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## **Abstract**

Recent research has revealed self-compassion to be associated with many aspects of mental wellness. The present study investigates the relationship between perfectionism and rumination in predicting state self-compassion separately for both conscientious and self-evaluative forms of perfectionism. We hypothesized that perfectionism would interact with rumination in predicting state self-compassion such that there would be a negative association between occurrence of rumination and state-self compassion that would be more prominent in those with lower levels of perfectionism in regards to self-evaluative, but not conscientious perfectionism. To test these predictions, participants filled out a perfectionism inventory and completed a four minute ruminative (or non-ruminative) writing task before completing a state self-compassion questionnaire. Although we found no significant interaction between self-evaluative perfectionism and rumination, our results reveal self-evaluative perfectionism to be inversely related to state self-compassion such that people with lower levels of self-evaluative perfectionism generally experienced greater momentary states of self-compassion.

## **Keywords**

Perfectionism, State Self-compassion, Rumination, Personality

## **Disciplines**

Applied Behavior Analysis | Experimental Analysis of Behavior | Psychology

## **Comments**

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**Abstract**

Recent research has revealed self-compassion to be associated with many aspects of mental wellness. The present study investigates the relationship between perfectionism and rumination in predicting state self-compassion separately for both conscientious and self-evaluative forms of perfectionism. We hypothesized that perfectionism would interact with rumination in predicting state self-compassion such that there would be a negative association between occurrence of rumination and state-self compassion that would be more prominent in those with lower levels of perfectionism in regards to self-evaluative, but not conscientious perfectionism. To test these predictions, participants filled out a perfectionism inventory and completed a four minute ruminative (or non-ruminative) writing task before completing a state self-compassion questionnaire. Although we found no significant interaction between self-evaluative perfectionism and rumination, our results reveal self-evaluative perfectionism to be inversely related to state self-compassion such that people with lower levels of self-evaluative perfectionism generally experienced greater momentary states of self-compassion.

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### The Interaction Between Perfectionism and Rumination Predicting State Self-compassion

Due to the increasingly competitive nature of modern society, many Western societies have emphasized the value of maintaining a high self-esteem in order to feel worthy and capable of excelling in an individualistic culture. Self-esteem, which may be defined as a mental evaluation of one's own value gained through social comparison of skills one finds to be personally meaningful, has been associated with many adaptive constructs (Neff, 2011). However, since self-esteem has also been associated with many negative psychological outcomes including increased narcissism and a tendency to devalue essential life skills that one does not excel in, many researchers in the field of psychology have started looking into the value of self-compassion as a less damaging and more positive way for people to relate to themselves (Neff, 2011).

According to Neff, self-compassion is mental construct that includes the ability to treat oneself kindly instead of harshly when faced with failure, and understanding that one's negative experiences are a basic part of human life, and a sense of mindfulness that allows one to avoid over-identifying with negative cognitions (2003a). It may also be defined as an attitude towards oneself that requires a balance between concern for others and concern for oneself (Neff, 2003a). Self-compassion has been associated with many positive psychological phenomena including a more positive affect following the experience of criticism or a stressful social event (Leary, Tate, Adams, Batts, & Hancock, 2007) as well as an increased tendency to work toward mastery goals and use emotion focused coping strategies as opposed to performance goals and avoidance-oriented coping strategies (Neff, Ya-Ping, & Dejitterat, 2005). Additional studies have revealed self-compassion to be strongly related to a variety of other aspects of psychological well-being such as a decreased tendency to experience depression, eating-disorders, anxiety, thought

suppression and self-criticism and an increased ability to connect with others and maintain a higher level of overall life satisfaction (Neff, 2011).

As a result of all of the recent research demonstrating the positive correlates of self-compassion, many psychologists have dedicated their time to more thoroughly investigating the development and additional benefits of this construct. Although self-compassion is considered a fairly stable trait that may vary consistently between individuals, recent studies have revealed that one's levels of self-compassion may be increased temporarily in a laboratory setting. These include an investigation conducted by Breines and Chen which revealed that participants experienced a higher level of state self-compassion following an activation of schemas related to giving support to others (2013).

Researchers have examined people's levels of perfectionism and tendency to ruminate as factors that may influence how they may experience self-compassion. While perfectionism as a whole may be defined as one's general pursuit of flawlessness in a variety of aspects of his or her life, recent studies have found that this construct may serve as a combination of two very different components including the more adaptive conscientious perfectionism and the more maladaptive self-evaluative perfectionism. A factor analysis of questions involved in a variety of perfectionism questionnaires revealed that items assessing tendency to pursue perfect results, tendency to be neat and orderly, and tendency to plan ahead were closely related to conscientious perfectionism while items assessing tendency to stress over mistakes, tendency to worry over past errors and future mistakes, and tendency to seek validation from others were more strongly associated with self-evaluative perfectionism (Hill et al., 2004).

Although the adaptive aspects of perfectionism have been associated with higher exam performance (Stoeber, Haskew, & Scott, 2015) and a lower amount of perceived strain on one's

mind and body (Kung & Chan, 2014), maladaptive perfectionism has been linked to greater tendency to experience interpersonal issues, handle criticism poorly, and experience a greater need for approval (Dimaggio et al., 2015). Additional research has revealed maladaptive perfectionism to be associated with the severity of symptoms for those who experience personality disorders (Dimaggio et al., 2015) and a greater amount of perceived psychological strain (Kung & Chan, 2014). Further investigations into the association between perfectionism and job related stress have shown that counselor educators who primarily experience maladaptive perfectionism also experience more personal, student, and work-related burnout than those who demonstrate lower levels of this trait (Moate, Gnilka, West, & Bruns, 2016).

The tendency to ruminate is a personality trait that may influence people's experiences with perfectionism. Rumination may be defined as internally focused attention towards a negative affect that involves self-reflection and focus on a negative emotion (Gonzalez, Nolen-Hoeksema, & Treynor, 2003). Higher tendencies to ruminate have been associated with drug abuse, eating disorders, anxiety, and depression as well as poorer relationships with others and weaker cognitive abilities (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). Rumination may be considered to be a combination of one's tendency to experience self-reflection and brooding. Recent research into the higher prevalence of depression in women has shown that aspects of rumination related to brooding, but not to self-reflection, may mediate the association between gender and depression (Gonzalez et al., 2003).

Additional research has examined how rumination may mediate the association between both types of perfectionism and self-forgiveness, a construct similar to self-compassion (Dixon, Earl, Lutz-Zois, Goodnight, & Peatee, 2014). To test this relationship, participants recalled a past offense that they committed and rated how thoroughly they forgave themselves for it. They then

completed questionnaires assessing their tendency to ruminate, their overall level of self-acceptance, and the extent to which they experience conscientious and self-evaluative perfectionism. Their results revealed self-evaluative perfectionism to be positively associated with rumination and negatively associated to self-acceptance and self-forgiveness. However, the researchers found no significant association between conscientious perfectionism and rumination or self-forgiveness. Thus, these results supported the researchers' prediction that rumination mediates the association between self-evaluative perfectionism and self-forgiveness. However, although self-forgiveness is closely related to the self-kindness characteristic of self-compassion, further research is needed to investigate how perfectionism and rumination relate to people's abilities to experience higher temporary levels of this trait.

The present study examines the interaction between perfectionism and rumination in predicting levels of state self-compassion. To investigate this relationship, participants will complete a revised version of Hill's 2004 personality inventory (Hill et al., 2004) and spend five minutes either ruminating on a past academic failure or describing this event through a more distanced perspective. They will then complete a questionnaire assessing their levels of state self-compassion to examine whether the rumination manipulation and their own levels of each type of perfectionism may be associated with their abilities to experience higher temporary levels of this mental state. Consistent with the results of prior research into how perfectionism and rumination predict self-forgiveness, we hypothesize the presence of a significant interaction between level of perfectionism and rumination in predicting state self-compassion only in regards to self-evaluative perfectionism. Specifically, we predict that although participants both high and low in levels of self-evaluative perfectionism will have a lower level of state-self-compassion after ruminating than after thinking through a less internally focused perspective,



this outcome will be less pronounced in individuals with higher levels of self-evaluative perfectionism due to the presence of a floor effect. We further predict that individuals who experience lower levels of self-evaluative perfectionism will express higher state of self-compassion than those who experience higher levels of this maladaptive form of perfectionism regardless of the rumination condition since self-evaluative perfectionism is characterized by a tendency to be critical of mistakes that likely subdues one's ability to treat his or her self with kindness following a failure (Hill et al., 2004). We additionally hypothesize that, regardless of perfectionism levels, participants in the non-ruminative perspective condition will be more likely to experience a greater state of self-compassion than those in the ruminative condition since the ruminative condition requires participants to meditate on their failures more directly. However, in regards to conscientious perfectionism we predict there will be no significant interaction between level of perfectionism and writing task condition in predicting state self-compassion.

## **Method**

### ***Participants***

The study included 60 Gettysburg College students as participants (49 females, 10 males, 1 preferred not to say). Their mean age was 19.73 years old ( $SD = 1.23$ , range = 18-22).

Participants identified themselves as White (55 %), Black (8.3 %), Hispanic (20 %), Multiracial and Other (15 %). All of the participants were recruited using convenience sampling methods including emailing groups of students that may have been interested in participating.

### ***Measures***

**Demographics.** Participants reported their age along with the race and gender that they identified with.

**Perfectionism.** The participants' levels of each type of perfectionism were assessed using an adapted version of Hill's 2004 59 item Perfectionism Inventory as performed in Dixon et al.'s investigation into whether rumination mediates the relationship between perfectionism and self-forgiveness (2014). This inventory required participants to rate their agreement with a variety of items on a scale from 1 (strongly disagree) to 5 (strongly agree). Hill analyzed the convergent validity of this measure by administering his perfectionism inventory to participants along with other measures of perfectionism such as the MPS-HF and the MPS-F and found participants' scores on these measures to be closely related (Hill et al., 2014). Because items assessing high expectations for others and parental pressures were not very strongly associated with either conscientious or self-evaluative perfectionism (Hill et al., 2004), questions related to these scales were not included in the questionnaire. Twenty-nine items were included overall.

*Self-evaluative perfectionism.* We computed self-evaluative perfectionism by averaging participants' mean scores on the need for approval, concern for mistakes, and rumination scales. Sample items for these scales include the statements *I am over-sensitive to the comments of others*, *If I make mistakes, people might think less of me*, and *If I do something less than perfectly, I have a hard time getting over it* respectively. Participants' mean ratings for the items were averaged for each scale. This scale included 23 items overall. Internal consistency ( $\alpha$ ) for this scale was .924. The average mean score of self-evaluative perfectionism was 3.215 ( $SD = .718$ ). The mean scores of self-evaluative perfectionism ranged from 1.96 to 4.83. The mean scores for this scale were then centered prior to further analysis.

*Conscientious perfectionism.* Since previous studies have not revealed conscientious perfectionism to be significantly related to state self-compassion, we only include the six items from the striving for excellence scale to represent this perfectionism type as the subscale that we

felt would be most related to our topic of study. A sample item for this scale includes *My work needs to be perfect in order for me to be satisfied*. Participants' mean ratings were averaged for each item of this scale. Internal consistency ( $\alpha$ ) for this scale was .742. The average mean score of conscientious perfectionism was 3.434 ( $SD = .719$ ). The mean scores of conscientious perfectionism ranged from 1.83 to 4.50. These scores for this scale were then centered prior to further analysis.

**State self-compassion.** We assessed state-self compassion using the 16 item state self-compassion scale used by Breines and Chan in their investigation into the association between state self-compassion and support giving schemas (2013). Although the researchers did not directly measure the validity of their scale, they found that it had a reliability of  $\alpha = .76$  and was based off of Neff's self-compassion scale (Breines & Chan, 2013). Neff found her self-compassion scale to be a valid measure of self-compassion by computing the correlation coefficients between the self-compassion scale and other scales that also measure this construct and finding that they closely resembled her predicted values (Neff, 2003b). Items from the state self-compassion scale consisted of a variety of statements regarding how the participant feels about his or her self in the moment. A sample item includes *I'm trying to be kind and reassuring to myself*. We asked participants to rate how thoroughly they agreed with each statement at that exact moment on a scale from 1 (strongly disagree) to 7 (strongly agree). The items in which a high score indicated a lower level of state self-compassion were reverse coded. The mean of these items was used to compute state self-compassion. Internal consistency ( $\alpha$ ) for this scale was .874. The average mean score of state self-compassion was 3.527 ( $SD = .693$ ). The mean scores of state self-compassion ranged from 1.75 to 4.63.

### ***Procedure***

After providing informed consent, participants completed a demographics questionnaire that asked for their age as well as the gender and race that they identify with. Next participants completed the 45 item perfectionism questionnaire. They were then randomly assigned to either a self-immersed perspective (ruminative) or self-distanced perspective (non-ruminative) condition. Participants in the self-immersed perspective condition given the instructions “Think about a time where you did not live up to an expectation that you set for yourself. Write about the situation as if you were reliving it and describe the emotions you experienced” while participants in the self-distanced perspective condition were given the instructions “Think about a time where you did not live up to an expectation that you set for yourself. Take a few steps back and move away from the experience, write about this as if it were happening to the distant you. Think and write about the underlying reasons for the emotions of the distant you”. We based this manipulation on the method used by Kross, Ayduk, and Mischel to identify the difference between true rumination and other types of reflecting on negative emotions (2005). Five minutes later, we instructed participants to complete the state self-compassion scale. Once the participants completed this questionnaire, we provided them with a debriefing that described the purpose and predictions of the study.

### **Results**

We performed a regression analysis to examine the interaction between level of perfectionism and rumination writing task condition predicting state self-compassion separately for conscientious perfectionism and self-evaluative perfectionism. We excluded cases in which participants were older than 30 years old or spent less time than 60 seconds on the writing task from our analysis. Responses listed as “refuse to answer” were set as missing and not included in our analysis. We used the centered average scores of the participants to analyze the effects of

each type of perfectionism and the average scores of each participant to analyze state self-compassion. The writing task condition was coded as either a “0” for the self-distanced perspective or a “1” for the self-immersed perspective and analyzed as a nominal variable.

*Self-evaluative perfectionism.* Our results reveal no significant interaction between self-evaluative perfectionism and rumination in predicting levels of state self-compassion ( $B = .247$ ,  $SE = .225$ ,  $\beta = .184$ ,  $t = 1.099$ ,  $p > .05$ ). We also did not find a significant effect of the rumination writing task on participants’ levels of state self-compassion when disregarding the effects of perfectionism. ( $B = -.026$ ,  $SE = .160$ ,  $\beta = -.019$ ,  $t = -0.164$ ,  $p > .05$ ). However, we did find a significant inverse association between self-evaluative perfectionism and levels of state self-compassion such that those who experience lower levels of self-evaluative perfectionism experience higher state self-compassion than those higher in self-evaluative perfectionism regardless of their rumination condition ( $B = -.595$ ,  $SE = .162$ ,  $\beta = -.617$ ,  $t = -3.671$ ,  $p < .05$ ). Figure 1 further displays this effect.

*Conscientious perfectionism.* Our results reveal no significant interaction between rumination and level of conscientious perfectionism in predicting state self-compassion ( $B = .261$ ,  $SE = .257$ ,  $\beta = .174$ ,  $t = 1.012$ ,  $p > .05$ ). We also did not find a significant association between level of conscientious perfectionism and state self-compassion regardless of the rumination condition ( $B = -.248$ ,  $SE = .166$ ,  $\beta = -.257$ ,  $t = -1.490$ ,  $p > .05$ ) Figure 2 displays this association. As previously indicated, our results additionally demonstrate that the effect of the rumination writing task condition on participants’ subsequent levels of state self-compassion was also not significant regardless of participants’ levels of conscientious perfectionism ( $B = -.080$ ,  $SE = .181$ ,  $\beta = -.058$ ,  $t = -0.442$ ,  $p > .05$ ).

## Discussion

Our results revealed there to be no significant interaction between the perspective that participants took during the writing task and their own levels of perfectionism in predicting their temporary levels of state self-compassion. We also found that participants' levels of state self-compassion did not significantly differ depending on the perspective that they took in a writing task independent of their levels of perfectionism. Thus, our results do not support our original hypotheses that there would be a significant interaction between levels of self-evaluative perfectionism and rumination in predicting state self-compassion and that those assigned to a more ruminative writing task perspective would have temporarily lower self-compassion levels. However, our results did support our hypotheses that participants' levels of perfectionism would be inversely associated with state self-compassion specifically for the self-evaluative perfectionism type. Therefore, our results revealed that participants who experienced greater levels of self-evaluative perfectionism also tended to experience lower temporary levels of self-compassion following the writing task while their levels of conscientious perfectionism could not predict their levels of temporary self-compassion.

Our findings demonstrate that the self-evaluative and conscientious forms of perfectionism significantly differ in how they relate to one's likelihood of experiencing temporary states of increased self-compassion such that individuals who experience low levels of self-evaluative self-compassion are more likely to experience higher momentary levels of this state. Although they also do not show any effect of the writing task condition, this may be attributed to the fact that many participants did not take the full four minutes to complete the task and several participants spent less than two minutes on this portion of the investigation. Thus, future studies that manipulate rumination should not provide the participants with the option of skipping on to the next part of the investigation before the full time is over and may even benefit

from extending the time allotted for the task. It is also possible that the self-immersed task perspective condition was not a valid reflection of true rumination and questionnaires might be used to more accurately assess participants' tendencies to ruminate. Further research is required to determine the replicability of our findings and investigate how different types of perfectionism and rumination relate to the more enduring construct of trait self-compassion.

Future studies may additionally expand upon these findings by investigating whether they are consistent across different ages, races, and genders. Researchers may also investigate whether individuals in collectivist cultures similarly experience these trends. These studies may improve our design by acquiring a larger sample size and using true random sampling rather than convenience sampling to recruit participants. Additionally, the different subscales of the perfectionism inventory may be analyzed independently to further pinpoint which aspects of perfectionism are related to lower self-compassion. When using the writing task as a manipulation of rumination, future studies may also manipulate the length of this task or the length of time that participants wait between completing the task and taking the self-compassion questionnaire to examine how decreased temporary levels of self-compassion change over time.

Since the results of this investigation reveal decreased state self-compassion to be related to higher levels of self-evaluative perfectionism, these findings demonstrate how people may improve their mental well-being by working to adopt new methods of thinking that minimize the impact of this trait. Although individual differences in trait perfectionism persist throughout ones' lifetime, future studies may investigate whether the negative association between self-evaluative perfectionism and self-compassion may be reduced by regularly reminding oneself or another who experiences high self-evaluative perfectionism that he or she does not have to be perfect in order to be human and loved. Thus, additional research into the mental correlates of

self-compassion is necessary to ensure that people can enjoy the maximum psychological benefits that this trait has been shown to provide.



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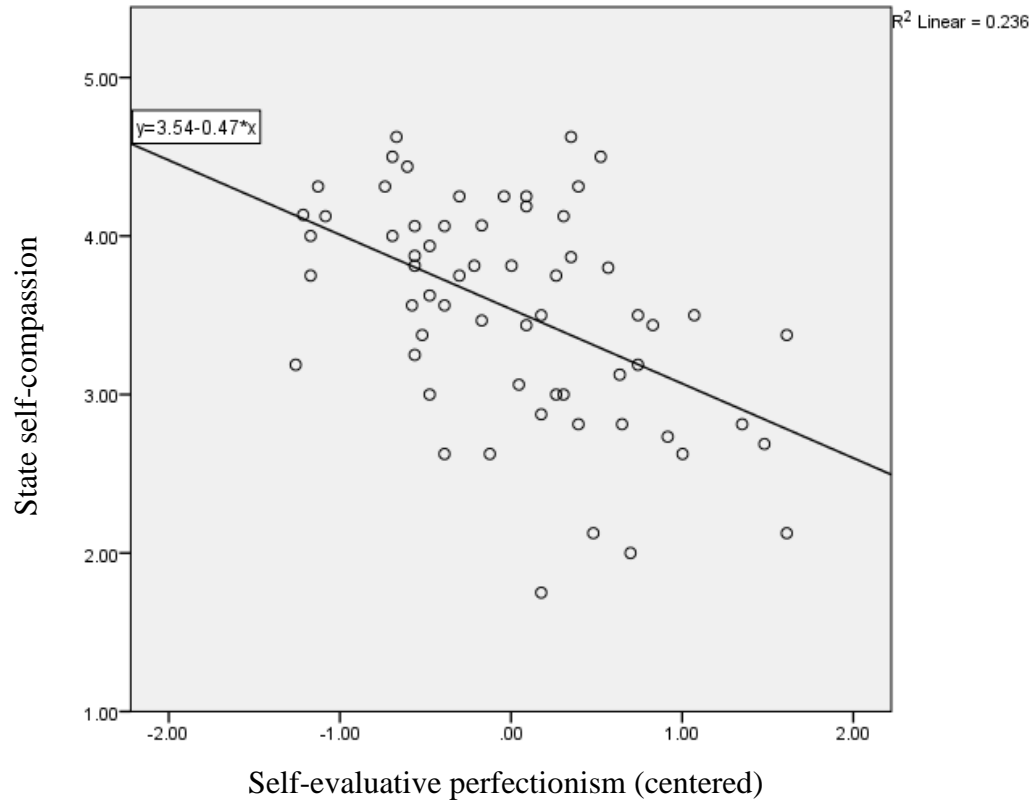


Figure 1. The significant association between centered self-evaluative perfectionism and state self-compassion.

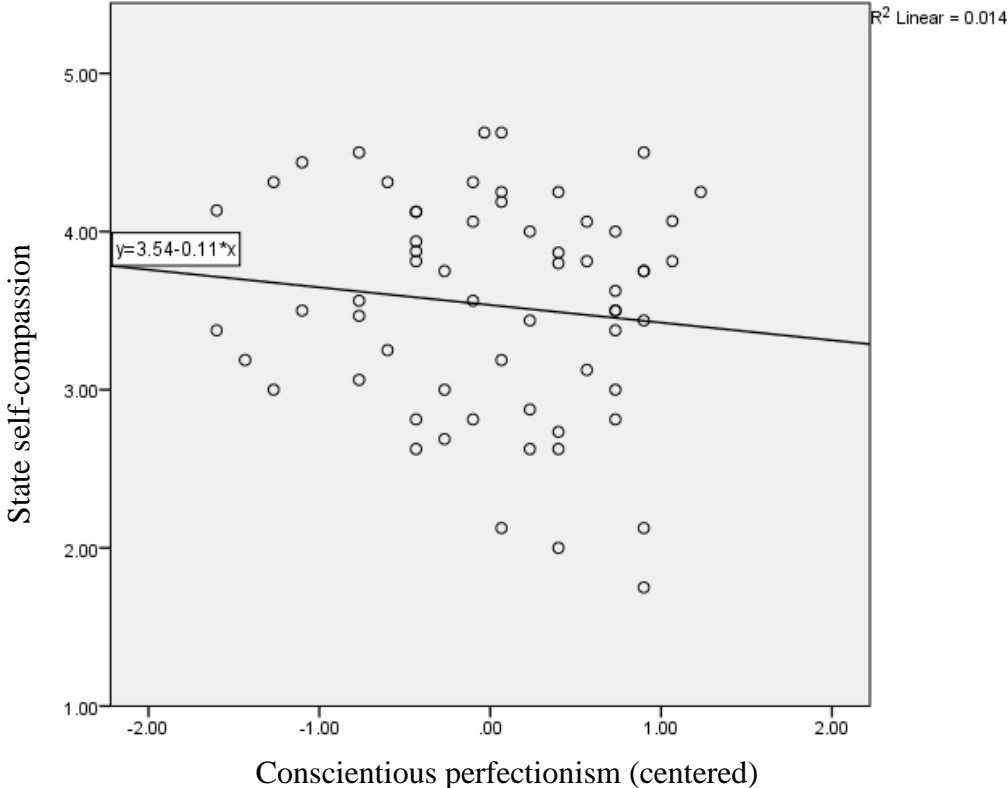


Figure 2. The nonsignificant association between conscientious perfectionism and state self-compassion