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Research Paper

The Role of Neuroticism, Perfectionism, and Hope in Predicting Academic Achievement Motivation among University Students

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Abstract
The aim of the present study was to investigate the role of neuroticism, perfectionism, and hope in predicting academic achievement motivation among university students. This applied research employed a descriptive-correlational design. The statistical population consisted of students at Islamic Azad University of Ardabil, from whom 260 students were selected as the sample using cluster random sampling. Data were collected using the NEO Personality Inventory, Hill et al. (2004) Perfectionism Questionnaire, Charles R Snyder et al. (1991) Hope Questionnaire, and Hermans (1970) Academic Achievement Motivation Questionnaire (ISM). To analyze the data, Pearson's correlation coefficient and stepwise regression analysis were performed using SPSS version 23. The findings indicated that neuroticism, perfectionism, and hope significantly predicted academic achievement motivation. Accordingly, it can be concluded that enhancing students' hope and modifying perfectionistic tendencies can contribute to the development of academic achievement motivation among students. Moreover, by modifying the negative characteristics associated with neuroticism, individuals' personality traits can be positively improved in a way that enhances their academic motivation.

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Introduction

Achieving academic success and improving academic efficiency are among the most important goals of every educational system worldwide. Academic achievement is the acquisition of knowledge, ability, or a certain level of proficiency in classroom tasks, which is usually assessed through standardized tests administered in a classroom setting or through the units designed for learners (*Harari et al., 2018*). Academic achievement is the outcome of students' learning; that is, students effectively develop their abilities in classrooms, and learning consequently occurs. The result of this learning process is a change in students' behavioral patterns through exposure to different educational subjects. Academic achievement also refers to an individual's learned or acquired abilities in academic subjects (*Lamarre & Marcotte, 2021*).

Personality traits can influence numerous factors, one of which is academic achievement motivation. The construct of academic achievement motivation refers to behaviors associated with learning and academic progress in schools and universities. Academic achievement motivation has been defined from various perspectives. Some approaches focus on achievement-related motivations, although they address the concept in a general manner; one of these approaches is the goal orientation approach. The goal orientation approach is based on adaptive and maladaptive motivational patterns (*Abedi Talebabadi & Bashardost, 2021*). Research in this area has shown that children with similar abilities may respond differently when confronted with educational and learning difficulties. Some individuals, despite having high levels of ability, perceive difficulties in a way that makes their abilities appear limited and lose hope in the success of their efforts (*Yahyaazaadeh Darzi et al., 2020*).

Another variable rooted in individuals' personality traits that may influence academic achievement motivation is perfectionism. In its most comprehensive definition, perfectionism is considered a multidimensional personality trait, and psychologists agree that it includes both positive and negative aspects (*Stoeber & Gaudreau, 2017*). In its maladaptive form, perfectionism encourages individuals to strive for unattainable ideals or unrealistic goals, which often leads to depression and low self-esteem. In contrast, adaptive perfectionism can motivate individuals to achieve their goals and enable them to enjoy their efforts. Recent evidence indicates that perfectionistic tendencies have been increasing among younger generations (*Curran & Hill, 2019*). In psychology, perfectionism is defined as a personality characteristic described by individuals' efforts to be flawless and their establishment of standards for the highest level of performance. It is also accompanied by critical self-evaluation and concerns about others' evaluations (*Stoeber & Gaudreau, 2017*).

Perfectionism, as one of the predictive factors of academic performance, is associated with perfectionistic striving, including having high personal standards,

setting strict performance criteria, and attempting to achieve excellence. In fact, perfectionism is defined as an intense need for achievement, which is manifested through high and unrealistic personal standards (*Frost et al., 1990*). Therefore, one of the necessary measures for optimizing the country's educational system is addressing issues and factors affecting students' academic growth and achievement. Academic achievement is strongly associated with general intelligence; however, other psychological constructs, such as motivation, also play an important role in educational achievement (*Steinmayr & Spinath, 2009*).

Another personality variable that may affect academic achievement motivation is neuroticism. Individuals with high levels of neuroticism are characterized by low emotional stability and high levels of negative emotions. The results of a study by *Shabani et al. (2018)*, which examined the prediction of academic achievement based on academic skill components and personality traits, indicated that individuals with neurotic personality traits have lower motivation for academic achievement. In fact, neuroticism is considered the opposite of hopefulness (*Shabani et al., 2018*).

In positive psychology, hope is considered a cognitive-behavioral theory that encourages individuals to engage in self-monitoring and modify their cognitive self-perceptions in order to enhance their effectiveness. Therefore, individuals can use self-awareness and self-knowledge to modify their behaviors and achieve desired goals (*C Richard Snyder, 2000*). Hope is defined as the process of thinking about personal goals, accompanied by motivation to move toward these goals (agency) and pathways for achieving them (pathways thinking) (*C Rick Snyder, 1995*). According to *Charles R Snyder et al. (1991)*, hope is not an emotion but rather a cognitive-motivational system. From this perspective, emotions emerge following cognition and during the process of pursuing goals (*Snyder, 2000*).

Considering the importance of academic achievement motivation among university students, particularly graduate students, attention to the underlying factors contributing to the development of academic achievement motivation is of considerable importance. Therefore, the present study aimed to investigate the role of neuroticism, perfectionism, and hope in predicting academic achievement motivation. Accordingly, the researcher seeks to answer the following question: What role do neuroticism, perfectionism, and hope play in predicting academic achievement motivation?

Research Background

Abedi Talebabadi and Bashardost (2021) compared perfectionism and academic achievement among master's students of psychology with related and unrelated bachelor's degrees. The aim of their study was to compare perfectionism and academic achievement among master's students of psychology with relevant and irrelevant undergraduate degrees. The statistical population consisted of all master's students in Tehran in 2021. The research sample was

selected from master's students of all Islamic Azad Universities in Tehran who had related and unrelated bachelor's degrees. Accordingly, 50 students with related bachelor's degrees and 50 students with unrelated bachelor's degrees were selected through convenience sampling. The research instruments included *Hill et al. (2004)* Perfectionism Questionnaire and *Hermans (1970)* Academic Achievement Motivation Questionnaire. Multivariate analysis of variance (MANOVA) was used to analyze the data. The results indicated that master's students of psychology with unrelated bachelor's degrees, compared with students with related bachelor's degrees, obtained higher mean scores in the components of striving for excellence, high standards for others, need for approval, concern over mistakes, and perfectionistic rumination. Moreover, students with unrelated bachelor's degrees achieved higher scores in both academic achievement motivation and grade point average compared with students with related bachelor's degrees.

Setayeshi Azhari et al. (2017) investigated the relationship between hope and academic achievement with the mediating role of academic procrastination among students. The aim of this study was to examine the mediating role of academic procrastination in the relationship between hope and academic achievement among students. The participants consisted of 150 male eighth-grade students in the first stage of secondary education who were selected through multistage cluster random sampling. The research instruments included *Solomon and Rothblum (1984)* Academic Procrastination Questionnaire, *Charles R Snyder et al. (1991)* Hope Scale, and students' grade point averages. The direct and indirect paths of the proposed model were examined using structural equation modeling and the bootstrap method, respectively. The findings showed that hope and academic achievement were, respectively, antecedent and consequence variables of academic procrastination among students. Furthermore, the results indicated that academic procrastination significantly mediated the relationship between hope and academic achievement.

Research Method

The present study employed a descriptive-correlational research design and was cross-sectional in terms of time. The statistical population consisted of master's students at Islamic Azad University of Ardabil. The sampling method was cluster random sampling, and 260 students were selected as the research sample based on Cochran's formula. Data were collected using questionnaires.

Academic Achievement Motivation Scale (ISM)

The Academic Achievement Motivation Scale (ISM) was developed based on a five-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree). This scale consists of eight main components related to academic motivation, including task interest motivation (selecting tasks under free-choice conditions and students' motivation to perform academic assignments, consisting of

four items), effort (high levels of effort, particularly toward difficult academic subjects, consisting of seven items), competitiveness (comparing one's academic performance with other students and attempting to outperform them, consisting of six items), social power (students' motivation to supervise and lead a group, consisting of six items), affiliation achievement (performing academic group activities, consisting of three items), social interest (students' motivation to help and pay attention to others' academic progress, consisting of five items), gaining praise (students' motivation to attract others' attention and encouragement in academic contexts, consisting of five items), and being exemplary (students' motivation to receive appreciation and rewards in academic settings, consisting of seven items). The score range for each component and the total questionnaire was calculated from one to five. The scoring procedure is designed so that higher scores obtained by participants indicate better performance on the five-point continuum. The reliability of this instrument has been estimated in various studies. *McInerney et al. (1997)* reported Cronbach's alpha coefficients ranging from 0.67 to 0.82, with an average coefficient of 0.76.

Perfectionism Questionnaire

To measure perfectionism, *Hill et al. (2004)* Perfectionism Questionnaire was used. The original version of this questionnaire consists of 59 items and assesses eight dimensions of perfectionism. Four dimensions, including concern over mistakes, need for approval for perfectionistic performance, perceived parental pressure, and negative perception of oneself, measure negative perfectionism. The other four dimensions, including striving for excellence, high standards for others, goal orientation, and organization, assess positive perfectionism. The items are scored based on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). In *Hill et al. (2004)* study, the reliability coefficient of the questionnaire items was estimated at 0.78, and the validity coefficient was reported as 0.95.

Hope Questionnaire

The Hope Scale developed by *Charles R Snyder et al. (1991)* consists of 12 items and is a self-report questionnaire. The subscales of this instrument include agency thinking and pathways thinking. *C Richard Snyder (2000)* reported a Cronbach's alpha coefficient of 0.86 for the total score of this scale. *Bryant and Cvengros (2004)* also supported the reliability and validity of this questionnaire as an appropriate measure of hope. Moreover, this scale has a negative relationship with suicidal ideation scores and positive relationships with perceived social support and meaning in life. The Cronbach's alpha coefficient was reported as 0.86, and the test-retest reliability coefficient was 0.81 (*Kermani et al., 2011*). In the present study, construct validity was examined using confirmatory factor analysis, and the results indicated that this scale consists of two factors: agency thinking and pathways thinking. The Cronbach's alpha coefficient was calculated as 0.74.

Neuroticism

To measure the neuroticism variable, items 1, 6, 11, 16, 21, 26, 31, 36, 41, 46, 51, and 56 from *Costa Jr and McCrae (2000)* questionnaire were used. Using 12 items, this scale assesses emotional stability through characteristics such as being calm and relaxed, being curious, being energetic, initiating hostility and arguments, being reliable, being nervous and anxious, being intelligent, and having enthusiasm. The reliability coefficient of the questionnaire items was estimated at 0.85 and its validity coefficient at 0.94.

NEO-FFI Personality Questionnaire

The NEO-FFI Personality Questionnaire consists of 60 items and was initially developed in 1985 and revised in 1991. This questionnaire assesses five major personality factors, including neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. Items 1, 6, 11, 16, 21, 26, 31, 36, 41, 46, 51, and 56 measure the neuroticism dimension. The questionnaire items are structured based on a five-point Likert scale with identical response categories. The questionnaire is organized in a matrix format and is considered a closed-ended response instrument. This questionnaire has demonstrated acceptable reliability and validity. In one study, the calculated alpha coefficient based on responses from 40 experts of the Ministry of Agriculture Jihad was 0.74.

After obtaining the necessary permissions and an official introduction letter from the university's educational department, the questionnaires were reviewed by the security office of the relevant center, and permission to distribute the questionnaires among students was granted to the researcher. Subsequently, the questionnaires were distributed among the students. All distributed questionnaires were administered by the researcher. Since respondents might have had questions while completing the questionnaires, the researcher was present at the data collection site to provide the necessary explanations.

The present study was conducted during the period from November 2022 to December 2022. In the next stage, the research participants, who were university students, attended brief 20-minute sessions in which the purpose of the study was explained and their trust was established regarding the confidentiality of the information obtained from the questionnaires. Then, the questionnaires were distributed separately, and the researcher remained present during the distribution process to answer any possible questions from the participants. After ensuring the appropriate distribution of the questionnaires, they were collected.

For data analysis, both descriptive and inferential statistics were used. The collected data were analyzed using correlation tests through the Statistical Package for the Social Sciences (SPSS) software.

Results

In this section, descriptive statistics were used for data organization and summarization, while inferential statistics were employed for data analysis. All

statistical analyses were conducted using SPSS version 23.

Table 1. Descriptive Indicators of the Academic Achievement Motivation Variable among Participants

Variable	Mean	Standard Deviation
Task Interest	6.55	2.48
Effort	9.54	3.45
Competitiveness	12.52	3.848
Social Power	12.48	4.086
Affiliation Achievement	9.40	3.082
Social Interest	9.50	1.30
Gaining Praise	9.98	15.23
Being Exemplary	23.66	8.77
Academic Achievement Motivation	80.54	17.12

Table 2. Descriptive Indicators of the Hope Variable among Participants

Variable	Mean	Standard Deviation
Pathways Thinking	7.53	3.29
Agency Thinking	5.82	1.77
Hope	12.04	9.15

Table 3. Descriptive Indicators of the Perfectionism Variable among Participants

Variable	Mean	Standard Deviation
Excessive Concern over Mistakes	24.87	2.79
Perceived Parental Criticism	18.20	2.81
Perceived Parental Expectations	15.96	2.50
Doubt about Actions	18.37	4.03
Organization and Orderliness	25.59	8.61
Personal Performance Standards	21.72	4.28
Perfectionism	128.41	10.36

Table 4. Descriptive Indicators of the Neuroticism Variable among Participants

Variable	Mean	Standard Deviation
Neuroticism	14.87	2.79

Testing the First Research Hypothesis:

There is a relationship between neuroticism and academic achievement motivation among university students.

Table 5. Pearson Correlation Coefficients between Neuroticism and Academic Achievement Motivation

Variable	1	2	3	4	5	6	7	8	9	10
1. Neuroticism	1									
2. Task Interest	-0.67**	1								
3. Effort	-0.52**	-0.45**	1							
4. Competitiveness	-0.40**	-0.22**	-0.55**	1						
5. Social Power	-0.53**	-0.40**	-0.91**	-0.84**	1					
6. Affiliation Achievement	-0.44	-0.37	-0.62	-0.48	-0.55	1				
7. Social Interest	-0.36	-0.45	-0.29	-0.37	-0.46	-0.39	1			
8. Gaining Praise	-0.28	-0.41	-0.45	-0.38	-0.39	-0.42	—	1		
9. Being Exemplary	-0.33	-0.39	-0.44	-0.46	-0.51	-0.49	-0.44	-0.35	1	
10. Academic Achievement Motivation	-0.52**	-0.45**	-0.49**	-0.37**	-0.53**	-0.57**	-0.46**	-0.29**	-0.47**	1

Based on the results presented in the above table, there was a significant negative correlation between neuroticism and the dimensions of academic achievement motivation at the significance level of 0.01.

Furthermore, a significant negative correlation was found between neuroticism and academic achievement motivation. Therefore, it can be concluded that the first hypothesis of this study, regarding the existence of a relationship between

neuroticism and academic achievement motivation, was supported.

Testing the Second Research Hypothesis:

There is a relationship between perfectionism and academic achievement motivation among university students.

Table 6. Pearson Correlation Coefficients between Perfectionism and Academic Achievement Motivation

Variable	1	2	3	4	5	6	7	8
1. Excessive Concern over Mistakes	1							
2. Perceived Parental Criticism	0.66*	1						
3. Perceived Parental Expectations	0.80**	0.66*	1					
4. Doubt about Actions	0.70**	0.80**	0.67**	1				
5. Organization and Orderliness	0.75**	0.52**	0.78**	0.55**	1			
6. Personal Performance Standards	0.72**	0.82**	0.63**	0.80**	0.55**	1		
7. Perfectionism	0.41**	0.46**	0.42**	0.53**	0.39**	0.52**	1	
8. Academic Achievement Motivation	0.45	0.53	0.66	0.55	0.48	0.36	0.42	1

Based on the results presented in Table 6, there was a significant positive correlation between perfectionism and academic achievement motivation. Moreover, the dimensions of perfectionism had significant positive correlations with academic achievement motivation at the 0.01 significance level. Therefore, it can be concluded that the second hypothesis of the present study, regarding the existence of a relationship between perfectionism and academic achievement motivation, was supported.

Testing the Third Research Hypothesis:

There is a relationship between hope and academic achievement motivation among university students.

Table 7. Pearson Correlation Coefficients between Hope and Academic Achievement Motivation

Variable	1	2	3	4
Pathways Thinking	1			
Agency Thinking	0.77*	1		
Hope	0.73**	0.62**	1	
Academic Achievement Motivation	0.61**	0.56**	0.54**	1

Based on the results presented in Table 7, there was a significant positive correlation between hope and academic achievement motivation at the 0.01 significance level. Furthermore, among the dimensions of hope, including agency thinking and pathways thinking, significant positive correlations with academic achievement motivation were observed at the 0.01 significance level. Therefore, considering the obtained results, it can be concluded that the third hypothesis of this study, regarding the existence of a relationship between hope and academic achievement motivation, was supported.

Conclusion

The present study was conducted with the aim of investigating the role of neuroticism, perfectionism, and hope in predicting academic achievement motivation among university students. Regarding the first research hypothesis, the findings indicated that there was a significant relationship between neuroticism and academic achievement motivation. These findings are consistent with the results reported by *Esmkhani Akbarinejad and Etemadi (2014)*. To explain this finding, it can be stated that neuroticism, as one of the personality and non-academic characteristics, can be associated with individuals' academic performance. The relationship between academic achievement and neuroticism is negative due to the presence of anxiety resulting from the characteristics of this negative personality dimension. Individuals with high levels of neuroticism, who experience anxiety, fears, doubts, and other neurotic symptoms, encounter significant difficulties in their academic and non-academic performance. These adverse consequences may prevent neurotic individuals from fully developing their academic abilities and achieving the persistence required for high academic achievement.

Regarding the second research hypothesis, the findings demonstrated that there was a significant relationship between perfectionism and academic achievement motivation. The results of this hypothesis are consistent with the findings of *Abedi Talebabadi and Bashardost (2021)*. In explaining this relationship, it can be stated that academic achievement is one of the most important criteria for evaluating students' performance, and perfectionism involves focusing on high standards of performance. Moderate levels of perfectionism, by reducing

anxiety, can increase effort and enhance academic achievement motivation, whereas excessive perfectionism may lead to increased anxiety and impaired individual performance. Therefore, an optimal level of perfectionism has a positive and significant effect on academic achievement motivation.

Regarding the third research hypothesis, the findings revealed that there was a significant relationship between hope and academic achievement motivation; therefore, the third hypothesis of the study was supported. The results of this hypothesis are consistent with the findings of *Setayeshi Azhari et al. (2017)*. To explain this relationship, it can be stated that individuals who completely lose hope for the future may abandon all forms of effort and passively surrender to circumstances. Consequently, they lose their self-esteem and motivation and become so physically and psychologically exhausted that they feel dominated by their environment and eventually submit to existing conditions. Individuals who lack psychological well-being are more likely to experience hopelessness and depression when facing important life events. It can be argued that without hope, individuals cannot effectively cope with positive and negative life situations that require adaptation and adjustment. Therefore, maintaining hope enables individuals to tolerate difficulties throughout different stages of life and establish a meaningful and purposeful life.

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