Prediction of Academic Motivation Based on Learning Strategies, Self-Efficacy Perception, Self-Esteem, Self-Regulation, Psychological Capital, and Academic Achievement Among Students of Dhi Qar University

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ABSTRACT

The aim of this study was to predict academic performance based on academic motivation, learning strategies, self-efficacy perception, self-esteem, self-regulation, psychological capital, and academic achievement among students. The statistical population consisted of all male and female students at Dhi Qar University in 2024. From this population, 300 students (150 females and 150 males) were selected using a multistage cluster sampling method. Data were collected using the following questionnaires: learning strategies (Karami et al., 2005), academic self-efficacy (Owen & Froman, 1988), self-esteem (Rosenberg, 1965), self-regulation (Bouffard et al., 1995), psychological capital (Luthans & Youssef, 2007), academic achievement (Pham & Taylor, 1999), and academic motivation (Harter, 1981). The data were analyzed using Pearson correlation coefficient and stepwise regression. The findings showed that there was a significant positive relationship between all study variables and academic motivation ($p < 0.001$). Additionally, the regression analysis results indicated that self-efficacy perception, psychological capital, self-esteem, emotional self-regulation, and academic achievement accounted for 78% of the variance in academic motivation. Therefore, identifying factors such as self-efficacy perception, psychological capital, self-esteem, and emotional self-regulation in relation to academic motivation can improve educational planning, enhance teaching effectiveness, and lead to better academic progress.

Keywords: Learning strategies, self-efficacy perception, self-esteem, self-regulation, psychological capital, academic achievement, academic motivation, Dhi Qar.

1. Introduction

Researchers in education and social sciences have found that non-cognitive factors have a more significant impact on learning and academic achievement than cognitive factors (Jehanghir et al., 2024). Gutman and Schoon (2013) argue that non-cognitive skills, including motivation, self-control, and perseverance, contribute to success in educational institutions and the workplace (Gutman & Schoon, 2013). Learners' motivation plays a key role in how they perceive the learning process (Bonk & Lee, 2017) and is related to educational factors such as decisions to attend university, reasons for student persistence, and study skills (Jehanghir et al., 2024). Asher and Morris (2012) associate academic motivation with learners' performance and academic success, as well as their effort in regulating their activities (Usher & Morris, 2012), referring to the internal processes of motivation and sustaining activities to achieve specific academic goals (Pintrich, 2003). Intrinsically motivated learners are more persistent in their tasks, cognitively engaged, experience more positive emotions, and obtain better grades (Vansteenkiste et al., 2022), while also being calm and optimistic about their bright future (Ansong et al., 2019). Honicke and Broadbent (2016) also stated that learners can be empowered by academic motivation to overcome any challenges they may face during the learning process (Honicke & Broadbent, 2016).

Academic motivation in students is a multifaceted element that depends on various internal and external factors. One of these factors is learning strategies. Learning strategies are cognitive or behavioral activities that learners engage in to acquire knowledge (Fiorella & Mayer, 2015) and, according to the Oxford Dictionary (1990), are specific activities performed by the learner to make learning easier, faster, more enjoyable, self-directed, successful, and transferable to other domains. Learners employ a variety of strategies to achieve their educational goals. Factors influencing the selection of learning strategies include individual differences, teaching approaches, goal orientation, motivation, attitudes, learning technologies, measurement methods, and others, though not limited to them (Van Viet, 2022). Learners who use a broader range of learning strategies tend to be more successful and distinguishable from unsuccessful individuals (Gerami & Baighlou, 2011). Research conducted among Iraqi students shows a significant positive relationship between learning styles and motivation (Al-Banaa & Nevisi, 2023). Another study found that there is no significant correlation between academic achievement and the six subscales of learning strategies—anxiety, concentration, information processing, identifying key ideas, self-testing, and test strategies—while only the subscales of attitude, motivation, and study aid were closely related to students' academic progress (Van Viet, 2022).

Moreover, theoretical perspectives suggest that perceived competence plays a crucial role in enhancing individuals' psychological and academic performance. According to motivational approaches, individuals in environments that support psychological needs can achieve effective performance and growth (Worley et al., 2023). In this regard, self-efficacy can play a vital role in learning processes and outcomes (Zhang & Ardasheva, 2019). Bandura (2001) defines self-efficacy as an individual's belief in their ability to complete tasks (Bandura, 2001), allowing learners to engage more actively in their learning processes in terms of motivation, cognition, and behavior (Anam & Stracke, 2016). In educational contexts, the construct of self-efficacy is of particular importance because it refers to students' personal judgments about their competencies and capabilities to organize and perform a specific task (Van Dinther et al., 2011). Bandura (1997) states that such beliefs give individuals confidence and motivation to perform tasks (Bandura, 1997), enabling them to persist longer when faced with difficulties (Pajares, 2009). Students acquire the necessary information to estimate and increase their self-efficacy from four sources: their own performance successes, vicarious experience (such as observing peers), social persuasion (e.g., from instructors), and their physiological states (e.g., anxiety) (Lin et al., 2023). Lower levels of self-efficacy in students can lead to poorer academic and university adaptation (Darlow et al., 2017). Results indicate a positive relationship between self-efficacy and academic motivation (Abdolrezapour et al., 2023), and learners with higher self-efficacy and self-regulation strategies tend to perform better academically (Lin et al., 2023). Moreover, academic self-efficacy mediates the relationship between academic motivation and academic achievement (Shofiah et al., 2023), with both intrinsic and extrinsic motivation predicting self-efficacy (Wu et al., 2020).

According to research evidence, self-esteem and motivation also influence academic engagement, which in turn contributes to academic performance (Acosta-Gonzaga, 2023). Self-esteem refers to the positive or negative perception of one's worth (Rosenberg, 1979), affecting

learners' ability to complete or fail at academic tasks. Therefore, including this factor is essential, as it has been shown to have a positive relationship with task performance (Acosta-Gonzaga, 2023). A positive self-concept may be a factor in success across various domains (Baumeister, 2005). Thus, students' decision to enter a preparatory program and their persistence in striving for academic success are related to their positive self-image, which helps them address challenges and motivates them for success (Zoabi, 2012). Orth et al. (2012) believe that positive self-esteem significantly impacts an individual's success and life experience (Orth et al., 2012). Additionally, high self-esteem helps individuals feel valued and proud, believing that they are "good enough" in terms of intellectual and social skills (Sowislo & Orth, 2012). Research by Moneva and Tribunalo (2020) suggests that there is a significant correlation between students' positive attitudes toward academic activities and higher levels of self-esteem, which in turn helps improve task performance (Moneva & Tribunalo, 2020). In contrast, learners with low self-esteem may face challenges in effectively performing tasks. Increasing individuals' self-esteem, with improved academic adjustment, can have a protective impact on academic and behavioral growth, thereby enhancing their overall physical and psychological health and sense of well-being (Chen et al., 2023). Thus, increasing learners' self-esteem has proven to be an effective strategy for promoting health behaviors among Iraqi learners (Lefta et al., 2023), positively impacting motivation to achieve academic goals (Baumeister et al., 2003; Zoabi, 2012), and contributing to academic progress (Wagner et al., 2024).

Another factor influencing academic motivation is self-regulation. Self-regulation refers to a set of deliberate and involuntary processes related to controlling, directing, and planning an individual's cognition, emotions, and behavior (Cameron et al., 2024). Self-regulated learning means that learners reflect on themselves and their abilities, as well as how they approach the tasks expected of them (Zimmerman, 1998). Self-regulation focuses on individuals' responsibility for their learning, controlling their learning processes, the ability to adjust learning processes when necessary, and the ability to motivate themselves throughout their learning journey (Zimmerman, 1998, 2002, 2011). Self-regulated learning is typically explained in terms of integrating motivation, emotions, and learning strategies (Abar & Loken, 2010). Regarding motivation, learners with self-regulation skills tend to acquire competence by mastering the tasks they engage in (Zimmerman, 2011). In fact,

learners with well-developed self-regulation skills consciously select and implement learning strategies to achieve their learning goals (Zorlu & Ünver, 2022), and they can manage their learning time and resources effectively (Zimmerman, 2011). The more learners self-regulate, the more likely they are to engage in co-regulation with their classmates, which can positively impact their behavioral interactions and academic performance (Park & Kim, 2022). When students report motivated behavior and high self-efficacy, the use of high self-regulation strategies at all stages of their education and learning is clearly observed, and conversely, the ability to successfully self-regulate learning will accompany motivated learning behavior (Pawlak et al., 2020). Jawher (2021) showed in a study at universities in Erbil, Iraq, that motivational learning and self-regulation provide patterns for generating motivation in students and strengthening their personal, social, and academic lives (Jawher, 2021).

Educators and administrators often ask why some learners give up when facing academic difficulties, while others overcome them and persist to achieve better grades (Martin et al., 2022). Luthans and Youssef (2007) describe psychological capital as an individual's growth state in terms of self-efficacy, optimism, hope, and resilience (Luthans & Youssef, 2007). Positive psychological capital guides learners in regulating their behaviors, leading to better academic performance. In fact, the impact of positive psychological resources (such as psychological capital) on academic performance is best understood when considered in relation to closer motivational processes, such as the self-regulation personality trait (Luthans & Youssef, 2007). In educational contexts, learners' psychological capital may refer to the following: (1) self-confidence (self-efficacy) to invest the necessary effort for success in completing challenging academic tasks, (2) positive attribution (optimism) about success in current and future academic events, (3) perseverance in achieving academic goals and changing paths when necessary (hope), and (4) resilience, bouncing back and growing when facing difficulties (resilience) in achieving academic success (Siu et al., 2023). Youssef-Morgan, and Luthans (2015) showed that psychological capital can stimulate positive well-being through mechanisms such as generating positive cognitive and emotional evaluations, facilitating the retention of positive memories, applying broader impact when facing obstacles, and reducing negative thought patterns (Youssef-Morgan & Luthans, 2015). Therefore, in a globalized environment, learners' psychological capital may have a

significant impact on their academic achievements and career development (Martínez et al., 2019; Vîrgă et al., 2022).

In general, it can be said that due to the various challenging situations experienced in academic life, such as academic overload, preparation for oral presentations, and managing issues arising in group work, it is important to investigate whether students' academic motivation to achieve their goals is negatively affected. Given the significance of academic motivation in students' cognitive engagement in academic tasks and completing their education, examining various factors that can influence it is crucial. Therefore, this study aims to examine the prediction of academic performance based on academic motivation through learning strategies, self-efficacy, self-esteem, self-regulation, psychological capital, and academic progress among students at the University of Dhi Qar in 2024.

2. Methods and Materials

2.1. Study Design and Participants

The statistical population of this study included all students at the University of Dhi Qar during the 2023-2024 academic year. From this population, 300 students (150 male and 150 female) were selected using a multi-stage cluster random sampling method based on the Krejcie and Morgan table (1970). The inclusion criteria for the study were the absence of emotional-behavioral disorders and their consent to participate in the study. The exclusion criteria included incomplete questionnaires and lack of motivation in responding to the survey questions.

2.2. Measures

2.2.1. Learning Strategies

In this study, the 86-item Learning Strategies Questionnaire by Karami et al. (2005) was used to assess learning strategies. This questionnaire contains 18 subscales, including repetition or review for simple and basic tasks, repetition or review for complex tasks, semantic expansion for simple and basic tasks, semantic expansion for complex tasks, organization for simple and basic tasks, organization for complex tasks, self-knowledge and control (commitment, attitude, and attention), process-knowledge and control - planning, process-knowledge and control - control and evaluation, process-knowledge and control - organization. The scoring is based on a 10-point Likert scale (from 0 = never done to 9 = always done). The score range

is between 18 and 774. In the study by Karami et al. (2005), the reliability of this questionnaire was obtained using Cronbach's alpha as 0.97, and the test-retest reliability was 0.98. Additionally, for the validity of the questionnaire, content, criterion, construct, and factor validity methods were used. In criterion validity, the correlation with scores from a criterion questionnaire was 0.29 (r), which was significant. Construct validity was confirmed by calculating internal consistency with a coefficient of 0.97. To assess construct validity, the correlation between strategy scores and mathematics exam scores was used, with a correlation of 0.21 (r), which was significant (Karami et al., 2005). In this study, the reliability of this questionnaire was found to be 0.57 using Cronbach's alpha.

2.2.2. Academic Self-Efficacy

In this study, the 33-item Academic Self-Efficacy Questionnaire by Owen and Froman (1988) was used. Scoring is based on a 5-point Likert scale (from 1 = very low to 5 = very high). The score range is between 32 and 160, with higher scores indicating higher levels of self-efficacy. Owen and Froman (1988) reported a reliability of 0.90 for this questionnaire over an 8-week period, and its validity was reported as 0.78 using orthogonal rotation (Owen & Froman, 1988). In the study by Naghsh and Aghaei Nezhad (2022), the reliability of the questionnaire using Cronbach's alpha was 0.91 (Naghsh & Aghaeinejad, 2022). In this study, the reliability of the questionnaire was found to be 0.70 using Cronbach's alpha.

2.2.3. Self-Esteem

In this study, the 10-item Rosenberg Self-Esteem Scale (1965) was used. The scoring is based on a 4-point Likert scale (from 1 = strongly disagree to 4 = strongly agree), with items 1 to 5 scored positively and items 6 to 10 scored inversely. The score range is between 1 and 10, with higher scores indicating higher self-esteem (Rosenberg, 1979). Greenberg et al. (2003) reported an internal consistency of 0.84 for this questionnaire and a test-retest reliability of 0.84. In the study by Rashidi (2022), the reliability of the questionnaire using Cronbach's alpha was reported as 0.88 (Rashidi et al., 2022). In this study, the reliability of the Self-Esteem Questionnaire was found to be 0.77 using Cronbach's alpha.

2.2.4. Self-Regulation

In this study, the 14-item Self-Regulation Questionnaire by Bouffard et al. (1995) was used. This questionnaire is designed to assess self-regulation based on Bandura's social-cognitive theory and includes two factors: cognitive strategies (items 3, 5, 8, 9, 10, 12, and 13) and metacognitive strategies (items 1, 3, 4, 6, 7, 11, and 14). Scoring is based on a 5-point Likert scale (from 1 = strongly disagree to 5 = strongly agree), and items 5, 13, and 14 are scored inversely. The score range is between 14 and 60, and higher scores in each component indicate a greater tendency to use that component. The reliability of this questionnaire was reported as 0.79 (Ghazvineh et al., 2022). In this study, the reliability was found to be 0.69 using Cronbach's alpha.

2.2.5. Academic Achievement

To assess academic achievement, the 48-item Academic Achievement Questionnaire by Pham and Taylor (1999) was used. This questionnaire measures academic achievement in terms of self-efficacy, emotional impact, planning, lack of control over outcomes, and motivation. Scoring is based on a 5-point Likert scale (from 1 = strongly disagree to 5 = strongly agree), and items 8, 23, 26, and 33 are scored inversely, while item 7 is not scored. A score less than 120 indicates poor academic performance, a score above 175 indicates strong academic performance, and scores between 121 and 174 indicate average performance (Pham & Taylor, 1999). In the study by Dortaj (2004), the validity of the questionnaire was confirmed through factor analysis with a value of 0.81, and the reliability using Cronbach's alpha was reported as 0.74. In the study by Safarieh et al. (2022), which focused on standardization, the reliability using Cronbach's alpha was 0.90 (Safarieh et al., 2022). In this study, the reliability was found to be 0.70 using Cronbach's alpha.

2.2.6. Academic Motivation

To assess academic motivation, the 33-item Academic Motivation Questionnaire by Harter (1981) was used. The revised form of this questionnaire was developed by Lapper et al. (2005) and validated by Bahrami (2009). This questionnaire measures intrinsic motivation (17 items) and extrinsic motivation (16 items) based on a 5-point Likert scale (from 1 = never to 5 = always). The score range for intrinsic motivation is between 17 and 85, and for extrinsic motivation, it is between 16 and 80. Higher scores in either component indicate higher motivation. The reliability of this questionnaire was 0.85 for intrinsic motivation and 0.69 for extrinsic motivation using Cronbach's alpha. Construct validity was calculated by correlating the questionnaire with academic performance, and the internal consistency coefficients for all items ranged from 0.85 to 0.77 (Bahrani, 2009). In this study, the reliability was found to be 0.82 using Cronbach's alpha.

2.2.7. Psychological Capital

In this study, the 24-item Psychological Capital Questionnaire by Luthans and Youssef (2007) was used. This questionnaire includes four subscales: hope, resilience, optimism, and self-efficacy, with each subscale having 6 items. Scoring is based on a 6-point Likert scale (from 1 = strongly disagree to 6 = strongly agree). The score range is between 24 and 144, with higher scores indicating higher psychological capital. In the study by Luthans and Youssef (2007), the Cronbach's alpha for the subscales was reported as 0.76 for hope, 0.71 for resilience, 0.79 for optimism, and 0.85 for self-efficacy. In the study by Samani et al. (2022), the reliability was reported as 0.85 using Cronbach's alpha (Samani et al., 2022). In this study, the reliability of the this questionnaire was found to be 0.73 using Cronbach's alpha.

2.3. Data analysis

For data analysis, Pearson correlation and stepwise regression methods were used with SPSS 21 software. It is worth mentioning that all questionnaires were first translated from Persian into Arabic by a psychologist proficient in Arabic, and then retranslated into Persian by an Arabic language expert. After comparing the two versions, discrepancies were corrected, and the questionnaires were administered.

3. Findings and Results

In this study, 150 female students and 150 male students participated. Among them, 150 students were enrolled in experimental sciences, and 150 were in humanities. Economic status was classified as low for 32 participants, medium for 71 participants, and high for 197 participants.

Table 1

Descriptive Statistics of the Study Variables

Variables	Mean	Standard Deviation
Self-efficacy perception	59.32	8.83
Learning strategies	59.82	8.43
Academic motivation	136.48	7.74
Academic achievement	113.96	6.31
Self-esteem	29.42	4.56
Self-regulation	197.49	9.29
Psychological capital	75.89	6.21

Based on the results in Table 1, the mean values for self-efficacy perception, learning strategies, academic motivation, academic achievement, self-esteem, self-regulation, and psychological capital are 59.32, 59.82, 136.48, 113.96, 29.42, 197.49, and 75.89, respectively. To examine the correlation between the variables, Pearson's correlation coefficient was used, and the results are presented in Table 2.

Table 2

Pearson Correlation Matrix Between the Study Variables with Academic Motivation

Variables	1	2	3	4	5	6	7
1. Self-efficacy perception	1						
2. Learning strategies	.49**	1					
3. Academic motivation	.36**	.49**	1				
4. Academic achievement	.62**	.75**	.78**	1			
5. Self-esteem	.78**	.49**	.72**	.69**	1		
6. Self-regulation	.54**	.52**	.57**	.47**	.42**	1	
7. Psychological capital	.64**	.54**	.74**	.62**	.51**	.49**	1

**p<0.01

The results in Table 2 show that there is a significant positive relationship between academic motivation and self-efficacy perception (r = 0.36), learning strategies (r = 0.49), academic achievement (r = 0.78), self-esteem (r = 0.72), emotional self-regulation (r = 0.57), and psychological capital (r = 0.74) (p < 0.01). The results of the regression analysis and stepwise regression coefficients are presented in the following:

Table 3

Regression Analysis of Variance to Determine the Contribution of Predictor Variables

Source of Variance	Sum of Squares	df	Mean Square	F	p-value
Regression Model	11089.75	5	2217.95	95.45	< 0.01
Residual	6831.12	294	23.23		
Total	17920.88	299			

Table 4

Regression Analysis to Determine the Contribution of Self-efficacy Perception, Learning Strategies, Academic Achievement, Self-esteem, Emotional Self-regulation, and Psychological Capital

Step	Dependent Variable	Predictors	B	Beta	t	p-value	R²
1	Academic motivation	Self-efficacy perception	2.53	0.54	19.92	< 0.01	0.15
2	Academic motivation	Self-efficacy perception	3.43	0.43	15.76	< 0.01	0.45
		Psychological capital	2.15	0.23	4.16	< 0.01	
3	Academic motivation	Self-efficacy perception	1.42	0.48	6.84	0.02	0.68
		Psychological capital	0.21	0.23	4.19	< 0.01	
		Self-esteem	0.75	0.44	5.77	0.03	
4	Academic motivation	Self-efficacy perception	0.48	0.55	2.52	0.05	0.78
		Psychological capital	0.08	0.09	2.53	0.01	
		Self-esteem	0.63	0.37	3.63	0.03	
		Emotional self-regulation	0.63	0.76	20.77	< 0.01	
5	Academic motivation	Self-efficacy perception	0.48	0.55	2.52	0.05	0.78
		Psychological capital	0.38	0.29	2.53	0.01	
		Self-esteem	0.63	0.37	3.63	0.03	
		Emotional self-regulation	0.63	0.76	20.77	< 0.01	
		Academic achievement	0.27	0.44	4.23	< 0.01	

Based on the results, as well as the beta values and significance levels in step 5, the variables of self-efficacy perception, self-esteem, emotional self-regulation, and academic achievement can predict academic motivation at $p < 0.01$, while the variable of psychological capital can predict academic motivation at $p < 0.05$. However, the variable of learning strategies could not predict academic motivation and was excluded from the analysis. According to the R² statistic, the variables of self-efficacy perception, psychological capital, self-esteem, emotional self-regulation, and academic achievement can predict 78% of the variance in academic motivation. The regression equation derived in this study for predicting academic motivation is as follows:

Academic Motivation = 133.69 + 0.48 * Self-efficacy Perception + 0.38 * Psychological Capital + 0.63 * Self-esteem + 0.63 * Emotional Self-regulation + 0.27 * Academic Achievement

4. Discussion and Conclusion

This study aimed to gain insight into how academic motivation is predicted by non-cognitive factors such as learning strategies, self-esteem, self-efficacy, self-regulation, psychological capital, and academic achievement among university students. According to the findings, all of these variables, except for learning strategies, were able to predict academic motivation. The lack of a significant relationship between learning strategies and academic motivation was inconsistent with the findings of Albana and

Rivaizi (2023). Regarding the absence of the ability to predict academic motivation through learning strategies, it can be said that each learner may have their own specific learning style. Some students may tend towards surface learning, while others may lean towards deeper learning. This may cause the chosen learning strategies not to be influenced by their motivations. Factors such as test anxiety, negative evaluation, academic pressure, lack of support from instructors, and past experiences can have a significant impact on academic motivation and the choice of learning strategies. The lack of alignment between educational and personal goals leads to a mismatch between students' academic goals and their personal or academic motivations, potentially reducing academic motivation and making access to continuous learning strategies more difficult.

The findings also showed that perceived self-efficacy significantly predicted academic motivation. This finding aligns with previous studies (Abdolrezapour et al., 2023; Naghsh & Aghaeinejad, 2022; Pajares, 2009; Pawlak et al., 2020; Shkëmbi & Treska, 2023; Shofiah et al., 2023; Wu et al., 2020). To understand the relationship between self-efficacy and motivation, self-efficacy has been reported as a key component of motivation. The high level of confidence students have in designing strategies to achieve independent learning goals can encourage their efforts in determining the goals they must achieve and the strategies they need to adopt in learning. If students are confident that the set strategy is achievable and that they have the opportunity to reach these goals, they will strive to follow their academic tasks diligently and continue to face challenges and even academic

failures when faced with poor grades in any learning process (Shkëmbi & Treska, 2023). High academic self-efficacy ensures that learners are confident in their competency to complete the academic process, making them committed, persistent, and diligent throughout the learning process. On the other hand, students with low academic self-efficacy are usually not committed, make no effort, and are not diligent throughout the learning process (Shkëmbi & Treska, 2023), which can lead to inconsistent analytical thinking that disrupts the quality of problem-solving (Wu et al., 2020). When learning complex activities, individuals with high self-efficacy try to improve their assumptions and tactics rather than seeking excuses such as lack of interest in the activity. They can better collect relevant information, make conscious judgments, and then take appropriate actions, especially when under time constraints (Abdolrezapour et al., 2023; Naghsh & Aghaeinejad, 2022).

In this study, self-esteem also significantly predicted academic motivation, which is consistent with the prior findings (Chen et al., 2023; Moneva & Tribunalo, 2020; Wagner et al., 2024; Zoabi, 2012). Self-esteem, as an adaptive trait, has broad impacts on adjustment across various domains (Orth & Robins, 2022; Orth et al., 2012) and is one of the non-cognitive traits that has been identified as a key determinant in shaping academic progress, which is an indicator of cognitive growth (Di Giunta et al., 2013). Motivational processes, such as self-affirmation, lead individuals with high self-esteem to engage in behaviors (e.g., studying for exams, completing assignments) that contribute to academic success and affirm their positive self-view (Rosenberg, 1979). Learners with high self-esteem have greater confidence in overcoming learning challenges and are more motivated to achieve good academic progress. Students' self-esteem significantly predicts their academic self-efficacy from the first year to the first year, and its effects are longer-lasting and stronger among male learners (Luo et al., 2022). Self-esteem has relatively stable effects on fostering initiative and increasing the sense of pleasure for individuals (Baumeister et al., 2003), and is considered an important psychological resource that counteracts stress or negative events (Baumeister et al., 2003) and the challenges that accumulate from the beginning to the end of students' education, enabling them to cope with these events as they progress in their studies. Individuals with high self-esteem are more capable in carrying out any task or activity and are more courageous in expressing opinions that differ from those of others, as well as sharing creative ideas. Similarly, high self-esteem allows individuals to maintain

high levels of intrinsic motivation and reduce extrinsic motivation (Amabile & Pillemer, 2012). It may also increase self-regulation, reduce fear or anxiety, and lead to new goals. Learners with high self-esteem are more likely to achieve their goals compared to those with low self-esteem. Moreover, self-esteem can encourage them to make changes in their lives and perform well in academic environments (Dewi et al., 2022).

The prediction of academic motivation by another variable in this study, self-regulation, was also confirmed. This finding aligns with prior research (Jawher, 2021). Self-regulation and a student's motivation to study are essential. Especially now, learners need to be more proactive than instructors in active learning. Wolters (2003) suggested that self-regulated learners are equipped with a set of cognitive strategies that they can use in various academic situations (Wolters, 2003). Zimmerman (2002) argues that different levels of student self-regulation play a fundamental role in individual differences in learning. In this view, learning is considered as an activity that learners engage in actively for themselves. Therefore, self-regulated learners organize their work, set goals, seek help when necessary, use effective working strategies, and manage their time. Zimmerman (2002) argues that self-regulated learning is a self-directed process in which learners convert their cognitive abilities into academic skills (Zimmerman, 2002). Therefore, learners are actively engaged in their learning efforts because they are guided by self-set goals and task-related strategies. Self-regulated learners find the learning process manageable and are more likely to organize, regulate, and evaluate their learning (Cameron et al., 2024). Learners with high levels of self-regulation actively set their own goals, decide on optimal strategies, manage their time, organize materials and information, prioritize tasks, flexibly adjust their approaches, learn, and create desirable arrangements for themselves. They also possess characteristics such as intrinsic motivation for learning at the beginning of the learning process, maintaining motivation throughout, and being satisfied with their performance (Zimmerman, 1998, 2002, 2011).

Psychological capital has also positively predicted academic motivation among students, consistent with prior findings (Martínez et al., 2019; Siu et al., 2014; Vîrgă et al., 2022). Psychological capital can contribute to academic performance in several ways. First, based on positive evaluations of psychological capital, students who cognitively assess their situation and the likelihood of success positively and maintain an optimistic outlook for the

future are more likely to have the motivation to invest effort and perseverance for success, believing in themselves (self-efficacy) and determined to succeed (hope). They are more likely to employ common mechanisms and demonstrate higher agency, purpose, and a sense of control, all of which are essential for academic performance. Secondly, learners with high psychological capital are likely to generate a broader range of paths and strategies for overcoming obstacles (hope) and bouncing back from failure (resilience). Their greater positivity allows them to maintain a broader perspective and use a wide range of physical (such as healthy diet, exercise, adequate sleep), social (e.g., seeking help from instructors and peers), and psychological resources that can facilitate their performance (Martínez et al., 2019). In contrast, when facing everyday challenges in academic life, students with low psychological capital are more likely to exaggerate and internalize the impact of these situations (pessimistic explanatory style). They may resort to narrow focus (e.g., stressing over one assignment or a bad grade). This negativity can deplete their physical resources (e.g., pulling all-nighters, substance abuse, eating disorders), social resources (e.g., isolation, freeloading, cheating), and psychological resources, damaging their adaptability and ability (Martínez et al., 2019).

Another finding of this study showed that academic achievement could predict academic motivation. This finding aligns with prior studies (Biswas, 2023; Sharma & Sharma, 2018; Singh, 2011). Learners with high academic motivation are more likely to have higher levels of academic achievement and lower dropout rates. Academic success, such as obtaining good grades and achieving educational goals, leads to increased confidence and a sense of self-efficacy in learners. This feeling, in turn, creates more motivation to continue and exert more effort in learning. In general, individuals with a growth motivation show significant progress in their engagement compared to others (Singh, 2011). If a learning activity is beneficial for learners, they will value it and strive for success. Learners with achievement motivation are driven to successfully complete tasks, achieve a goal, or attain a certain level of proficiency in their field (Sivrikaya, 2019). Learners who set precise goals and focus on their academic progress are more motivated to achieve their objectives. This goal setting can have a positive impact on their academic performance and progress.

Given that the data were collected from university students in one of the cities in Iraq, the primary limitation of this study is the lack of generalizability of the findings, and caution should be exercised in generalizing them to other regions and educational levels. Therefore, to better generalize the results, it is suggested that future studies be conducted in other populations and at different educational levels. To increase students' motivation and improve their academic achievement, it is recommended to identify unmotivated students and hold workshops and educational courses to enhance academic motivation and teach self-regulation, self-efficacy, and psychological capital skills. Additionally, to increase academic motivation, strengthening academic associations, organizing various meetings, and involving students in these programs and academic research should be implemented to enhance students' sense of efficacy and motivation.

Authors' Contributions

Authors contributed equally to this article.

Declaration

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

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

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

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