Iranian Journal of Applied Educational Research

The role of achievement goal orientation and academic enthusiasm in predicting academic retention

Sajjad Saravani[1]✉ | **Afsaneh Sanchooli**[2]

1. Corresponding Author, Master's Student in Educational Psychology, Department of Educational Psychology, Faculty of Educational Sciences and Psychology, University of Sistan and Baluchestan, Zahedan, Iran. E-mail: sajjadsaravani@pgs.usb.ac.ir

2 Master's Student in Educational Psychology, Department of Educational Psychology, Faculty of Educational Sciences and Psychology, University of Sistan and Baluchestan, Zahedan, Iran. E-mail: Sanchooliafsaneh980@gmail.com

Article Info

Article type:

Research Article

Article history:

Received: 14 February 2026

Accepted:3 March 2026

Published online: 28 Apr 2026

Keywords:

Academic sustainability,

Development goal orientation,

Students' academic enthusiasm

ABSTRACT

This study examined the role of achievement goal orientation and academic enthusiasm in predicting the academic retention of male high school students in Zabol during the 2025–2026 academic year. The research employed a descriptive–correlational design, and the data were analyzed using multivariate linear regression. The statistical population consisted of all 12th-grade male students in Zabol (N = 1,240), from whom 293 students were selected through a stratified random sampling method. Data were collected using the Achievement Goal Questionnaire–Revised (AGQ-R) developed by Elliot and McGregor (2001), the Academic Enthusiasm Questionnaire (Fredericks, Blumenfeld, & Paris, 2004), and the Academic Retention Scale (Martin & Marsh, 2008). After collection, the data were coded and analyzed using SPSS version 27.

The results indicated that academic enthusiasm had a positive and significant relationship with academic retention ($r = 0.456$, $p < .01$). In addition, mastery orientation and performance orientation were positive predictors of academic retention, whereas mastery avoidance and performance avoidance negatively predicted it. Overall, academic enthusiasm—particularly the behavioral enthusiasm component—played the most significant role in explaining students' academic retention.

Cite this article: Saravani, S., & Sanchooli, A. (2026). The role of achievement goal orientation and academic enthusiasm in predicting academic retention. *Iranian Journal of Applied Educational Research* , 2(1), 33-45. DOI: 10.22111/ijaer.2026.55200.1041

Publisher: University of Sistan and Baluchestan

Introduction

Achieving personal goals in the course of education requires persistence and the ability to cope with the challenges that arise along this path. In order to make academic progress, students must first confront the issues before them and then, by applying problem-solving skills, seek appropriate solutions. Such a process requires an optimal level of academic motivation and enthusiasm. Within this framework, academic performance can be regarded as a reflection of the extent to which the educational system succeeds in achieving predetermined goals and responding to individual needs. In recent years, the concept of academic buoyancy has attracted attention as one of the emerging concepts in the field of resilience (Fong & Kim, 2021). This construct refers to a student's ability to deal effectively with academic obstacles and difficulties, in such a way that the individual can provide adaptive, positive, and efficient responses to these challenges (Hirovonen et al., 2020).

In other words, academic buoyancy can be explained within the framework of positive psychology; when an individual engages in an activity with intrinsic motivation, not only does the person not become fatigued, but also experiences a kind of increase in energy and sense of competence, which plays an important role in sustaining academic effort (Bayramnejad et al., 2020). Studies conducted in Iran indicate that factors such as a positive self-concept and the development of metacognitive skills are among the important predictors of academic buoyancy. In addition, parents' lifestyle, self-efficacy, and the individual's perception of the self also play a determining role in this regard (Salehi, 2021). In this context, achievement goal theory is considered one of the most comprehensive theoretical frameworks for explaining academic motivation and learners' performance, particularly in educational environments (Kaplan & Flom, 2010). This theory emphasizes the importance of students' internal reasons and motivations in their choice, effort, and level of engagement in learning activities. According to this perspective, achievement goals are regarded as cognitive structures that guide different orientations toward learning. The importance of these goals lies in their prominent role in organizing self-referential perceptions and influencing variables such as anxiety and attributional styles (Karsheki et al., 2017). In general, achievement goals can meaningfully shape students' cognition, behavior, and manner of dealing with educational tasks, and can direct their learning trajectory (Lovasani et al., 2011). Among the important motivational factors that affect academic buoyancy, achievement goal orientation and academic engagement can be mentioned. Research findings show that academic success cannot be attributed solely to a single factor; rather, this phenomenon is shaped under the influence of a set of contextual factors, one of the most important of which is academic engagement. Academic engagement, as a relatively stable mental state, leads to the individual's deep involvement in activities that are considered meaningful to him or her. This concept, which has gained a special place in positive psychology, includes behavioral, cognitive, and motivational dimensions (Gholami & Asadzadeh, 2022).

On the other hand, academic engagement refers to a student's active cognitive and emotional involvement in educational activities, which is accompanied by interest, commitment, and high motivation (Fredricks et al., 2004). In particular, cognitive engagement reflects the individual's ability to solve problems flexibly, willingness to undertake challenging tasks, constructive coping with failure, and use of metacognitive strategies. Consequently, the amount of energy expended by the learner in academic activities and its effectiveness highlight the importance of academic engagement as the main driving force of learning (Shafiei et al., 2020). In this regard, research findings indicate a positive and significant relationship between academic engagement and academic buoyancy (Fathi, 2018). Moreover, academic buoyancy can predict behaviors such as reduced absenteeism, regular completion of assignments, and pursuit of educational goals, all of which indicate a high level of enthusiasm for education (Green et al., 2012).

However, academic success is not limited solely to cognitive abilities; motivational variables also play a fundamental role in this regard. In this context, achievement goal orientation is regarded as one of the key constructs in contemporary motivational theories. Research has shown that the combination of goal orientation and academic engagement can be a powerful predictor of academic buoyancy (Walker et al., 2024). Students who possess mastery-oriented goals and a high level of engagement demonstrate greater effort and perseverance when facing academic challenges. Nevertheless, in Iran, the examination of combined models of these variables, particularly among male students, remains limited (Akhavi-Samarin et al., 2021). From a theoretical perspective, achievement goals are rooted in social-cognitive theory (Hijazi, 2020) and represent the individual's effort to achieve success in competence-related situations (Arslan et al., 2017). These goals function as incentives that encourage students to perform and complete educational

activities (Shieh, 2018). They are also regarded as cognitive representations of the future and play an important role in individuals' subjective interpretation of achievement situations (Dinger et al., 2013). Within this framework, the individual's perceived competence is considered one of the main components, and achievement goals are shaped under the influence of social and environmental factors (Elliott, 1999; Eccles & Midgley, 1993).

Achievement goal theory, first proposed by Dweck (1988) and Nichols (1984), is one of the fundamental frameworks for explaining learning behaviors (Pintrich, 2000). This theory examines situational orientations that explain individuals' tendency to learn, acquire knowledge, and demonstrate competence in educational contexts (Ames, 1992). According to this perspective, achievement goals act as cognitive patterns and determine how an individual reacts, participates, and performs in different situations. Subsequently, the two-dimensional models presented by Elliott and Pintrich introduced four types of goal orientations: mastery-approach, performance-approach, mastery-avoidance, and performance-avoidance.

Overall, achievement goal theory has been developed since the 1980s with the aim of explaining students' academic behaviors based on the goals and values they pursue. Research findings indicate that the type of goals selected by students has a significant effect on their level of participation in educational activities (Muola, 2010). Therefore, this theory can be regarded as one of the key approaches to understanding academic motivation, since achievement goals, as self-regulatory mechanisms, guide the direction of an individual's behavior in competence-related situations (Fathi & Rostgar, 2023). In a study conducted by Ahmadi et al. (2024), aimed at comparing the effect of assertiveness skills training and self-monitoring strategies on the academic engagement of students with learning disabilities, the results showed that both types of educational intervention, especially assertiveness skills training, played an effective role in enhancing academic engagement. Also, in the study by Jaafari and Abdi Zarin (2021), which examined the relationship among academic engagement, academic identity, and academic adjustment, it was found that academic adjustment can be predicted based on components such as academic engagement, academic identity, and academic buoyancy. In addition, findings from domestic studies show that academic engagement has a positive relationship with students' participation and involvement in learning activities, and this can lead to strengthening persistence in the course of education (Ghadami, Zare, & Rahimi, 1398). In this regard, the classic study by Ames and Archer (1988) shows that goal orientations, particularly mastery goals, have a direct relationship with the level of participation and continuity of academic activities.

In general, studies in the field of education in recent years have focused on identifying the key factors affecting students' academic success or failure. In this context, academic engagement refers to the quality of the efforts that learners employ in purposeful educational activities, and these efforts play a direct role in achieving desirable outcomes (Momeni et al., 2017). This construct is considered a multidimensional concept that includes behavioral, cognitive, and emotional dimensions, each of which plays a specific role in the learning process (Fredricks et al., 2004).

By guiding students' learning path, academic engagement emphasizes strengthening the positive and purposeful aspects of the educational process rather than focusing solely on problems, and in this way, in addition to improving academic performance, it also helps enhance their psychological well-being (Moradi et al., 2024). This construct reflects the learner's level of commitment to academic activities and has a direct effect on educational outcomes; students with high engagement show greater attention and concentration in learning.

Given these discussions, the necessity of conducting the present study can be considered from several perspectives. From a theoretical standpoint, the simultaneous examination of two important motivational variables, namely achievement goal orientation and academic engagement, and their role in predicting academic buoyancy, can help fill existing gaps in the literature of educational psychology and contribute to the development of motivational theoretical frameworks (Duckworth et al., 2007; Salmela-Aro & Tynkkynen, 2012). The novelty of this study can be identified in several fundamental aspects: first, the simultaneous examination of achievement goal orientation and academic engagement as predictors of academic buoyancy; second, a special focus on the group of male students in order to analyze motivational differences more precisely; third, the use of advanced statistical methods to determine the relative contribution of each motivational variable in explaining academic buoyancy; and finally, the integration of findings from domestic and international research to provide a comprehensive picture of the factors affecting academic persistence. Under current conditions, academic achievement goals and orientations related to cognitive and personal growth are considered key topics in the field of learning and motivation,

and have drawn researchers' attention to examining their relationship with academic engagement and academic buoyancy. Nevertheless, the manner in which these variables interact and the relative contribution of each in predicting academic buoyancy have not yet been fully clarified. In particular, the question arises as to which type of goal orientation has the greatest effect on academic persistence and whether academic engagement can play a mediating or moderating role in this relationship.

Accordingly, conducting the present study with the aim of examining the role of achievement goal orientation and academic engagement in predicting academic buoyancy appears necessary. This study seeks, by providing a comprehensive analysis, to present a clear picture of the motivational factors affecting students' academic continuity and success.

Method

Sample and Sampling Method

The statistical population included all twelfth-grade male students in the city of Zabol, Sistan and Baluchestan Province, whose number, according to official statistics from the Department of Education, was reported to be 1,240. Using the Morgan and Krejcie sample size determination table, 293 individuals were selected as the research sample.

Tools Used

Academic Engagement Questionnaire: The Academic Engagement Questionnaire (Fredericks, Blumenfield, & Paris, 2004) consists of 15 items that assess three dimensions of behavioral, emotional, and cognitive engagement. Items 1 to 4 relate to the behavioral dimension, items 5 to 10 to the emotional dimension, and items 11 to 15 to the cognitive dimension. This instrument is scored on a five-point Likert scale ranging from "never" to "always," and some items (2, 4, and 6) are reverse-scored. Initial studies reported the reliability of this scale as 0.86, and domestic research evidence also indicates that it has appropriate validity, including factorial, convergent, and concurrent validity. In the present study, the Cronbach's alpha coefficient for this instrument was obtained as 0.87, indicating its desirable reliability. It should be noted that this instrument has desirable factorial, convergent, and concurrent validity in Iran (Panahi, Ardouni, & Kazemi, 2023). In the study by Fredericks et al. (2004), the reliability coefficient of this scale was reported to be 0.86. Moreover, in Iranian studies (Abbasi, Dargahi, Pirani, & Bonyadi, 2014), the face validity of this scale was evaluated as desirable. In the present study, the reliability of this scale was also estimated using Cronbach's alpha coefficient as 0.87.

Achievement Goal Orientation Questionnaire: To measure achievement goal orientation, the AGQ-R questionnaire designed by Elliott and McGregor (2001) was used. This instrument consists of 12 items and four subscales: mastery/approach, mastery/avoidance, performance/approach, and performance/avoidance. Responses are recorded on a five-point Likert scale ranging from "strongly disagree" to "strongly agree." The reliability coefficients reported for this scale in initial studies ranged from 0.83 to 0.94, indicating its desirable internal consistency. The factor analysis conducted by the developers also confirmed the existence of four main factors, which explain a considerable portion of the total variance. In domestic studies, the validity and reliability of this instrument have also been confirmed, and the reported alpha coefficients ranged from 0.68 to 0.79. In the present study, Cronbach's alpha coefficients for the four dimensions were calculated as 0.79, 0.83, 0.81, and 0.85, respectively. Elliott and McGregor (2001), using factor analysis with varimax rotation, identified four factors, namely: 1. mastery-approach goal, 2. mastery-avoidance goal, 3. performance-approach goal, and 4. performance-avoidance goal, which together explained 81.5 percent of the total variance. The results of factor analysis using the principal components method and varimax rotation indicated four factors that together explained 68.34 percent of the variance. In addition, the construct validity of this instrument has been confirmed through exploratory and confirmatory factor analysis. In Iran, Moshtaghi et al. (2012) reported alpha coefficients for the different subscales of this questionnaire ranging from 0.68 to 0.79, and based on factor analyses, the results indicated an appropriate fit of the model to the data. Furthermore, in the present study, the reliability of this scale based on Cronbach's alpha coefficient for the research subdimensions of mastery/approach, mastery/avoidance, performance/approach, and performance/avoidance was calculated as 0.79, 0.83, 0.81, and 0.85, respectively.

Martin and Marsh Academic Buoyancy Questionnaire: In addition, to measure academic buoyancy, the scale designed by Martin and Marsh (2008) was used. This questionnaire consists of 6 items and is completed as a self-report instrument on a five-point Likert scale. Its score range varies between 5 and 20. In previous studies, the reliability of this instrument was reported as 0.80, and its validity was also confirmed through confirmatory factor analysis. In Iran, studies have also reported desirable reliability for this scale, approximately 0.87. In the present study, the Cronbach's alpha coefficient of this questionnaire was obtained as 0.93, indicating a high level of reliability (Karimi Ghartemani, 2013). Also, in the studies of Malekian et al. (2022), Cronbach's alpha for academic buoyancy was obtained as 0.85. Karimi Ghartemani (2013) obtained the reliability of this scale in Iran as 0.87. He also reported its criterion validity through criterion validity using its correlation with the academic engagement questionnaire of Bentrićh (2013) as 0.56. In this study, the reliability of this questionnaire was calculated based on Cronbach's alpha coefficient as 0.93.

Procedure

The present study, in terms of its nature, falls within the category of quantitative studies and was conducted using a descriptive-correlational approach. Data analysis was also performed based on the multiple linear regression model. In terms of purpose, this research is considered applied.

Sampling was carried out using the stratified random sampling method, and the selection of participants was based on inclusion and exclusion criteria. The data were collected in the 2025- 2026 academic year through questionnaire instruments. The inclusion criteria for the study included informed consent to participate in the research and the ability to respond completely to the questionnaires. The exclusion criteria included invalid responding, such as selecting one fixed option for all questions, or failure to answer more than 10 percent of the items in each questionnaire. Standardized instruments were used to measure the research variables.

In the process of conducting the research, after obtaining official permission from the Department of Education of Zabol city through an introduction letter from the university, the necessary coordination was made with the principals of the selected schools, including Ali ibn Abi Talib, Mansour Complex, Shahid Hosseini, and Alborz. Then, the questionnaires were provided to students in the classroom environment while observing the ethical principles of research. Participation in the study was voluntary, and the confidentiality of information was fully observed, such that no identifying information was recorded. In addition, in order to save paper, part of the data was collected online with the consent of school principals and students. After data collection, the information was entered into and analyzed using SPSS version 27. At the descriptive statistics level, indices such as mean, standard deviation, minimum, maximum, and variance were calculated, and the normality of the data was examined using skewness and kurtosis indices. In the inferential statistics section, the Kolmogorov–Smirnov test was also used to examine the normality of the data distribution.

Result

In the present study, Pearson's correlation coefficient was used to analyze the relationships among the variables, and multiple linear regression was employed to predict the criterion variable.

The descriptive indices, including the mean, standard deviation, minimum, maximum, and variance of the variables of academic buoyancy, academic engagement, and achievement goal orientation, along with their components, are presented in Table 1.

Table 1. Results of the Descriptive Indices of the Research Variables.

Variables	numbers	mean	Standard deviation	minimum	maximum	variance
Academic sustainability	293	20/29	4/43	9	30	19/71
Behavioral enthusiasm	293	13/56	2/66	8	20	7/08
emotional enthusiasm	293	19/21	3/72	10	30	13/86
Cognitive enthusiasm	293	16/38	4/06	6	25	16/49
Education enthusiasm	293	49/16	8/91	32	75	79/50
Dominance-tendency	293	11/17	2/61	6	15	6/82
Dominance-Avoidance	293	6/49	2/48	3	14	6/19
Performance-tendency	293	10/97	2/64	3	15	6/98
Performance-avoidance	293	7/09	2/76	3	15	7/63

Based on the results of Table 1, the mean and standard deviation of academic buoyancy were reported as 20.29 and 4.34, respectively. In addition, for the variable of academic engagement, the mean was obtained as 49.16 and the standard deviation as 8.91. Regarding the components of achievement goal orientation, the results show that the mastery-approach dimension had a mean of 11.17 and a standard deviation of 2.61, the mastery-avoidance dimension had a mean of 6.49 and a standard deviation of 2.48, the performance-approach dimension had a mean of 10.97 and a standard deviation of 2.64, and the performance-avoidance dimension had a mean of 7.09 and a standard deviation of 2.76.

Table 2. Examination of the Normality of the Research Variables Based on Skewness, Kurtosis, and the Kolmogorov–Smirnov Test.

Variables	Skewness	Kurtosis	Z	sig
Academic sustainability	0/158	-0/375	0/945	0/33
Behavioral enthusiasm	0/371	0/104	0/620	0/83
emotional enthusiasm	0/597	0/791	0/481	0/97
Cognitive enthusiasm	-0/044	-0/114	0/722	0/67
Education enthusiasm	0/704	0/487	0/934	0/34
Dominance-tendency	-0/177	-1/06	1/02	0/24
Dominance-Avoidance	0/470	-0/316	1/14	0/14
Performance-tendency	-0/382	-0/372	0/819	0/51
Performance-avoidance	0/489	-0/200	0/707	0/69

To examine the normality of the data distribution, skewness and kurtosis indices as well as the Kolmogorov–Smirnov test were used, the results of which are presented in Table 2. The obtained values for skewness and kurtosis for all variables and their components fall within the range of ±2, indicating the normality of the data distribution. In addition, the results of the Kolmogorov–Smirnov test also indicate that the significance level for all variables is greater than 0.05 ($P > 0.05$); therefore, the assumption of normality of the score distribution is confirmed.

Subsequently, in order to examine the relationship between achievement goal orientation and academic engagement with academic buoyancy, Pearson's correlation coefficient was used, the results of which are reported in Table 3.

Table 3. Results of Pearson's Correlation Coefficient Test Between Achievement Goal Orientation and Academic Engagement with Academic Buoyancy.

Variables	1	2	3	4	5	6	7	8	9
Behavioral enthusiasm	1								
emotional enthusiasm	0/638**	1							
Cognitive enthusiasm	0/481**	0/628**	1						
Education enthusiasm	0/784**	0/894**	0/861**	1					
Dominance-tendency	0/575**	0/208**	0/254**	0/374**	1				
Dominance-Avoidance	-0/477**	-0/297**	-0/273**	-0/391**	-0/381**	1			
Performance-tendency	0/410**	0/166**	0/204**	0/285**	0/475**	-0/343**	1		
Performance-avoidance	-0/529**	-0/193**	-0/156**	-0/310**	-0/663**	0/390**	-0/610**	1	
Academic-sustainability	0/505**	0/302**	0/393**	0/456**	0/568**	-0/430**	0/471**	-0/552**	1

293 ‹0/01N=**

The results of Table 3 show that the correlation coefficients between the components of behavioral engagement, emotional engagement, and cognitive engagement with academic buoyancy are, respectively, ($r = 0.505$, $r = 0.302$, $r = 0.393$), and overall, the correlation coefficient between academic engagement and academic buoyancy is ($r = 0.456$). This indicates a positive and significant relationship ($P < 0.01$). In addition, the correlation coefficients for the mastery-approach and performance-approach dimensions are, respectively, ($r = 0.568$ and $r = 0.471$), indicating a positive and significant relationship, while the correlation coefficients for the mastery-avoidance and performance-avoidance dimensions are, respectively, ($r = -0.430$ and $r = -0.552$), indicating a negative and significant relationship ($P < 0.01$).

To examine the prediction of academic buoyancy by achievement goal orientation and academic engagement, multiple linear regression was used, the results of which are presented in Table 4. As shown in Table 4, the Durbin–Watson statistic for the variables of achievement goal orientation and academic engagement in relation to academic buoyancy is 2.175. Given that this value falls within the range of 1.5 to 2.5, it can be stated that the regression assumption regarding the independence of residuals has also been met. Moreover, considering that the tolerance statistics obtained for the predictor variables of academic engagement, mastery-approach dimension, mastery-avoidance dimension, performance-approach dimension, and performance-avoidance dimension in relation to the criterion variable of students' academic buoyancy were 0.783, 0.519, 0.750, 0.606, and 0.441, respectively, all of which are greater than 0.10, and that the variance inflation factor (VIF) values obtained for the predictor variables of academic engagement, mastery-approach dimension, mastery-avoidance dimension, performance-approach dimension, and performance-avoidance dimension in relation to the criterion variable of students' academic buoyancy were 1.277, 1.928, 1.334, 1.650, and 2.268, respectively, all of which are less than 10, this indicates the absence of multicollinearity among the predictor variables in predicting students' academic buoyancy.

Table 4. Summary of the Regression Model for Predicting Academic Buoyancy Based on Academic Engagement and Achievement Goal Orientation.

Predictor variable	Criterion variable: Academic sustainability								Durbin-Watson statistic 2/175:
	R	R^2 Adjusted	F	Non-standard coefficient	Standard coefficient	t	sig	Tolerance	VIF
				B	Beta				
Education enthusiasm	0/680	0/453	49/333	0/107	0/215	4/394	0/001	0/783	1/277
Dominance-tendency				0/424	0/250	4/152	0/001	0/519	1/928
Dominance-Avoidance				-0/236	-0/132	-2/646	0/009	0/750	1/334
Performance-tendency				0/221	0/131	2/368	0/01	0/606	1/650
Performance-avoidance				-0/302	-0/188	-2/883	0/004	0/441	2/268

The results of Table 4 show that the variables of academic engagement and achievement goal orientation were able to simultaneously predict students' academic buoyancy with a coefficient of determination (R^2) of 0.453. Therefore, it can be concluded that the variables of academic engagement and achievement goal orientation can simultaneously predict 45 percent of the variance changes in students' academic buoyancy. The standardized regression coefficient (Beta) of the academic engagement variable for students' academic buoyancy was 0.215, with values of ($t = 4.394$, $P < 0.01$); the standardized regression coefficient (Beta) of the mastery-approach dimension for students' academic buoyancy was 0.250, with values of ($t = 4.152$, $P < 0.01$); the standardized regression coefficient (Beta) of the mastery-avoidance dimension for students' academic buoyancy was -0.132, with values of ($t = -2.646$, $P < 0.01$); the standardized regression coefficient (Beta) of the performance-approach dimension for students' academic buoyancy was 0.131, with values of ($t = 2.368$, $P < 0.01$); and the standardized regression coefficient (Beta) of the performance-avoidance dimension for students' academic buoyancy was -0.188, with values of ($t = -2.883$, $P < 0.01$), which, according to the obtained t statistic, are significant at the alpha level of 0.01. Therefore, it is concluded that academic engagement, the mastery-approach dimension, and the performance-approach dimension have a positive and significant ability to predict students' academic buoyancy. In addition, the mastery-avoidance dimension and the performance-avoidance dimension had a negative and significant ability to predict students' academic buoyancy.

To examine the role of the components of academic engagement in predicting students' academic buoyancy, multiple linear regression was used, the results of which are presented in Table 5. As shown in Table 5, the Durbin–Watson statistic for the components of academic engagement in relation to students' academic buoyancy was 1.856. Given that this value falls within the range of 1.5 to 2.5, it can be stated that the regression assumption regarding the independence of residuals has also been met. Moreover, considering that the tolerance statistics obtained for the predictor variables of behavioral engagement, emotional engagement, and cognitive engagement in relation to the criterion variable of students' academic buoyancy were 0.582, 0.459, and 0.595, respectively, all of which are greater than 0.10, and that the variance inflation factor (VIF) values obtained for the predictor variables of behavioral engagement, emotional engagement, and cognitive engagement in relation to the criterion variable of students' academic buoyancy were 1.718, 2.180, and 1.680, respectively, all of which are less than 10, this indicates the absence of multicollinearity among the predictor variables in relation to teachers' academic optimism.

Table 5. Summary of the Regression Model for Predicting Academic Buoyancy Based on the Components of Students' Academic Engagement.

Predictor variable	Criterion variable: Academic sustainability							Durbin-Watson statistic : 1/856	
	R	R^2 Adjusted	F	Non-standard coefficient	Standard coefficient	t	sig	Tolerance	VIF
				B	Beta				
Behavioral enthusiasm	0/546	0/291	41/017	0/816	0/489	7/579	0/001	0/582	1/718
emotional enthusiasm				0/214	0/180	2/469	0/01	0/459	2/180
Cognitive enthusiasm				0/295	0/270	4/226	0/001	0/595	1/680

The results of Table 5 show that the components of academic engagement were able to simultaneously predict students' academic buoyancy with a coefficient of determination (R^2) of 0.291. Therefore, it can be concluded that the components of academic engagement can simultaneously predict 29 percent of the variance changes in students' academic buoyancy. The standardized regression coefficient (Beta) of the behavioral engagement component for students' academic buoyancy was 0.489, with values of ($t = 7.579$, $P < 0.01$); the standardized regression coefficient (Beta) of the emotional engagement component for students' academic buoyancy was 0.180, with values of ($t = 2.469$, $P < 0.01$); and the standardized regression coefficient (Beta) of the cognitive engagement component for students' academic buoyancy was 0.270, with values of ($t = 4.226$, $P < 0.01$), which, according to the obtained t statistic, are significant at the alpha level of 0.01. Therefore, it is concluded that the components of behavioral, emotional, and cognitive engagement have a positive and significant ability to predict students' academic buoyancy, with the behavioral engagement component having the greatest predictive power for students' academic buoyancy.

Discussion & Conclusion

The present study was conducted with the aim of examining the role of achievement goal orientation and academic engagement in predicting academic buoyancy among twelfth-grade male students. The first finding of the study showed that there is a positive and significant relationship between academic engagement and academic buoyancy. In addition, the mastery-approach and performance-approach dimensions had positive and significant relationships with academic buoyancy, whereas the mastery-avoidance and performance-avoidance dimensions showed negative and significant relationships with academic buoyancy. This finding was consistent and aligned with the results of Burns, Martin, and Tully (2018), whose research findings showed that when students set and pursue PB goals—that is, striving to surpass their previous best performance—this is associated with increased academic participation, effort, and positive learning behaviors. This type of goal setting has more positive effects on students' motivation and engagement, particularly when instructional support from teachers is present. In the same vein, it was also consistent with the study of Fathi (2018), whose psychological model showed that self-compassion and academic engagement not only directly contribute to increased academic buoyancy, but also indirectly affect buoyancy through parental expectations.

Students with high academic engagement, in fact, invest cognitively, behaviorally, and emotionally in the learning process. This investment includes the use of deeper learning strategies (cognitive dimension), spending more time studying and completing assignments (behavioral dimension), and experiencing positive emotions such as enjoyment and interest (emotional dimension). Buoyancy is, in fact, the behavioral outcome of this threefold engagement; that is, engaged students accept academic obstacles and failures as temporary challenges and, instead of giving up, continue their efforts and remain steadfast on the path toward their long-term goals (Usher et al., 2021). On the other hand, a student who progresses with a mastery goal regards failure as constructive feedback, not as a sign of inability; likewise, a performance-approach goal causes the student to mobilize his or her resources and demonstrate the behavioral buoyancy

necessary to achieve that competitive goal (Liem & Tan, 2024). However, the mastery-avoidance and performance-avoidance dimensions weaken students' buoyancy, because a student who is motivated by fear of failure or appearing weak often avoids difficult tasks. This behavior—escaping effort and minimizing the risk of failure—is directly opposed to the definition of buoyancy, which is the continuation of effort, and weakens it. In addition, the performance-avoidance goal reduces the resources necessary for deep engagement and sustained effort and leads to decreased buoyancy (Lei et al., 2023). Therefore, it can be explained that academic buoyancy in students is not only a function of their level of internal involvement and engagement, but also critically depends on the type of goal setting they adopt. Approach goals, especially mastery-approach, and increased engagement play a supportive role in stability and continuity of effort, whereas avoidance-based orientations are considered a serious barrier to buoyancy in the academic path.

The second finding of the study also indicated that academic engagement and the mastery-approach and performance-approach dimensions of goal orientation had a positive and significant ability to predict students' academic buoyancy, while the mastery-avoidance and performance-avoidance dimensions of goal orientation had a negative and significant ability to predict students' academic buoyancy. These findings were consistent and aligned with the results of Green et al. (2012) and Walker et al. (2024).

Academic engagement is the engine of intrinsic motivation that drives the student toward active emotional and behavioral involvement. This deep involvement causes the student to view failure as a natural part of the learning process and to overcome obstacles more quickly (Upadyaya & Salmela-Aro, 2023). On the other hand, approach goals—mastery-approach and performance-approach—provide the student with a mental framework that defines effort in terms of personal growth, not merely external outcomes. Approach goals are directly related to interest in learning, and this interest is essential for long-term buoyancy (Senko & Tropiano, 2021). Recent research emphasizes that students who focus on mastery-approach goals, compared with those whose goal is merely to avoid failure, are more motivationally flexible and are better able to overcome challenges and maintain their buoyancy (Putwain & Remedios, 2024). Therefore, goal orientation determines the purpose of effort, and engagement determines the amount of energy expended along that path. The combination of constructive, approach-based goal setting and high energy, namely engagement, leads to the highest level of buoyancy.

The third finding of the study also showed that the components of behavioral, emotional, and cognitive engagement had a positive and significant ability to predict students' academic buoyancy, with the behavioral engagement component having the greatest predictive power for students' academic buoyancy. These findings were consistent and aligned with the results of Rabiei (2015) and Bojnordi and Pourimran (2018).

Together, these three dimensions of academic engagement create a positive cycle for persistence; interest (emotional) leads to deeper thinking (cognitive), and ultimately, both lead to greater physical effort (behavioral), which is the essence of buoyancy (Reeve & Shin, 2020). The above finding showed that although all three dimensions of academic engagement are vital for buoyancy, behavioral engagement acts as the strongest predictor. This is probably due to its objective nature, sustainability, and direct relationship with the practical criteria of academic buoyancy. Therefore, educational interventions aimed at increasing buoyancy should place special emphasis on strengthening students' active and tangible participation in the learning process.

The present study included only male students, and its results may not be generalizable to female students or mixed samples. Previous studies have shown that gender differences in goal orientation and academic engagement can affect academic buoyancy. The data of this study were collected based on self-report questionnaires. This method may be affected by social desirability response bias and may limit the accuracy of the results. The research design was cross-sectional; therefore, causal relationships among goal orientation, academic engagement, and academic buoyancy cannot be definitively established, and only correlational and predictive relationships were examined. The research sample was limited to specific schools or a particular educational district, and the results may not be generalizable to other regions or educational environments with different characteristics. Future studies can include female students and mixed samples from different schools and regions in order to examine the effects of gender and educational environment on motivational relationships and academic buoyancy. Future studies can also use longitudinal designs and follow students over time to examine the causal relationships among goal orientation, academic

engagement, and academic buoyancy more precisely. Combining self-report questionnaires with teacher and parent observations and academic performance reports can increase the accuracy and validity of the results and reduce social desirability response bias. Future research can incorporate mediating and moderating variables such as learning style, self-efficacy, family support, or educational environment into the model in order to provide a better understanding of motivational processes and academic buoyancy. Based on the findings of this study, it is suggested that educational and counseling programs be designed to help strengthen students' goal orientation and academic engagement, and that their effects on academic buoyancy be evaluated. Overall, the present study showed that achievement goal orientation and academic engagement play a key role in predicting students' academic buoyancy. Students who pursue learning and mastery goals and are actively engaged in their academic activities show greater resistance to academic difficulties and are more likely to continue their educational path. These findings indicate that enhancing academic motivation and engagement not only contributes to improved academic performance, but also supports students' long-term persistence and success, and can be considered a central focus in educational planning and policymaking in schools.

Acknowledgments

We sincerely thank and appreciate the students, all respected staff members of the Zabol Department of Education, and our esteemed colleagues who assisted us in conducting this research.

References

Abbasi, M.; Pirani, Z.; Razmjoui, L.; Bonadi, F. (2015). The role of procrastination and motivational self-regulation in predicting students' behavioral enthusiasm. Educational Strategies in Medical Sciences, Volume 8, (5), 295-300. http://edcbmj.ir/article-۸۳۵-۱-fa.html

Ahmadi, S.; Namazizadeh, M.; Abdoli, B.; Seyed Alinejad, A. (2009). Motivational comparison of the progress of players of high and low-ranking teams in the Premier League of Football. Olympic Quarterly, 17(3), 28-19.

https://search.ricest.ac.ir/dl/search/defaultta.aspx?DTC=8&DC=442872

Akhvishmarin, Z. et al. (2021). Investigating the role of achievement goal orientation, academic identity status, and academic help-seeking in predicting academic retention. Jundishapour Educational Development Quarterly. https:/www.magiran.com/volume/193109

Ames, C., & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and engagement. Journal of Educational Psychology. https://doi.org/10.1037/0022-0663.80.3.260

Ames, C. (1992). Classrooms: Goals, structures, and student motivation. Journal of Educational Psychology, 84, 261-271. https://doi.org/10.1037/0022-0663.84.3.261

Arslan, S., Akçaalan, M., & Yurdakul, C. (2017). Science motivation of university students: Achievement goals as a predictor. Universal Journal of Educational Research, 5(4), 681–686. https://doi.org/10.13189/ujer.2017.050418

Bayramnejad, H., Yar-Ahmadi, Y., Ahmadian, H., Akbari, M. (2019). Developing a causal model of school satisfaction based on the perception of the classroom environment and the perception of teacher support with the mediating role of academic retention and academic engagement. Research in Educational and Virtual Learning, 8(3), 71-84. https://journals.pnu.ac.ir/article_7556.html

Bojnourdi Sheligani, N., Soleimanpour Omran, M. (2018). The Relationship between Achievement, Learning Enthusiasm, and Achievement Goals with Students' Meaning of Education. Research in Curriculum Planning, No. 56, pp. 75–93. https://www.noormags.ir/view/fa/articlepage/1428420

Burns, E. C., Martin, A. J., & Collie, R. J. (2018). Growth goal setting in positive education: The role of personal best (PB) goal setting in promoting student well-being and academic success. In R. Stoke (Ed.), Global perspectives in positive education. Melton, UK: John Catt Educational. https://doi.org/10.1016/j.lindif.2015.12.014

Dinger, F. C., & Dickhäuser, O. (2013). Does implicit theory of intelligence cause achievement goals? Evidence from an experimental study. International Journal of Educational Research, 61, 38–47. https://doi.org/10.1016/j.ijer.2013.03.008

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. Journal of Personality and Social Psychology, 92(6), 1087–1101. https://doi.org/10.1037/0022-3514.92.6.1087

Dweck, C. S. (1988). Motivational processes affecting learning. American Psychologist, 41, 1040-1048. https://doi.org/10.1037/0003-066X.41.10.104

Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., & Mac Iver, D. (1993). Development during adolescence: The impact of stage environment fit on young adolescents' experiences in schools and in families. American Psychologist, 48(2), 90–101. https://doi.org/10.1037/0003-066X.48.2.90

Elliot, A. J. (1999). Approach and avoidance motivation and achievement goals. Educational Psychologist, 34(3), 169-189. http://dx.doi.org/10.1207/s15326985ep3403_3

Elliot, A., & McGregor, H. (2001). 2×2 achievement goals framework. Journal of Personality and Social Psychology, 80(3), 501-519. https://ekeshoo.ir/mcgregor-progress-goal-orientation-questionnaire

Fathi, Naeimeh. (2018). The role of self-compassion and academic enthusiasm in academic retention with the mediation of parental expectations in second-year high school students. Master's thesis, Shahid Rajaee Teacher Training University.

https://jeps.usb.ac.ir/article_6672.html?lang=fa

Fathi, R., Rastegar, A., Seif, M. (2023). Causal model of the relationship between the perception of university well-being on students' mental well-being with regard to the mediating role of achievement goals. Management and Planning in Educational Systems, 16(2), 160-137.

https://doi.org/10.48308/mpes.2023.103923

Fong, C. J., & Kim, Y. W. (2021). A clash of constructs? Re-examining grit in light of academic buoyancy and future time perspective. Current Psychology, 40(4), 1824-1837.

http://hdl.handle.net/2152/47385

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. Review of Educational Research, 74(1), 59-109.[DOI: 102/0034654307400059]

Ghadami, G., Zare, M., Rahimi, M. (2019). The role of personality traits and dimensions of the family communication environment in academic engagement mediated by enthusiasm. Quarterly Journal of Research in School and Virtual Learning, 7(2), 9–20.

https://journals.iau.ir/article_683202.html

Gholamali Lavasani, M., Khezri Azar, H., Amani Sari Bagloo, J. (2011). Gender differences in self-efficacy, achievement goals, task value, cognitive engagement and mathematical achievement. Social-Psychological Studies of Women, 9(1), 7-31.https://doi.org/10.22051/jwsps.2011.1389

Gholami, R., Asadzadeh, Hassan., Ghaffari, Khalil. (2022). Presenting a causal model of academic enthusiasm based on perceived academic satisfaction: The mediating role of conscious academic self-control. Journal of the Faculty of Medicine, Mashhad University of Medical Sciences, 65(5), 2616-2599.https://doi.org/10.22038/mjms.2022.24155

Green, J., Liem, G. A. D., Martin, A. J., Colmar, S., Marsh, H. W., & McInerney, D. (2010). Academic motivation, self-concept, engagement, and performance in high school: Key processes from a longitudinal perspective. Journal of Adolescence, 35(5), 1111-1122.DOI: 10.1016/j.adolescence.2012.02.016

Hejazi, Elahe. (2020). The Third Millennium in Education. University of Sistan and Baluchestan, Zahedan.https://www.gisoom.com/book

Hirvonen, R., Putwain, D. W., Maatta, S., Ahonen, T., & Kiuru, N. (2020). The role of academic buoyancy and emotions in students' learning-related expectations and behaviors in primary school. British Journal of Educational Psychology, 90(4), 948-963.DOI: 10.1111/bjep.12336

Jafari, Z., Abdi Zarrin, S. (2021). The relationship between academic enthusiasm, academic identity, and academic retention with academic adjustment in students. Educational Psychology Studies, 18(44), 103-.https://doi.org/10.22111/jeps.2022.6672

Kaplan, A., & Flum, H. (2010). Achievement goal orientations and identity formation styles.https://doi.org/10.1016/j.edurev.2009.06.004

Karimi Ghartmani, M. (2012). The relationship between buoyancy and self-perception and metacognition of female and male high school students. Master's thesis in school counseling. Faculty of Psychology and Educational Sciences, Allameh Tabatabaei University. (In Persian)

Karsheki, H., Mohammad Taghizadeh, N., Miri, S. (2017). The relationship between causal attributions and test anxiety: The mediating role of achievement goals. Cognitive and Behavioral Sciences Research, 7(1), 1-15.https://doi.org/10.22108/cbs.2017.21759

Lei, H., et al. (2023). The interplay between achievement goals, academic engagement, and persistence in STEM fields. Learning and Individual Differences.DOI: 10.1016/j.lindif.2023.102301

Liem, G. A. D., & Tan, S. H. (2024). Profiles of achievement goal orientations and their associations with academic outcomes: A person-centered approach. Learning and Instruction.DOI: 10.1016/j.learninstruc.2024.101875

Malekian, Narges; Pali, Samira. (2022). The relationship between goal orientation and academic self-concept with enthusiasm for school and the mediating role of students' academic retention. Educational Management and Perspectives, 4(1). 53-71.https://doi.org/10.22034/jmep.2022.316798.1085

Martin, A. J., & Marsh, H. W. (2008). Academic buoyancy: Towards an understanding of students' everyday academic resilience. Journal of School Psychology, 46, 53-83.DOI: 10.1016/j.jsp.2007.01.002

Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., et al. (2000). Manual for the Patterns of Adaptive Learning Scales (PALS). Ann Arbor, MI: University of Michigan.https://www.scirp.org/reference/referencespapers?referenceid=863359

Momeni, K., Abbasi, M., Pirani, Z., and Begian-Kohl-Marz, M. (2017). The role of emotionality and family emotional climate in predicting students' academic enthusiasm. Bi-Quarterly Journal of Cognitive Strategies, 5(8), 182-192.https://doi.org/10.22084/j.psychogy.2017.10761.1366

Moradi, A.; Habibzadeh, A.; Karimi, B. (2024). Presenting an academic retention model based on motivational dimensions: Progress motivation, mastery goals. Quarterly Journal of Teaching Research, 12(1).https://doi.org/1010.22034/TRJ.2024.137725.1607

Muola, James M. (2010). A study of the relationship between academic achievement motivation and home environment among standard eight pupils. Educational Research and Reviews, 5(5), 213.https://www.sciepub.com/reference/233542

Mushtaqhi, S.; Mirhashemi, M.; Sharifi, H. (2012). Investigating the psychometric indicators of the modified questionnaire. Quarterly Journal of Educational Measurement, No. 7, Year 3, Spring.https://jem.atu.ac.ir/article_5625.htm

Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. Psychological Review, 91(3), 328–346.https://doi.org/10.1037/0033-295X.91.3.328

Panahi, G.; Ardoni, T.; Kazemi, S. (2013). The effect of academic enthusiasm on academic hope through the mediating role of academic optimism in students. Educational Psychology Studies.DOI: 10.22111/JEPS.2023.44536.5291

Pittrich, L. R., & Shang, Dale H. (2002). Motivation in Education: Theory, Research, and Strategies. Translated by Shahr-e-Aray, Mehrnaz. (2006). Tehran Science Publishing House.https://lib.pnu.ac.ir/dL/search/default.aspx?Term=488472&Field=0&DTC=3

Putwain, D. W., & Remedios, R. (2024). Goal orientations and test anxiety in adolescence: Longitudinal associations with engagement and achievement. Learning and Instruction, 92, 101905.https://doi.org/10.1016/j.learninstruc.2023.10190

Rabiei, Mohammad. (2015). Academic retention: The role of stable and unstable psychological factors. Journal of Applied Counseling, No. 52, 1-. https://doi.org/10.22055/jac.2016.12576

Reeve, J., & Shin, S. H. (2020). How teachers can support students' agentic engagement. Theory Into Practice.DOI: 10.1080/00405841.2020.1778649

Salehi, Rezvan. (2021). Investigating the role of parental involvement in students' academic retention through the mediation of satisfaction and enthusiasm. Journal of School Psychology, 10(1), 137-166.https://doi.org/10.22098/JSP.2021.1130

Salmela-Aro, K., & Tynkkynen, L. (2012). Academic passion and its relation to academic engagement and burnout. PubMed Central.https://pmc.ncbi.nlm.nih.gov/articles/PMC9931907/

Santrak, John. (2006). Educational Psychology: Theory and Practice. Translated by Morteza Omidian. Yazd: Yazd University.

Selajqeh, A., Bostanpira, M. (2026). Investigating the relationship between academic enthusiasm and emotion regulation with academic performance of students of Payam Noor Center of Kerman. Sociology of Education.https://jedusocio.com/index.php/se/article/view/553

Senko, C., & Tropiano, K. L. (2021). Developmental shifts in achievement goals and their relation to motivation and learning. Educational Psychologist, 56(4), 263-280.https://doi.org/10.1080/00461520.2021.1953133

Shafiei, Z., Sajjadian, Ilnaz., Nadi, M. (2020). The effectiveness of schema therapy on academic vitality, academic self-regulation and academic enthusiasm of students. Journal of Psychological Sciences, 19(93), 1175-1184.https://dor.isc.ac/dor/20.1001.1.17357462.1399.19.93

Shih, S. S. (2018). Examining relationships of Taiwanese adolescents' achievement goals to academic engagement and coping. Journal of Education and Human Development, 7(1), 153-165.DOI: 10.15640/jehd.v7n1a18

Upadyaya, K., & Salmela-Aro, K. (2023). Longitudinal effects of teacher support on student engagement, effort, and academic achievement: The role of psychological need satisfaction. Learning and Instruction, 84, 101736.https://doi.org/10.1016/j.learninstruc.2023.101736

Usher, E. L., et al. (2021). Perseverance and passion in learning: Exploring the role of self-efficacy, goal orientation, and engagement. Contemporary Educational Psychology.DOI: 10.1016/j.cedpsych.2021.101969

Walker, R., et al. (2024). Student motivation and academic performance: A review. eCampus Research Reports.https://ecampus.oregonstate.edu/research/wp-content/uploads/Walker-et-al.-2024.-Student-Motivation-and-Academic-Performance.pdf