

The Relationship Between Positive and Negative Perfectionism and Depressive Symptoms: The Role of Academic Rumination

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Abstract

Background: Perfectionism as a personality trait can lead to students depression. It seems that academic rumination in the relationship between perfectionism and depression play a role of mediator in academic settings.

Objectives: The aim of this study was to investigate the relationship of positive and negative perfectionism with depressive symptoms mediated by academic rumination.

Patients and Methods: The sample comprised 368 undergraduate students of Shahid Chamran University of Ahvaz in 2011-2012 academic year. They were randomly selected by multi-stage sampling method. The data were collected by 3 measures of positive and negative perfectionism scale (PANPS), beck depression inventory-II (BDI-II), and academic rumination inventory (ARI).

Results: Preliminary analyses revealed that positive perfectionism was negatively correlated with both depressive symptoms and academic rumination and had a significant negative correlation with negative perfectionism. Also, negative perfectionism was positively correlated with both depressive symptoms and academic rumination. Furthermore, academic rumination was positively correlated with depressive symptoms. The results of path analysis showed academic rumination mediated the relationship of positive and negative perfectionism with depressive symptoms.

Conclusions: According to this model, students with high score on negative perfectionism by mechanism of academic rumination report higher depressive symptoms, however students with high score on positive perfectionism report lower depressive symptoms through reduction of ruminative thoughts.

Keywords: Perfectionism, Academic Rumination, Personality, Thinking, Depressive Symptoms, Students

1. Background

Perfectionism is a personality trait that characterized by a person's striving for flawlessness and setting excessively high performance standards. It is accompanied with overly critical self-evaluations and concerning about others' evaluations (1). Empirical studies have demonstrated that perfectionism linked with normal psychological functioning, as well as emotional and behavioral difficulties (2).

Hamachek was the first researcher who distinguished normal (adaptive or positive) perfectionists from neurotic (maladaptive or negative) perfectionists. Normal perfectionists pursue perfection without compromising their self-esteem, and derive pleasure from their efforts. Neurotic perfectionists strive for unrealistic goals and consistently feel dissatisfied when they cannot reach their goals (3). Many studies have shown that negative perfectionists report higher levels of psychological problems such as depression and anxiety, whereas positive

perfectionists report higher self-esteem than the other groups. Some researchers have found that positive striving is not associated or weakly associated with subsequent depressive symptoms (4) but is associated with conscientiousness and coping (5, 6). On the other hand, neurotic (maladaptive or negative) perfectionism has been shown to be associated with depression, obsessive compulsive disorder, social phobia, panic disorder, and may be a factor in comorbidity of psychopathology (7-9). Multiple mediators have been used to investigate the relationship between perfectionism and depression. Research results support the mediating roles of self-criticism, self-esteem, maladaptive defense styles, and maladaptive coping styles in the relationship between perfectionism and depressive symptoms (10-13). In recent years, there has been a growing attention in testing the role of rumination as a mediator of this relationship.

Rumination can be considered as a mechanism that

explains how perfectionism leads to later depressive symptoms. In general, the process of rumination can be thought of as repetitively and uncontrollably thinking about a negative event. Indeed, rumination is a construct associated with the onset and persistence of depression. It is defined as a maladaptive cognitive process involving passive, repetitive thinking about the potential causes and consequences of one's depressive symptoms. It is conceptualized as a stable trait that increases the risk for depressed mood. It has also been found to predict a longer duration of depressive symptoms, new onsets of major depression, and the length of the episode (14). Rumination is associated with perfectionism too (15, 16). Perfectionistic people engage in rumination about their failure and need to be perfect, thereby focusing on the discrepancy between their actual selves versus their ideal selves (17). Rumination is typically measured by the response styles questionnaire (RSQ).

Treynor et al. (18) used factor analysis to identify principle components of depression-related items that could be removed from the scale (RSQ). They identified two additional principle components of rumination: reflective pondering and brooding. Reflective pondering is defined as engaging in cognitive problem solving which helps alleviate an individual's depressive symptoms. Brooding, defined as thinking anxiously or worrying, is a maladaptive process that is associated with some unachieved standard. Both components are associated with depressive symptoms in the short term but only brooding has been shown to have a longitudinal association with depression (18).

These results suggest a model where perfectionism leads to depressive symptoms through the mediating variable of rumination. Research findings support this mediating model. Results of Flett et al. study showed that after controlling the levels of rumination, previously significant correlations between dimensions of perfectionism and depressive symptoms became insignificant (16). Furthermore, in study by Di Schiena et al. (19), results showed that abstract-analytical rumination fully mediates the relationship between perfectionistic concerns and depressive symptoms. However, no complementary association was found between perfectionistic strivings and concrete-experiential. Using multidimensional perfectionism scale (MPS), Harris et al. (20) found that "brooding" aspect of rumination, which is a passive, cyclical focus on negative emotions, fully mediates the relation between perfectionism and depressive symptoms. Recently this mediation model has been found in early adolescents (21). Also, O'Connor et al. found that brooding rumination has a mediator role in the relationship between perfectionism and psychological distress (22). Supporting evidence was found by Blankstein and Lumley (23) too. Thus, individuals who score high on negative perfectionism may set unrealistically high standards for themselves; this issue combined with overly harsh evaluations of their own performance, results in increased

amount of perceived failure and creates a constant attack on their self-esteem and self-worth. This indicates that the perfectionistic tendencies do not lead to depressive symptoms, but it is the accompanying ruminative responses that make them vulnerable to depression (24).

2. Objectives

In this study, we used academic rumination inventory (ARI) to examine the possible mediating role of academic rumination (in association with academic situations and failures). We expect the relationship between (positive and negative) perfectionism and depressive symptoms to be mediated by academic rumination. Finally, we knew that testing possible mediating roles of academic rumination is unique.

3. Patients and Methods

The present study has a correlational design. Study population consisted of all undergraduate students (9223) of Shahid Chamran University of Ahvaz during academic year of 2011 - 2012. Using Cochran formula, a sample of 368 undergraduate students of both sexes were selected by multi-stage random sampling method. Complete returns were available for a sample of 260 subjects (134 girls and 126 boys; mean age = 22.21 years, SD = 1.48). Positive and negative perfectionism scale (PANPS), beck depression inventory-II (BDI-II), and the academic rumination inventory (ARI) were used to collect the data.

3.1. Positive and Negative Perfectionism Scale

PANPS is a 40-item measure of perfectionism that was intended to measure (20 items) positive and (20 items) negative perfectionism as described by Terry-Short et al. The questions measure, in 5-point Likert-type scale, the participants' perfectionism from 1 to 5, in both positive and negative perfectionism. The participants' minimum grade in each scale was 20 and the maximum was 100 (25). In the Persian form of this questionnaire, Cronbach α of questions in each subscale in a 212 student sample was respectively 0.90 and 0.87 for all subjects; 0.91 and 0.88 for female students, and 0.89 and 0.86 for male students, which indicates high internal consistency of the scale. Correlation coefficients between the grades of 90 participants, in a 4-week interval, was measured for all participants as $r = 0.86$, for female participants; $r = 0.84$, and for male participants $r = 0.87$; which indicates a satisfactory test-retest reliability of the scale. Validity of PANPS was measured by measuring the correlation coefficients between the subscales of this test and the subscales of general health questionnaire and Coopersmith self-esteem inventory, and by analyzing the major factors of the test. The resulting coefficients and findings confirm the validity of PANPS (26). Although an initial factor analysis supported the two factor structure (25), a later factor analysis found that the 40-item scale had an inadequate fit with the proposed two factor structure of positive and negative perfectionism

(27). In the present study, the instrument's Cronbach α levels were 0.80 (total), 0.79 (positive), and 0.70 (negative).

3.2. The Beck Depression Inventory-II

BDI-II is a 21-item self-report instrument developed to measure the severity of depression in adults and adolescents. Each item is rated on a 4-point Likert-type scale (0 - 3) that arranged in increasing severity of a particular symptom of depression. Total scores can range from 0 to 63. The second edition assesses both increase and decrease in appetite, weight, and sleep patterns, while the first edition assessed only decreases in these symptoms. These new items bring the BDI-II into alignment with DSM-IV criteria (28). In the present study, the instrument's Cronbach α level was 0.80.

3.3. The Academic Rumination Inventory

ARI developed by Bahrami et al. (29) is a tool for measuring rumination in people ages 13 years and older. All items were scored on an 8-point frequency rating scale ranging from "1 = never" to "8 = severely". Total scores can range from 1 to 48. This inventory consists of 6 items (for example: I can't control my thoughts while I'm studying) that the participant should answer the items based on the severity of their problem and obtaining high score in each item indicates more academic rumination (29). The reliability of this tool using Cronbach α method was 0.88. The concurrent validity of this tool with the avoidance academic inventory was reported significantly positive and divergent validity of this inventory with the Rosenberg self-esteem scale was reported significantly negative (29). In the present study, the instrument's Cronbach α level was 0.83. The validity of this inventory was measured using its correlation with general health questionnaire ($P < 0.01$, -0.58).

4. Results

Means, standard deviations, and intercorrelations of all major study variables were determined using SPSS version 16. Path analysis was carried out using Amos 16.0 to test the hypothesized mediation model. Table 1 shows the means, standard deviations, and intercorrelations among the major variables.

Table 1 summarizes the means, standard deviations, and intercorrelations of all major study variables. Preliminary analyses revealed that positive perfectionism was negatively correlated with both depressive symptoms ($r = -0.56$, $P \leq 0.01$) and academic rumination ($r = -0.32$, $P \leq 0.05$), and has a significant negative correlation with negative perfectionism ($r = -0.60$, $P \leq 0.01$). Also, findings revealed that negative perfectionism was positively correlated with both depressive symptoms ($r = 0.63$, $P \leq 0.01$) and academic rumination ($r = 0.44$, $P \leq 0.01$). Furthermore, academic rumination was positively correlated with depressive symptoms ($r = 0.57$, $P \leq 0.01$).

The results from multiple regression analysis (stepwise model) showed that the dimensions of perfectionism (positive and negative) and academic rumination had significant multiple correlation with depressive symptoms ($MR = 0.67$, $F = 33.9$, $P < 0.001$). Analyses revealed that a higher score in negative perfectionism significantly predicts a higher level of depressive symptoms ($\beta = 0.63$, $P = 0.001$). Results indicated that higher positive perfectionism ($\beta = -0.49$, $P = 0.001$) significantly predicts a lower level of depressive symptoms. Also, results indicated that higher academic rumination ($\beta = 0.52$, $P = 0.001$) significantly predicts a higher level of depressive symptoms.

Finally, the suggested model was tested for goodness of fit and findings showed a relatively strong fit for all indexes (CFI = 0.81, AGFI = 0.88, GFI = 0.91, RMSEA = 0.03, $\chi^2/df = 1.91$, NFI = 0.81, IFI = 78). Mediating role of academic rumination in correlation between perfectionism dimensions and depressive symptoms has been studied using path analysis (Amos-16). Table 2 shows direct, indirect, and total model effects.

According to Figure 1, the direct effect of negative perfectionism (0.27, $P < 0.01$), positive perfectionism (-0.17, $P < 0.05$) and academic rumination (0.29, $P < 0.01$) were significant. Moreover, positive and negative perfectionism indirect effect on depressive symptoms was significant at the 0.01 level. As shown in Figure 1, academic rumination mediates the relationship between dimensions of perfectionism and depressive symptoms.

We obtained a clearer picture by examining the indirect effects that operate through the model. More specifically, the data in Table 2 indicate that the indirect effect of negative perfectionism on depressive symptoms that

Table 1. Means, Standard Deviations, and Intercorrelations Among the Major Variables

Variables	Mean \pm SD	Intercorrelation			
		1	2	3	4
Positive Perfectionism	31.2 \pm 7.12	-			
Negative Perfectionism	26.3 \pm 5.56	-0.60 ^a	-		
Depressive symptoms	11.05 \pm 6.73	-0.56 ^a	0.63 ^a	-	
Academic Rumination	9.88 \pm 3.86	-0.32 ^b	0.44 ^a	0.57 ^a	-

^a $p < 0.01$.

^b $p < 0.05$.

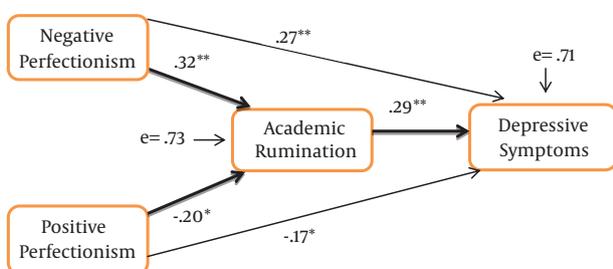
Table 2. Direct, Indirect, and Total Model Effects

Dependent Variable/Independent Variable	Direct	Indirect	Total
Negative perfectionism/academic rumination	0.32 ^a	-	0.32 ^a
Negative perfectionism/depressive symptoms	0.27 ^a	0.12 ^b	0.39 ^a
Positive perfectionism/academic rumination	-0.20 ^b	-	-0.20 ^b
Positive perfectionism/depressive symptoms	-0.17 ^b	-0.093 ^c	-0.26 ^a
Academic rumination/depressive symptoms	0.29 ^a	-	0.29 ^a

^a $p < 0.01$.

^b $p < 0.05$.

^c $p < 0.001$.

Figure 1. Estimated Mediation Models of the Relationship Between Perfectionism Dimensions and Depressive Symptoms Via Academic Rumination

** $P < 0.01$. * $P < 0.05$.

operates through academic rumination was statistically significant (Beta = 0.12; $P < 0.05$). Besides, when this indirect effect was combined with the direct effect, the resulting total effect (Beta = 0.39; $P < 0.01$) was statistically significant. Findings also indicate the statistically significant indirect effect of positive perfectionism on depressive symptoms operating through academic rumination (Beta = -0.093; $P < 0.001$). When this indirect effect was combined with the direct effect, the resulting total effect (Beta = -0.26; $P < 0.01$) was statistically significant. These findings indicate an indirect correlation via the mechanism of academic rumination.

5. Discussion

The purpose of this study was to examine the mediation role of academic rumination on the relationship between (positive and negative) perfectionism and depressive symptoms. The results of intercorrelations showed a positive association between negative perfectionism and academic rumination and depressive symptoms, and also a negative correlation between positive perfectionism and academic rumination and depressive symptoms. Moreover, a positive association was found between academic rumination and depressive symptoms. Although in this study, academic rumination questionnaire was used, the results were consistent with previous findings (14-23).

Overall, negative perfectionists feel constant pressure

to meet their high standards, which create cognitive dissonance when one cannot meet one's expectations. Rice et al. (30) believed that individuals with negative perfectionism are worrying about making mistakes and have high levels of self-doubt and self-criticism. These factors are predictors of psychological problems such as anxiety, depression, lack of self-esteem, and internalized shame. On the other hand, positive perfectionism correlated significantly with rational high personal standards, hope, optimum performance, and a positive adjustment. These people have more mental health measures (30). Research evidence indicates that positive perfectionism is positively associated with psychological well-being and negatively associated with psychological distress. Also, negative perfectionism is negatively associated with psychological well-being and positively associated with psychological distress (31). Based on the findings of this study, the negative perfectionism is engaging more in the processes of rumination, while positive perfectionism is a protective factor. Students in academic stressful situations like failure in exams and especially difficult tasks will experience consequences of rumination and thereby end up with depressive symptoms and anxiety.

Although, the relationship between perfectionism and depression has been frequently investigated, few studies have been conducted on the role of rumination, especially academic rumination, as a mediator between the two constructs. The findings of the present study support the model that rumination mediates the relationship between (positive and negative) perfectionism and depressive symptoms. In fact, rumination is a cognitive mechanism that could arise from (negative) perfectionism and lead to depressive symptoms. This means that perfectionism and the accompanying perfectionistic thoughts would give rise to ruminative-like cognitions, which would then, lead to depression (21).

Based on this model, negative perfectionists are constantly worried with regard to achieving high levels and unrealistic goals (32). This worry extends even to fields that do not require high performance. In other words, they are people who worry too much about their possibility of failure, which can lead to ruminative thoughts about fear of making mistakes (33). Because of special types of cognitions and their performance, they react

more negatively to failure or stressful situations and are particularly vulnerable to failure (34). Thus, These individuals engage in rumination in order to gain insight and solutions, so as to relieve their depressive state (35), but rumination maintains or exacerbates depressive symptoms, impairing ability to solve problems (14), driving focus of attention to negative thoughts associated with emotional distress, enhancing recall of negative events, and reducing adaptive coping (36). While positive perfectionism makes the person set the exact criteria for his or her actions as well as perfectionist attempts (1). Also, it enables the person through such characteristics as being realistic, acknowledging personal limitations, and flexibility to enjoy their strenuous and exhausting efforts and be satisfied with his personal function (3). This feeling of enjoyment and satisfaction is one of the factors of psychological well-being and reinforces mental health. The confirmed correlations of positive perfectionism with the adjustment indicators and positive emotions (37) will in turn prevent problems and ruminative thoughts. Supporting this explanation, these features weaken worries and anxieties (rumination) related to personal function and the possible unrealisation of the above criteria, while decrease psychological distress, and enhance the level of mental health (31). Thus, according to this model, rumination is a mediator, facilitator, and processor of depression. In fact, perfectionism through ruminative thoughts leads to depression. Students with high score in negative perfectionism report higher depressive symptoms by the mechanism of academic rumination. On the contrary, students with high score in positive perfectionism report lower depressive symptoms through reduction of ruminative thoughts.

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Footnote

Authors' Contributions: Study concept and design: Omid Soliemanifar. Acquisition of data: Ali Asghar Rasuli and Mehdi Rasuli. Analysis and interpretation of data: Omid Soliemanifar. Drafting of the manuscript: Omid Soliemanifar and Zahra Rezaei. Critical revision of the manuscript for important intellectual content: Omid Soliemanifar and Zahra Rezaei. Statistical analysis: Mehdi Rasuli. Administrative, technical, and material support: Omid Soliemanifar, Zahra Rezaei, Ali Asghar Rasuli and Mehdi Rasuli. Study supervision: Omid Soliemanifar.

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