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Relationship between Goal Orientation and Procrastination in High School Students: Mediating Role of Attributional Styles

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ABSTRACT

Objective: The current investigation sought to elucidate the mediating function of attributional styles within the context of the relationship between goal orientation and procrastination among final-year students enrolled in government high schools in Yasuj city, Iran.

Methods: The methodological framework employed for this research was a descriptive-correlational design. The statistical population encompassed all final-year students attending government high schools in Yasuj city, amounting to a total of 4,000 students in the year 2021. From this population, a sample of 300 students was extracted utilizing a multi-stage cluster sampling technique. For the purpose of data collection, the researchers administered the Goal Orientation Questionnaire, the School Procrastination Scale, and the Attributional Style Questionnaire (ASQ).

Results: The findings indicated that mastery-approach and performance-approach goal orientations exerted a positive direct influence on optimistic attributional styles while simultaneously demonstrating a negative impact on pessimistic attributional styles. Conversely, the performance-avoidance and mastery-avoidance goal orientations were found to have a positive and direct effect on pessimistic attributional styles. Furthermore, optimistic attributional styles exhibited a negative and direct relationship with procrastination, in contrast to the positive and direct association observed between pessimistic attributional styles and procrastination. Additionally, goal orientation was found to have a direct and significant impact on mitigating procrastination through the mediation of optimistic attributional styles.

Conclusions: Based on the findings, it can be inferred that attributional styles and goal orientation are pertinent variables related to student procrastination, necessitating their consideration in the formulation of interventions designed to alleviate procrastination among students.

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Introduction

One of the important goals of modern educational systems is to cultivate individuals who are capable of easily overcoming their problems and challenges in their daily lives and in social environments (SELÇUK et al., 2007). Therefore, providing conditions for the learner and the learning situation in such a way that the best achievements are obtained is of fundamental importance in the learning process (SELÇUK et al., 2007). The results of studies show that various factors such as anxiety, dependence, fear of negative evaluation, mental distress, lack of energy, inflexible behavior (Ferrari, 1989a), learned helplessness (MacLeod & Hagan, 1992), perfectionism (Johnson & Slaney, 1996), self-regulation (Bouman & Meijer, 1999), low self-efficacy, and procrastination (Ferrari, 1989a) hinder students' academic performance.

In empirical literature, a growing number of variables have been identified that researchers believe play a role in individual performance, one of which is procrastination. Procrastination is a behavioral problem that has a very high prevalence and is related to students' academic status. Due to its cognitive, emotional, and behavioral complexities, procrastination has various manifestations, including academic procrastination, decision-making procrastination, psychopathological procrastination, and obsessive-compulsive procrastination. The most common type of procrastination among students is academic procrastination (Pala et al., 2011). In this type of procrastination, students postpone their assignments and ignore their academic responsibilities (Hussain & Sultan, 2010). Although procrastination may not always be problematic, in most cases, it can have undesirable consequences and irreparable effects on achieving goals by obstructing progress. This variable is complex and has various cognitive, emotional, and behavioral manifestations (Çapan, 2010). Theorists in this field have defined procrastination as the dominant and persistent tendency of individuals to postpone activities, which is almost always accompanied by anxiety and is seen as a problem in the educational system and a hindrance to academic progress in most students (Simpson & Pychyl, 2009). Procrastination means being careless and delaying tasks. Procrastination has an unfavorable impact on personality, learning, and the success of students at all levels (Kim & Seo, 2015).

Goal orientation is one of the other personality characteristics of students that can have an impact on academic progress. Goal orientation is a motivator that drives individuals to pursue their goals (Urdan & Schoenfelder, 2006). Howell and Watson (2007) showed that mastery-approach goals

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have a negative correlation with procrastination, while mastery-avoidance goals have a positive correlation with procrastination. Achievement goals, given the role of skills and abilities, have various types. Elliot and McGregor (2001) proposed a 2x2 framework of achievement goal orientation, which includes mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance goals. Goal orientation assumes that students differ from each other in their concept of progress behavior, and these differences have distinct emotional, motivational, cognitive, and behavioral consequences. Generally, research results indicate that mastery and performance approach goals have a positive correlation with academic performance, while mastery and performance avoidance goals have a negative correlation with academic performance (Elliot & McGregor, 2001). In addition, Kakavand et al. (2013) found that positive perfectionism has a significant positive effect on mastery-approach, performance-approach, and performance-avoidance goals, while negative perfectionism has a significant positive effect on performance-avoidance goals. Positive perfectionism also has a positive effect on academic performance. Moreover, mastery-avoidance and performance-avoidance goals have a significant negative effect on academic performance. Zare et al. (2018) found that self-regulated learning strategies significantly predict academic procrastination, and there is a significant negative correlation between academic procrastination and self-regulated learning. Internal and external value components of goals, organization, metacognitive self-regulation strategies, time and place management, and effort to self-regulate are significant predictors of academic procrastination.

Attributional styles are one of the other factors that can have an impact on academic progress. Attribution refers to attributing something to something else, and attribution of a behavior means making an assumption about its cause. The process of inferring others' motives and traits through observing their behavior is called attribution. The "attributional" style refers to the specific way in which an individual justifies and interprets personal events. For example, some individuals attribute their failure to their ineffective strategy or effort, while others usually attribute such failure to their inability(Ickes & Layden, 2018) .

If the learner believes that the causes of their failures in performing are stable and uncontrollable, this attributional pattern leads to fear of failure, and this fear of failure leads to academic procrastination (Rakes et al., 2013). Because the fear of failure is one of the main factors that lead to procrastination, as the learner wants to delay their anxiety and not face the distressing task.

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Students with external and uncontrollable attributions probably have less success in completing academic tasks, which according to existing theories and research, may exhibit more procrastination behaviors (Rakes et al., 2013). Golmohammad Nazhad Bahrami et al. (2020) study showed a significant negative relationship between optimistic attributional styles and academic procrastination, and a significant positive relationship between pessimistic attributional styles and academic procrastination. The results of studies in the field of procrastination and its relationship with attributional styles show that students' attributional styles play an important role in the academic and learning domains of students. Additionally, negative dimensions of attributional style, including stable negative and global negative, predict guilt inversely, and positive dimensions of attributional style, including stable positive, predict guilt directly.

Lee (2017) found that having motivation and desire for learning has a significant negative relationship with stress, which can lead to academic failure. Wäschle et al. (2014) found that students who have experienced unhealthy cycles of procrastination evaluate their progress goals at a lower level, which reinforces the cycle of procrastination. However, students who have experienced cycles of perceived self-efficacy evaluate their progress goals at a higher level, which increases their self-efficacy. Self-efficacy moderates the effect of perceived progress goals on procrastination. Therefore, students with low perceived self-efficacy are vulnerable to the negative effects of unhealthy cycles of procrastination.

Although previous studies have examined the relationship between goal orientation and attribution styles in predicting academic progress, the role of these variables as a model has rarely been addressed. Therefore, the present study aims to predict academic procrastination in Yasuj city students based on goal orientation and with the mediating role of attribution styles.

Material and Methods

This research is a descriptive study of correlation based on the purpose of applied work and the method of data collection. The statistical population of this research consisted of all last-year high school students in government schools in Yasuj city (4000 individuals) in 2021. Multi-stage cluster sampling was used to select the students under study. In this way, Yasuj city was first divided into three groups (North, Center, and South), and 4 high schools were randomly selected from each group, making a total of 12 selected schools in high school level. At this stage, 300 students were

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selected from the last-year high school students in Yasuj city using multi-stage cluster sampling method. Since the minimum sample size in correlation studies should be 30 to 50 individuals, but in this research, 300 individuals were selected as the research sample to increase external validity. The following tools were used to collect data. After obtaining the necessary licenses from the Education Department of Yasuj city and considering ethical considerations and coordination with schools, and explaining the research objectives, the researcher divided the schools in Yasuj city into three parts: North, Center, and South, and 4 high schools were selected from each part as the research sample. After providing explanations about the research objectives and obtaining their consent to participate in the research, the Elliot and Murayama (2008) Goal Orientation Questionnaire, School Procrastination Scale, and Attributional Style Questionnaire (ASQ) were provided to the students, and they were asked to complete the questionnaires according to the instructions and try to answer all the questions. The students were prepared psychologically and assured of the confidentiality of information, and ethical considerations were observed in this research.

Revised version of Goal Orientation Questionnaire: Elliot and McGregor (2001) developed the original version of the Goal Progress Questionnaire to measure learners' preferred goals in progress situations. Due to some undeniable limitations of the original version of this tool, the most important of which was the lack of underlying theoretical logic, Elliot and Murayama (2008) developed the revised version of the Goal Orientation Questionnaire. The revised version consists of 12 items and four dimensions, including Mastery-Approach Goal (with items 1, 3, and 7), Mastery-Avoidance Goal (with items 5, 9, and 11), Performance-Approach Goal (with items 2, 4, and 8), and finally, Performance-Avoidance Goal (with items 6, 10, and 12) (Elliot & Murayama, 2008). In this questionnaire, participants respond to each item on a seven-point Likert scale from completely agree (1) to completely disagree (7). The minimum score is 12, and the maximum is 84. Confirmatory factor analysis indices based on AMOS software confirmed the existence of these four factors. In the study by Haghighi and Shokri (2015), internal consistency coefficients for each dimension were obtained as 0.82 for Mastery-Approach Goal, 0.80 for Mastery-Avoidance Goal, 0.88 for Performance-Approach Goal, and 0.90 for Performance-Avoidance Goal. The validity of this questionnaire was also investigated using confirmatory factor analysis. The confirmatory factor analysis showed that all items are acceptable in terms of factor loading.

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The Cronbach's alpha coefficients for research factors ranged from 0.74 to 0.89. Confirmatory factor analysis of the academic procrastination questionnaire was presented with fit indices.

Academic Procrastination Scale: This scale was developed by Sevari (2011) to investigate academic procrastination in Ahvaz city and was standardized. The scale consists of 12 items, which have three factors: intentional procrastination (including 5 items), procrastination due to physical and mental fatigue (including 4 items), and procrastination due to incompetence (including 3 items). For each item, a five-option spectrum is provided, ranging from never=1, rarely=2, sometimes=3, often=4, to always=5. The upper and lower limits for the intentional procrastination subscale are 25 and 5, respectively. For the procrastination due to physical and mental fatigue subscale, the upper and lower limits are 20 and 4, respectively. For the procrastination due to incompetence subscale, the upper and lower limits are 25 and 3, respectively. The upper and lower limits for the total score of the procrastination scale are 60 and 12, respectively. To investigate the validity of this questionnaire, the Procrastination Assessment Scale-Students (Ferrari, 1989b) was used, which showed a significant correlation between the two scales, indicating an acceptable validity for the Academic Procrastination Scale. The validity of this questionnaire was also examined by confirmatory factor analysis. The results showed that all items have an acceptable factor loading. Cronbach's alpha coefficient was used to determine the reliability of the Academic Procrastination Scale. Sevari (2011) reported the Cronbach's alpha coefficient for intentional procrastination (including 5 items), procrastination due to physical and mental fatigue (including 4 items), and procrastination due to incompetence as 0.77, 0.60, and 0.70, respectively. The Cronbach's alpha coefficient for the total scale was 0.85.

Attributional Style Questionnaire: This self-assessment questionnaire was first developed by Peterson et al. (1982) to measure individuals' attitude toward unmeasurable events (positive and negative) and has a series of hypothetical situations consisting of 6 positive and 6 negative events. In fact, 12 hypothetical situations are presented, half of which are positive and half are negative situations, and the participant is asked to imagine themselves in that specific situation. Then, the first question is about the main cause of the event, which will not be used in the scoring of the questionnaire. The sequence of the next three questions in all situations is the same and measures the dimensions of attitude toward attributions. Accordingly, the second question measures the internal-external dimension, the third question measures the stability versus instability dimension,

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and the fourth question measures the general versus specific dimension. In the ASQ, each response has a score range of 1 to 7. For each positive event, score 1 is the lowest and score 7 is the highest, while for all negative situations, score 1 is the highest and score 7 is the lowest. For positive events, the highest and lowest scores are 21 and 3, respectively. In fact, in this questionnaire, the scores of positive and negative events are calculated separately, as the low score for a positive event is negative, while the low score for a negative event is positive, and numerous studies have confirmed its internal consistency (Mohamadaminzadeh et al., 2016). The Cronbach's alpha coefficient obtained for negative outcome externality was 0.75, for positive outcome internality was 0.74, for negative outcome stability was 0.43, for positive outcome stability was 0.56, and for overall negative outcome was 0.76 (Mohamadaminzadeh et al., 2016). In this study, the validity of the questionnaire was examined by confirmatory factor analysis, which showed that all positive and negative factors have acceptable factor loadings. Additionally, Cronbach's alpha coefficient was used to determine the reliability of the ASQ, which resulted in a reliability range of 0.68 to 0.87.

Results

As seen in Table 1, the mean and standard deviation of scores for the Avoidance Circuit Mastery Goal, Approach Circuit Mastery Goal, Avoidance Circuit Performance Goal, and Approach Circuit Performance Goal were (13.25, 0.25), (71.13, 0.65), (49.13, 0.56), and (63.13, 0.59), respectively. Additionally, the mean and standard deviation of scores for positive attributional style and negative attributional style were (20.72, 0.05) and (19.46, 0.03), respectively. The mean and standard deviation of total academic procrastination scores were (30.60, 0.93).

Table 1. Mean and standard deviation of scores for variables

Variable	Mean	SD	Min.	Max.	Skewness
The goal of mastery of the tendency circuit	13.25	5.44	3	21	-.26
Dominance of the avoidance circuit	13.71	5.65	3	21	.13
Functional orientation	13.49	5.58	3	21	-.23
Avoidance-oriented performance goal	13.63	5.59	3	21	-.42
Affirmative attributional Style	20.05	2.72	10	26	.73
Negative attributional style	19.03	3.46	9	24	.64
Academic procrastination total score	30.60	1.93	12	61	.27

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Table 2. Pearson correlation coefficients between research variables.

Variable	1	2	3	4	5	6
1. The goal of mastery of the tendency circuit	-					
2. Dominance of the avoidance circuit	.32**	-				
3. Functional orientation	.25**	.22**	-			
4. Avoidance-oriented performance goal	.29**	.23**	.18**	-		
5. positive attributional style	.49**	.10	.27**	.13**	-	
6. and negative attributional style	-.05	.24**	-.06	-.32**	-.28**	-
7. Academic procrastination	-.04	-.08	.23**	-.07	-.09	.25**

According to Table 2, there is a significant positive relationship between academic procrastination and the Avoidance Circuit Performance Goal (r=0.23, p≤0.01) and negative attributional style (r=0.25, p≤0.01). Model fit indices are presented in Table 3, where the Root Mean Square Error of Approximation (RMSEA) coefficient is 0.07, the Comparative Fit Index (CFI) is 0.98, the Goodness of Fit Index (GFI) is 0.94, the Adjusted Goodness of Fit Index (AGFI) is 0.93, the Normed Fit Index (NFI) is 0.94, and the Chi-Square to Degrees of Freedom (χ^2/df) is 2.97, indicating a reasonable and moderate fit for the conceptual model.

Table 3. Fitting the research model based on fit indices

X2	Df	X2/df	RMSEA	GFI	AGFI	CFI	NFI	IFI
517.27	174	2.97	.07	.94	.93	.98	.94	.98

Path coefficients in the model are presented in Table 4.

Table 4. Path coefficients in the model

Path	Estimate	Beta	S.E	C.R	P
Avoidance functional goal based on negative attribution style	-.62	-.23	.28	-2.17	.02
The goal of avoidance control over the style of negative documents	.40	.18	.25	1.16	.10
The goal of mastery of the tendency orientation on the style of positive documents	1.91	.27	.51	3.70	.001
Functional goal orientation on the style of positive attribution	-.70	-.19	.31	-2.22	.02
Functional goal orientation on academic procrastination	.60	.14	.25	2.01	.05
The style of negative documents on academic procrastination	.22	.18	.08	2.63	.009

According to Table 4, the negative direct effect of the Avoidance Circuit Performance Goal (β=-0.23, p≤0.01) on negative attributional style is supported, as well as the negative direct effect of the Approach Circuit Performance Goal (β=-0.19, p≤0.01) on positive attributional style and the positive direct effect of the Approach Circuit Mastery Goal (β=0.37, p≤0.001) on positive attributional style. Moreover, the positive direct effect of the Approach Circuit Performance Goal

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(β=0.16, p≤0.05) and negative attributional style (β=0.18, p≤0.01) on positive attributional style is supported. Additionally, bootstrapping analysis was used to examine the mediating role of attributional styles in the relationship between goal orientation and academic procrastination, and the results are presented in Table 5.

Table 5. Estimation of indirect paths in the model using bootstrap

Variable			Estimate	HL	LL	p
predictor variable	Mediating variable	Criterion variable				
Avoidance circuit mastery goal	Negative attributional styles	Academic procrastination	.07	-.25	-.03	.11
Avoidance functional goal	Negative attributional styles	Academic procrastination	.10	-.04	-.28	.05

Discussion

The aim of this study was to investigate the mediating role of attributional styles in the relationship between goal orientation and academic procrastination among senior high school students in Yasuj city. The hypothesis of the study showed that the Mastery and Performance-Approach Goal Orientation have a positive direct effect on optimistic attributional styles and a negative direct effect on pessimistic attributional styles. Conversely, the Avoidance-Distance Goal Orientation and the Performance-Avoidance Goal Orientation have a positive direct effect on pessimistic attributional styles. The findings of the study are consistent with the findings of previous studies (Lee, 2017; Wäschle et al., 2014; Zare et al., 2018).

In interpreting the findings of this study, it can be said that students with a Mastery Goal Orientation attribute their success to internal and stable factors such as their ability and talent. They also tend to attribute this favorable event to stable and controllable factors such as their ability and effort. Based on theoretical discussions, when a student attributes a favorable event to factors that are stable and controllable within them at all times, they are more likely to expect success in the future and in other areas. This in turn leads to greater self-confidence in these areas. An individual with an internal locus of control sees themselves as responsible for their behavior, while an individual with an external locus of control sees others as responsible for their behavior. One of the limitations of this study is the limited sample size, which is confined to the city of Shiraz. Therefore, caution should be exercised when generalizing the results of this study to other geographic areas. Another limitation of this study is the researcher's inability to control some interfering variables such as family and environmental variables that could have influenced the study results. To increase the confidence in the generalizability of the results, it is recommended

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that similar studies be conducted in other cities. Researchers interested in this field are suggested to conduct such studies in different groups and using other research tools.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection and analysis. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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