

# ***A Study on the Relationship Between Rumination, Perfectionism, and Academic Self-Handicapping Among College Students***

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**Abstract.** This study aims to investigate the prevalence of rumination, perfectionism, and academic self-handicapping among college students, analyze demographic differences across gender and grade levels, and examine the interrelationships among these three constructs. This study employed a questionnaire survey method to assess 166 college students (70 males, 96 females). Independent samples t-tests and one-way ANOVA were employed to examine gender and grade differences in rumination, perfectionism, academic self-handicapping, and their respective dimensions. Pearson correlation analysis was employed to examine the correlations among rumination, perfectionism, academic self-handicapping, and their dimensions. Bootstrap sampling (5,000 repetitions) was employed to determine the significance of perfectionism's mediating effect between rumination and academic self-handicapping. The results indicate: 1) No significant gender or grade differences exist in rumination, perfectionism, academic self-handicapping, or their respective dimensions. 2) Negative perfectionism shows significant positive correlations with academic self-handicapping, total rumination scores, and all rumination dimensions. Positive perfectionism showed no significant correlations with academic self-handicapping, rumination, or its dimensions (except parental expectations, personal standards, and negative perfectionism). 3) Academic self-sabotage was significantly positively correlated with rumination. 4) Negative perfectionism partially mediated the relationship between rumination and academic self-handicapping; the mediating effect of positive perfectionism was not significant. Conclusion: College students' rumination, perfectionism, and academic self-handicapping levels are relatively stable and unaffected by gender or grade level. Rumination not only directly promotes academic self-handicapping but also indirectly increases the likelihood of students engaging in such behaviors by elevating negative perfectionism levels.

**Keywords:** rumination, perfectionism, academic self-handicapping, college students

## **1. Introduction**

Nowadays, university students' academic performance and mental health are profoundly influenced by their internal psychological traits and cognitive patterns. As a kind of maladaptive learning

behavior, academic self-handicapping is increasing among college students, drawing widespread social attention. Academic self-handicapping refers to the behavioral strategy where individuals preemptively set obstacles before engaging in academic activities to avoid the blow to self-worth from potential failure, thereby protecting their self-esteem. The specific manifestations of academic self-handicapping include deliberate procrastination, claiming test anxiety, or citing illness [1]. In a word, academic self-handicapping is a behavior or strategy students employ to protect their sense of self-worth by preemptively setting up obstacles to their own success [2]. Extensive research indicates that academic self-handicapping not only diminish learning motivation and self-confidence [3] and lead to declining academic performance [4], but may also trigger psychological disorders such as anxiety.

As a coping style and thought pattern characterized by repetitive, passive dwelling on negative emotions, events, and their causes, rumination has been demonstrated as a significant factor highly correlated with negative personality traits and adverse behavioral outcomes [5]. Research indicates that self-handicapping and rumination, especially its symptomatic rumination dimension, show a high positive correlation [6]. This conclusion indicates that rumination is an important cognitive factor influencing academic self-handicapping. Rumination compels individuals to persistently focus on the negative aspects of events, diminishing their motivation and coping abilities. Also, rumination hinders the adoption of proactive problem-solving strategies and prompts individuals to employ academic self-handicapping as a self-protective mechanism, thereby trapping them in negative emotional states [7].

Research indicates that high negative perfectionists not only exhibit greater self-handicapping in negative situations but also tend to experience rumination about mistakes, anxiety, and fear of failure. High negative perfectionists demonstrate elevated rumination levels that form maladaptive cognitive-behavioral cycles [8,9]. This conclusion suggests that perfectionism can be regarded as a form of erroneous cognition which can cause self-handicapping. And as a deeper cognitive process, rumination is more likely the true cause of this maladaptive cognitive-behavioral cycle. As a result, perfectionism may mediate the relationship between rumination and academic self-handicapping. Perfectionism is a kind of personality trait characterized by striving for high standards accompanied by harsh self-evaluation, it has garnered increasing attention from researchers [10]. However, perfectionism is not a monolithic construct. Modern psychology generally distinguishes perfectionism between "positive perfectionism" (pursuit of excellence) and "negative perfectionism" (fear of failure) [11]. Positive perfectionism is often associated with adaptive outcomes, while negative perfectionism has been demonstrated to be a risk factor for various psychological and behavioral problems, particularly inducing academic self-handicapping.

Although previous research has provided valuable insights into the relationships between perfectionism, academic self-handicapping, and rumination, there is still room for further exploration. Conclusions regarding differences in variables across demographic characteristics (e.g., gender, grade level) remain inconsistent, and their specific manifestations require further validation [12]. Most studies focus on pairwise relationships between variables, but research examining these three factors in an integrated manner, particularly among Chinese university students, remains relatively limited.

Therefore, this study aims to investigate the prevalence of perfectionism, academic self-handicapping, and rumination among college students through a questionnaire survey, and analyze differences based on gender and grade level. The study focuses on exploring the intrinsic connections among these three factors to validate the mediating role of rumination in the relationship between perfectionism and academic self-sabotage. The research findings are expected

to provide new empirical evidence for understanding the cognitive mechanisms underlying maladaptive academic behaviors among college students and offer theoretical references for universities to develop targeted mental health education programs.

## **2. Methods**

### **2.1. Research participants**

Convenience sampling was employed, targeting undergraduate students currently enrolled in university. A total of 205 online questionnaires were created and distributed via wenjuan.com. After excluding blank and invalid responses, 166 valid questionnaires were recovered (valid recovery rate: 81.0%). Among these, 70 participants were male (42.2%) and 96 were female (57.8%). The sample included 29 first-year students (17.5%), 80 second-year students (48.2%), 39 third-year students (23.5%), and 18 fourth-year or higher students (10.8%).

### **2.2. Research tools**

#### **2.2.1. Ruminative thinking scale**

The College Student Ruminative Thinking Scale employed the Chinese version of Ruminative Response Scale (RRS) [7] revised by previous research [13]. This scale comprises three dimensions: symptom rumination, brooding, and reflective pondering. Symptom rumination refers to the degree of an individual's preoccupation with and reflection on their own symptoms; brooding denotes recurrent, intrusive thoughts; reflective pondering involves analyzing and contemplating the causes and consequences of one's experiences. The scale comprises 22 items scored on a four-point Likert scale ranging from 1 (Never) to 4 (Always), with higher scores indicating more severe rumination. In this study, the scale demonstrated Cronbach's  $\alpha$  of 0.933, meeting psychometric validity requirements.

#### **2.2.2. Perfectionism scale**

The College Student Perfectionism Scale employs the Chinese Frost Multidimensional Perfectionism Scale (CFMPS) revised by previous research [14]. The revised scale comprises five dimensions: Concern over Mistakes, Organization, Parental Expectations, Personal Standards, and Doubts about Actions. Among these, Organization belongs to positive perfectionism, while the remaining four dimensions belong to negative perfectionism [15]. The scale comprises 27 items scored on a 5-point positive-polarity scale. The perfectionism variable is disaggregated into two composite variables—positive and negative perfectionism—scored separately. Higher scores indicate greater tendencies toward positive/negative perfectionism. In this study, Cronbach's  $\alpha$  for positive perfectionism was 0.914, and for negative perfectionism it was 0.889, meeting psychometric requirements.

#### **2.2.3. Academic self-handicapping questionnaire**

The Academic Self-Handicapping Questionnaire for college students adopted the revised version of Self-Handicapping Scale (SHS) [16] revised by previous research [17]. The revised scale is unidimensional, comprising 14 items scored on a 5-point scale ranging from "strongly disagree" to "strongly agree." Items 7, 9, and 13 are reverse-scored, where higher scores indicate lower levels of

self-handicapping. All other items are forward-scored, where higher scores indicate higher levels of self-handicapping. In this study, the Cronbach's  $\alpha$  for this scale was 0.780, meeting psychometric requirements.

### 2.3. Data processing

Data processing was conducted using WPS Spreadsheet, SPSS 23.0, and JASP 0.19.3. WPS Spreadsheet was employed to filter valid data and consolidate various datasets. Descriptive statistics, correlation analysis, independent samples t-tests, one-way ANOVA, and mediation effect tests were performed using SPSS 23.0 and JASP 0.19.3. Specifically, when testing mediation effects in SPSS 23.0, the Bootstrap method (5000 repeated samples)—widely recommended in academia—was employed to determine mediation significance. This method constructs a 95% confidence interval (CI) for the mediation effect ( $a*b$ ) by simulating sampling distributions. If this interval does not contain zero (i.e., both upper and lower bounds share the same sign), mediation is deemed significant. Based on a significant mediating effect, if the direct effect ( $c'$ ) is also significant, partial mediation is indicated; if the direct effect ( $c'$ ) is insignificant, full mediation is indicated. This represents a significant improvement over traditional stepwise methods.

## 3. Results

### 3.1. Demographic analysis

#### 3.1.1. Gender differences in rumination, perfectionism, and academic self-handicapping dimensions

As shown in Table 1, independent samples t-tests were conducted to examine gender differences across four overall variables—rumination, positive perfectionism, negative perfectionism, and academic self-handicapping—and seven dimensional symptoms: rumination, obsessive rumination, reflective rumination, parental expectations, personal standards, fear of mistakes, and action hesitation. No significant gender differences were found across any variables ( $p > 0.05$ ).

Table 1. Analysis of gender differences in relevant research variables (mean  $\pm$  SD)

	Male (n=70)	Female (n=96)	t	p
1.Parental Expectations	3.22 $\pm$ 0.83	3.10 $\pm$ 1.09	-0.76	0.45
2.Personal Standards	3.28 $\pm$ 0.73	3.38 $\pm$ 0.82	0.74	0.46
3.Concern over Mistakes	2.91 $\pm$ 1.04	2.91 $\pm$ 1.04	0.06	0.95
4.Doubts about Actions	3.13 $\pm$ 0.91	3.28 $\pm$ 0.94	1.07	0.29
5.Positive Perfectionism	3.72 $\pm$ 0.76	3.71 $\pm$ 0.81	-0.04	0.97
6.Negative Perfectionism	3.13 $\pm$ 0.74	3.16 $\pm$ 0.80	0.25	0.80
7.Academic Self-Handicapping	3.12 $\pm$ 0.80	3.16 $\pm$ 0.82	0.34	0.74
8.Symptom Rumination	2.45 $\pm$ 0.73	2.36 $\pm$ 0.71	-0.81	0.42
9.Brooding	2.63 $\pm$ 0.68	2.55 $\pm$ 0.72	-0.68	0.50
10.Reflective Pondering	2.61 $\pm$ 0.69	2.64 $\pm$ 0.72	0.21	0.83
11.Rumination	2.53 $\pm$ 0.66	2.47 $\pm$ 0.65	-0.60	0.55

### 3.1.2. Grade-level differences in rumination, perfectionism, academic self-sabotage, and their dimensions

As shown in Table 2, one-way ANOVA was conducted on grade-level differences for the four overall variables—rumination, positive perfectionism, negative perfectionism, and academic self-handicapping—and their seven dimensions: symptomatic rumination, obsessive rumination, reflective rumination, parental expectations, personal standards, fear of mistakes, and action hesitation. No significant differences across grades were found for any variable ( $p > 0.05$ ).

Table 2. Analysis of differences in relevant research variables across grade levels (mean  $\pm$  SD)

	Freshman Year (n=29)	Sophomore (n=80)	Junior Year (n=39)	Senior and above (n=18)	F	p
1.Parental Expectations	3.23 $\pm$ 1.12	3.06 $\pm$ 1.02	3.33 $\pm$ 0.88	3.01 $\pm$ 0.77	0.83	0.48
2.Personal Standards	3.68 $\pm$ 0.94	3.27 $\pm$ 0.73	3.21 $\pm$ 0.77	3.12 $\pm$ 0.66	2.56	0.06
3.Concern over Mistakes	3.25 $\pm$ 1.22	2.88 $\pm$ 1.00	2.91 $\pm$ 1.00	2.53 $\pm$ 0.82	1.94	0.13
4.Doubts about Actions	3.39 $\pm$ 1.08	3.30 $\pm$ 0.92	3.06 $\pm$ 0.89	2.92 $\pm$ 0.71	1.57	0.20
5.Positive Perfectionism	3.80 $\pm$ 0.96	3.69 $\pm$ 0.77	3.59 $\pm$ 0.73	3.95 $\pm$ 0.70	1.02	0.39
6.Negative Perfectionism	3.40 $\pm$ 0.85	3.11 $\pm$ 0.78	3.15 $\pm$ 0.80	2.89 $\pm$ 0.43	1.75	0.16
7.Academic Self-Handicapping	3.30 $\pm$ 0.92	3.16 $\pm$ 0.78	3.17 $\pm$ 0.82	2.77 $\pm$ 0.66	1.68	0.17
8.Symptom rumination	2.55 $\pm$ 0.81	2.38 $\pm$ 0.73	2.49 $\pm$ 0.62	2.04 $\pm$ 0.61	0.20	0.09
9.Brooding	2.80 $\pm$ 0.79	2.52 $\pm$ 0.72	2.66 $\pm$ 0.64	2.33 $\pm$ 0.56	2.04	0.11
10.Reflective Pondering	2.80 $\pm$ 0.83	2.62 $\pm$ 0.74	2.63 $\pm$ 0.56	2.38 $\pm$ 0.54	1.35	0.26
11 Rumination	2.67 $\pm$ 0.72	2.47 $\pm$ 0.68	2.56 $\pm$ 0.54	2.18 $\pm$ 0.50	2.25	0.09

### 3.2. Correlation analysis of rumination, perfectionism, and academic self-sabotage

Table 3 indicates that the total score of negative perfectionism and its four dimensions (parental expectations, personal standards, concern over mistakes, and doubts about actions) showed significant positive correlations ( $p < 0.05$ ). The total score of positive perfectionism did not show significant positive correlations with the dimensions of fear of mistakes and action hesitation ( $p > 0.05$ ), but it did show significant positive correlations with the dimensions of parental expectations and personal standards ( $p < 0.05$ ). The total score of negative perfectionism showed significant positive correlations with other variables (symptom rumination, brooding, reflective pondering, total academic self-handicapping, and total rumination) showed significant positive correlations ( $p < 0.05$ ). Total positive perfectionism scores showed no significant correlations with other variables

(symptom rumination, brooding, reflective pondering, total academic self-handicapping, and total rumination) ( $p > 0.05$ ).

Table 3. Correlation coefficients among relevant variables

	M	SD	1	2	3	4	5	6	7	8	9	10	11
1.Symptom Rumination	2.40	0.72	1										
2.Brooding	2.58	0.71	0.63*	1									
3.Parental Expectations	2.63	0.70	0.41*	0.37*	1								
4. Concern over Mistakes	3.15	0.98	0.69*	0.47*	0.55*	1							
5.Reflective Pondering	3.34	0.78	0.82*	0.69*	0.46*	0.61*	1						
6.Personal Standards	2.91	1.03	0.33*	0.43*	0.53*	0.65*	0.43*	1					
7.Doubts about Action	3.22	0.93	0.61*	0.33*	0.50*	0.76*	0.57*	0.51*	1				
8.Positive Perfectionism	3.71	0.79	-0.05	0.12	0.28*	0.08	0.08	0.44*	0.14	1			
9.Negative Perfectionism	3.15	0.77	0.62*	0.49*	0.78*	0.91*	0.62*	0.81*	0.81*	0.27*	1		
10.Academic Self-Handicapping	3.14	0.91	0.68*	0.41*	0.52*	0.79*	0.61*	0.49*	0.77*	0.08	0.78*	1	
11.Rumination	2.49	0.65	0.96*	0.82*	0.45*	0.68*	0.91*	0.41*	0.59*	0.02	0.65*	0.66*	1

\*  $p < 0.05$ ; \*\* $p < 0.01$ .

### 3.3. Testing the mediating effects of perfectionism

The Bootstrap method (5000 repeated samples) was employed to determine the significance of the mediating effects of positive and negative perfectionism between rumination and academic self-handicapping. As shown in Table 4, the Bootstrap test revealed that the indirect effect value of negative perfectionism was 0.48, with its 95% confidence interval [0.34, 0.62] not including zero. This indirect effect accounted for 58.77% of the total effect. Table 5 indicates that the direct effect (c') between rumination and academic self-handicapping is also significant. This confirms that negative perfectionism mediates the relationship partially. The mediating effect of positive perfectionism was found to be insignificant.

Table 4. Summary of mediating effects for perfectionism

Path	Test Conclusion	Total Effect	Mediation Effect	Direct Effect	Effect Proportion
Rumination → Negative Perfectionism → Academic Self-Sabotage	Partial Mediation	0.82	0.48	0.34	58.77%
Rumination → Positive Perfectionism → Academic Self-Sabotage	Mediation effect not significant	0.822	0.002	0.820	0.00%

Table 5. Bootstrap analysis for testing the significance of mediating effects

Path	Effect Type	Standardized Coefficient $\beta$	Significance
Rumination → Academic Self-Handicapping	Total Effect	0.66	** (p < 0.01)
Rumination → Negative Perfectionism	Path a	0.65	** (p < 0.01)
Negative Perfectionism → Academic Self-Handicapping	Path b (controlling for X)	0.60	** (p < 0.01)
Rumination → Academic Self-Handicapping	Direct effect (c', controlling for M)	0.27	** (p < 0.01)

Independent variable X: Rumination; Dependent variable Y: Academic self-handicapping; Mediating variable M: Negative perfectionism

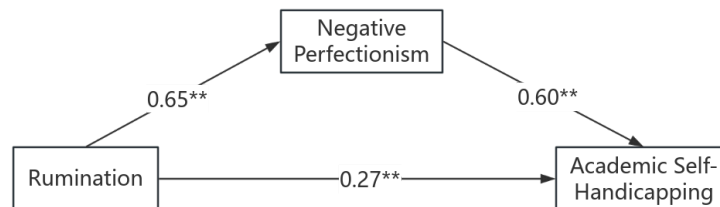


Figure 1. Mediating effect model diagram of negative perfectionism

Note: \*\*p < 0.01.

## 4. Discussion

This study aimed to explore the characteristics and interrelationships of rumination, perfectionism, and academic self-handicapping among college students. Through tests of differences in demographic variables and analyses of inter-variable correlations, the study uncovered several meaningful findings.

### 4.1. Gender differences

The research findings indicate no significant gender differences across dimensions of perfectionism, academic self-handicapping, or rumination. This result contradicts some prior research probably due to the small sample size and requires further exploration in future studies. Alternatively, this result



may suggest that these psychological traits are converging in university students, with gender role differences diminishing in contemporary educational settings.

## 4.2. Grade differences

The results of this study indicate that the grade variable also showed no significant differences in rumination, perfectionism, academic self-handicapping, or their respective dimensions. This finding aligns with conclusions from studies focusing on the stability of psychological traits [2,18]. This conclusion indicates that students' levels of rumination, perfectionism tendencies, and academic self-handicapping behaviors remain relatively stable, showing no systematic changes with increasing grade level. This result may reflect that perfectionism, as a relatively stable personality tendency, does not exhibit significant grade-level differences in its core characteristics during university years. Perfectionism is more influenced by individuals' early developmental experiences and inherent cognitive patterns than by short-term effects of academic pressure or environmental changes during the university stage [18]. Rumination is a relatively stable emotion regulation strategy typically formed during adolescence and maintained into adulthood, exhibiting low sensitivity to environmental changes [5]. Similarly, while self-handicapping behaviors may be influenced by situational factors, they exhibit high stability as a coping style. This stability is closely linked to personality dimensions such as trait anxiety and neuroticism rather than simply varying by academic year [2].

## 4.3. Discussion on the relationship between rumination, perfectionism, and academic self-sabotage

This study found no significant correlation between positive perfectionism and rumination or academic self-handicapping ( $p > 0.05$ ), consistent with the findings of Jing et al. (2021) [12]. Negative perfectionism and its dimensions showed significant positive correlations ( $p < 0.05$ ) with both academic self-handicapping and rumination, consistent with numerous existing studies [8,10,12,19]. Significant positive correlations were found between academic self-handicapping and rumination among college students ( $p < 0.05$ ), consistent with extensive domestic and international research [2,8,12,20].

Positive perfectionism showed no significant correlation with rumination or academic self-handicapping. Positive perfectionism in this study primarily refers to organization which is a quality of systematically, orderly, and logically organizing tasks or thoughts. High organization facilitates efficient academic task completion and is unlikely to generate self-handicapping behaviors [12]. Furthermore, as an adaptive trait pursuing excellence, positive perfectionism does not directly lead to academic self-handicapping or ruminative cognitive patterns [12]. Moreover, positive perfectionism is significantly correlated with positive emotions and proactive coping strategies, while showing no significant association with negative psychological states such as anxiety or depression. This conclusion partially explains its independence from academic self-handicapping and rumination [11].

Negative perfectionism exhibits a high positive correlation with academic self-sabotage and rumination, indicating an individual's fear of failure, excessive anxiety, difficulty in making timely judgments, and a tendency toward repetitive thinking. Due to their fear of failure or excessive self-criticism, negative perfectionists are more prone to rumination, they adopt self-sabotaging coping strategies to protect their sense of self-worth [19]. Consequently, negative perfectionism leads to self-handicapping behaviors in academic settings [8].



Among the multiple dimensions of negative perfectionism, “concern over mistakes” refers to engaging in harsh self-criticism due to hypersensitivity about potential errors, which can lead to rumination [10]. “Doubts about action” describes the hesitation and doubt individuals experience when confronting a task due to uncertainty about completing it accurately and efficiently, constituting a classic form of self-sabotage [19]. The dimensions of “parental expectations” and “personal standards” showed high positive correlations with both negative and positive perfectionism. This confirms perfectionism's dual-dimensional structure: the same dimension may carry different meanings and values across varying contexts and motivations. This neutrality stems from the dimensions' inherent nature, where their positive or negative impact depends on their relative intensity. “Parental Expectations” refers to parents' excessive demands and strict, harsh requirements. When individuals perceive parental pressure or evaluation as exceeding their own tolerance threshold, it generates a fear-based motivation: the dread of condemnation or harm, leading to a tendency to strive for perfection. However, within a supportive family environment, setting goals against absolute external standards of perfection can become a catalyst for success rather than a source of oppression, transforming into an upward-directed achievement motivation [21]. “Personal standards” represent internalized, self-directed perfectionism, understood as subjectively striving to meet the highest demands of self-imposed criteria. This constitutes positive perfectionism, which contributes to more positive academic achievement and more positive emotional experiences [11]. However, if this standard becomes overly rigid or highly tied to self-worth, it gradually evolves into negative perfectionism.

All in all, research findings indicate a positive correlation between academic self-sabotage and rumination among college students. Previous studies have revealed that rumination—a cognitive style characterized by persistent focus on negative emotions and their causes—significantly increases the likelihood of employing self-sabotage strategies. Furthermore, rumination prolongs the “mental chewing” of negative emotions in the brain, thereby diminishing students' motivation and proactive coping abilities, ultimately triggering self-sabotage [2]. Research on Chinese university students similarly indicates that those who frequently dwell on negative experiences are more likely to self-sabotage through reduced effort or procrastination to avoid potential failure [8]. Thus, rumination intensifies students' perception of failure consequences, anxiety, and self-efficacy, this heightens students' apprehension about failure's consequences, thereby inducing academic self-sabotage behaviors [12,20].

#### 4.4. Mediating role of perfectionism

This study found that the mediating effect of positive perfectionism was not significant; negative perfectionism partially mediated the relationship between rumination and academic self-handicapping [12]. This indicates that rumination not only directly leads students to engage in academic self-handicapping but also indirectly exacerbates the behavior by elevating their levels of negative perfectionism. Positive perfectionism, however, did not significantly participate in this cognitive-behavioral model [22].

It corresponds to previous findings regarding psychological perfectionism mechanisms [12]. Negative perfectionism is characterized by fear of imperfection; it is a maladaptive cognitive–emotional style of mind. As opposed to positive perfectionism, which seeks to excel, negative perfectionists establish unrealistically demanding standards for themselves. Due to ruminative thought, where excessive concern over mistakes is matched by dissatisfaction toward personal performance and excessive focus on the opinions of others, individuals experiencing negative perfectionism can exhibit emotional distress, like anxiety and depression, and display behavior such

as hesitation, excessive caution, and avoidant tendencies when facing daunting tasks like meeting school work expectations, whereby they turn to self-handicapping to circumvent any possibility of failure or further damaging evaluation [23]. To put it more clearly, rumination—the perseverance in focusing on negative emotions and experiences—drives one to increase tendencies toward negative perfectionism, leading to heightened behaviors of academic self-handicapping [5].

Based on the dual-dimensional structure theory of perfectionism, positive and negative perfectionism exhibit significant differences in motivation and behavioral manifestations. Consequently, positive perfectionism does not share the same pronounced mediating effects as negative perfectionism. Positive perfectionism is typically associated with self-enhancing high standards, goal orientation, and proactive pursuit of achievement. Notably, positive perfectionists often exhibit relatively positive thinking patterns, viewing failure as an opportunity for growth. Consequently, they tend to experience positive emotions and high motivation in challenging situations, rather than necessarily resorting to avoidance or self-handicapping [11].

#### 4.5. Research implications and insights

The results imply that the two-dimensional model of perfectionism exists, with negative perfectionism playing an essential part in maladaptive cognitive-behavioral patterns in university students, and positive perfectionism, even though lower on the per-unit-anxiety index, can be seen as relatively independent and more adaptive in nature, underscoring that mental health professionals in higher education institutions ought to focus their energies and care primarily on university students expressing a tendency toward negative perfectionism.

Second, this study points out that there is a strong mutual influence among three factors: negative perfectionism, rumination, and academic self-handicapping. Furthermore, it validates the existing theory of connection between self-regulation failure and negative cognitive cycle. From this point of view, these findings give us a way to understand abnormal cognitive and behavioral model under college student's circumstances.

Research proves that ruminating, expressing a particularly detrimental mode of thinking, is also a main driver of academic self-handicapping. In doing so, it builds up anxiety, damages self-efficacy and extends the fear of failure into deep pits that make one try out unproductive ways of dealing with tasks rather than performing at their best. Knowing this, researchers conclude that one educational intervention method such as cognitive behavioral therapy (CBT), can reduce these academically-driven self-handicapping behaviors, foster academic efficacy and reduce anxiety.

Simultaneously, these findings offer a new perspective grounded in mediation theory for understanding academic adjustment issues among college students. In educational and practical interventions, researchers can utilize mediation models to address both rumination and negative perfectionism. Beyond directly alleviating rumination, efforts should also focus on reducing students' negative perfectionism tendencies. Particular attention should be given to students exhibiting high levels of both rumination and negative perfectionism to more effectively diminish academic self-handicapping.

Additionally, these results reveal that such factors as perfectionism, academic self-handicapping, and rumination may have more to do with stable personality traits, or have been formed during the early stages of life, rather than being primarily caused by the short term pressures and contextual changes inherent in higher education. Based on this information, it would make sense for educators to concentrate on interventions that assist students in becoming aware of their thinking and learning patterns and working towards making changes to those patterns. Examples of this type of work include teaching children cognitive restructuring and metacognitive regulation skills.

#### 4.6. Research limitations and future directions

This study is subject to some limitations. First, the sample size is small with only 166 valid data points, which may diminish the statistical power of the findings and affect their generalizability. Second, convenience sampling is adopted, causing some randomness in sample selection and lack of representativeness. Third, the cross-sectional design does not allow for making any inference on the causal relationship between variables. Fourth, all the data involved is collected through self-reports which means that common method biases cannot be avoided.

Future research could: First, expand the sample size and employ stratified sampling to enhance representativeness. Second, utilize longitudinal studies or experimental designs to explore causal pathways between variables. Additionally, incorporating more variables (e.g., self-esteem, achievement motivation) to construct more comprehensive models could deepen our understanding of the psychological mechanisms through which perfectionism influences academic behaviors.

#### 5. Conclusion

This study reached the following conclusions:

- 1) No gender or grade-level differences were found among rumination, perfectionism, and academic self-handicapping.
- 2) Negative perfectionism among college students showed significant positive correlations with rumination and academic self-handicapping, whereas positive perfectionism did not exhibit significant correlations with either rumination or academic self-handicapping.
- 3) Academic self-handicapping among college students is significantly positively correlated with rumination.
- 4) Negative perfectionism partially mediates the relationship between rumination and academic self-handicapping; the mediating effect of positive perfectionism is not significant.

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