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The Impact of Learning Strategies, Self-Efficacy Perception, Self-Esteem, Self-Regulation, and Academic Achievement on Academic Motivation among Students at the University of Dhi Qar: The Moderating Role of Gender and the Mediating Role of Psychological Capital

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A B S T R A C T

Purpose: The present study aimed to investigate the impact of learning strategies, self-efficacy perception, self-esteem, self-regulation, and academic achievement on academic motivation, considering the moderating role of gender and the mediating role of psychological capital among students.

Methods and Materials: The statistical population included all male and female students of the University of Dhi Qar in 2024, from which 300 students (150 females and 150 males) were selected using multistage cluster random sampling. Data were collected through questionnaires on Learning Strategies (Karami et al., 2005), Academic Self-Efficacy (Owen & Framen, 1988), Self-Esteem (Rosenberg, 1965), Self-Regulation (Bouffard, 1995), Psychological Capital (Luthans & Avolio, 2007), Academic Achievement (Pham & Taylor, 1999), and Academic Motivation (Harter, 1981). The data were analyzed using Pearson correlation, stepwise regression, and structural equation modeling (SEM) with SPSS-21 and AMOS-23 software.

Findings: The results indicated that learning strategies, self-efficacy perception, self-esteem, self-regulation, and academic achievement indirectly influenced academic motivation through psychological capital ($p < .01$). Regarding the moderating role of gender, the findings revealed that gender moderated the relationship between learning strategies and academic motivation ($p < .01$). Specifically, the relationship between learning strategies and academic motivation was significant among female students but not among male students. However, gender did not moderate the relationship between self-efficacy perception, self-esteem, self-regulation, academic achievement, and academic motivation.

Conclusion: These results highlight the importance of psychological capital as a mediating variable between the study variables and its central role in promoting adaptive behaviors in the classroom, which leads to personal growth, helps prevent dropout, increases motivation, enhances academic achievement, and contributes to a more satisfying academic experience.

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

1. Introduction

Every human being is born with the ability to learn, and learning occurs consciously or unconsciously at every stage of life, depending on needs. However, in educational programs, like any other formal or specialized program, learning takes place consciously. Therefore, if learners lack sufficient motivation, learning cannot occur effectively and successfully. In fact, conducting research on the topic of motivation and its related concepts can help researchers answer the question of why some learners eagerly engage in classroom activities, complete their assignments enthusiastically, and make great efforts in learning, while others avoid completing classroom tasks and, if they participate in classroom activities or study, do so reluctantly (Enayati Shabkolai et al., 2023; Ofem, 2023; Omale, 2024).

Individual differences in academic achievement are partly the result of differences in motivation for learning (Borah, 2021). Accordingly, poor student learning outcomes are a multifactorial issue associated with low learning performance, motivation, self-regulation, and negative emotions. Theories and models have been proposed to explain the relationships between intrapersonal factors that influence learners' learning performance, including motivation, emotions, cognition, and metacognition (Acosta-Gonzaga & Ramirez-Arellano, 2021). To maintain long-term learning interest, curriculum designers should pay attention to motivational needs (e.g., strategies for capturing attention and engaging them in learning tasks) (Almurumudhe et al., 2024; Enayati Shabkolai et al., 2023; Kokabi Rahman et al., 2023). Learning strategies are cognitive or behavioral activities in which learners engage to acquire knowledge (Fiorella & Mayer, 2015). Several classifications of learning strategies exist. According to Pintrich et al. (1991), cognitive, metacognitive, and resource-based learning strategies have been distinguished (Pintrich & Schunk, 2002; Pintrich et al., 1993). Cognitive learning strategies, such as elaboration and organization, have a direct impact on knowledge construction (i.e., learning). Metacognitive strategies help students understand what they already know and what they still need to work on. Resource-based learning strategies provide learners with resources that support the actual learning process or protect it from external disruptions (Wild & Schiefele, 1994). Research conducted among Iraqi students indicates a positive and significant relationship between learning styles and motivation (Al-Banaa & Nevisi, 2023).

Bowers-Campbell (2008) believed that without belief in one's ability to succeed, there would be little chance of learning or success (Bowers-Campbell, 2008). If learners experience academic failure, there are two possible reasons: they may lack the necessary skills for success, or they may have the necessary skills but lack the self-efficacy perception to use them (Tipon et al., 2021). Self-efficacy is based on the belief that one can successfully perform the behavior required to produce outcomes (Bandura, 1997) and reflects an individual's confidence in successfully completing a task. Individuals who are confident in their academic abilities exert more effort in academic tasks, while those lacking confidence are less engaged in their studies and are more likely to give up (Zhao et al., 2021). Individuals with lower general self-efficacy are more likely to have difficulties completing tasks than those with higher levels of self-efficacy and are more likely to compare themselves negatively with others, which limits their ability to improve their self-efficacy (Hsu & Wilde, 2019). Based on research evidence, Tipton et al. (2021) found a relationship between self-efficacy, self-motivation, and achievement motivation, and if self-esteem and self-efficacy are included in students' motivation, success is more likely (Tipon et al., 2021). Moreover, self-efficacy has played a central role in increasing motivation and language skills among Saudi Arabian students (Al-Khresheh & Alkursheh, 2024).

It has been shown that self-esteem and motivation affect academic engagement, which in turn contributes to academic performance (Acosta-Gonzaga & Ramirez-Arellano, 2021). Self-esteem is defined as self-worth and is a combination of skills and emotional states that indicate how much individuals respect or think of themselves (Khan et al., 2022). Learners with higher self-esteem experience more relaxation and lower levels of stress, are more energetic, use stronger problem-solving methods (Khan et al., 2022), and tend to have more positive experiences (Peng et al., 2019). The existence of a relationship between self-esteem and academic performance supports expectancy-value theory. This means that individuals with higher levels of self-esteem set stricter standards and only consider themselves "good enough" when they meet these standards, leading to positive self-evaluation and increased academic engagement (Filippello et al., 2019). From another perspective, individuals with high levels of self-esteem can effectively reduce the negative academic emotions caused by high expectations (Kort-Butler & Hagon, 2011). In fact, individuals who feel better about themselves tend to show improvements in their academic grades, and getting better

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grades in tests increases their positive view of themselves (Zhang et al., 2022). The results show that increasing students' self-esteem is an effective strategy for promoting health behaviors among Iraqi students (Lefta et al., 2023). In another study conducted among students in Erbil, Iraq, the results showed that factors such as teachers, time, good grades, peers, parents, and positive self-esteem had a significant impact on academic performance (Arshad et al., 2015). High self-esteem can have many positive outcomes and benefits. A moderate correlation between self-esteem and school performance does not indicate that high self-esteem leads to good performance. Instead, high self-esteem is partly the result of good performance in academic settings (Zoabi, 2012). Self-esteem positively affects motivation, providing the basis for achieving academic goals (Baumeister et al., 2003; Zoabi, 2012) and academic progress (Wagner et al., 2024).

Additionally, as pursuing multiple goals is an unavoidable reality in daily life, learners constantly self-regulate to achieve a set of academic goals as well as social and welfare goals (Kim et al., 2023). Self-regulation is defined as the ability to control and regulate one's learning through cognitive and metacognitive strategies (Trotter et al., 2021), and it is an active and constructive process in which the learner sets a series of goals for their learning and then attempts to control and regulate these goals, guiding their cognition, motivation, and behavior (Bakker & de Vries, 2021). Learners with high self-regulation set their performance goals, organize their studies, are aware of study strategies, and possess metacognitive awareness of their learning process (Panadero, 2017). Since learners with high levels of self-regulation perform better in university and tend to be successful students, many researchers believe that developing self-regulated learning skills should become a priority in higher education (Sava et al., 2020). When students report motivated behavior and high self-efficacy, the use of high self-regulation strategies in all stages of their education and learning is clearly observed, and successful self-regulation of learning is reciprocally associated with motivated learning behavior (Pawlak et al., 2020). In a study at Erbil universities in Iraq, Jawher (2021) found that motivational learning and self-regulation provide patterns for motivating students and enhancing their individual, social, and academic lives (Jawher, 2021).

There is no doubt that the indicator of success in the teaching and learning process is the level of academic achievement that the learner reaches. Academic achievement has been defined as intellectual progress in classroom education. Learners strive to learn and grow mentally. This progress is demonstrated through grades and class rankings. Therefore, traditional measures, such as GPA and class rank, are among the most well-known definitions of achievement (Denham et al., 2018). Learning success depends on whether learners are motivated or not. Motivation drives learners to achieve their learning goals (Borah, 2021). The common view is that both the "motivation→achievement" link and the "achievement→motivation" link exist, and motivation and success mutually influence each other over time (Sánchez-Cardona et al., 2021; Simsek & Balaban, 2010; Suhesti et al., 2022).

Since academic motivation can be considered an acquired habit, many factors play a role in cultivating it in learners. Enhancing psychological resources, such as self-efficacy, hope, optimism, and resilience, is associated with persistence, engagement, academic performance, and well-being indicators (e.g., academic satisfaction) (Sánchez-Cardona et al., 2021). Psychological capital plays an important role in integrating learners into behaviors that lead to higher levels of academic performance (Chaffin, 2023), and it facilitates the positive cognitive assessment of events and processes necessary for attention, interpretation, and retention of positive and constructive memories that lead to well-being and success (Luthans et al., 2005; Luthans & Youssef-Morgan, 2017; Luthans et al., 2015). In educational settings, students' academic psychological capital may refer to (1) confidence (self-efficacy) to invest the necessary effort to succeed in challenging academic tasks, (2) positive attribution (optimism) about success in current and future academic events, (3) perseverance in achieving academic goals and adjusting pathways to goals (hope) when necessary, and (4) resilience, bouncing back and growing when facing difficulties in achieving academic success (Siu et al., 2023). Datu et al. (2016) reported that academic psychological capital improves motivation, cognitive and emotional engagement, and achievement in a sample of Filipino students (Datu & Valdez, 2016).

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 power of self-regulation (Luthans et al., 2005; Luthans & Youssef-Morgan, 2017; Luthans et al., 2015). Regarding the relationship between psychological capital and self-esteem,

E-ISSN: 3041-8828

research findings have shown that individuals who are optimistic, hopeful, resilient, and full of self-efficacy experience high levels of self-esteem due to these resources (Bissessar, 2014), and self-esteem and psychological capital can predict creativity in students (Hong et al., 2020). Siu et al. (2014) showed that psychological capital is related to study engagement and intrinsic motivation among a group of university students in Hong Kong (Siu et al., 2023). In another study, Datu & Valdez (2016) found that psychological capital positively relates to academic engagement, positive affect, happiness, and flourishing in Filipino high school students (Datu & Valdez, 2016). Finally, You (2016) reported a significant relationship between psychological capital and empowerment, and psychological capital was indirectly related to engagement through empowerment among university students and was associated with academic engagement (You, 2016). Moreover, this study attempts to examine the role of gender in students' academic motivation concerning the possible relationship between the study variables. Gender, being male or female, is defined based on biological diversity.

The impact of academic experiences on gender patterns of academic success is highly complex and difficult to assess. Numerous studies show that girls tend to enter academic environments with several advantages, including better literacy skills and more positive social behaviors, compared to boys (Ready et al., 2005). Research indicates that boys lag academically more than girls, whether at the primary or secondary stages (van der Aa et al., 2009). Female students are more academically motivated than male students, and girls can perform better than boys (Khan et al., 2022). Additionally, significant differences in self-esteem and academic performance scores were observed between male and female students, indicating that female students have higher academic performance scores compared to male students, while male students have higher self-esteem scores compared to female students (Arshad et al., 2015). In a meta-analysis conducted by Turhan (2020), the results showed that the effect of gender on the exploratory dimension, self-transcendence dimension, and knowledge-use dimension, which are sub-dimensions of academic motivation, was low in significance, and male learners scored lower in both intrinsic and extrinsic motivation compared to female learners (Turhan, 2020). The findings of Simsek & Balaban (2010) showed that female students were more successful in using learning strategies compared to male students (Simsek & Balaban, 2010). However, in Balam's (2015) study, no statistically significant difference was observed between male and female master's students in the relationship between learning strategies and academic motivation. Nevertheless, students reported differences in various dimensions, such as extrinsic goal orientation, test anxiety (motivation), and effort regulation (Balam, 2015).

Overall, it can be said that it is an accepted fact that the educational system has a significant impact on the continuous development and improvement of a society, and educational research also has a very important impact on the development of the educational system (Çepni, 2002). Higher education in any country is one of the influential factors in that country's progress in cultural, social, political, and economic fields. Given the ever-increasing scientific advances and the tendency of organizations and both public and private institutions to attract specialized individuals, people in each society turn to universities and educational centers. One of the most important issues in higher education is academic motivation. Research shows that despite the presence of favorable educational-research environments and social factors, universities have not created desirable motivation among students. Therefore, one of the factors contributing to the lack of motivation can be attributed to intrapersonal factors among students. Therefore, accepting the premise that merely having facilities and improving external factors does not necessarily lead to the creation of motivation in students, but internal factors, alongside external factors, play an important role. A review of the literature reveals no research that has examined factors such as learning strategies, self-efficacy perception, self-esteem, and self-regulation in a model. Examining these factors can highlight the role of personality and individual factors in promoting academic motivation and emphasize individual differences. Therefore, the present study seeks to answer the question of whether there is a relationship between learning strategies, self-efficacy perception, self-esteem, self-regulation, and academic achievement with academic motivation, considering the moderating role of gender and the mediating role of psychological capital among students at Dhi Qar University.

2. Methods and Materials

2.1. Study Design and Participants

The statistical population of this study included all students at Dhi Qar University in the 2023–2024 academic year, from which 300 students (150 males and 150 females) were selected through multistage cluster random sampling based on the Krejcie and Morgan table (1970). Inclusion

E-ISSN: 3041-8828

criteria for the study consisted of not having emotional-behavioral disorders and willingness to participate in the research. Exclusion criteria included incomplete questionnaire responses and lack of motivation in answering the questionnaire items. It is worth noting that all questionnaires were translated and back-translated. First, they were translated from Persian to Arabic by a psychologist fluent in Arabic, and then they were translated back into Persian by an Arabic language specialist. After comparing both versions, discrepancies were corrected, and the questionnaires were administered.

2.2. Data Collection Tools

Learning Strategies Questionnaire: To assess learning strategies, the 86-item Learning Strategies Questionnaire developed by Karami et al. (2005) was used. This questionnaire includes 18 subscales: repetition or review for simple and basic tasks, repetition or review for complex tasks, elaboration and semantic extension for simple and basic tasks, elaboration and semantic extension for complex tasks, organization for simple and basic tasks, organization for complex tasks, knowledge and self-control (commitment, attitude, and attention), process knowledge and control (planning), process knowledge and control (monitoring and evaluation), process knowledge and control (regulation), repetition or review, semantic elaboration and extension, organization, knowledge and self-control, process knowledge and control (cognitive, metacognitive). The items are scored on a 10-point Likert scale (ranging from 0 = never to 9 = always). The total score ranges from 18 to 774. In the study by Karami et al. (2005), the reliability of the questionnaire was determined through Cronbach's alpha (α = .97) and test-retest reliability (r = .98). Content, criterion, construct, and factor validity were used to assess the questionnaire's validity. For criterion validity, the correlation between the respondents' scores on the constructed questionnaire and their math test scores was significant (r = .29). Construct validity was confirmed through internal consistency (α = .97). In this study, the reliability of the questionnaire was calculated using Cronbach's alpha (α = .57) (Karami, 2005).

Students' Academic Self-Efficacy Questionnaire: To assess academic self-efficacy, the 33-item Academic Self-Efficacy Questionnaire by Owen and Framen (1988) was used. This questionnaire is scored on a 5-point Likert scale (from 1 = very low to 5 = very high), with total scores ranging from 32 to 160. Higher scores indicate higher levels of self-efficacy. Owen and Framen (1988) reported test-retest reliability over an 8-week interval (r = .90) and validity using orthogonal rotation (r = .78). In the study by Naqsh and Aghaei-Nejad (2022), Cronbach's alpha reliability was reported as α = .91. In this study, the reliability of the questionnaire was calculated using Cronbach's alpha (α = .70) (Owen & Froman, 1988).

Self-Esteem Questionnaire: To assess self-esteem, the 10-item Rosenberg Self-Esteem Scale (1965) was used. This questionnaire is scored on a 4-point Likert scale (from 1 = strongly disagree to 4 = strongly agree). Items 1 to 5 are positively scored, while items 6 to 10 are reverse scored. Total scores range from 1 to 10, with higher scores indicating higher self-esteem. Greenberg et al. (2003) reported internal consistency (α = .84) and test-retest reliability (r = .84). In the study by Rashidi (2022), Cronbach's alpha reliability was reported as α = .88. In this study, the reliability of the self-esteem questionnaire was calculated using Cronbach's alpha (α = .77) (Greenberger et al., 2003; Rashidi et al., 2022).

Self-Regulation Questionnaire: To assess self-regulation, the 14-item Self-Regulation Questionnaire by Bouffard (1995) was used. This questionnaire is 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). The items are scored on a 5-point Likert scale (from 1 = strongly disagree to 5 = strongly agree), with items 5, 13, and 14 reverse scored. Total scores range from 14 to 60, with higher scores indicating a greater tendency to use the component strategies. In the study by Qazvineh et al. (2022), the reliability was reported as α = .79. In this study, the reliability of the questionnaire was calculated using Cronbach's alpha (α = .69) (Qazvineh et al., 2022).

Academic Achievement Questionnaire: To assess academic achievement, the 48-item Academic Achievement Questionnaire by Pham and Taylor (1999) was used. This questionnaire measures academic achievement across five dimensions: self-efficacy, emotional influences, planning, lack of outcome control, and motivation. The items are scored on a 5-point Likert scale (from 1 = strongly disagree to 5 = strongly agree), with items 8, 23, 26, and 33 reverse scored, and item 7 not scored. A score below 120 indicates weak academic performance, a score above 175 indicates strong academic performance, and scores between 121 and 174 indicate average academic performance. In the study by Dortaj (2004), factor analysis validity was reported as r = .81, and the overall reliability using Cronbach's alpha was α

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= .74. In the study by Safarieh et al. (2022), Cronbach's alpha reliability for this questionnaire was reported as α = .90. In this study, the reliability of the questionnaire was calculated using Cronbach's alpha (α = .70) (Safarieh et al., 2022).

Academic Motivation Questionnaire: To assess academic motivation, the 33-item Academic Motivation Questionnaire by Harter (1981) was used. The revised version of the questionnaire was conducted by Lepper et al. (2005), and Bahrani (2009) translated and validated it. This questionnaire measures two dimensions of motivation: intrinsic (17 items) and extrinsic (16 items), based on a 5-point Likert scale (from 1 = never to 5 = always). Scores for the intrinsic motivation subscale range from 17 to 85, and for the extrinsic motivation subscale, scores range from 16 to 80, with higher scores in either dimension indicating higher motivation. Cronbach's alpha reliability was reported as α = .85 for intrinsic motivation and α = .69 for extrinsic motivation. Construct validity was calculated by correlating it with academic performance, and internal consistency coefficients for all items ranged from α = .85 to α = .77. In the study by Omidi et al. (2019), the reliability of the academic motivation questionnaire using Cronbach's alpha and split-half reliability was α = .85 and α = .77, respectively. In this study, the reliability of the questionnaire was calculated using Cronbach's alpha (α = .82) (Omidi et al., 2019).

Psychological Capital Questionnaire: To assess psychological capital, the 24-item Psychological Capital Questionnaire by Luthans and Avolio (2007) was used. This questionnaire consists of four subscales: hope, resilience, optimism, and self-efficacy, with six items for each subscale. The items are scored on a 6-point Likert scale (from 1 = strongly disagree to 6 = strongly agree), with total scores ranging from 24 to 144, where higher scores indicate higher psychological capital. In the study by Luthans and Avolio (2007), Cronbach's alpha for the subscales was reported as follows: hope (α = .76), resilience (α = .71), optimism (α = .79), and self-efficacy (α = .85). In the study by Samani et al. (2022), Cronbach's alpha reliability for this questionnaire was reported as α = .85. In this study, the reliability of the psychological capital questionnaire was calculated using Cronbach's alpha (α = .73) (Samani et al., 2022).

2.3. Data Analysis

For data analysis, Pearson correlation, stepwise regression, and path analysis modeling were employed using SPSS-21 and Amos-18 software. Additionally, model fit indices for the final model were assessed and compared with the acceptable thresholds.

3. Findings and Results

In this study, 150 female and 150 male students participated. Of these, 150 were from experimental sciences and 150 from humanities. The economic status of the participants was as follows: 32 had low economic status, 71 had moderate status, and 197 had high economic status.

Table 1

Descriptive Statistics of the Research 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 scores for self-efficacy perception, learning strategies, academic motivation, academic achievement, self-esteem, self-regulation, and psychological capital were 59.32, 59.82, 136.48, 113.96, 29.42, 197.49, and 75.89, respectively. Pearson's correlation coefficient was used to examine the correlations between variables, and the results are presented in Table 2.

E-ISSN: 3041-8828

Table 2

Pearson Correlation Matrix Between Research Variables and Academic Motivation

Variables	1	2	3	4	5	6	7
1. Self-Efficacy Perception	1						
2. Learning Strategies	0.49	1					
3. Academic Motivation	0.36	0.23	1				
4. Academic Achievement	0.62	0.75	0.78	1			
5. Self-Esteem	0.78	0.49	0.72	0.69	1		
6. Self-Regulation	0.54	0.52	0.57	0.47	0.42	1	
7. Psychological Capital	0.64	0.54	0.74	0.62	0.51	0.49	1

The results of Table 2 indicate significant positive relationships between academic motivation and self-efficacy perception (r = 0.36), learning strategies (r = 0.23), 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 model fit findings for the research data in the final model are presented in Table 3. The final proposed model in this study is shown in Figure 1. This model was selected based on modification indices in Amos software. As observed in Figure 1, the strongest relationship is between self-regulation and academic motivation (r = 0.63).

Table 3

Model Fit Findings in the Final Model

Model Fit Indices	CMIN/DF	CFI	GFI	TLI	IFI	RMSEA
Proposed Model	1.9	0.94	0.97	0.91	0.95	0.05

As shown in Table 3, the model fits well with the data. The chi-square test indicates a good fit of the model with the variance-covariance matrix, and the GFI, TLI, IFI, and CFI indices are all excellent, with values above 0.90. Additionally, the RMSEA is below 0.10, which further confirms a very good model fit.

A general index for accounting for free parameters in calculating the fit index is the normalized or relative chi-square, which is calculated by dividing the chi-square value by the model's degrees of freedom. Values between 1 and 5 are generally considered acceptable. In this study, the chi-square value was 1.9. Overall, the results indicate that the proposed model has a good fit. Therefore, direct and indirect effects can be calculated and examined.

Table 4

Bootstrap Method Results for Indirect Relationships in the Whole Sample

Pathway	Indirect Coefficient	P-Value (Indirect)	Total Effect	P-Value (Total)
Learning Strategies → Psychological Capital → Academic Motivation	0.23	0.05	0.29	0.02
Self-Efficacy Perception → Psychological Capital → Academic Motivation	0.56	0.001	0.57	0.001
Self-Esteem → Psychological Capital → Academic Motivation	0.29	0.001	0.38	0.001
Self-Regulation → Psychological Capital → Academic Motivation	0.79	0.001	0.77	0.001
Academic Achievement → Psychological Capital → Academic Motivation	0.22	0.002	0.23	0.003

Based on the results in Table 4, using the bootstrap method, learning strategies, self-efficacy perception, self-esteem, self-regulation, and academic achievement indirectly influence students' academic motivation through psychological capital, as the standardized coefficient in the indirect path is significant at the 0.01 level.

Additionally, stepwise regression was used to examine the moderating role of gender in the relationships between learning strategies, self-efficacy perception, self-esteem, self-regulation, and academic achievement with academic motivation. The results are shown in Table 5.

E-ISSN: 3041-8828

Table 5

Regression Analysis of the Role of Gender in the Relationship Between Learning Strategies, Self-Efficacy Perception, Self-Esteem, Self-Regulation, and Academic Achievement with Academic Motivation

Step	Criterion Variable	Predictor Variables	B	Beta	T	Significance Level	R
1	Academic Motivation	Learning Strategies	0.21	0.23	4.2	0.001	0.23
		Gender	-0.51	-0.03	-0.58	0.55	
2	Academic Motivation	Learning Strategies	-0.08	-0.09	-0.54	0.58	0.26
		Gender	-12.75	-0.82	-2.05	0.04	
		Learning Strategies * Gender	0.2	0.86	1.98	0.04	
1	Academic Motivation	Self-Efficacy Perception	0.04	0.05	0.89	0.37	0.06
		Gender	-0.46	-0.03	-0.51	0.6	
2	Academic Motivation	Self-Efficacy Perception	0.09	0.11	0.6	0.54	0.06
		Gender	1.61	0.1	0.26	0.79	
		Self-Efficacy * Gender	-0.03	-0.14	-0.34	0.73	
1	Academic Motivation	Self-Esteem	0.04	0.02	0.44	0.65	0.04
		Gender	-0.48	-0.03	-0.54	0.58	
2	Academic Motivation	Self-Esteem	-0.47	-0.27	-1.55	0.12	0.11
		Gender	-11.18	-0.72	-1.86	0.06	
		Self-Esteem * Gender	0.36	0.74	1.8	0.07	
1	Academic Motivation	Self-Regulation	0.65	0.78	21.57	0.001	0.78
		Gender	-1.08	-0.07	-1.93	0.05	
2	Academic Motivation	Self-Regulation	0.58	0.7	6.01	0.001	0.78
		Gender	-9.79	-0.63	-0.81	0.41	
		Self-Regulation * Gender	0.04	0.57	0.73	0.46	
1	Academic Motivation	Academic Achievement	-0.02	-0.02	-0.4	0.68	0.04
		Gender	-0.48	-0.03	-0.54	0.58	
2	Academic Motivation	Academic Achievement	-0.01	-0.01	-0.05	0.95	0.04
		Gender	0.75	0.04	0.04	0.96	
		Academic Achievement * Gender	-0.01	-0.08	-0.07	0.93	

Based on the results in Table 5 and the Beta values and significance levels in step 2, the interaction term Learning Strategies * Gender can predict academic motivation at $P < 0.05$. This means that gender moderates the relationship between learning strategies and academic motivation. Specifically, the relationship between learning strategies and academic motivation is significant for females but not for males. Based on the Beta values and significance levels in step 2, the interaction terms Self-Efficacy Perception * Gender, Self-Esteem * Gender, Self-Regulation * Gender, and Academic Achievement * Gender cannot predict academic motivation. This means that gender does not moderate the relationship between self-efficacy perception, self-esteem, self-regulation, academic achievement, and academic motivation.

Figure 1

Unstandardized Coefficients in the Final Model Regression

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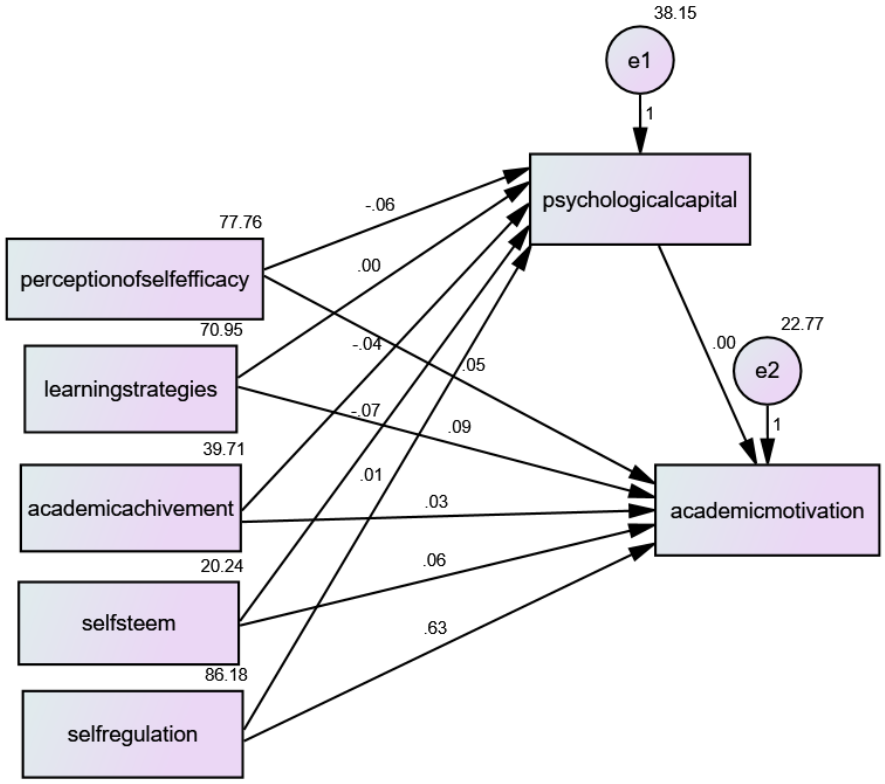

4. Discussion and Conclusion

This study aimed to examine the effectiveness of learning strategies, self-efficacy perception, self-esteem, self-regulation, and academic achievement on academic motivation, considering the moderating role of gender and the mediating role of psychological capital among students. The results indicated that psychological capital mediates the relationship between learning strategies and academic motivation. When psychological resources are utilized in the educational environment, it leads to the adoption of positive strategies and behaviors (Pajares, 2001). One possible explanation is that psychological capital, based on its components (self-efficacy, optimism, hope, and resilience), has motivational potential, thereby enhancing academic performance. Psychological capital may intrinsically motivate individuals, and intrinsic motivation has a stronger impact on goal-related performance than external pressures. Learners with psychological capital recognize their goals and are thus intrinsically motivated. They work with motivation and may experience a state of flow in completing their tasks, leading to better performance (Adil et al., 2020). Students who are self-efficacious, optimistic, hopeful, and resilient (or have psychological capital) are more engaged in their studies, indicating that high levels of optimism, resilience, and confidence in one's abilities increase engagement in the study and learning process. Indeed, possessing personal resources (such as psychological capital) increases learners' energy and commitment to learning activities to the extent that they become deeply immersed in their studies and cannot easily disengage. These results highlight the need to pay attention to specific personal characteristics of learners when attempting to increase their study engagement. A university student with high psychological capital is seen as someone who creates multiple pathways to achieve their goals, believes in their ability to mobilize cognitive resources, can adapt to unfavorable situations, and is realistic and flexible. Therefore, for students, hope serves as a strength that can be enhanced through quality goal-setting and strategies to overcome obstacles. Optimistic students can take personal credit for positive academic events. Highly self-efficacious learners are very motivated, selectively pursue challenging tasks, and persist in the face of adversity or obstacles. Resilient learners adapt to change, are emotionally stable, and are prepared to confront challenges, making academic resilience a protective factor (Vîrgă et al., 2022).

The mediating role of psychological capital in the relationship between self-efficacy and academic motivation was also confirmed. Self-efficacy is an individual's belief in

E-ISSN: 3041-8828

their abilities and influences how much effort they will exert in performing a particular task (Bandura, 1997). This belief determines the learner's attitude toward starting a learning task. The stronger the self-efficacy, the more time and effort the learner will invest in completing the task, regardless of its difficulty or the obstacles encountered. Those with low self-efficacy tend to avoid tasks or quickly give up, often attributing failure to an inability to perform the task, while those with high self-efficacy attribute failure to external factors such as insufficient effort. Thus, learners with higher self-efficacy set higher goals, develop deeper strategies for completing tasks, view new tasks as challenges rather than threats, and generally have a more positive attitude toward completing the task. Learners with weak self-efficacy focus on their shortcomings and show weak commitment to the task, which results in high levels of stress and depression (Wentzel, 2017). Moreover, those who feel self-efficacious in learning use self-regulatory processes that enhance their learning, such as goal-setting, using effective learning strategies, monitoring, and evaluating their goal progress, and creating effective physical and social environments for learning (Usher & Schunk, 2018). In fact, self-efficacy is a key motivational process that can include other factors such as optimism and resilience. Even individuals with high self-efficacy may show low motivation if they do not value the expected outcome. Learners may have high self-efficacy for performing well in a course, but if they believe the course does not contribute to their desired field, they may not engage fully. Furthermore, if individuals lack the skills necessary to perform well, no amount of self-efficacy will guarantee success. However, assuming adequate skills and positive levels of other motivational processes, self-efficacy is a critical motivational process that leads to strong motivational outcomes (Suhesti et al., 2022). Given that self-efficacy influences the development of academic motivation, it is important to examine the elements that affect self-efficacy. Optimism leads individuals to attribute their successes to internal and stable factors, thereby blaming themselves less for failures. This positive attitude in the face of challenges helps enhance self-efficacy. Overall, learners are more actively engaged in the learning process when they have confidence in their abilities, have high expectations for their self-efficacy, value tasks, and feel responsible for learning goals. All these factors influence the cognitive and metacognitive strategies employed to tackle tasks and regulate effort, which in turn directly and positively affects students' academic performance (Zhang et al., 2022; Zhao et al., 2021).

According to the study's findings, self-esteem indirectly affects students' academic motivation through psychological capital. This finding is consistent with the prior research (Wagner et al., 2024; Zoabi, 2012). Self-esteem is considered an important influencing factor in academic progress and educational outcomes. Its absence leads learners to doubt their abilities, which results in poor performance due to this lack of confidence. Students' self-esteem influences their decision-making processes, relationships, mental stability, and overall well-being. It also affects motivation because students with a healthy and positive self-image recognize their abilities and are motivated to try new experiences and tasks. In other words, self-esteem is a personal evaluation of oneself. Students with high self-esteem have more power to achieve their goals than those with low self-esteem. Moreover, students' self-esteem can encourage them to make changes in their lives and perform well in academic settings (Dewi et al., 2022). Individuals with high self-esteem are likely to adopt problem-focused strategies, allowing them to actively solve problems and avoid or mitigate the negative effects of unfavorable events. In this way, their psychological states remain stable at high levels of self-efficacy. In contrast, individuals with low self-esteem tend to adopt emotion-focused strategies and generalize failures excessively. They become overwhelmed by negative emotions when faced with unfavorable events and over-attribute potential failures to themselves, which, coupled with low self-efficacy, may lead to emotional denial and self-rejection (Zhang et al., 2022). Finez and Moran (2017) linked intrapersonal self-assessment factors such as self-concept, self-esteem, and self-efficacy to resilience in learners. Optimism in academic contexts has shown that optimistic learners who use adaptive coping strategies and exhibit higher levels of personal and academic self-efficacy are more likely to achieve their personal and academic goals, are less vulnerable, and display higher levels of self-esteem, self-concept, and assertiveness (Fínez & Morán, 2017).

Regarding the mediating role of psychological capital in this study, the findings showed that psychological capital mediates the relationship between academic self-regulation and academic motivation. To explain these results, the personal epistemology perspective can be emphasized. According to personal epistemology, individuals' beliefs about knowledge and learning can affect their academic success (Lodewyk, 2007). These beliefs can act as implicit theories that guide learners' learning and self-regulatory strategy choices. Thus, epistemological beliefs concern how

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beliefs about learning facilitate or hinder goal selection and pursuit (Hofer & Pintrich, 1997). Optimism can be viewed as a mediator that enhances academic motivation and self-regulation by mobilizing learners' self-regulatory skills, leading to the broader use of self-regulation strategies and improved academic performance. When students understand the relationship between effort, strategies, and academic outcomes, they feel more in control of their ability to achieve success, repeat successes, or avoid failures. Thus, mastery in learning and control over learning situations reduces their anxiety or fear of failure. Effort, commitment, and the use of appropriate strategies for the learning situation, coupled with a lack of fear of failure, lead to problem-solving, overcoming challenges, and enhancing self-efficacy (Ataii et al., 2021). According to Snyder's theory, hope is an active process in which individuals select goals and strive to achieve them. Designing various pathways to achieve these goals seems to relate to strategies individuals adopt to reach their educational goals. Hope acts as a positive psychological driver where individuals feel agency and achievement in their goals. Learners with greater hope utilize different pathways as agents to achieve their goals and seem more focused on problem-solving (Chew, 2017). They are more motivated and enthusiastic about their academic progress and view problems as challenges that can be overcome (Gallagher & Lopez, 2018).

In addition to the direct positive effects of self-esteem on motivation and academic performance, self-esteem can enhance academic performance through the subscales of psychological capital. Hobfoll's (2002) theory emphasized "gain spirals" related to the acquisition and maintenance of resources as central to human performance. Accordingly, engaged learners may be in a better position to invest their psychological resources, such as psychological capital, in ways that lead to positive outcomes such as academic performance (Hobfoll, 2002). On the other hand, the possibility of gain spirals between psychological resources and engagement suggests that they may mutually reinforce each other (Hakanen & Roodt, 2010; Hobfoll, 2002; Hobfoll & Shirom, 2000). When resources are available, the level of engagement may be enhanced, which may increase the likelihood of utilizing current resources and creating new ones. This concept may explain why individuals tend to invest more resources in positive efforts (Salanova et al., 2010), thereby experiencing better performance (Bakker, 2009; Bakker & de Vries, 2021). Therefore, the relationship between self-esteem and psychological capital may be reciprocal.

The expected outcome of academic achievement and psychological capital is growth in successful outcomes and higher achievements in students, and this result was also confirmed. Visualizing basic needs and fundamental goals for the future and anticipating the attainment of these goals significantly boosts students' motivation for further activities in the present (Hirsh, 2001). Students with high academic achievement typically exhibit high levels of self-regulation, set their learning goals more specifically, and regularly assess their progress toward the goal (Pintrich & Schunk, 2002; Pintrich et al., 1993). These students are characterized by a strong motivation for upward mobility, persistence in facing tasks with moderate difficulty, a tendency to exert renewed effort on unfinished tasks, a dynamic perception of time, foresight, attention to competence standards in achieving academic success, recognition through good performance, the ability to complete tasks, and a low behavioral risk profile. Having these traits, even at moderate to high levels, leads to increased individual effort toward academic success. Luthans et al. (2007) noted that individuals with high psychological capital demonstrate high levels of motivation and performance due to successful experiences across all areas. Psychological capital drives individuals to strive for the enhancement of positive psychological resources and the strengthening of cognitive mechanisms. It helps students deal more effectively with academic frustrations and challenges. Optimistic students tend to find solutions to problems and experience less stress. Psychological capital can improve social and communication skills. Positive social relationships can influence academic performance as strong social networks provide emotional and academic support to students (Luthans et al., 2005; Luthans & Youssef-Morgan, 2017; Luthans et al., 2015).

Regarding the moderating role of gender in the research variables, the findings showed that gender only moderates the relationship between learning strategies and academic motivation. Specifically, the relationship between learning strategies and academic motivation is significant for females but not for males. This finding aligns with the prior results (Simsek & Balaban, 2010) but contradicts with other results (Balam, 2015). The results of Simsek and Balaban (2010) indicated that successful students used more diverse and better learning strategies than unsuccessful students, and female students were more effective than male students in choosing and using appropriate strategies (Simsek & Balaban, 2010). Pajak and Peckjak's (2002) study also showed that female students used more metacognitive self-

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regulation strategies compared to male students (Peklaj & Pečjak, 2002). It can be said that female students exhibit characteristics such as greater emphasis and understanding in thinking (Suhesti et al., 2022) and are inherently interested in learning, showing a higher tendency toward self-efficacy in deep learning. They employ effective learning strategies such as managing their time and study environment. When evaluating their own results, they have positive self-perceptions and plan to adopt better strategies for future improvements. According to Bbidjerano (2005), female learners are more responsive and aware of their learning processes compared to male learners (Bidjerano, 2005). They are also likely to adjust their learning strategies more quickly and are more adaptable to academic goals (Lishinski et al., 2016).

Based on the findings indicating a relationship between positive psychological characteristics, such as learning strategies, self-efficacy, self-regulation, self-esteem, and psychological capital, with enhancing academic motivation for achieving academic and educational goals, it is recommended that educational managers and officials set appropriate educational goals to provide successful experiences and achievable goals aligned with students' abilities to enhance academic motivation. To increase student motivation for academic progress, and considering the mediating role of psychological capital, it is suggested to identify unmotivated students and offer workshops and educational courses to enhance academic motivation and teach skills such as hope, resilience, optimism, and self-efficacy (dimensions of psychological capital). It should be noted that the cross-sectional nature of this study is a limitation, reducing the ability to infer long-term causal relationships between variables, especially in light of cultural and educational changes. Another limitation concerns the sample, which consisted of students from Dhi Qar province, reducing the generalizability of the findings to students at other universities and educational institutions, as well as to other academic levels. Therefore, future researchers are encouraged to explore this topic in different temporal and spatial contexts and compare the results with those of the present study.

Authors' Contributions

All authors significantly contributed to this study.

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

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the interview and participated in the research with informed consent.

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