with larger samples.

Finally, it is interesting to note that the three coping responses were fairly highly correlated, presumably because they all tap into different



Note. EC = Evaluative concerns.

Fig. 1. Two-way interaction of evaluative concerns perfectionism × condition predicting rumination.



Note. EC = Evaluative concerns.

Fig. 2. Two-way interaction of evaluative concerns perfectionism × condition predicting acceptance.

facets of emotion-focused coping (Carver & Connor-Smith, 2010). Specifically, the rather strong relation between rumination and avoidance indicates that these two coping strategies, which at first sight seem to be opposite reactions, go hand in hand. This correlation is in line with findings among clinically depressed patients (Krieger, Altenstein, Baettig, Doerig, & Holtforth, 2013). Our findings suggest that, particularly after failure, individuals scoring high on EC perfectionism display both rumination and avoidance. Although these individuals try to avoid thinking about the stressor and the associated negative feelings, this avoidant tendency seems to, paradoxically, increase the level of thinking about the stressor. Such an avoidant tendency and the subsequent ruminative response are perhaps driven by a non-accepting attitude towards failure among individuals high in EC perfectionism. Future research is needed to determine the precise relations between these three coping responses.

The current findings point out the potential benefits individuals with a high level of EC perfectionism may experience from therapeutic approaches that emphasize self-compassion. Self-compassion contains three elements, that is, (a) being kind and unconditionally accepting towards oneself (instead of being self-critical), (b) seeing one's imperfections as a human characteristic that connects one to others (rather than dealing with these in isolation), and (c) being mindful (i.e., being aware of and attended to one's emotions without judging them) when encountering negative events or self-aspects (instead of ruminating over or avoiding these) (Neff, 2003). These elements are closely related to the coping responses investigated in the current study, with the first element relating to acceptance and with the third element relating to both rumination and avoidance. As such, the present findings provide indirect empirical support for therapeutic approaches that are based on increasing self-compassion, such as Compassionate Mind Training (Barnard & Curry, 2011).

5. Limitations and directions for future research

This study had several limitations that warrant caution when interpreting the findings. First, we employed a relatively small sample consisting mostly of women and university students. This small and rather homogeneous sample limits the generalizability of our findings. It would be interesting for future research to examine coping experimentally using larger and more heterogeneous samples of participants differing in important sociodemographic characteristics such as age, sex, level of education, and cultural background. Second, although the induction of failure led to negative feelings (e.g., incompetence), this induction was a relatively minor stressful event. Thus, it remains to be examined whether effects of EC perfectionism on coping would be similar in response to stronger and more stressful events. We must note, however, that previous studies have indicated that often daily hassles are more stressful than major life events (e.g., DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982) and inducing major stress may not be ethically acceptable. Third, because we assessed coping fairly shortly after the event (i.e., after a week), future studies may want to assess coping after induced failure multiple times across a longer period to investigate the dynamic relation between EC perfectionism and coping. Such future research can further address the possibility that emotion-focused coping responses account at least partly for the maladjustment (e.g., depressive symptomatology) associated with EC perfectionism and perhaps even for the perpetuation of EC perfectionism itself (Shafraan et al., 2002).

6. Conclusion

Using an experimental approach, we found that EC perfectionism was related to heightened levels of rumination and reduced acceptance of failure (relative to success). Further, EC perfectionism related to more avoidance after experiences of both failure and success. These findings corroborate and complement extant correlational research on the

emotion-focused coping strategies associated with EC perfectionism. They also underline the importance of targeting coping with stress in interventions and counseling with individuals displaying a heightened level of EC perfectionism.

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