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## The Mediating Role of Self-Esteem in the Relationship between Psychological Capital, Academic Engagement, and Academic Procrastination with Academic Performance among Students in Al-Diwaniyah, Iraq

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### ABSTRACT

**Purpose:** The aim of the present study was to investigate the mediating role of self-esteem in the relationship between psychological capital, academic engagement, and academic procrastination with academic performance among high school students in Al-Diwaniyah, Iraq.

**Methodology:** The research method was descriptive-correlational with a structural equation modeling design. Among the students of Al-Diwaniyah schools in the first semester of the 2023-2024 academic year, 250 were randomly selected using multi-stage cluster sampling, of which 194 completed the questionnaires. Data were collected using the Academic Performance Questionnaire (Pham & Taylor, 1990), the Academic Procrastination Questionnaire (Solomon & Rothblum, 1984), the Academic Engagement Questionnaire (Fredricks et al., 2004), the Psychological Capital Questionnaire (Nguyen et al., 2012), and the Rosenberg Self-Esteem Scale (Rosenberg, 1965), and analyzed using SPSS version 26 and AMOS version 24.

**Findings:** The findings showed that there is a significant positive relationship between psychological capital and academic engagement with self-esteem and academic performance, and between self-esteem and academic performance ( $p < .01$ ). Additionally, academic procrastination has a significant negative relationship with self-esteem and academic performance ( $p < .01$ ). Furthermore, self-esteem partially mediates the relationship between psychological capital, academic engagement, and academic procrastination with academic performance.

**Conclusion:** Based on the findings of this study, it can be concluded that fostering self-esteem through the development of psychological capital and effective academic strategies can lead to improved academic performance.

**Keywords:** *academic engagement, academic procrastination, psychological capital, self-esteem, academic performance, Al-Diwaniyah, Iraq.*

## 1. Introduction

Education provides adolescents with a significant opportunity for growth, development, and progress in life (Sparfeldt & Schwabe, 2024). This opportunity must be utilized with commitment and motivation from the adolescents themselves to build their future as successful and responsible individuals in society. Academic performance is crucial for the success, well-being, and flourishing of students, their families, the economy, and society as a whole (Enayati Shabkolai et al., 2023; Martínez et al., 2019). Therefore, high academic performance among students is one of the important goals of the educational system. Researchers aim to identify factors affecting learners' academic performance and apply them in educational settings (Yang et al., 2023). Academic performance should be organized and directed to enhance growth and learning in learners (da Costa Júnior et al., 2024). Academic performance encompasses all activities and efforts an individual undertakes to acquire knowledge and pass through various educational stages in educational centers (Tisocco & Liporace, 2023). It is defined by the degree and level of success an individual achieves in end-of-term school exams, measured from zero to twenty, represented by the average score (Carmona-Halty et al., 2022). According to school counselors in the Kurdistan region of Iraq, most students exhibit low academic performance, with only 4 to 6 students per class succeeding in all areas, while 5 to 7 students fail in all areas. Students face numerous problems and are often discouraged, not seeking help from anyone (Abbasi et al., 2015), leading to academic procrastination, which can impact academic performance (Kuftyak, 2022).

Procrastination, in its simplest form, is delaying tasks and putting them off (Sparfeldt & Schwabe, 2024). It means that the individual postpones essential tasks and opts for less critical activities (Yang et al., 2023). In other words, individuals prioritize tasks that are more enjoyable or less burdensome, independent of their actual importance and urgency (Kuftyak, 2022). One of the roots of procrastination may be what Freud called the pleasure principle (Tisocco & Liporace, 2023). Humans, instead of considering the long-term effects of their decisions and behaviors, instinctively prefer to engage in pleasurable activities and avoid painful ones (Parwez et al., 2023). Procrastination becomes a serious behavioral problem when it reduces efficiency, occurs in essential tasks, and generally delays activities (Goroshit & Hen, 2021). Negative consequences of procrastination include reduced productive output and efficiency (Klassen et

al., 2010; Salguero-Pazos & Reyes-de-Cózar, 2023). Academic engagement is another variable that can influence academic performance (Mahler et al., 2018). Academic engagement is a critical area of study in educational research. It is a multidimensional construct comprising behavioral, cognitive, and emotional components (Acosta-Gonzaga, 2023). Behavioral engagement refers to participation in education, activities such as attention, voluntary participation, positive performance, and school involvement (Singh et al., 2021). Emotional engagement includes emotional attitudes toward school and adaptation to it, and a sense of belonging to school. Cognitive engagement consists of self-regulation, valuing learning, personal goals, self-direction, access to education, and the use of metacognitive strategies (Barghi Irani et al., 2020; Gumasing et al., 2022; Martínez et al., 2019). Research findings show a positive relationship between academic engagement and the quality of learning and academic progress (Mahler et al., 2018). Academic engagement is crucial for learning, retention, recall, performance, continuity of learned materials, experimentation, progress, and student success, relating to both sociology and psychology (Barghi Irani et al., 2020). Researchers discuss academic engagement from different perspectives. It is defined in contrast to academic burnout, encompassing behavioral involvement like effort; emotional involvement, such as high levels of desire with low anxiety and fatigue; cognitive involvement, like the use of learning and self-regulation strategies; and agentic participation, meaning the conscious effort to enrich the learning experience (Li et al., 2018; Orth & Robins, 2022; Ram & Esmaili Shad, 2018). Psychological capital during education helps foster engagement and reduce procrastination, positively impacting academic progress (Hidayah & Mu'awanah, 2020).

In positive psychology, internal personal psychological resources or strengths are conceptualized as psychological capital (Mahdian et al., 2021; Sadat Mousavi & Ebrahimi, 2024). Psychological capital refers to a set of resources that an individual can use to enhance their work performance and success. It includes four components: self-efficacy, optimism, hope, and resilience (Carmona-Halty et al., 2022). Positive psychological strengths like resilience and hope help individuals cope with emerging challenges and promote mental health and well-being (Amini et al., 2020; Mohammadi et al., 2021; Saadati & Parsakia, 2023). Psychological capital contributes to perseverance in achieving goals and changing paths when necessary (hope),

creating positive attributions about the present and future (optimism), persistence and recovery from adversity (resilience), and having confidence in the ability to succeed in challenging tasks (efficacy) (Prasath et al., 2022). Psychological capital, as a positive psychological parameter, along with academic engagement in its various cognitive, behavioral, and emotional dimensions, is considered a critical factor in learners' education, determining academic progress (Carmona-Halty et al., 2022). The presence of psychological capital and academic engagement affects procrastination and enhances self-esteem, positively impacting academic achievement (Hidayah & Mu'awanah, 2020). Additionally, low self-esteem is a variable that hinders engagement in the educational process and increases procrastination (Salguero-Pazos & Reyes-de-Cózar, 2023).

Self-esteem is a comprehensive evaluation of positive and negative self-assessments. Individuals with high self-esteem are more active, optimistic, and socially engaged than those with low self-esteem (Orth & Robins, 2022). During education, building self-esteem is essential for overcoming difficulties and creating a positive self-image (Turki et al., 2023). Self-esteem is a primary indicator of how students evaluate themselves, and the relationship between self-esteem and academic achievement has been examined and confirmed in various studies (Li et al., 2018). Success and failure in academic life significantly impact students' self-perception, with those experiencing frequent academic failure likely developing negative feelings about themselves, whereas those who succeed tend to develop positive self-views. Academic achievement is often closely linked to self-esteem (Saeed et al., 2023).

In the research by Ren et al. (2023), the relationship between procrastination and self-esteem was examined and confirmed (Ren et al., 2023). Student procrastination may reflect their self-worth, leading them to avoid tasks to preserve self-value in the event of potential failure (Roshanzadeh et al., 2021). They avoid tasks to maintain self-worth (Li et al., 2018). Additionally, it has been shown that there is a significant positive relationship between self-esteem and psychological capital (Li et al., 2018).

Therefore, given the above, this study aims to investigate the mediating role of self-esteem in the relationship between psychological capital, academic engagement, and academic procrastination with academic performance among students in Al-Diwaniyah, Iraq.

## 2. Methods and Materials

### 2.1. Study Design and Participants

This study is applied in terms of its objective and quantitative in terms of its execution, utilizing a descriptive-correlational research method with a structural equation modeling design. The statistical population included all high school students in Al-Diwaniyah, Iraq, during the first semester of the 2023-2024 academic year. After obtaining permission from the Directorate of Education and Culture of Al-Diwaniyah Province, a list of schools in Al-Diwaniyah was prepared. Using multi-stage cluster random sampling, five schools were selected. Among all ongoing classes in these schools, 12 classes were chosen, encompassing 250 students, forming the research sample. After distributing the research questionnaires in these classes, 194 completed questionnaires were analyzed. The utilized questionnaires are described below. All questionnaires were translated and back-translated from Persian to Arabic by a psychologist fluent in Arabic and then back to Persian by an Arabic language expert. Differences were corrected before implementation.

### 2.2. Measures

#### 2.2.1. Academic Performance

The Academic Performance Questionnaire by Pham and Taylor (1990), with 48 items on a 5-point Likert scale (never to always), was used. It includes five subscales: self-efficacy, emotional impacts, planning, lack of outcome control, and motivation. Items 8, 23, 26, and 33 are reverse-scored, and item 7 is not scored. In the research by Dorta (2004) and Moradian (2013), the Cronbach's alpha for the entire questionnaire was 0.74 and 0.82, respectively, and in the present study, it was 0.742 (Amini et al., 2020).

#### 2.2.2. Academic Procrastination

The Academic Procrastination Scale by Solomon and Rothblum (1984), with 21 main items and 6 additional items measuring discomfort from procrastination and the desire to change the habit, was used. This scale is on a 5-point Likert scale (never = 1 to always = 5) and includes three subscales: preparation for exams (1-8), preparation for assignments (9-19), and preparation for end-of-term papers (20-27). Jokar and Delavarpur (2007) reported a Cronbach's alpha of 0.91 for the entire scale, and Zarqoui-Pour et al. (2022) reported a reliability of 0.85 using Cronbach's alpha, while the present study obtained 0.760 (Turki et al., 2023).



### 2.2.3. Academic Engagement

The Academic Engagement Scale by Fredricks, Blumenfeld, and Paris (2004), with 15 items on a 5-point Likert scale (very little = 1 to very much = 5), was used. It includes subscales for behavioral engagement (1-4), emotional engagement (5-10), and cognitive engagement (11-15). Abbas et al. (2015) reported a Cronbach's alpha of 0.66, while the present study obtained 0.747 (Abbasi et al., 2015).

### 2.2.4. Psychological Capital

The Psychological Capital Questionnaire by Nguyen, Trang, and Nguyen (2012), with 13 items including four subscales: hope, resilience, optimism, and self-efficacy, was used. This scale is on a 6-point Likert scale (strongly disagree = 1 to strongly agree = 6). Mehdad and Sajadi (2019) reported a Cronbach's alpha of 0.87, while the present study obtained 0.915 (Amini et al., 2020).

### 2.2.5. Self-Esteem

The Rosenberg Self-Esteem Scale (1965), with 10 items on a 4-point Likert scale (strongly disagree = 0 to strongly agree = 3, for the first five items and reverse-scored for the remaining), was used. The Cronbach's alpha and test-retest

reliability reported by the original authors were 0.93 and 0.85, respectively. Rajabi and Behloul (2007) reported a Cronbach's alpha of 0.84, while the present study obtained 0.770 (Roshanzadeh et al., 2021).

### 2.3. Data Analysis

The collected responses were entered into SPSS version 26, and descriptive statistics, including central tendency and dispersion indices (mean, median, standard deviation, cumulative percentage of groups), were calculated. Inferential statistical calculations were performed using correlation and path analysis tests in AMOS version 24.

## 3. Findings and Results

Of the total sample of 194 participants, the fathers of most individuals had education levels of high school diploma and bachelor's degree, with 89 and 80 individuals respectively (equivalent to 45.9% and 41.2%). The mothers of most individuals had education levels of bachelor's degree and high school diploma, with 140 and 37 individuals respectively (equivalent to 72.2% and 19.1%). Table 1 presents the relationship between psychological capital, academic engagement, academic procrastination, self-esteem, and academic performance.

**Table 1**

*Relationship between Self-Esteem, Psychological Capital, Academic Engagement, Academic Procrastination, and Academic Performance*

Variable	Academic Performance		Self-Esteem
	r		p
Psychological Capital	.355		.000
Academic Engagement	.581		.000
Academic Procrastination	-.288		.000
Self-Esteem	1.000		.000

As shown in Table 1, the variable of psychological capital has a significant direct relationship with self-esteem and academic performance ( $p < .01$ ). The variable of academic engagement also has a significant direct relationship with self-esteem and academic performance ( $p < .01$ ). The variable of academic procrastination has a significant inverse relationship with self-esteem and academic performance ( $p < .01$ ). There is a significant direct relationship between self-esteem and academic performance ( $p < .01$ ).

Figure 1 presents the mediation model of self-esteem in the relationship between psychological capital, academic

engagement, academic procrastination, and academic performance. Table 2 shows the results of the mediation model for the mediating role of self-esteem in the relationship between psychological capital, academic engagement, academic procrastination, and academic performance.

According to the results of, the development of the Internet of Things in schools based on future studies according to academic and organizational experts from the Tehran education sector had 26 components in 7 dimensions including elimination of time limits, elimination of space limits, reduction of infrastructure costs, knowledge

management, professional competence, information technology, and educational system effectiveness. Therefore, the results of the dimensions and number of components of the development of the Internet of Things in

schools based on future studies according to academic and organizational experts from the Tehran education sector are presented in Table 2.

Figure 1

Mediation Model of Self-Esteem in the Relationship between Psychological Capital, Academic Engagement, Academic Procrastination, and Academic Performance

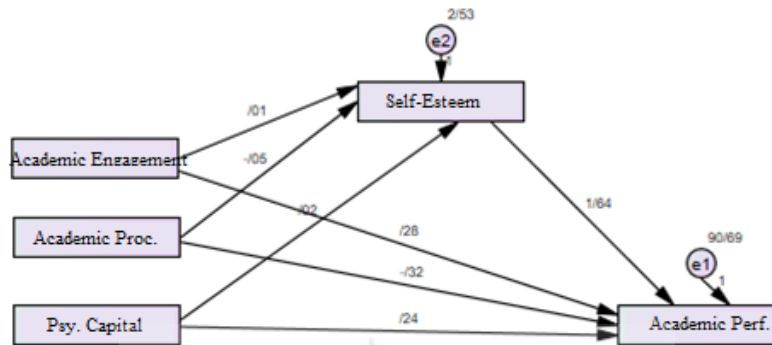


Table 2

Results of the Mediation Model of Self-Esteem in the Relationship between Psychological Capital, Academic Engagement, Academic Procrastination, and Academic Performance

Relationships	Direct Effect (Estimate)	Confidence Interval (Direct)	Indirect Effect (Estimate)	Confidence Interval (Indirect)	S.E.	C.R.	p	Result
Procrastination -> Self-Esteem	-0.046	-0.064 to -0.034	-0.046	-0.064 to -0.034	0.007	-6.404	.000	Partial Mediation
Psychological Capital -> Self-Esteem	0.021	0.006 to 0.038	0.021	0.006 to 0.038	0.009	2.448	.014	Partial Mediation
Academic Engagement -> Self-Esteem	0.010	0.006 to 0.014	0.010	0.006 to 0.014	0.003	3.202	.001	Partial Mediation
Self-Esteem -> Academic Performance	1.640	0.841 to 2.225	1.640	0.841 to 2.225	0.304	5.393	.000	Partial Mediation
Psychological Capital -> Academic Performance	0.239	0.117 to 0.385	0.239	0.117 to 0.385	0.053	4.505	.000	Partial Mediation
Procrastination -> Academic Performance	-0.323	-0.458 to -0.207	-0.323	-0.458 to -0.207	0.046	-7.077	.000	Partial Mediation
Academic Engagement -> Academic Performance	0.281	0.234 to 0.319	0.281	0.234 to 0.319	0.018	15.458	.000	Partial Mediation

As shown in Table 2, the direct effect of procrastination (B = -0.046, t = -6.404, p < .01), psychological capital (B = 0.021, t = 2.448, p < .05), and engagement (B = 0.010, t = 3.202, p < .01) on self-esteem was significant. The direct effect of self-esteem (B = 1.640, t = 5.393, p < .01), psychological capital (B = 0.239, t = 4.505, p < .01), procrastination (B = -0.323, t = -7.077, p < .01), and academic engagement (B = 0.281, t = 15.458, p < .01) on academic performance was significant.

The indirect effect of psychological capital (b = -0.035, p = .009), procrastination (b = -0.076, p = .001), and academic engagement (b = -0.016, p = .000) on academic performance was significant. Thus, it was identified that self-esteem partially mediates the relationship between psychological capital, academic engagement, academic procrastination, and academic performance.

#### 4. Discussion and Conclusion

This study aimed to determine the mediating role of self-esteem in the relationship between psychological capital, academic engagement, and academic procrastination with the academic performance of students in Al-Diwaniyah, Iraq. The results showed a significant inverse relationship between procrastination and academic performance. Consistent with the findings of this study, prior studies (Goroshit & Hen, 2021; Kuftyak, 2022; Salguero-Pazos & Reyes-de-Cózar, 2023; Turki et al., 2023) found an inverse relationship between procrastination and academic performance. This finding can be explained by stating that procrastination in completing assignments, leading to incomplete tasks or tasks completed in a shorter time with more stress, reduces academic performance, causing tasks to be done inadequately and deep learning not to occur. Academic procrastination, or the lack of focus and sufficient effort to complete school and academic tasks, can have detrimental effects on students' academic performance. This relationship can manifest in several ways, including a cycle of poor performance, impacts on self-efficacy, reduced engagement in learning, strained relationships with teachers, and inability to reach full potential. In summary, the relationship between academic procrastination and students' academic performance is multifaceted and interconnected. Procrastination can lead to numerous negative outcomes, including lower grades, increased stress, reduced motivation, and strained relationships with teachers (Klassen et al., 2010; Kuftyak, 2022). Overall, academic procrastination can create a negative pattern in an individual's academic life, significantly affecting their performance and academic success.

Another finding of this study was that there is a significant inverse relationship between academic procrastination and self-esteem. Consistent with these findings, researchers (Ren et al., 2023; Roshanzadeh et al., 2021; Turki et al., 2023; Yang et al., 2023) also found an inverse relationship between procrastination and self-esteem. Students who procrastinate and continuously delay their tasks, experiencing negative outcomes (such as poor grades), gradually feel inadequate, and their self-esteem decreases. Procrastination leads to rushed work, lower quality results, and increased stress, which can lead to failure and affect self-esteem. The cycle of procrastination and incomplete tasks can damage self-esteem over time. Procrastination occurs in two forms. Active procrastination is associated with a sense of control over time and emotional

stability, but it sometimes leads to unexpected results and failure. On the other hand, passive procrastination is a self-destructive process in which failure to complete tasks and meet deadlines occurs due to self-doubt, anxiety, and distress, usually resulting in failure. Each failure experience damages self-esteem (Parvez et al., 2023).

The variable of psychological capital has a significant direct relationship with academic performance. In the study by Amini et al. (2019), consistent with the findings of this study, psychological capital had an effect on academic performance (Amini et al., 2020). Martinez et al. (2019) also identified psychological capital as a complete mediator of the relationship between engagement and academic performance, having an indirect effect on academic performance. Students with high psychological capital are likely to have long-term goals and a vision for their future. They view challenges and failures as temporary obstacles. This perspective encourages perseverance and determination to achieve high academic performance. They persist during tough times and eventually reach their academic goals (Martínez et al., 2019). Ultimately, psychological capital and academic performance create a positive feedback loop. As students experience success in their academic endeavors, their levels of hope, efficacy, resilience, and optimism are reinforced. This, in turn, increases their motivation, engagement, and perseverance in their studies. As this cycle continues, students achieve higher levels of academic performance, creating a self-reinforcing pattern of success.

Academic engagement has a significant relationship with self-esteem. In the search conducted, no research specifically examining the effect of academic engagement on self-esteem was found, but the relationship between these two variables has been explored. In the study by Acosta-Gonzaga (2023), self-esteem affected students' engagement. One of the features of higher engagement is persistence in facing problems, which an individual with low self-esteem cannot handle. Additionally, lower self-efficacy and negative self-assessment lead to fear and avoidance of engaging with tasks. The relationship between academic engagement and self-esteem can be explained by stating that academic engagement is closely related to self-esteem through a sense of competence. When students believe in their abilities, they become engaged, and the belief in competence helps create higher self-esteem, as they see themselves as capable and competent learners. Engagement that leads to persistence and effort results in a sense of success and self-esteem (Acosta-Gonzaga, 2023). This positive reinforcement of success increases self-esteem and

confidence in their abilities. Academic engagement is associated with an internal locus of control, and students with an internal locus of control take responsibility for their learning and actively participate in their studies. Joy, curiosity, and interest in the learning process resulting from academic engagement, along with a sense of control and autonomy, contribute to higher self-esteem (Singh et al., 2021).

Self-esteem partially mediates the relationship between psychological capital, academic engagement, academic procrastination, and academic performance. Ren et al. (2023) also showed that self-esteem mediated the relationship between physical activity (sports performance) and academic procrastination (Ren et al., 2023). As previously mentioned, each of the variables of psychological capital, procrastination, and academic engagement directly affects academic performance. In addition to the direct effect of these variables, they can indirectly affect academic performance through their impact on self-esteem. Self-esteem, as mentioned earlier, has a direct effect on academic performance. Thus, part of the effect of psychological capital, procrastination, and academic engagement on academic performance is direct, and another part is through their impact on self-esteem.

In summary, self-esteem plays a crucial mediating role in the relationships between psychological capital, engagement, procrastination, and academic performance. Self-esteem influences how individuals perceive and respond to academic challenges, shaping their motivation, behavior, and ultimately their academic outcomes. Therefore, fostering self-esteem through the development of psychological capital and effective academic strategies can lead to improved academic performance.

It should be noted that this research has limitations that must be considered when generalizing and interpreting the results. The first limitation is that this study was conducted on high school students in the city of Al-Diwaniyah, Iraq. Thus, caution should be exercised when generalizing the results to other populations or educational levels. To address this limitation, it is necessary to conduct this study on high school students in other cities of Iraq, to gather more evidence for generalizing the results. Additionally, the relationships between the research variables were examined without considering demographic characteristics such as age and gender, which should be included as potential moderating variables in future studies. Finally, it is recommended to education officials and policymakers in Iraq to prioritize the development and implementation of

intervention programs aimed at increasing psychological capital, academic engagement, reducing procrastination, and improving self-esteem using the services of psychologists and educational counselors to enhance academic performance and the efficiency of the education system.

### Authors' Contributions

The first author was responsible for conducting the interview and collecting data, and the other authors were responsible for analyzing the data and writing the 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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### Ethics 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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