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Investigating the Role of Academic Engagement and Persistence in Predicting Academic Interest of Learners

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ABSTRACT

Objective: The present study aimed to examine the role of academic engagement and academic persistence in predicting learners' academic interest within the educational system.

Methods: This study employed a descriptive-correlational design. The statistical population included all female students in lower and upper secondary schools in District 1 of Baharestan during the 2024–2025 academic year. A sample of 100 students was selected using the convenience sampling method. Data were collected using the Academic Engagement Questionnaire by Martin and Jackson (2008), the Academic Persistence Scale by Howard and Crayne (2019), and the Academic Interest Scale by Bahari et al. (2021). Data analysis was conducted using SPSS version 22, applying Pearson's correlation coefficient and stepwise multiple regression analysis.

Results: Findings revealed a positive and significant relationship between academic engagement and persistence with students' academic interest ($P < 0.01$). Moreover, academic engagement and academic persistence significantly predicted 40% of the variance in academic interest ($P < 0.05$).

Conclusions: Based on the results, educational planners and instructors can enhance learners' academic interest by improving their experiences of academic engagement and persistence.

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Introduction

Academic interest is a relatively new construct that, through motivating students and encouraging their participation in school activities, contributes to the development of positive and satisfying educational outcomes. Interest in learning serves as a driving force that stimulates and directs specific behaviors and provides an answer to the question of what fundamentally underlies learning. When students are interested in a subject, they exert greater effort and maximize their potential abilities. At a broader level, this extends to interest and enthusiasm for school itself, which significantly influences students' attendance and engagement. This sense of belonging or interest in school is fostered when the school environment satisfies essential needs such as stability, increased personal independence, opportunities for competition, care and support, and social acceptance among peers (Vallerand et al., 2020).

Interest acts as a source of motivational energy that enables individuals to endure difficulties and achieve high levels of performance (Otto, 2017). Academic interest goes beyond the mere completion of school assignments; it represents an intrinsic quality centered on learning and striving for mastery (Achoría, 2006). It can be viewed as a psychological investment and a direct effort toward understanding, learning, and acquiring essential knowledge and skills (Wynn, 2018). Academic interest is considered a multidimensional construct encompassing behavioral, emotional, and cognitive components that are interrelated. Each dimension includes both positive and negative aspects—such as adaptive and maladaptive learning strategies or desirable and undesirable behaviors. Behavioral interest is reflected in active participation in school activities, emotional interest is associated with feelings toward attending school that foster a sense of belonging, and cognitive interest involves the use of cognitive and metacognitive learning strategies (Jannatabadi & Sarani, 2019).

More recently, researchers have proposed a fourth dimension of academic interest, referred to as the social dimension, which emphasizes students' interaction with the school environment (Vega, 2016). A lack of behavioral and cognitive interest may lead to emotional disengagement from school-related activities. Weak school interest among students can result in absenteeism, academic failure, school dropout, and adverse psychological and social consequences (Li et al., 2018; Xing & Gordon, 2021).

Among the key factors that enhance learning in educational systems is academic engagement, a positive psychological state in which an individual becomes deeply absorbed in a challenging activity with focused attention and intrinsic motivation (Makiangagas et al., 2010). The experience of academic engagement is characterized by deep concentration, enjoyment, and absorption in academic activities. Students who exhibit strong academic engagement tend to be highly focused on challenging tasks that stimulate curiosity and inquiry in classroom settings. This concentration allows them to allocate their cognitive resources entirely to the task at hand, thereby engaging in learning with greater interest and satisfaction. Consequently, academic activities become associated with positive emotions, high focus, and a strong sense of control over learning (Samaya & Darling, 2018).

According to Faghihi, Marzieh, and Jannatabadi (2019), students with higher levels of academic engagement perform tasks for the inherent challenge and enjoyment they provide, rather than for external rewards. Engagement represents a psychological state involving deep attention that typically occurs during active performance on challenging tasks (Toosi & Ghandehzadeh, 2012). Based on the Flow Theory, engagement occurs when intense concentration, interest, and enjoyment are experienced simultaneously. This state is accompanied by intrinsic motivation, high perceived control, low self-consciousness, and enjoyment (Admiral et al., 2011).

Another influential factor in the educational experience of learners is persistence, which reflects sustained behavioral commitment to learning (Soleimani et al., 2024). A persistent learner demonstrates high perseverance and continuously pursues learning goals. Such a student remains committed to their studies, doubling their efforts in the face of obstacles rather than giving up (Rowland, 2015). Persistence overlaps conceptually with several related constructs—such as perseverance and grit—which are sometimes used interchangeably in the literature due to their conceptual similarity (Konstein et al., 2011). Perseverance refers to consistent effort toward achieving long-term goals, while persistence emphasizes continuing effort toward short-term objectives. However, the accumulation of short-term goals ultimately contributes to long-term achievement, where persistence remains a key determinant of success (Peterson & Seligman, 2004).

In contrast, academic hardiness refers to an individual's capacity to effectively respond to long-term academic challenges, such as chronic underachievement, while academic resilience

represents the ability to cope effectively with academic difficulties and obstacles (Martin & Marsh, 2008). Academic persistence, on the other hand, encompasses a set of values, attitudes, emotions, and cognitions that determine how individuals confront academic situations and strive to perform at their best to achieve their goals (Jamshidi Seloklou & Sheikh-Esmaeili, 2018).

Overall, the growth and development of any society depend on the strength of its educational system, and fostering academic interest is a crucial first step in motivating learners toward education. Today, one of the most significant concerns of educational systems is creating an environment conducive to the intellectual and creative development of students. For learners to contribute effectively to such a society, they must acquire the skills of learning, creativity, innovation, and constructive social participation. Hence, academic interest is considered a key determinant of academic success and school retention.

Accordingly, the present study aimed to examine the role of academic engagement and persistence in predicting academic interest among students in the educational system, seeking to answer the question: Do academic engagement and persistence significantly predict students' academic interest?

Material and Methods

This study employed a descriptive–correlational design. The statistical population included all female students in lower and upper secondary schools of District 1 in Baharestan during the 2024–2025 academic year. A sample of 100 students was selected using the convenience sampling method.

Inclusion criteria were: being enrolled in secondary school, female gender, voluntary and informed consent to participate in the study, and having complete mental health according to counseling records. Exclusion criteria included: lack of cooperation and the presence of incomplete or invalid questionnaires.

Instruments

Academic Engagement Scale: The short 9-item version of the Academic Engagement Scale developed by Martin and Jackson (2008) was used. Items were rated on a 5-point Likert scale ranging from *strongly disagree (1)* to *strongly agree (5)*, with total scores ranging from 9 to 45. Higher scores indicate greater levels of academic engagement. Martin and Jackson (2008) reported

satisfactory construct validity using confirmatory factor analysis, a Cronbach's alpha of 0.92, and construct reliability of 0.95. In Iran, Jalili et al. (2018) reported an internal consistency coefficient (Cronbach's alpha) of 0.85 and a Guttman split-half reliability coefficient of 0.82. The scale showed positive convergent validity with intrinsic motivation (r = 0.83) and negative divergent validity with amotivation (r = –0.85). Confirmatory factor analysis supported the unidimensional structure, and the Persian version demonstrated good validity and reliability in educational contexts.

Academic Persistence Scale: This 13-item questionnaire, developed by Howard and Crane (2019), measures three dimensions: Persistence despite difficulty (items 1–5), Persistence despite fear (items 6–10), and Maladaptive persistence (items 11–13).

Items are rated on a 5-point Likert scale from *very low (1)* to *very high (5)*, with total scores ranging from 13 to 65. Confirmatory factor analysis supported the construct validity, and Cronbach's alpha coefficients were 0.79, 0.82, 0.81, and 0.87 for the three subscales and the total scale, respectively. In the Iranian adaptation by Alipour et al. (2020), factor analysis confirmed the three-factor model, explaining 82% of the total variance.

Academic Interest Questionnaire: The 30-item Academic Interest Scale developed by Bahari et al. (2021) was used to measure the behavioral, emotional, and cognitive dimensions of academic interest. The scale assesses participation in school activities, commitment to school, and sense of belonging to school. Items are rated on a 5-point Likert scale ranging from *never (1)* to *always (5)*. Items 8, 9, 18, 19, and 20 are reverse-scored, while the remaining items are positively scored. Total scores range from 30 to 150, with higher scores indicating greater academic interest. In the validation study by Bahari et al. (2021), content, criterion, and construct validity were confirmed by experts in educational sciences and psychology at Shahid Madani University of Azerbaijan. The Cronbach's alpha coefficients were 0.98 for the overall scale and 0.979, 0.926, and 0.845 for the behavioral, emotional, and cognitive dimensions, respectively.

Procedure

After obtaining formal permission from the Department of Education, the researcher visited schools and established contact with students. Prior to distributing the questionnaires, the objectives and rationale of the study were explained to participants. All ethical principles were

strictly observed, including confidentiality of responses, informed consent, and the right to withdraw at any stage of participation.

Data Analysis

Data were analyzed using SPSS version 22. Pearson's correlation coefficient and stepwise multiple regression analysis were applied to examine the relationships among academic engagement, persistence, and academic interest.

Results

Table 1 presents the correlation matrix**,** means**,** standard deviations**,** skewness, and kurtosis of the study variables. As shown, there were positive and significant correlations between academic engagement**,** persistence, and academic interest among students ($p < 0.01$). Therefore, with increases in academic engagement and persistence, students' academic interest also increased.

Table 1. Correlation Matrix of the Study Variables

Variable	Academic Engagement	Persistence	Academic Interest
Academic Engagement	1	0.42**	0.67*
Persistence	0.42**	1	0.38*
Academic Interest	0.67*	0.38*	1
Mean	25.87	38.72	62.87
Standard Deviation	4.90	3.87	3.65
Skewness	0.37	0.45	0.63
Kurtosis	0.21	0.32	0.41

Note. $p < 0.05$**,** $p < 0.01$

Before conducting the regression analysis, its assumptions were tested. The normality assumption was confirmed, as the skewness and kurtosis values for all variables fell within the acceptable range of –2 to +2. The Variance Inflation Factor (VIF) value for predicting academic interest based on academic engagement and persistence was 1.28, and the Durbin–Watson statistic was 1.68. Given that the VIF value was below 10 and the Durbin–Watson statistic was within the acceptable range of 1.5 to 2.5, the assumptions of no multicollinearity and independence of residuals were met, allowing for regression analysis. Table 2 summarizes the multiple regression model for predicting academic interest from academic engagement and persistence.

Table 2. Summary of Multiple Regression Model Predicting Academic Interest from Academic Engagement and Persistence

Predictor Variables	Multiple Correlation (R)	R^2	Adjusted R^2	Durbin–Watson
Academic Engagement, Persistence	0.672	0.451	0.382	1.68

As shown in Table 2, the correlation coefficient for the model was R = 0.672, and the coefficient of determination (R^2 = 0.451) indicated that approximately 45.1% of the variance in academic interest could be predicted by academic engagement and persistence.

Table 3 presents the results of the stepwise multiple regression analysis predicting academic interest based on academic engagement and persistence.

Table 3. Stepwise Multiple Regression Predicting Academic Interest from Academic Engagement and Persistence

Model	Predictor Variable	B	Beta	S.E.	t	p	R	R^2	F	p
1	Academic Engagement	0.28	0.34	0.108	8.08	0.001	0.38	0.14	16.23	0.001
2	Academic Engagement	0.50	0.39	0.116	5.78	0.001	0.64	0.40	48.86	0.001
	Persistence	0.47	0.31	0.121	5.12	0.004				

As shown in Table 3, in the first model, academic engagement entered the equation and significantly predicted 14% of the variance in academic interest ($p < 0.05$). In the second model, when persistence was added, both variables together significantly predicted 40% of the variance in academic interest ($p < 0.05$).

Discussion

The present study aimed to examine the role of academic engagement and academic persistence in predicting learners' academic interest. The results revealed a direct relationship between academic engagement and academic interest, indicating that academic engagement positively and significantly predicts learners' academic interest. From this finding, it can be concluded that as students' academic engagement increases, their interest in learning also rises.

This finding is consistent with previous research. For example, the study by Naghsh and Shafipour Motlagh (2016) found a significant and positive relationship between academic engagement, academic creativity, academic achievement, and academic self-actualization. Academic seriousness was found to mediate the relationship between the three influencing factors and academic self-actualization. Similarly, the study by Yousefi Barafrashta et al. (2021) showed a

significant relationship between academic well-being and academic engagement among medical students at Zanjan University of Medical Sciences.

These findings can be explained by noting that learners who possess intrinsic motivation—arising from enthusiasm, focus, and genuine interest in academic subjects—tend to consciously plan their learning activities and engage in challenging academic tasks. This higher level of engagement facilitates learning and fosters a heightened sense of enthusiasm and enjoyment, which in turn enhances intrinsic pleasure (Calderon, 2020). The joy of learning increases student satisfaction and motivation, leading to optimal performance and deep immersion in meaningful learning activities.

Overall, intrinsically motivated learners demonstrate greater effort and perseverance (behavioral engagement), enthusiasm and enjoyment (emotional engagement), and attention and concentration (cognitive engagement). Most importantly, by expressing their ideas and interests, they take an active and constructive role (agency) in their learning process. These characteristics collectively contribute to improved academic performance and, consequently, greater academic interest.

The results also indicated a direct and significant relationship between academic persistence and academic interest, suggesting that persistence positively predicts students' interest in learning. This finding aligns with previous studies. For instance, Ahangarani Farahani et al. (2023) reported that the "effort continuity" dimension of grit mediated the relationship between mindset and all dimensions of academic engagement (cognitive, behavioral, and emotional), whereas the "consistency of interest" dimension only mediated the relationship between growth mindset and emotional engagement. Similarly, Karami et al. (2015) found a significant correlation between grit and academic achievement.

In interpreting this finding, researchers have described academic persistence as a learner's conscious and deliberate effort to maintain academic status and continue education to higher levels. It represents a form of behavioral commitment to learning, characterized by perseverance despite difficulties (Burrus et al., 2013). Thus, when students persistently strive to maintain their academic standing and continue their education, their sense of school attachment and academic interest increases accordingly.

Among the limitations of this study are its reliance on self-report instruments such as questionnaires and the lack of data collection from parents, which may have influenced the

findings. Therefore, it is recommended that future studies employ qualitative methods, such as interviews, to enrich the understanding of this topic. Moreover, as this research was conducted among female secondary school students, generalization of the results to male students or other educational levels should be approached with caution. Future studies are encouraged to replicate this research across different genders, regions, and educational stages.

Based on the findings, it is suggested that educational planners and instructors promote learners' academic interest by enhancing experiences of academic engagement and persistence, thereby fostering a more motivated and enthusiastic learning environment.

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 the ethics committee of Farhangian University. The patients/participants provided their written informed consent to participate in this study.

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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