Article

The effect of academic self-efficacy, positive academic emotions, academic rewards, and metacognitive learning strategies effect on educational institutions' academic performance in Iraq

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Abstract

The purpose of this study was to examine the impact of academic self-efficacy (ASEC), positive academic emotions (PAE), academic rewards (ACR), and metacognitive learning strategies (METLSS) on the academic performance (ACP) of educational institutions in Iraq. The study also examines the influence mediated by metacognitive methods. The survey instrument was self-administered, and data was obtained from university students. The quantitative research analysis was completed using the Partial Least Square-Equation Modelling Technique. Results suggested that ASEC, ACR, emotions connected to learning, and METLSS had a good and significant impact on the ACP of educational institutions. The indirect implications also show that metacognitive learnings favorably and significantly mediate the relationships between ASEC, ACR, PAE, and ACP. These findings, with the broader framework of academic rewards and the mediating influence of metacognitive learning, could significantly contribute to the existing literature as a pioneering study. The conclusions of this study may be valuable to policymakers, and universities' regulatory agencies should be aware of the importance of researching the indicators mentioned above, which could improve the ACP of students.

Keywords

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As achieving high grades and academic success is the primary objective of both students and educational institutions, this demonstrates the effectiveness of both educational systems and students. Therefore, researchers are increasingly interested in identifying the characteristics that impact students' ACP most (Jamali, Noroozi, & Tahmasebi, 2013). If a student's performance consistently dropped, their participation in any endeavor could likewise decline (Purtaghi & Pakpour, 2014). To address this issue, several researchers and educational physiologists have examined the numerous challenges that college students encounter (Purtaghi & Pakpour, 2014). To increase students' ACP, the researcher chose learning techniques such as positive academic emotions (PAE), academic rewards (ACR), academic self-efficacy (ASEC), and metacognitive learning strategies (METLSS) (Gharetepeh et al., 2015; Hayat et al., 2020; Jamali et al., 2013). Numerous additional academics have claimed that these tactics for enhancing pupils' academic performance are crucial (Asikainen, Hailikari, & Mattsson, 2018; Wu et al., 2020). These authors demonstrated the significance of PAE, ACR, METLSS, and ASEC for increasing students' ACP.

In addition, several authors conducted most of their studies using qualitative methodologies, experimental design, and quantitative analysis to explain the positive and direct relationship between variables (Ngwira et al., 2017; Pekrun et al., 2002). No study examining the direct and indirect influence of the characteristics listed above on academic achievement has been found in the prior academic literature (Sadi & Uyar, 2013). In the past, the majority of studies in the social science and psychology fields were conducted in schools or colleges, which cannot be generalized to universities (Pekrun, Elliot, & Maier, 2009; Vierhaus, Lohaus, & Wild, 2016) because the environment of universities differs from that of schools or colleges. Academic field settings might influence students' learning techniques (Vermunt, 2005). Hence higher education institutions may employ diverse learning methodologies (May et al., 2012). In addition, pupils describe various feelings in various academic settings and environments (Pekrun et al., 2011). Previous research has also demonstrated that universities are understudied regarding positive academic emotions (PAE) and academic rewards with students' ACP. Researchers have concentrated on cognitive aspects influencing students' learning in other fields (Artino, La Rochelle, & Durning, 2010). However, research on students' emotions has revealed that many students in institutions experience anxiety and despair due to stressful situations. Few researchers have investigated the emotional effects of self-regulating learning (SRL) on pupils (Artino et al., 2010). In Iran, physicians make a high salary, so students enthusiastically compete and are accepted to continue their education in this field. Yet, teachers in the classroom have limited knowledge about the impact of student motivation and emotions on academic performance (Artino et al., 2010; Artino Jr, Holmboe, & Durning, 2012). Most research (Govaerts & Grégoire, 2008) pertains to western nations. Its conclusions have been generalized to other countries, which has been questioned, notably in developing nations (Henrich, Heine, & Norenzayan, 2010) and particularly in Iraq's public universities. (Al-Azawei, Parslow, & Lundqvist, 2016) The public universities in Iraq played a significant part in the country's economic and social development. However, these institutions are still experiencing issues linked to student learning, which could impair the students' performance (Al-Azawei et al., 2016). Various writers suggested in their studies that students' performance may be enhanced by using PAE, ACR, METLSS, and ASEC to increase their ACP (Asikainen et al., 2018; Wu et al., 2020). In addition, the impact of PAE, ACR, METLSS, and ASEC on ACP has received scant consideration in prior literature about Iraq.

Literature has demonstrated that PAE, ACR, METLSS, and ASEC are important indicators for the ACP of students; however, previous studies have paid little attention to public sector universities, PAE, and ACR, along with ASEC and METLS; these two indicators are crucial for increasing the ACP of the study. In addition to ASEC and METLSS, these two indicators contribute to the impact on student ACP. Moreover, earlier research was mostly focused on the direct influence of all these indicators; hence, this study offered a mediating effect of METLSS, particularly in the setting of Iraq's public university sectors, which had been little investigated in the existing literature. Consequently, this study aims to examine the mediation effect of METLSS between the associations of ASEC, ACR, and PAE and student ACP. This research contributes to the existing body of knowledge from a theoretical and an empirical standpoint.

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Literature Review and Hypothesis Development

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The literature review discussed the previous literature from both theoretical and empirical perspectives.

Academic self-efficacy and Academic Performance

Academic self-efficacy (ASEC) is another element that significantly impacts academic performance (ACP). It was characterized as students' abilities and attitudes and confidence in their ability to achieve greater academic achievement. Also included is the assumption that academic assignments may be completed and lessons learned for success (Locke, 1997; Schunk & Ertmer, 2000). ASEC is excellence in individual performance by boosting effort, perseverance, and dedication (Pintrich, 2003). The increased level of ASEC aids in reducing failure and achieving greater success (Kurbanoglu & Akin, 2010). Additionally, lesser ASEC tends to diminish talents. With poor ASEC, pupils feared completing class assignments, delaying, postponing, and abandoning tasks (Locke, 1997; Schunk & Ertmer, 2000). In other words, self-efficacy is characterized by a degree of control over an individual's thoughts, emotions, and behaviors. In other words, individuals' views regarding their talents and the results of their efforts significantly impact their behavior. Therefore, it is not unexpected that numerous studies demonstrate that self-efficacy affects academic accomplishment motivation, learning, and academic achievement (Pajares, 1996). According to Mousoulides and Philippou (2005), there is a positive association between self-efficacy and academic achievement. If students are trained to have stronger self-efficacy beliefs, their academic performance also increases. Most researchers who have examined the relationship between self-efficacy and performance have reported a strong correlation (Pajares & Miller, 1994). On the other hand, a higher level of ASEC led to greater self-confidence and, in the case of complex issues and problem-solving, increased student effort, patience, and consistency (Sadi & Uyar, 2013; Schunk & Ertmer, 2000). Previous research indicates that ASEC is the most important factor in a student's academic success. Chemers and Garcia discovered that in the first year of university ASEC (Chemers, Hu, & Garcia, 2001) remains a significant predictor of future performance. Kader, Zaki, and Mustapha (2020) study of 214 university students found that ASEC and ACP positively affect the students. Other research (Doménech-Betoret, Abellán-Roselló, & Gómez-Artiga, 2017; Ferla, Valcke, & Cai, 2009; Villavicencio & Bernardo, 2013). have demonstrated the significance of ASEC in ACP.

Positive Academic Emotions and Academic Performance

Emotions are physiological responses and reactions to any event, situation, action, or set of circumstances. According to Pekrun (2006), academic emotions directly correlate with activities, outcomes, and accomplishments. This term initially appeared in the context of education in the field of education. According to Pekrun et al. (2002), he divided this into four primary categories. First were good feelings (hope, enjoyment, and pride), then negative emotions (worry, boredom, and anger), activating emotions (joy and pride), and finally, deactivating emotions (shame) (Pekrun, 2006; Pekrun et al., 2011). During studying, classroom attendance, and testing, educational emotions have a complex relationship with motivational, behavioral, and cognitive processes (Artino Jr et al., 2012; Pekrun et al., 2009).

In addition, numerous studies have demonstrated that emotions are a significant factor that directly or indirectly affects satisfaction, motivation, mental and physical health, cognitive sources, interaction quality between teachers and students, academic achievements of students, concentration, learning, and information storage and retrieval skills, which in turn affect the academic success (Goetz et al., 2006; Meinhardt & Pekrun, 2003). According to Pekrun (2006), good emotions favor the ACP, but negative and unpleasant emotions harm the ACP. According to Chin et al. (2017), there is a significant correlation between the PAE and ACP of pupils. According to Pekrun et al. (2009), positive and activating emotions such as pride, hope, and enjoyment have a strong and favorable relationship with students' grades. Previous studies indicated that happy emotions were the most influential determinant of academic achievement (Pekrun et al., 2011; Pekrun et al., 2002).

Metacognitive Learning Strategies and Academic Performance

Self-regulated and, specifically, metacognitive learning mechanisms (Aurah, 2013) have garnered significant academic interest in recent years (Ganda & Boruchovitch, 2018). Among the primary aspects of self-regulated learning, metacognitive activities are generally the most valuable. It facilitates the learners' ability to organize, monitor, and control cognitive activities (Hayat et al., 2020; Şen, 2016). Currently, it is believed that students use metacognitive skills, which are beneficial for more efficient study activity, effective planning, more efficient evaluation of learning material perception, and more responsible problem-solving (Sen & Yilmaz, 2016; Sungur & Kahraman, 2011). Using these methods, they were more successful than their competitors (Zimmerman, 2011). Previous ideas and studies assumed that metacognitive learning strategies dominate academic success (Khoroushi, Nili, & Abedi, 2014; Zimmerman, 2011).

Academic Rewards and Academic performance

Receiving rewards plays a significant role in improving students' performance (Davis, Winsler, & Middleton, 2006). According to the research, incentives influence satisfaction levels, which directly affects performance (Davis et al., 2006). Additional research has demonstrated that rewards have a significant effect on boosting ACP (Pajarillo-Aquino, 2019). Other studies have also shown that increasing student rewards increases ACP (Pajarillo-Aquino, 2019). This is because the better the employees' competence, the greater their potential to perform the task with a broader understanding of the work. Thus, the greater their contribution to knowledge, the greater their productivity and student ACP (Jaquett et al., 2021). Other studies revealed that academic rewards have a good and significant effect on ACP (Davis et al., 2006). Further, it was stated that the prizes supplied to students are often tied to their accomplishments, which stimulates them and could help to improve their performance (Davis et al., 2006).

Research Framework and Hypothesis Development

The emotion achievements' control value theory is deemed the most applicable analytical framework for this investigation. The premise of Pekrun's study is that PAE indirectly affects students' academic performance through the mediation of metacognitive, cognitive, and self-regulating factors (Goetz et al., 2006; Pekrun, 2006). Emotions can influence the achievement of pupils through motivational and cognitive elements. Emotions can influence the cognitive pathway through three mechanisms: cognitive usability sources, metacognitive learning techniques, and mood-dependent memory (Artino Jr et al., 2012; Pekrun & Stephens, 2010). On the other hand, positive emotions are generated by flexible, deep learning procedures (Schutz & Lanehart, 2002), which are facilitated by self-regulating student learning activities. Students that utilize positive emotions implement metacognitive and deep methods (Pekrun et al., 2007).

According to Pekrun's control value theory, cognitive evaluation is a crucial forerunner of academic emotions, which is further subdivided into control assessment and perceived assessment. Control evaluations are associated with the perception of an individual's controllability over actions' accomplishments and outcomes (Pekrun, 2006). These evaluations have been described in perceptions and expectations of competence, comparable to ASEC. Thus, ASEC has a preponderant effect on academic feelings (Schunk & Ertmer, 2000). Since Bandura (1977) proposed the notion of ASEC, researchers have examined this concept concerning academic performance. Bandura (1977) social cognition theory described the ASEC that affects motivation and performance. Some researchers ascribed the relationship between ASEC and academic achievement to metacognitive learning processes (Bong & Skaalvik, 2003; Zimmerman, 1990). Students with a higher level of ASEC demonstrate more tenacity and initiative when confronted with obstacles since they have a deeper comprehension of this idea (Schunk & Ertmer, 2000). The ASEC positively affects performance, but the quality of learners' self-efficacious efforts is also important and reveals learners' varying levels. Compared to peers with a lesser level of ASEC, these kids use metacognitive and more complex cognitive processes for their work (Zimmerman, 2011). In contrast, pupils with low ASEC select less challenging projects and employ superficial tactics to avoid failing (Ngwira et al., 2017).

Research demonstrates that metacognitive and ASEC methods are strongly related (Tembo & Ngwira, 2016). According to numerous theories of self-regulation, students must be enthusiastically motivated to use metacognitive and cognitive methods for academic success (Blom & Severiens, 2008). In this context, the "generic expectancy-value theory of motivation" suggests that self-regulated learning is linked to three fundamental motivational systems. The effective component is associated with students' reactions to work tasks, such as anger and pride; the ASECond component is comprised of students' abilities and beliefs regarding their ability to complete a task, and the third component is comprised of students' views regarding the task's interest and significance. All three components positively influence the self-regulated learning components (Pintrich et al., 1993).

Previous research in this sector (Hayat et al., 2020; Tembo & Ngwira, 2016) demonstrated that the ASEC is positively associated with metacognitive learning techniques. Numerous studies have identified the ASEC as the most crucial factor in students' academic achievement (Ahmed et al., 2013; Zimmerman, 2011). In certain research (Yang, 2005), metacognitive methods mediate between ASEC and ACP. Numerous studies investigate the role of ASEC, academic emotions, and metacognitive learning techniques on intellectual accomplishment. Some studies have also examined these variables' direct and indirect effects on ACP (King & Areepattamannil, 2014; Tembo & Ngwira, 2016). Researchers have concentrated on the individual effects of these characteristics, which are unrelated to the medical sector (Aurah, 2013; Kıran & Sungur, 2012). Following the control theory, social cognitive theory, expectation value-based theory of motivation, and a survey of the relevant literature, the researchers developed the following research framework.
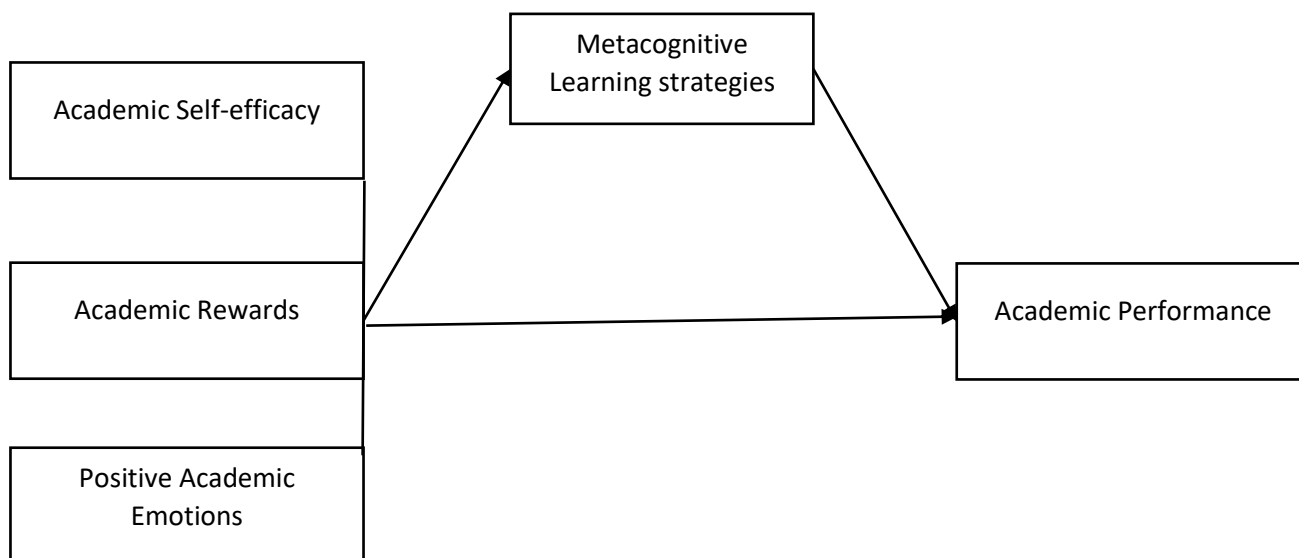
Align with the research framework, the following research hypothesis is formulated below.

H1: metacognitive learning strategies are significantly affected by academic self-efficacy.
H2: metacognitive learning strategies are significantly affected by academic rewards.
H3: metacognitive learnings strategies are significantly affected by positive academic emotions
H4: Academic performance is significantly affected by academic rewards.
H5: Academic performance is significantly affected by academic rewards.
H6: Academic performance is significantly affected by positive academic emotions.
H7: Academic performance significantly affected by Metacognitive learning strategies.
H8: The relationship between academic self-efficacy and academic performance is significantly related to the mediating role of metacognitive learning.
H9: The relationship between academic rewards and performance is significantly related to the mediating role of metacognitive learning.
H10: The relationship between positive academic emotions and academic performance is significantly related to the mediating role of metacognitive learning.

Participants and Data Collection Procedures

The study included both a quantitative research methodology and a cross-sectional approach. The data was collected from students at public universities. Students enrolling in seventh or eighth grade were selected as the target audience. The questionnaire was distributed to 400 students, and 300 of them responded. The recommended sample size of 200 is favorable for employing Structural Equation Modelling (SEM), whereas 20 participants per variable are recommended by others (Cheah et al., 2018).

Consequently, this sample size is suitable for use with Partial Least Squares Equation Modeling (SEM). Multiple writers also recommended PLS as a crucial software component for the complex model. The study instrument was derived from previous studies in which it was successfully utilized. In the research instruments, positive student emotions were measured using 20 items derived from the study of others (Hayat et al., 2020). Metacognitive learning was assessed using 12 items drawn from the research (Hayat et al., 2020). The ASEC was measured by eight things that were measured on eight items from the prior study (Hayat et al., 2020). The academic benefits were evaluated using five items from the study (Abdelrahman, 2020). All factors were measured using a five-point Likert scale ranging from 1 for strongly disagreeing to 5 for strongly agreeing. Lastly, for the ACP, the student's academic grades were calculated using their overall assessment, midterm, final, and sessional marks. Evaluations were conducted on three subjects' academic papers, communication skills, and English. For data analysis in the datasheet, the total number of points was one hundred; 1-20 were graded 1, 21-40 were graded 2, 41-60 were graded 3, 61-80 were graded 4, and 81-100 were graded 5.

Measurement Model

When evaluating the measurement model, consideration was given to both convergent and discriminant validity. As demonstrated in Table.1, all quality criteria for this measurement model were satisfied, as all composite reliability (CR), factor loadings, Cronbach's alpha, and average variance extracted (AVE) values exceeded the required thresholds (0.70, 0.70, 0.70, and 0.5, respectively) (Cheah et al., 2018; Hair Jr et al., 2016) Using the criterion of Ahmad et al. (2020); Fornell and Cha (1994); Hair Jr et al. (2016) and by examining the outer loading matrix, the discriminant validity was evaluated. All square roots of AVE had bigger values than inter-construct correlations for the tested constructs, despite the fact that each indicator weighted more heavily on its individual construct than the others, assuring the model's external consistency. The projected convergence and discriminant validity results are shown in Tables.1 and 2 below.

Table.1: *Reliability and validity of the construct*

Constructs	Items	Loadings	Cronbach's Alpha	rho_A	CR	AVE
Positive academic emotions	PAE1	0.720 0.755	0.882	0.884	0.911	0.631
	PAE2	0.848				
	PAE3	0.781				
	PAE4					
	PAE5	0.849				
	PAE6	0.807				
	PAE7	0.861 0.885				
	PAE8	0.835				
	PAE9	0.803				
	PAE10					
	PAE11	0.765				
	PAE12	0.835 0.864				
	PAE13	0.808 0.865				
	PAE14	0.835				
	PAE15					
	PAE16					
	PAE17	0.847				
	PAE18	0.839				
	PAE19	0.811				

Constructs	Items	Loadings	Cronbach's Alpha	rho_A	CR	AVE
Metacognitive learnings	METLS1	0.728 0.833	0.916	0.922	0.933	0.668
	METLS2	0.756 0.886				
	METLS3	0.883				
	METLS4					
	METLS5					
	METLS6	0.824				
	METLS9	0.796				
	METLS10	0.765 0.820				
	METIL11	0.850				
	METLS12					
Academic rewards	ACR1	0.882	0.939	0.942	0.949	0.674
	ACR2	0.758				
	ACR3	0.852				
	ACR4					
	ACR5					
Academic self-efficacy	ASEC1	0.817 0.883	0.942	0.943	0.953	0.742
	ASEC2	0.867 0.832				
	ASEC3	0.876				
	ASEC4					
	ASEC5					
	ASEC6	0.893				
	ASEC7	0.861				
Academic Performance	ACP1	0.826 0.883	0.929	0.933	0.944	0.739
	ACP2	0.867				
	ACP3					

Table.2: *Discriminant Validity*

	PAE	ACR	METLS	ASEC	ACP
PAE	0.777				
ACR	0.258	0.886			
METLS	0.511	0.105	0.761		
ASEC	0.677	0.297	0.458	0.849	
ACP	0.705	0.241	0.52	0.733	0.836

The structural model

Through structural model assessment, the proposed conceptual framework's hypothesized theoretical links, including the association between positive academic emotions (PAE), academic self-efficacy (ASEC), METLS (metacognitive learnings) methods, academic records (ACR), and academic performance (ACP), were examined. The coefficient of determination (R^2) and path coefficients are used to evaluate the degree to which the data supported hypothesized relationships. In addition, the significance of the hypothesized correlations between the variables in the study was assessed using a bootstrapped partial least squares (PLS) path analysis. According to the computed route, ASEC, PAE, and ACR have both direct and indirect positive and significant effects on ACP. In other words, metacognitive methods had a beneficial and substantial impact on ACP. These results suggest that these results supported each of the 10 hypotheses. The projected outcomes are shown in Table 3 below.

Table.3: *Direct and indirect effect Results*

	Original Sample	T Statistics	P Values	
ACADEMIC REWARDS -> ACADEMIC PERFORMANCE	0.053	2.735	0.006	Accepted
ACADEMIC REWARDS -> METACOGNITIVE LEARNING STRATEGIES	0.93	4.633	0.000	Accepted
ACADEMIC SELF-EFFICACY -> ACADEMIC PERFORMANCE	0.141	2.072	0.039	Accepted
ACADEMIC SELF-EFFICACY -> METACOGNITIVE LEARNING STRATEGIES	0.721	24.84	0.000	Accepted
METACOGNITIVE LEARNING STRATEGIES -> ACADEMIC PERFORMANCE	0.944	9.417	0.000	Accepted
POSSITVE ACADEMIC EMOTIONS -> ACADEMIC PERFORMANCE	0.133	4.637	0.000	Accepted
POSSITVE ACADEMIC EMOTIONS -> METACOGNITIVE LEARNING STRATEGIES	0.249	7.583	0.000	Accepted
ACADEMIC REWARDS -> METACOGNITIVE LEARNING STRATEGIES -> ACADEMIC PERFORMANCE	0.081	2.782	0.006	Accepted
ACADEMIC SELF-EFFICACY -> METACOGNITIVE LEARNING STRATEGIES -> ACADEMIC PERFORMANCE	0.681	8.541	0.000	Accepted
POSSITVE ACADEMIC EMOTIONS -> METACOGNITIVE LEARNING STRATEGIES -> ACADEMIC PERFORMANCE	0.235	5.796	0.000	Accepted

The R^2 value of latent endogenous variables can be used to evaluate the model's usefulness. ASEC, PAE, ACR, and METLS methods explained 60% of the variance in ACP in the proposed model. Hair Jr et al. (2016) recommended including predictive relevance (Q^2) alongside fundamental measurements. According to Fornell and Cha (1994), a model has predictive quality if the cross-redundancy value is more than 0; otherwise, predictive relevance cannot be achieved (Q^2). Using the Smart PLS 3.0 software, the Q2 value was greater than 0.42, which is greater than 0, thus meeting the study's criterion. Figure.2 depicts the findings of the hypothesis.
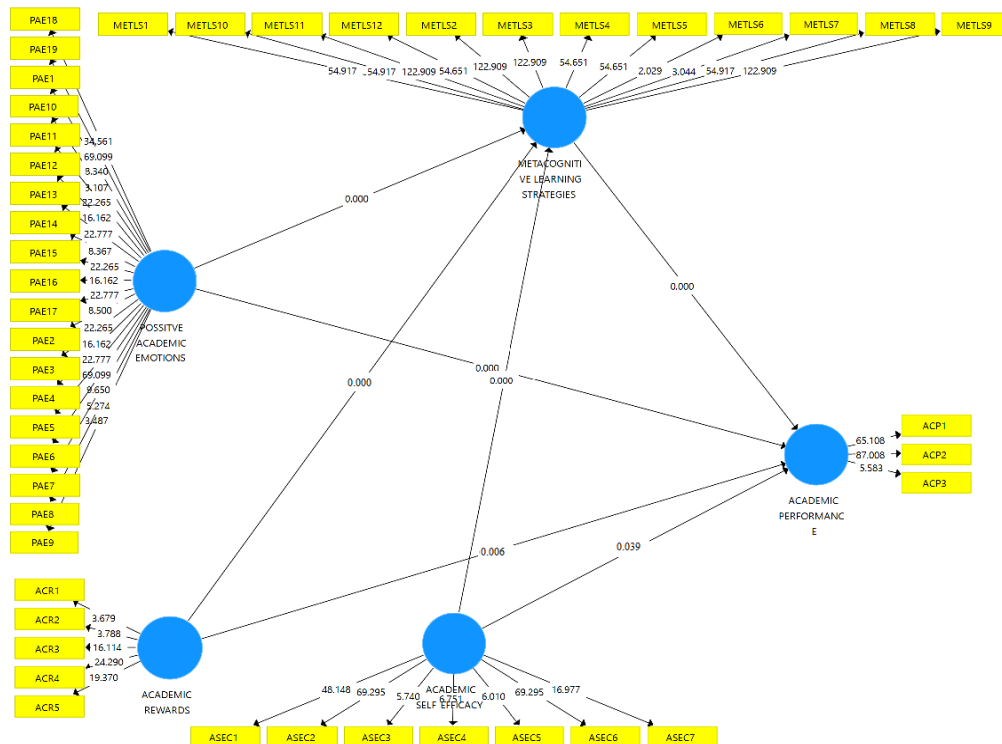

Figure.2: *Structural Model Results*

Discussion

The purpose of this study was to examine the mediating effect of "metacognitive learning strategies" (METLS) on the relationship between university students' academic rewards (ACR), academic self-efficacy (SAE), positive academic emotions (PAE), and academic performance (ACP). For this purpose, data were collected from university students in the public sector in Iraq. The data indicate that academic ASEC has a good and significant impact on METLS. The ASEC is regarded as one of the most important predictors of METLS. The evidence reveals that despite the favorable effect of ASEC, the quality of efforts of ASEC students differs from those with low ASEC (Ngwira et al., 2017). Since ASEC students employ more METLS methods than low ASEC pupils. Previous research has shown that ASEC students are more likely to use METLS (Sen & Yilmaz, 2016; Tembo & Ngwira, 2016; Ziegler & Opdenakker, 2018). On the other hand, it was discovered that PAE has a considerable and favorable influence on ACP. Specifically, the PVT supported that PAE also influences the utilization of METLS (Pekrun et al., 2007), which could aid in boosting ACP. Numerous investigations further corroborate these findings (King & Chen, 2019; Ngwira et al., 2018). The results also indicate that PAE has a beneficial and significant impact on ACP. This demonstrates that PAE is a significant predictor for the ACP, as validated by earlier research. This is consistent with other research findings (Ahmed et al., 2013; Pekrun et al., 2014). On the other side, it was discovered that ACR also has a positive and statistically significant effect on ACP, indicating that when ACR is increased, so is student performance. Various research provides more evidence for these results (Abernathy & Vineyard, 2001; Davis et al., 2006).

In addition, this study indicated a significant relationship between METLS techniques and ACP. Scholars opined that students that employ more effective METLS strategies had more robust study plans, a better understanding of the material, a willingness to confront challenges, and a commitment to learning thoroughly (Pintrich, 1999). Based on these results, theoretical and practical research (Pintrich, 2003; Schunk & Ertmer, 2000; Zimmerman, 1990) has decisively proven the significance of METLS ACP for students. In addition, PCVT stated that emotions could affect an individual's ACP by influencing specific mediating components, including "academic motivation, memory, and cognitive and metacognitive sources" (Pekrun & Perry, 2014). According to Pekrun and Perry (2014), PAE is involved in virtually every aspect of the teaching and learning process because PAE related to learning can affect student performance through congenital actions. Meinhardt and Pekrun (2003) further emphasized that student performance is continuously accompanied by emotions that can exert additional influence. Therefore, this study also examined the effect of mediation.

The significant indirect influence of PAE on the students' ACP demonstrates that METLS approaches mediated the relationship between the students' ACR, PAE, and ACP, as indicated by the substantial indirect influence of PAE on the students' ACP. This conclusion is consistent with findings from other investigations (Mega, Ronconi, & De Beni, 2014; Pekrun et al., 2002). Moreover, according to PCVT, emotions may influence an individual's ACP through their influence on specific mediating factors, such as METLS (Artino Jr et al., 2012). Specifically, King and Chen (2019) found a positive and significant relationship between positive emotions and METLS approaches. Students who experience positive emotions during the learning process are more likely to use flexible, complex, and self-regulatory learning strategies; in general, emotions boost engagement, and the use of deeper processing strategies results in enhanced performance (Pekrun et al., 2002). Consequently, positive emotions alone are insufficient to guarantee academic success; METLS approaches are also crucial.

Conclusion and Future Research

The research design was based on five variables: perceived academic self-efficacy (PSE), positive academic emotions (PAE), academic rewards (ACR), and metacognitive learning strategies (METLS), as well as student's academic achievement (SCP). Students who believed in their abilities and demonstrated more positive emotions made greater use of METLS strategies, resulting in enhanced ACP. This study provides broad evidence of the direct and indirect effects of ASEC and PAE on the ACP of university students; it also supports the PVCVT and other research in this sector. Despite the substantial strength of the study, the research has some limitations that could lead to the development of a new field of study in the future. As this quantitative study employs a cross-sectional strategy, future studies could investigate longitudinal research designs or cause-and-effect relationships between variables. This might also be investigated in other developed nations to strengthen the

research findings, as Iraq is a developing nation with limited applicability to other developed countries. The research was conducted on three exogenous variables that affected the ACP via the METLS mediating effect; however, numerous other exogenous or moderating variables, such as university culture or gender, could boost the predictive significance of the study.

Contributions

Pupils' academic self-efficacy is affected by competitive and stressful circumstances; teachers can encourage positive feelings in their students by delivering positive and facilitating feedback rather than engaging in competitive class discussions. Since the children love learning and have confidence that they will do well in school due to the teacher's excitement, positive feedback on success, teamwork, and a sense of belonging, these factors benefit the students. Students might experience beneficial emotions such as "joy, pride, and optimism" when they think positively about their educational environment and surroundings, enhancing their academic performance. In addition, providing kids with a sense of independence and respect will encourage them to acknowledge classroom participation and study, which may result in teachers being more involved, students being more interested in school, and using resources to help students learn more. Moreover, indirect influences can affect academic attitudes. In the classroom, for instance, instruction quality can directly affect "students' dominance, perceived academic control, and ASEC," which have indirect consequences on their emotions. Thus, classroom behavior, expressed feelings, and the quality of instructors' education can impact students' learning, which can play a key part in enhancing students' positive emotions and sense of competence. The research could also contribute to the existing literature body by yielding noteworthy findings that could be used to advance future research.

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