

Impact of Psychological Capital on Students' Academic Achievement: Using Academic Resilience as a Mediator with PLS-SEM

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Abstract

This study examines the effect of psychological capital on academic performance and the mediating role of academic resilience among university students, addressing an underexplored psychological mechanism in higher education. Using a quantitative explanatory design, data were collected from 320 active undergraduate students in Semarang City, Indonesia, via purposive sampling and a five-point Likert-scale questionnaire, and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. Results show that psychological capital has no significant direct effect on academic performance ($\beta = -0.021$, $p = 0.707$), while academic resilience significantly and positively affects academic performance ($\beta = 0.758$, $p = 0.000$), and psychological capital significantly and positively affects academic resilience ($\beta = 0.632$, $p = 0.000$). Academic resilience fully mediates the relationship between psychological capital and academic performance (indirect effect = 0.479, $p = 0.000$), indicating that psychological capital enhances academic performance indirectly rather than directly. This study clarifies the psychological mechanism linking positive psychological resources to academic outcomes and offers practical implications for resilience-based student development programs in higher education.

Keywords: *Psychological Capital, Academic Resilience, Academic Performance*

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INTRODUCTION

From a Human Resource Management (HRM) perspective, university students represent human capital under development, whose academic outcomes will shape the quality of the future workforce. Although access to higher education in Indonesia has expanded, data from Badan Pusat Statistik (2023) indicate that this expansion has not been consistently accompanied by improvements in human resource output quality, pointing to a persistent gap between the quantity and quality of graduates produced by higher education institutions. This gap is compounded by the academic pressures students face during their studies; Zamroni (2019) reports that the majority of Indonesian university students experience high levels of academic stress, which may hinder their capacity to perform optimally.

This gap suggests that students' academic performance is not determined by cognitive capacity alone. Putri et al. (2022) found that psychological factors have a complex relationship with academic achievement, indicating that an approach based solely on intellectual capacity is insufficient to explain individual performance. From an HRM standpoint, this points to inefficiencies in the utilization of human potential, where individuals with adequate cognitive capacity do not necessarily translate that capacity into optimal performance outcomes. One construct that has gained traction in explaining this gap is psychological capital (PsyCap), derived from positive organizational behavior research. PsyCap comprises four dimensions : self-efficacy, optimism, hope, and resilience and has been shown to enhance individual productivity and motivation (Luthans et al., 2007). In the educational context, PsyCap is regarded as an internal resource that helps students overcome academic obstacles and improve learning performance.

Recent international studies confirm the relevance of PsyCap to academic outcomes, but also reveal that this relationship is not straightforward. In a systematic review, Li et al. (2023) found that psychological capital contributes to academic performance, student well-being, and learning engagement. King et al. (2023) further showed that psychological capital improves academic performance through specific psychological mechanisms, such as student engagement, rather than through a direct pathway. Consistent with this, Hassan et al. (2023) found that the effect of psychological capital on academic achievement is frequently contingent on other factors, such as social support and academic adaptability. Collectively, these findings suggest that the relationship between psychological capital and academic performance is indirect and context-dependent, warranting a more comprehensive structural model that accounts for the mechanism through which psychological capital operates.

Academic resilience is a construct particularly relevant to this mechanism. It refers to a student's capacity to withstand, adapt to, and recover from academic challenges (Cassidy, 2016). From an HRM perspective, resilience can be understood as a form of adaptive capacity that enables individuals to remain productive under adverse conditions. Cassidy (2016) further shows that students with higher academic resilience tend to perform better academically even when confronted with significant challenges, positioning academic resilience as a plausible mechanism linking psychological capital to academic performance.

Despite this evidence, at least three gaps justify the present study. First, most Indonesian studies examining psychological variables and academic performance have tested direct relationships without accounting for underlying mediating mechanisms (Putri et al., 2022). Second, structural models that integrate psychological capital and academic resilience within a single framework particularly in the context of students viewed as future human resources remain limited. Third, local contexts, such as university students in Semarang City,

have rarely been examined, despite evidence that social and academic environments shape students' psychological processes (Marfuatunnisa & Sandjaja, 2023). Together, these gaps point to a discrepancy between the empirical phenomenon of student psychological strain and the theoretical models available to explain it within this context.

Building on these gaps, this study contributes to the literature by examining academic resilience as a mediating variable in the relationship between psychological capital and academic performance, framed from an HRM perspective and tested using PLS-SEM. In doing so, this study extends prior research by explaining not only whether psychological capital relates to academic performance, but also the psychological mechanism through which this relationship occurs.

This research carries practical urgency for human resource development in higher education. By clarifying the roles of psychological capital and academic resilience, the findings of this study can inform interventions that strengthen students' psychological capacity, contributing to improved academic performance and better preparedness for future workforce demands (Luthans et al., 2007).

THEORITICAL REVIEW AND HYPOTHESIS DEVELOPMENT

Theory of Psychological Capital

Psychological capital (PsyCap) is a person's positive psychological state, comprising four primary components: self-efficacy, optimism, hope, and resilience (Luthans, Youssef, & Avolio, 2007). Luthans et al. (2007) define psychological capital as a positive psychological state characterized by confidence in successfully completing challenging tasks (self-efficacy), positive attribution about succeeding now and in the future (optimism), persevering toward goals and, when necessary, redirecting paths to goals (hope), and the capacity to bounce back from adversity to attain success (resilience).

According to Carmona-Halty, Schaufeli, and Salanova (2019), psychological capital functions as a psychological resource in the educational setting that helps students manage a variety of academic demands. Liran and Miller (2019) found that students with high levels of psychological capital are more confident in their ability to complete assignments, more motivated to learn, and more likely to persevere in the face of academic challenges. Numerous studies have demonstrated the beneficial effects of psychological capital on students' academic achievement, psychological well-being, academic satisfaction, and learning engagement (Datu & Valdez, 2019; Ortega-Maldonado & Salanova, 2018).

Theory of Academic Resilience

Academic resilience is a student's capacity to adjust, endure, and recover from a variety of academic challenges (Martin & Marsh, 2006). It refers to a person's ability to continue performing well academically in the face of stress, difficulty, or failure during the learning process (Cassidy, 2016). Students with high academic resilience are better able to manage academic stress, overcome failure, and remain motivated to learn under difficult circumstances, partly through their capacity to employ effective coping strategies (Cassidy, 2016). From an HRM perspective, academic resilience can be viewed as a form of adaptive capacity that enables individuals to remain productive under adverse conditions, positioning it as an essential component of students' long-term academic performance (Hartley, 2011).

Theory of Academic Performance

Academic performance is the degree to which students achieve the learning objectives and academic standards established by their educational institutions (York, Gibson, & Rankin, 2015), typically assessed through Grade Point Average (GPA), test scores, and other learning evaluation outcomes (Richardson, Abraham, & Bond, 2012). Academic performance is shaped by both internal factors such as cognitive ability, learning motivation, self-efficacy, and psychological condition and external factors, including social support, the learning environment, and the quality of the learning process (Richardson et al., 2012). Recent studies indicate that positive psychological resources can significantly improve students' academic performance (Salanova, Martínez, Bresó, Llorens, & Grau, 2005).

Impact of Psychological Capital to Academic Performance

Psychological capital is a psychological resource that can enhance motivation, optimism, and self-confidence, thereby improving individual performance (Luthans et al., 2007). In educational settings, individuals with high psychological capital are typically better equipped to overcome academic obstacles and meet learning objectives (Carmona-Halty et al., 2019). Liran and Miller (2019) found a positive correlation between psychological capital and student academic achievement, a finding corroborated by Datu and Valdez (2019), who showed that students with strong psychological capital outperformed those with low psychological capital. Based on this evidence, students with higher psychological capital are expected to achieve better academic performance.

H1: Psychological capital has a positive effect on academic performance.

Impact of Psychological Capital to Academic Resilience

Psychological capital provides students with the psychological resources needed to overcome academic obstacles. The components of hope, self-efficacy, optimism, and resilience enable students to persevere and adapt when facing learning challenges and academic pressure (Avey, Reichard, Luthans, & Mhatre, 2011). Ortega-Maldonado and Salanova (2018) found that psychological capital plays a major role in an individual's capacity to build resilience, while Datu and Valdez (2019) showed that students with high psychological capital are more likely to overcome academic setbacks and sustain their motivation to learn. Based on this evidence, psychological capital is expected to positively influence academic resilience.

H2: Psychological capital has a positive effect on academic resilience.

Impact of Academic Resilience to Academic Performance

Individuals with academic resilience are able to remain committed to their academic goals despite encountering various challenges during the learning process (Martin & Marsh, 2006). Resilient students typically possess better coping mechanisms and the capacity to convert adversity into a source of personal growth (Cassidy, 2016). Academic resilience and academic performance have been shown to be significantly correlated in prior studies (Hartley, 2011), and Cassidy (2016) found that students with higher academic resilience outperformed those with lower resilience. Based on this evidence, academic resilience is expected to positively influence academic performance.

H3: Academic resilience has a positive effect on academic performance.

The Mediating Role of Academic Resilience in the Relationship Between Psychological Capital and Academic Performance

Although psychological capital is theorized to enhance academic performance, its influence may operate less through a direct pathway and more through the psychological mechanisms it activates in students (Luthans et al., 2007). Academic resilience is a particularly plausible mechanism in this regard, as students with strong psychological capital are typically better equipped to develop the adaptive capacities such as persistence and effective coping needed to sustain performance under academic pressure (Ortega-Maldonado & Salanova, 2018). Once developed, this adaptive capacity helps students sustain the motivation, focus, and effort required to achieve optimal academic outcomes (Cassidy, 2016). Academic resilience can therefore be theorized as the psychological process through which psychological capital translates into improved academic performance, consistent with prior evidence that resilience functions as a critical link between individual psychological resources and performance outcomes (Avey et al., 2011).

H4: Academic resilience mediates the relationship between psychological capital and academic performance.

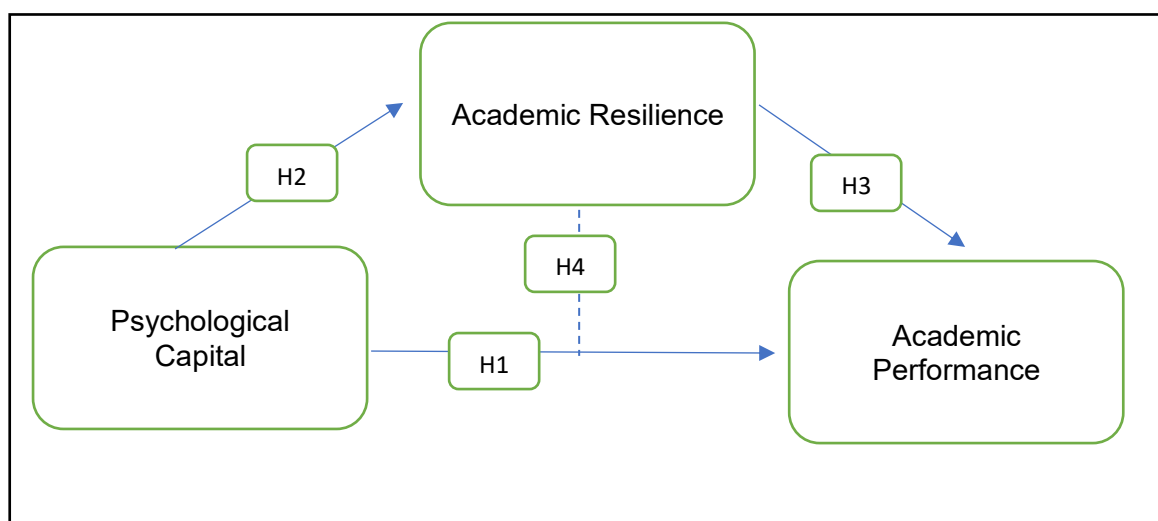


Figure 1. Framework

RESEARCH METHODS

This study employed a quantitative approach with an explanatory design to examine the causal relationships among the research variables. The population comprised active undergraduate students at universities in Semarang City, Indonesia, enrolled during even semester of the 2025/2026 academic year. Following the guideline that sample size should be at least five to ten times the number of indicators in a PLS-SEM model (Hair et al., 2021), and given a total of 34 indicators across the three constructs, a minimum sample of 170–340 respondents was required. A total of 320 valid responses were collected via an online questionnaire (Google Forms), exceeding this minimum threshold.

Respondents were selected using purposive sampling based on the following criteria: (1) currently enrolled as an active student at a university in Semarang City, (2) minimum study is 2nd semester, and (3) willingness to participate after receiving an explanation of the study's purpose and procedures. Participation was voluntary, and respondents were informed that their responses would be treated anonymously and used solely for research purposes.

The research instruments were adapted from established scales with prior validity and reliability evidence. Psychological capital was measured using 26 items adapted from covering the dimensions of self-efficacy, optimism, hope, and resilience from Luthans et. al (2007). Academic resilience was measured using 10 items adapted from Cassidy (2016), covering academic adaptation, persistence, and coping strategies. Academic performance was measured using 8 items adapted from York, Gibson, and Rankin (2015). All items were translated into Bahasa Indonesia using to ensure conceptual equivalence for the study's respondents, and were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Prior to full-scale data collection, a pilot study was conducted with 30 respondents to assess the validity and reliability of the adapted instruments. The pilot results indicated Cronbach's alpha values of [state pilot alpha values for each construct], confirming that all items met the minimum reliability threshold of 0.70 [or state and explain any items revised/dropped based on the pilot results] before the instrument was administered to the full sample.

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS version 4. The analysis proceeded in two stages. First, the measurement (outer) model was evaluated for convergent validity (outer loadings and Average Variance Extracted), discriminant validity (cross-loadings), and construct reliability (Cronbach's alpha and composite reliability). Second, the structural (inner) model was evaluated using path coefficients, the coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2) obtained through the blindfolding procedure. Prior to structural model testing, a full collinearity assessment (variance inflation factor, VIF) was conducted to assess the potential presence of common method bias, given that all constructs were measured via self-report from a single source (Kock, 2015). The significance of direct and indirect (mediation) effects was assessed using a bootstrapping procedure with 5,000 resamples.

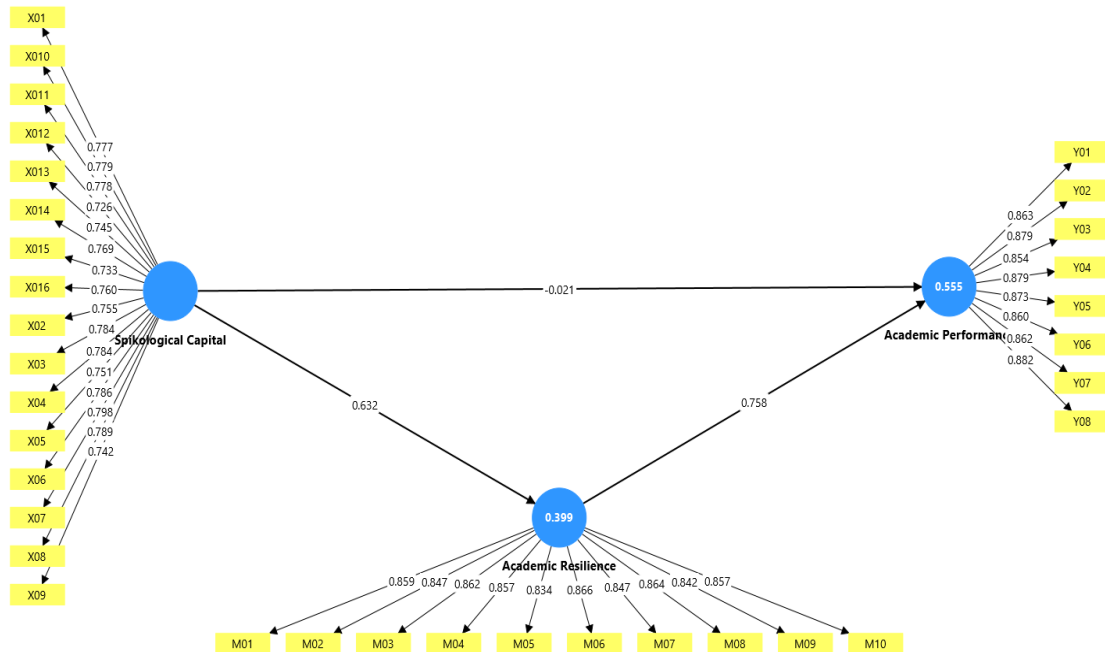
Tabel 1. Demographic participants

Usia (tahun)	Male	Female	Total
18–19	30	30	60
20–21	70	70	140
22–24	50	50	100
≥25	10	10	20
Total	160	160	320

Source : precessed data, 2026

RESULTS AND DISCUSSION

Picture 1
Model Outer



Source: Smartpls output results

The outer model diagram depicts the measurement relationship between each latent construct and its corresponding indicators in the PLS-SEM model. Psychological Capital, Academic Resilience, and Academic Performance were the three primary constructs examined in this study. As shown in the diagram, the majority of indicators exhibited loading factor values above 0.70, indicating that each indicator adequately reflects its intended latent construct. These results confirm that the measurement model demonstrates adequate convergent validity, providing a sound basis for proceeding to the evaluation of the structural model and hypothesis testing, presented in the following sections.

Table 2
Outer Model

Indicator	Psychological Capital	Academic Resilience	Academic Performance
X01	0.777		
X02	0.755		
X03	0.784		
X04	0.784		
X05	0.751		
X06	0.786		
X07	0.798		
X08	0.789		
X09	0.742		
X010	0.779		

X011	0.778	
X012	0.726	
X013	0.745	
X014	0.769	
X015	0.733	
X016	0.760	
M01		0.859
M02		0.847
M03		0.862
M04		0.857
M05		0.834
M06		0.866
M07		0.847
M08		0.864
M09		0.842
M10		0.857
Y01		0.863
Y02		0.879
Y03		0.854
Y04		0.879
Y05		0.873
Y06		0.860
Y07		0.862
Y08		0.882

Each indicator's loading factor values are displayed in the outer model table in relation to the measured latent construct. According to the analysis, most indicators match the convergent validity criteria because their loading factor values are more than 0.70. This shows that each indicator has a good correlation with its latent construct and accurately depicts the research variables. As a result, the measurement model used in this work is regarded as legitimate and appropriate for additional structural model analysis.

Table 3
Value Cross Loading

Indicator	Academic Performance	Academic Resilience	Psychological Capital
X01	0.386	0.565	0.777
X02	0.340	0.490	0.755
X03	0.358	0.494	0.784
X04	0.327	0.495	0.784
X05	0.328	0.458	0.751
X06	0.433	0.529	0.786
X07	0.364	0.492	0.798
X08	0.364	0.494	0.789
X09	0.316	0.459	0.742

X010	0.361	0.470	0.779
X011	0.384	0.474	0.778
X012	0.336	0.437	0.726
X013	0.283	0.441	0.745
X014	0.358	0.503	0.769
X015	0.296	0.418	0.733
X016	0.345	0.490	0.760
M01	0.653	0.859	0.559
M02	0.641	0.847	0.532
M03	0.666	0.862	0.534
M04	0.637	0.857	0.563
M05	0.618	0.834	0.538
M06	0.644	0.866	0.525
M07	0.653	0.847	0.526
M08	0.617	0.864	0.574
M09	0.652	0.842	0.490
M10	0.570	0.857	0.546
Y01	0.863	0.641	0.401
Y02	0.879	0.654	0.349
Y03	0.854	0.638	0.381
Y04	0.879	0.648	0.415
Y05	0.873	0.625	0.396
Y06	0.860	0.648	0.392
Y07	0.862	0.660	0.428
Y08	0.882	0.662	0.421

Discriminant validity between constructs was assessed using a cross-loading table. Each indicator had the largest loading value on the construct it measured when compared to other constructs, according to the analysis's findings. This shows that there is no overlap between the research constructs and that each indicator may effectively distinguish latent variables. As a result, the model is considered appropriate for use in additional analysis since it satisfies the requirements for discriminant validity.

Table 4
Cronbach's Alpha, Composite Reliability, AVE

Variable	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	Average Variance Extracted (AVE)
Psychological Capital	0.953	0.954	0.958	0.587
Academic Resilience	0.959	0.959	0.964	0.728
Academic Performance	0.954	0.954	0.961	0.755

The constructs' validity and reliability were assessed using Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE) tables. According to the

analysis's findings, every variable met the reliability requirements with Cronbach's Alpha and Composite Reliability values more than 0.70. Additionally, each construct's AVE value was greater than 0.50, suggesting that the variable did a good job of explaining the indicator variance. As a result, every construct used in this investigation was found to be valid and dependable for validating the structural model.

Table 5
Coefficient of determination (R^2)

Variable	R-square	R-square Adjusted
Academic Performance	0.555	0.552
Academic Resilience	0.399	0.397

The R^2 value table displays how well the independent factors in the research model explain the dependent variable. The model's capacity to explain changes in endogenous constructs increases with the R^2 value. The study's endogenous variables had R^2 values in the moderate to strong range, according to the analysis results. This suggests that fluctuations in academic performance can be largely explained by psychological capital and academic resilience. As a result, the study's structural model offers sufficient predictive power.

Table 6
Path Coefficient

Variabel	Original Sampel (O)	Sampel Mean (M)	Standar Deviation (STDEV)	T Statistics	P values
Psychological Capital -- - Academic Performance	-0.021	-0.022	0.055	0.376	0.707
Academic Resilience --- Academic Performance	0.758	0.760	0.043	17.665	0.000
Psychological Capital -- - Academic Resilience	0.632	0.635	0.028	22.300	0.000

Academic performance is positively and significantly impacted by academic resilience, according to the path coefficients ($\beta = 0.758$; $p = 0.000$). Additionally, academic resilience is positively and significantly impacted by psychological capital ($\beta = 0.632$; $p = 0.000$). However, psychological capital has a negligible direct impact on academic achievement ($\beta = -0.021$; $p = 0.707$). This implies that psychological capital improves academic performance more indirectly through academic resilience.

Tabel 7
Indirect Effect

Variabel	Original Sampel (O)	Sampel Mean (M)	Standar Deviation (STDEV)	T Statistics	P values
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Psychological Capital --- Academic Resilience --- academic Performance	0.479	0.483	0.039	12.402	0.000
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The findings of the indirect effect indicate that academic performance is indirectly impacted by psychological capital through academic resilience. This result suggests that if strong academic resilience abilities are in place, raising psychological capital can enhance academic success. Thus, the association between psychological capital and academic success is mediated by academic resilience.

Hypotheses

H1. Psychological Capital Has No Significant Direct Effect on Academic Performance

With a β value of -0.021 and a p-value of 0.707, the hypothesis testing results indicate that psychological capital does not have a statistically significant direct effect on academic performance; **H1 is therefore not supported**. This finding suggests that increases in students' psychological capital comprising self-efficacy, optimism, hope, and resilience are not directly associated with improvements in academic performance. Instead, students' academic performance appears to be more strongly influenced by their capacity to manage academic pressure and adapt to challenges through academic resilience. This finding is consistent with Liu et al. (2024), Ng et al. (2024), and Hassan et al. (2023), who similarly found that the relationship between psychological capital and academic achievement operates more effectively through mediating mechanisms related to student learning processes and psychological adjustment, rather than through a direct pathway. Therefore, within the scope of this study, psychological capital alone is insufficient to directly enhance academic performance; its effect depends on the extent to which it strengthens academic resilience.

H2. Psychological Capital Has a Significant Positive Effect on Academic Resilience

With a β value of 0.632 and a p-value of 0.000, the hypothesis testing results indicate that psychological capital has a significant and positive effect on academic resilience; **H2 is therefore supported**. This finding suggests that students with higher psychological capital are better equipped to manage academic pressure, obstacles, and setbacks. When students encounter learning challenges, the components of psychological capital—self-efficacy, hope, optimism, and resilience—support their capacity to persevere, adapt, and recover. This finding is consistent with Sultana and Abdullah (2024), Liu et al. (2024), and Xu et al. (2023), who found that students' academic resilience in managing academic stress is positively influenced by psychological capital and supportive educational environments. Furthermore, Jiang et al. (2024) and Li et al. (2023) found that students with strong psychological capital typically exhibit superior academic adaptation, mental resilience, and self-regulation compared to those with weaker psychological capital. These findings support the notion that psychological capital plays a significant role in helping students develop academic resilience.

H3. Academic Resilience Has a Significant Positive Effect on Academic Performance

With a β value of 0.758, a T-statistic of 17.665, and a p-value of 0.000, the hypothesis testing results indicate that academic resilience has a significant and positive effect on academic performance; **H3 is therefore supported**. This finding suggests that students' academic performance improves with their capacity to tolerate and adapt to academic pressure. Despite encountering numerous challenges during the learning process, academic

resilience enables students to manage stress, sustain their motivation to learn, and continue pursuing their academic goals. This finding supports Cassidy's (2016) assertion that academic resilience is positively correlated with academic achievement. Martin and Marsh (2006) similarly found that students with high academic resilience tend to exhibit greater academic accomplishment and learning engagement, while Wang et al. (2021) emphasized that academic resilience plays a major role in enhancing students' academic performance under demanding learning conditions. Morales (2008) further highlighted that resilient students are able to sustain strong academic performance despite social and academic challenges. However, Kim and Kim (2022) found that academic resilience does not always directly translate into academic achievement, particularly when students' outcomes are more heavily shaped by extrinsic factors such as social support, economic circumstances, or the learning environment suggesting that the strength of this relationship may be context-dependent.

H4. Academic Resilience can mediate the relationship between Psychological Capital and Academic Performance

The indirect effect test results (indirect effect = 0.479, T-statistic = 12.374, $p = 0.000$) confirm that academic resilience significantly mediates the relationship between psychological capital and academic performance; **H4 is therefore supported**. Given that the direct effect of psychological capital on academic performance is non-significant (H1) while the indirect effect through academic resilience is significant, this pattern corresponds to indirect-only mediation, also referred to as full mediation, according to the mediation typology proposed by (Zhao et al., 2010). This indicates that psychological capital influences academic performance entirely through the psychological mechanism of academic resilience, rather than through any direct pathway. This finding is consistent with Carmona-Halty et al. (2024), Hassan et al. (2023), and Xu et al. (2023), who similarly found that psychological capital affects academic outcomes primarily through mediating mechanisms such as academic adjustment and academic engagement. Li et al. (2023) and Jiang et al. (2024) further found that students with strong psychological capital typically develop greater academic resilience and adaptability, which in turn enables them to achieve optimal academic performance. Taken together, these findings demonstrate that academic resilience functions as the central psychological mechanism through which psychological capital translates into improved academic performance.

CONCLUSION

This study examined the relationship between psychological capital and academic performance among university students, along with the mediating role of academic resilience in this relationship. The results, obtained through Partial Least Squares Structural Equation Modeling (PLS-SEM), show that psychological capital does not have a significant direct effect on academic performance. However, psychological capital was found to have a significant positive effect on academic resilience, and academic resilience, in turn, was found to have a significant positive effect on academic performance. These findings suggest that students with high levels of self-efficacy, hope, optimism, and resilience are better equipped to confront academic challenges, which subsequently translates into improved academic performance.

Furthermore, this study found that academic resilience fully mediates the relationship between psychological capital and academic performance, corresponding to an indirect-only mediation pattern (Zhao, Lynch, & Chen, 2010). These results indicate that students' positive

psychological resources do not enhance academic performance directly; rather, they operate by first strengthening students' capacity to adapt, persevere, and recover from academic challenges, which in turn drives improved performance. This finding, showing that academic resilience is the psychological mechanism that fully explains the influence of psychological capital on academic performance, addresses the research objective stated in the introduction.

These findings carry a specific practical implication for higher education institutions: interventions aimed at strengthening students' psychological capital are unlikely to improve academic performance unless they are explicitly designed to build academic resilience as well. Rather than treating psychological capital training as a standalone intervention, universities should design student development programs—such as self-efficacy training, goal-setting workshops, and academic mentorship—with academic resilience as an explicit intermediate outcome, incorporating components such as coping-skills training, structured exposure to manageable academic setbacks, and resilience-focused counseling. Embedding these resilience-building components is essential for translating gains in students' psychological capital into measurable improvements in academic performance.

This study is subject to several limitations. First, its cross-sectional design restricts the findings to associations observed within a single time frame and precludes conclusions about how psychological capital, academic resilience, and academic performance develop or influence one another over time. Second, as all constructs were measured through self-report administered within a single questionnaire, the findings may be subject to common method variance, despite the collinearity diagnostics indicating no serious multicollinearity among the constructs. Third, the non-significant direct effect of psychological capital on academic performance suggests the possible presence of unexamined boundary conditions—such as academic self-efficacy, learning motivation, or perceived social support—that may moderate this relationship and were beyond the scope of the present model. Fourth, the findings are based on students with specific characteristics in Semarang City, Indonesia, which may limit their generalizability to students in other regions or educational contexts.

Given these limitations, future research should employ longitudinal designs to better capture the developmental dynamics among psychological capital, academic resilience, and academic performance over time. Future studies could also broaden sample coverage across educational levels and geographic regions to strengthen the generalizability of these findings, and examine additional mediating or moderating variables—such as academic engagement, learning motivation, academic self-efficacy, and perceived social support—to further clarify the boundary conditions under which psychological capital influences academic performance. Such efforts would offer more comprehensive theoretical and practical contributions to the advancement of higher education quality.

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