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The Mediating Role of Academic Engagement in the Relationship Between Goal Orientation, Academic Burnout, and Academic Procrastination

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A B S T R A C T

Objective: This study aimed to explain the mediating role of academic engagement in the relationship between goal orientation, academic burnout, and academic procrastination among high school students.

Methods and Materials: The research method was descriptive and correlational. The statistical population included all female high school students in Ardakan County during the 2020-2021 academic year. A sample of 294 students was selected using convenience sampling based on the Morgan table. The instruments used in this study were the Solomon and Rothblum Academic Procrastination Questionnaire (1984), the Breso et al. Academic Burnout Questionnaire (1997), the Elliot and McGregor Goal Orientation Questionnaire (2001), and the Fredricks et al. Academic Engagement Questionnaire (2004).

Findings: The results showed a positive and significant relationship between academic engagement and the variables of mastery-approach and performance-approach. There was an inverse and significant relationship between academic engagement and the variables of mastery-avoidance and performance-avoidance. Academic engagement had an inverse and significant relationship with academic procrastination and academic burnout. The indirect relationships of mastery-approach and performance-approach variables through academic engagement with academic procrastination and academic burnout were inverse and significant. The indirect relationships of mastery-avoidance and performance-avoidance variables through academic engagement with academic procrastination and academic burnout were positive and significant ($p < .05$).

Conclusion: Based on the findings of this study, it can be concluded that academic engagement influences goal orientation, academic procrastination, and academic burnout. It is suggested that planners, officials, and counselors in the education system take the necessary actions to foster academic engagement.

Keywords: *Academic Engagement, Academic Procrastination, Goal Orientation, Academic Burnout*

1. Introduction

In today's educational system, schools are considered the primary source of acquiring knowledge, enhancing talent, and insight in students, and they attract the attention of policymakers, mental health specialists, and counselors (Akbari Boorang et al., 2023). Studies indicate that the dynamism of schools depends on a suitable educational environment, competent teachers, and motivated and diligent students (Thapa et al., 2013). There is a particular emphasis on students as the main assets of schools, and the higher the level of education, the more attention and investment are required (Kuh et al., 2008; Kuh et al., 2011). Due to the transition from childhood to adolescence and the accompanying changes, students undergo significant transformations (Tuominen et al., 2020). These changes can introduce various sources of stress and affect students' academic progress and success both presently and in the future (Tuominen-Soini & Salmela-Aro, 2014; Tuominen et al., 2020).

In this context, attention to the psychological dimensions of students is a crucial issue in educational management and academic progress. One of these dimensions is academic procrastination, which is a common behavior in educational settings (Kim & Seo, 2015). Procrastination refers to delaying, postponing, or not completing a task (Steel, 2007). Won and Yu (2018) describe a procrastinator as someone who can or wants to do a task, plans for it, and makes efforts but does not complete it or excessively delays it, wasting time on trivial activities or pleasures. Academic procrastination is significant due to its high prevalence and its consequences (Won & Yu, 2018). It refers to an irrational tendency to delay starting or completing an academic task, despite having the intention to do so at a specific time, but lacking the necessary motivation (Akbari Boorang et al., 2023). Procrastinating students often prepare for exams at the last minute, experiencing severe anxiety during the exam (Eisenbeck et al., 2019).

The main reasons for students' procrastination relate to the fear of failure, including performance anxiety, perfectionism, and lack of self-confidence (Brando-Garrido et al., 2020). Therefore, academic procrastination can predispose students to academic burnout. Academic burnout is defined as feeling exhausted due to academic demands, having a cynical attitude and detachment from schoolwork, and feeling incompetent or inefficient academically (Seibert et al., 2017). Individuals with academic burnout usually exhibit symptoms such as lack of enthusiasm for learning materials, irregular attendance, non-participation in class activities, feeling unable to learn, frequent absences, feeling meaningless in class activities, and ultimately academic failure (Lindemann et al., 2001).

Among the psychological factors that can be related to burnout and procrastination are the ways individuals approach and respond to challenges in their lives (Elliot, 2005; Elliot & McGregor, 2001). Goal orientation represents a person's aim to engage in behaviors related to achievement (Li & Lerner, 2013). It includes four types: mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance (Honicke et al., 2020). Individuals with mastery-approach goals seek positive outcomes such as knowledge and skills and strive to learn as much as possible. Those with mastery-avoidance goals avoid negative outcomes like losing skills or becoming incompetent and try to prevent misunderstandings or forgetting learned material. Performance-approach individuals are motivated to perform better than their peers and demonstrate their ability to others. Performance-avoidance individuals are motivated to avoid demonstrating incompetence to others and try to prevent performing worse than others (Coutinho & Neuman, 2008).

At all educational levels, teachers seek students' engagement in academic activities (Eslami et al., 2016). Academic engagement shows an individual's interest and enthusiasm for school, influencing academic performance and behavior (Akbaşlı et al., 2019; Tuominen et al., 2020). Kuh et al. (2008) describe student engagement as the time and energy they invest in purposeful educational activities. Student engagement includes positive behaviors such as attending school, paying attention, participating in class, and experiencing psychological support, feeling respected, and being part of the school environment (Kuh et al., 2008). Since engagement acts as a potential driving force, goal orientation can guide these tendencies. Therefore, the chosen goal determines the amount of motivation to achieve it, and increased engagement reduces burnout and procrastination. Academic burnout and procrastination can negatively affect students' academic fate, physical and mental health. It is also assumed that academic engagement can mediate the relationship between goal orientation and academic burnout and procrastination. Thus, this study aims to explain the mediating role of academic engagement in the relationship between goal orientation, academic burnout, and academic procrastination.

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2. Methods and Materials

2.1. Study Design and Participants

This study employed a descriptive-survey causal design for data collection and was quantitative in nature, using a correlational research design. The statistical population included all female high school students in Ardakan County during the 2020-2021 academic year, totaling 1,385 students according to the Ardakan Education Department statistics. The sample consisted of 300 students selected through convenience sampling based on the Morgan table derived from Cochran's formula. Three hundred questionnaires were distributed, and after excluding six outliers, data from 294 questionnaires were analyzed. Inclusion and exclusion criteria included being a student, academic discipline, school, etc.

2.2. Measures

2.2.1. Academic Procrastination

This questionnaire was developed by Solomon and Rothblum (1984) and was first used in Iran by Dehghan (2008; as cited in Motiei, Heidari, & Sadeghi, 2011). The procrastination scale includes 27 items assessing academic procrastination in three areas: exam preparation (items 1-6), assignment preparation (items 9-17), and writing papers (items 20-25). Additionally, it assesses students' feelings about procrastination (items 7, 18, 26) and their tendency to change procrastination habits (items 8, 19, 27) using a Likert scale from 1 (never) to 5 (always). Reverse scoring is applied to items 2, 4, 6, 11, 13, 15, 16, 21, 23, and 25. Jokar and Dalavarpour (2007) determined the reliability of this scale using Cronbach's alpha and its validity through factor analysis and item-total correlation. The KMO index for the preliminary factor analysis was 0.88, and item-total correlations were satisfactory and significant, with a Cronbach's alpha of 0.91 (Akbari Boorang et al., 2023).

2.2.2. Academic Engagement

Developed by Fredricks, Blumenfeld, and Paris (2004), this 15-item questionnaire measures three subscales of engagement: behavioral (items 1-4), emotional (items 5-10), and cognitive (items 11-15). Each item is rated on a 5-point Likert scale from 1 (very little) to 5 (very much). Fredricks et al. reported a reliability coefficient of 0.86, and in Iran, Abbasi et al. (2015) reported a reliability coefficient of 0.66 (Eslami et al., 2016).

2.2.3. Goal Orientation

Elliot and McGregor (2001) developed the 2x2 goal orientation questionnaire, which includes 12 items, with each goal comprising three items. Using factor analysis with varimax rotation, they identified four factors: mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance, explaining 81.5% of the total variance. The Likert scale ranges from 1 (strongly disagree) to 5 (strongly agree). Mastery-approach items are 2, 8, 12; mastery-avoidance items are 3, 5, 10; performance-approach items are 1, 7, 9; and performance-avoidance items are 4, 6, 11. Khermayi and Kheir (2007) reported values of 2.54 (α = 0.84, 21.3% variance) for mastery-approach, 2.21 (α = 0.81, 18.42% variance) for mastery-avoidance, 1.74 (α = 0.66, 14.47% variance) for performance-avoidance, and 2.53 (α = 0.78, 19.58% variance) for performance-approach (Akbari Boorang et al., 2023; Ashoori et al., 2014).

2.2.4. Academic Burnout

Developed by Breso et al. (1997), this questionnaire measures three areas of academic burnout: academic fatigue (items 1, 4, 7, 10, 13), academic disinterest (items 2, 5, 11, 14), and academic inefficacy (items 3, 6, 8, 9, 12, 15). It contains 15 items rated on a 7-point Likert scale from 1 (never) to 7 (always). The creators calculated the reliability using Cronbach's alpha as 0.70, 0.82, and 0.75 for the three areas, respectively. Naami (2009) reported reliability coefficients of 0.79 for academic fatigue, 0.82 for academic disinterest, and 0.75 for academic inefficacy, with validity coefficients of 0.38, 0.42, and 0.45, respectively (Azimi et al., 2017; Ghadampour et al., 2016; Narimani et al., 2014).

2.3. Data analysis

Descriptive statistics (frequency, mean, standard deviation) and inferential statistics using SPSS-22 software were used for data analysis. Structural equation modeling using Amos-21 software was also employed to examine causal relationships between variables.

3. Findings and Results

The demographic characteristics of the respondents in the study were analyzed based on age, grade level, field of study, and average grade. In terms of age, the distribution was as

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follows: 41 respondents (13.7%) were 15 years old, 137 respondents (45.7%) were 16 years old, 95 respondents (31.7%) were 17 years old, and 27 respondents (9.0%) were 18 years old. Regarding grade level, 174 respondents (58.0%) were in the 10th grade, 69 respondents (23.0%) in the 11th grade, and 57 respondents (19.0%) in the 12th grade. For the field of study, 152 respondents (50.7%) were in humanities, 78 (26.0%) in sciences, 5 (1.7%) in mathematics, 12 (4.0%) in architecture, 17 (5.7%) in accounting, 20 (6.7%) in physical education, and 16 (5.3%) in computer science. In terms of academic achievement, 5 respondents (1.7%) had an average grade below 14, 40 respondents (13.3%) had grades between 14 and 16, 112 respondents (37.3%) between 16 and 18, and 143 respondents (47.7%) between 18 and 20. The total number of participants was 300.

Table 1

Descriptive Statistics of Research Variables

Variable	Minimum	Maximum	Mean	Standard Deviation
Mastery-Approach	3	15	11.28	2.64
Mastery-Avoidance	5	15	12.76	2.05
Performance-Approach	5	15	11.50	1.93
Performance-Avoidance	3	15	12.19	2.31
Academic Engagement	21	63	41.51	8.10
Academic Procrastination	33	109	73.34	13.44
Academic Burnout	30	95	57.22	11.35

Based on the research findings in Table 1, among the various dimensions of goal orientation, mastery-avoidance had the highest and mastery-approach had the lowest mean. To test the path model, it is important to consider several fundamental assumptions. In this study, the assumptions of the absence of outliers, normal distribution of variables, multicollinearity, and the correlation of research variables were examined and confirmed. The covariance-based modeling approach was used to test the research model.

In this study, the indices X^2/df, RMSEA, GFI, TLI, NFI, CFI, IFI, and RMSEA were used to evaluate the confirmatory factor analysis model. The □2/df index does not have a fixed criterion for an acceptable model, but a smaller X^2/df value indicates a better fit (Hooman, 2005), with values less than 3 being desirable. It is recommended to use the root mean square error of approximation (RMSEA) as a measure of the difference per degree of freedom. An RMSEA of 0.08 or less indicates a good model fit, while values of 0.10 or greater indicate a poor fit. By convention, the values of GFI, TLI, NFI, CFI, and IFI should be equal to or greater than 0.90 for the model to be accepted.

Table 2

Estimated Indices for Evaluating the Overall Structural Equation Model

Index	CMIN	DF	CMIN/DF	GFI	NFI	IFI	TLI	CFI	RMSEA
Value	17.897	9	1.989	0.982	0.942	0.970	0.927	0.969	0.058

According to Table 2, the overall evaluation indices of the structural equation model, considering the desirable range of these indices, indicate that the hypothesized model is supported by the research data. In other words, the data fit the model well.

Table 3

Significance of Causal Paths in the Model

Path	Coefficient	Critical Ratio	Significance Level	Result
Mastery-Approach → Academic Engagement	0.258	5.725	0.001	Significant
Mastery-Avoidance → Academic Engagement	-0.349	-7.612	0.001	Significant
Performance-Approach → Academic Engagement	0.236	6.298	0.001	Significant
Performance-Avoidance → Academic Engagement	-0.403	-9.051	0.001	Significant

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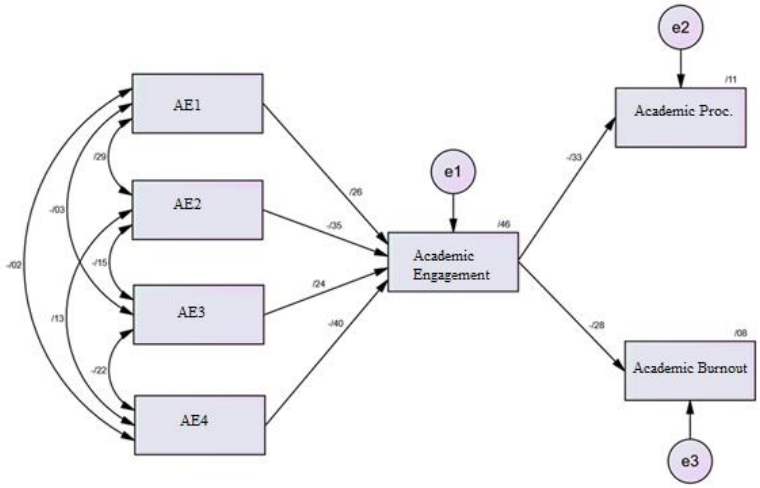
Academic Engagement → Academic Procrastination	-0.333	-6.050	0.001	Significant
Academic Engagement → Academic Burnout	-0.280	-4.991	0.001	Significant

Figure 1

Model with Beta Values



Based on the information from Figure 1 and **Error! Reference source not found.**, the goal orientation variables (mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance) collectively explain 46% of the variance in academic engagement, while academic engagement explains 11% of academic procrastination and 8% of academic burnout. The mastery-approach and performance-approach variables have a positive and significant impact on academic engagement ($P < 0.001$), while mastery-avoidance and performance-avoidance have a negative and significant impact on academic engagement ($P < 0.001$). Additionally, academic engagement has a negative and significant effect on academic procrastination and academic burnout ($P < 0.001$).

Table 4

Estimated Direct and Indirect Effects of Independent Variables on Dependent Variables

Independent Variable	Mediator	Dependent Variable	Direct Effect (Value)	Direct Effect (P)	Indirect Effect (Value)	Indirect Effect (P)
Mastery-Approach	-	Academic Engagement	0.258	0.001	-	-
-	Academic Engagement	Academic Procrastination	-	-	-0.086	0.001
-	Academic Engagement	Academic Burnout	-	-	-0.072	0.001
Mastery-Avoidance	-	Academic Engagement	-0.349	0.001	-	-
-	Academic Engagement	Academic Procrastination	-	-	0.116	0.001
-	Academic Engagement	Academic Burnout	-	-	0.098	0.001
Performance-Approach	-	Academic Engagement	0.236	0.001	-	-
-	Academic Engagement	Academic Procrastination	-	-	-0.079	0.001
-	Academic Engagement	Academic Burnout	-	-	-0.066	0.001
Performance-Avoidance	-	Academic Engagement	-0.403	0.001	-	-
-	Academic Engagement	Academic Procrastination	-	-	0.134	0.001
-	Academic Engagement	Academic Burnout	-	-	0.113	0.001

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Academic Engagement	-	Academic Procrastination	-0.333	0.001	-	-
Academic Engagement	-	Academic Burnout	-0.280	0.001	-	-

According to the results in Table 4, the direct effect of mastery-approach goal orientation on academic engagement is statistically significant. The direct effect of mastery-avoidance goal orientation on academic engagement is also statistically significant, as is the direct effect of performance-approach goal orientation on academic engagement. The direct effect of performance-avoidance goal orientation on academic engagement is statistically significant. The direct effect of academic engagement on academic burnout is statistically significant. The direct effect of academic engagement on academic procrastination is statistically significant. The indirect effect of mastery-approach on academic procrastination through academic engagement is statistically significant. The indirect effect of mastery-avoidance on academic procrastination through academic engagement is statistically significant. The indirect effect of performance-approach on academic procrastination through academic engagement is statistically significant. The indirect effect of performance-avoidance on academic procrastination through academic engagement is statistically significant. Finally, the indirect effect of mastery-approach on academic burnout through academic engagement is statistically significant. The indirect effect of mastery-avoidance on academic burnout through academic engagement is statistically significant. The indirect effect of performance-approach on academic burnout through academic engagement is statistically significant. The indirect effect of performance-avoidance on academic burnout through academic engagement is statistically significant.

4. Discussion and Conclusion

According to the results, the direct effect of mastery-approach goal orientation on academic engagement is statistically significant ($P < 0.001$, $\beta = 0.258$), which is consistent with the prior studies (Eslami et al., 2016; Mazloumian & Ebrahimi, 2023; Seif, 2016; Tuominen-Soini & Salmela-Aro, 2014; Tuominen et al., 2020) who found a positive and significant relationship between goal orientation and its components with academic engagement and also between academic well-being and its components with academic engagement. Students with a mastery-approach goal orientation focus on mastering tasks and acquiring new skills for their growth and enjoy learning for the sake of learning. These students are willing to engage in challenging tasks and seek to understand them more deeply, viewing each failure as an opportunity to increase competence and self-awareness. From their perspective, competence is achieved through mastering challenging subjects and enhancing abilities, believing that effort and outcomes are correlated (Mazloumian & Ebrahimi, 2023; Seif, 2016). Therefore, it is clear that students with a mastery-approach goal orientation have higher academic engagement.

Additionally, based on the results of this study, the direct effect of mastery-avoidance goal orientation on academic engagement is statistically significant ($P < 0.001$, $\beta = -0.349$). This finding is consistent with the prior studies (Mazloumian & Ebrahimi, 2023; Seif, 2016; Tuominen et al., 2020). Similarly, this study aligns with the research of Mazloumian and Ebrahimi (2022), which showed that among goal orientation components, mastery goals have the most direct effect on academic engagement, and among the dimensions of learning strategies, cognitive strategy has the most indirect effect on academic engagement. Learning strategies mediated by goal orientation are important factors in improving and increasing students' academic engagement. In explaining this finding, it can be said that students with a mastery-avoidance goal orientation strive to avoid failure and errors, abandon incomplete tasks, and avoid losing skills. Therefore, in the mastery-avoidance goal, competence is not about completing tasks entirely. These students fear misunderstanding, inability to learn the material, forgetting what they have learned, and losing skills, abilities, and memory (Mazloumian & Ebrahimi, 2023). Such students show less academic engagement due to their anxiety.

Another finding of the study showed that the direct effect of performance-approach goal orientation on academic engagement is statistically significant ($P < 0.001$, $\beta = 0.236$). In other words, adopting a performance-approach goal orientation increases students' academic engagement. This finding is consistent with the results of prior studies (Eslami et al., 2016; Mazloumian & Ebrahimi, 2023; Seif, 2016; Tuominen et al., 2020). In explaining this finding, it can be said that performance-approach goal orientation reflects a focus on demonstrating competence and ability and how one's ability is evaluated compared to others. This type of goal orientation is associated with efforts to outperform normative performance, striving to be the best, using social

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comparison criteria, and avoiding negative judgments (Pintrich, 2000). In this orientation, the individual believes that success and ability overlap. Success and superiority over others with minimal effort are conditions in which the individual feels competent. People with a performance-approach orientation feel proud and competent when others have a positive opinion of them. They also tend to choose tasks that are either very easy or very difficult. They do not need much effort for easy tasks, and they have excuses for possible failure in difficult tasks (Kaplan & Maehr, 2007). Therefore, academic engagement increases among such students because they enjoy their studies.

Another finding of the study showed that the direct effect of performance-avoidance goal orientation on academic engagement is statistically significant ($P < 0.001$, $\beta = -0.403$). This finding is consistent with the results of the prior studies (Eslami et al., 2016; Mazloumian & Ebrahimi, 2023; Seif, 2016; Tuominen et al., 2020). In explaining this finding, it can be said that students with a performance-avoidance orientation are motivated to avoid demonstrating lower competence than others and to avoid receiving negative judgments about their progress (Tuominen et al., 2020). People with this type of goal orientation always fear failure and being perceived as slow learners and worry about being blamed and punished by others. Consequently, they view learning as a means to avoid failure because they believe that failure questions their ability and may make them appear incompetent or incapable in the eyes of others. Therefore, they make every effort to avoid this (Eslami et al., 2016). Academic engagement is significantly lower among such students because they believe that education causes stress and tension for them.

Additionally, the direct effect of academic engagement on academic burnout is statistically significant ($P < 0.001$, $\beta = -0.280$), consistent with the prior studies (Akbaşlı et al., 2019; Ghadampour et al., 2016; Tuominen-Soini & Salmela-Aro, 2014; Tuominen et al., 2020; Wang et al., 2015; Zhang et al., 2007) that showed there is a negative and significant relationship between burnout and engagement and students' academic performance. Academic engagement and academic burnout negatively affect each other; that is, increasing students' academic engagement reduces their inefficiency, disinterest, and academic fatigue. They tend to use practical, task-oriented, and optimistic achievement strategies and are less likely to experience burnout (Akbaşlı et al., 2019). Wang et al. (2015) stated that emotional engagement is related to academic burnout, in that students become bored and cynical about tasks and school, thereby reducing their academic progress and feeling incompetent, leading to questioning by teachers and classmates, which decreases their engagement. High engagement among students and their participation in learning activities can predict their academic performance (Wang et al., 2015). Engaged students are less likely to engage in destructive behavior, have lower risks of poor academic performance, and are less likely to drop out (Fredricks et al., 2004). Conversely, students with low engagement are more likely to distance themselves from learning activities, experience fatigue and boredom, and thus be at risk of academic decline and dropout (Li & Lerner, 2013).

The results also showed that the direct effect of academic engagement on academic procrastination is statistically significant ($P < 0.001$, $\beta = -0.333$), consistent with the prior researchers (Abbasi et al., 2015; Seif, 2016), who reported a negative and significant relationship between procrastination and engagement. In explaining this finding, it can be said that a procrastinator tends to complete a task perfectly due to perfectionist standards but finds the task difficult and leaves it unfinished (Seif, 2016). Thus, reducing personal success affects their cognitive engagement, and their lack of conscientiousness reduces behavioral engagement, resulting in decreased emotional engagement and interest in the task. Based on the above findings, it can be said that academic engagement reflects the strength of students' behavioral, emotional, and cognitive involvement during the learning process and is an important mediator in reducing academic procrastination and a crucial factor for learning and personal growth.

Another finding of the study showed that the indirect effect of mastery-approach on academic procrastination through academic engagement is statistically significant ($P < 0.001$, $\beta = -0.086$). The indirect effect of mastery-avoidance on academic procrastination through academic engagement is statistically significant ($P < 0.001$, $\beta = 0.116$). The indirect effect of performance-approach on academic procrastination through academic engagement is statistically significant ($P < 0.001$, $\beta = -0.079$). The indirect effect of performance-avoidance on academic procrastination through academic engagement is statistically significant ($P < 0.001$, $\beta = 0.134$). These results are consistent with the prior findings (Akbari Boorang et al., 2023; Hashemi Razini et al., 2014; Moti et al., 2012; Savari, 2013; Seif, 2016; Seo, 2009; Wang et al., 2021) that found significant relationships between the five personality factors and four types of goal orientations with procrastination. Goal orientation predicted 62% of the variance in students' procrastination, while the

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five personality factors predicted 95% of the variance. In summary, goal orientation is a significant predictor of academic procrastination, with mastery-approach having a negative and significant relationship, mastery-avoidance a positive and significant relationship, performance-approach a negative and significant relationship, and performance-avoidance a positive and significant relationship with academic procrastination.

In explaining this finding, it can be said that the primary goal of individuals with a mastery-approach orientation is learning and understanding the material. These individuals enjoy learning for its own sake and emphasize competence growth through mastering tasks and acquiring new skills (Seo, 2009). They are more willing to spend time and effort acquiring skills and learning, while procrastinators are not interested in learning and enjoy delaying tasks. Individuals with a mastery-avoidance orientation avoid not understanding the material and are concerned about losing skills, ability, or memory. In this goal, competence means complete mastery of the task (Akbari Boorang et al., 2023). One of the prominent characteristics of procrastinators is fear of not being successful. In performance-avoidance, the primary focus is on being the best among others and gaining positive judgments from others. These individuals do not engage in challenging tasks and try to achieve their primary goal, superiority over others, with minimal effort and cost. Competence is equated with getting higher grades, while procrastinators with low self-confidence and poor time management do not seek high grades and typically do not achieve their desired goals (Moti et al., 2012).

One characteristic of individuals with mastery-approach goals is intrinsic motivation, which negatively correlates with procrastination. These individuals value their goals and learning and consider effort the most important means to achieve their goals, exhibiting high self-regulation. Thus, any factor facilitating self-regulation reduces procrastination. Individuals with mastery-avoidance goals are more perfectionist and avoid misunderstanding or incorrectly completing tasks due to high standards, requiring more time and not considering the time available for the task, leading to procrastination. Performance-approach individuals strive to prove their abilities to others and be the best, working hard and procrastinating less because failure threatens them. In explaining the lack of confirmation in this finding, it can be said that various contexts and situations affect procrastination, such as internal factors like task aversion, depression, low self-esteem, perfectionism, and external factors like social and family issues, stubbornness with others, and a lack of responsibility, which can affect and diminish the relationship between performance-avoidance and procrastination (Akbari Boorang et al., 2023).

The final finding of the study showed that the indirect effect of mastery-approach on academic burnout through academic engagement is statistically significant ($P < 0.001$, $\beta = -0.072$). The indirect effect of mastery-avoidance on academic burnout through academic engagement is statistically significant ($P < 0.001$, $\beta = 0.098$). The indirect effect of performance-approach on academic burnout through academic engagement is statistically significant ($P < 0.001$, $\beta = -0.066$). The indirect effect of performance-avoidance on academic burnout through academic engagement is statistically significant ($P < 0.001$, $\beta = 0.113$). These results are consistent with the prior findings (Akbari Boorang et al., 2023; Ashoori et al., 2014; Hashemi Razini et al., 2014; Moti et al., 2012; Savari, 2013; Seif, 2016; Seo, 2009; Wang et al., 2021) which showed that performance-approach orientation negatively and significantly predicted academic burnout, while performance-avoidance orientation positively and significantly predicted academic burnout. Students with a mastery-approach goal orientation achieve more success in academic performance due to their efforts and are less at risk of burnout. In mastery-avoidance, students fear failure and want to avoid falling behind others, so their motivation is negative. If they fail, their interest in education decreases, leading to academic burnout (Ashoori et al., 2014). In explaining this finding, it can be said that students with performance-approach goals seek to demonstrate competence in competitive environments. These students aim to achieve high grades as an objective criterion, with all their efforts and focus directed toward this goal. Therefore, they receive positive feedback from their environment and are less susceptible to academic burnout. In explaining the indirect relationship between performance-avoidance goal orientation and academic burnout with the mediating role of academic engagement, it can be said that students with low competence and self-efficacy beliefs feel they cannot handle tasks and fear poor performance in front of others, causing constant stress and anxiety. Stress and anxiety reduce academic engagement, and lack of enthusiasm in education leads to poor academic performance and burnout.

5. Limitations & Suggestions

The results of this research can be used to reform the educational system, enhance students' educational levels,

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and support the personal and social maturity of all educational system officials. As academic engagement is considered one of the most important variables among students, this model helps students develop an interest in the material and tasks, apply cognitive and metacognitive strategies in learning, study, and participate in extracurricular activities, and maintain a clear and accurate judgment of their competencies and knowledge. They can choose goals that aid their progress and growth, move toward valuable academic paths, feel competent, and reduce burnout and procrastination with the success they achieve.

Acknowledgments

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Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors contributed equally.

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