

ENHANCING PSYCHOLOGICAL WELL-BEING AMONG UNIVERSITY STUDENTS: RESILIENCE AND ACADEMIC SELF- REGULATION THROUGH OPTIMISM

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Abstrak

Mahasiswa pada fase emerging adulthood menghadapi berbagai tuntutan akademik dan transisi kehidupan yang berpotensi memengaruhi psychological well-being. Penelitian ini bertujuan untuk menguji peran resiliensi dan regulasi diri akademik terhadap psychological well-being mahasiswa dengan optimisme sebagai variabel mediator. Penelitian ini menggunakan desain korelasional dengan model mediasi. Subjek penelitian adalah 310 mahasiswa aktif di Indonesia dengan rentang usia 18–25 tahun, yang diperoleh menggunakan teknik non-probability sampling berupa incidental sampling. Instrumen yang digunakan meliputi Ryff's Psychological Well-Being Scale, Connor–Davidson Resilience Scale (CD-RISC 25), Self-Regulation Questionnaire (SRQ), dan Personal Optimism and Self-Efficacy Optimism Scale–Extended (POSO-E). Analisis data dilakukan menggunakan uji mediasi dengan bantuan perangkat lunak JAMOV. Hasil penelitian menunjukkan bahwa resiliensi dan regulasi diri akademik berpengaruh signifikan terhadap psychological well-being mahasiswa. Resiliensi dan regulasi diri akademik juga berpengaruh positif terhadap optimisme. Selanjutnya, optimisme terbukti memediasi secara parsial hubungan antara resiliensi dan psychological well-being, serta antara regulasi diri akademik dan psychological well-being. Temuan ini mengindikasikan bahwa mahasiswa dengan tingkat resiliensi dan regulasi diri akademik yang lebih tinggi cenderung memiliki pandangan optimis terhadap masa depan, yang pada akhirnya meningkatkan psychological well-being mereka.

Kata kunci: kesejahteraan psikologis; mahasiswa; optimisme; regulasi diri akademik; resiliensi

Abstract

Undergraduate students in the emerging adulthood phase face various academic demands and life transitions that may affect their psychological well-being. This study aimed to examine the roles of resilience and academic self-regulation in predicting students' psychological well-being, with optimism as a mediating variable. The study employed a correlational design with a mediation model. The participants were 310 active university students in Indonesia aged 18–25 years, selected using a non-probability incidental sampling technique. The instruments used included Ryff's Psychological Well-Being Scale, the Connor–Davidson Resilience Scale (CD-RISC 25), the Self-Regulation Questionnaire (SRQ), and the Personal Optimism and Self-Efficacy Optimism Scale–Extended (POSO-E). Data were analyzed using mediation analysis with the JAMOV software. The results showed that resilience and academic self-regulation had significant effects on students' psychological well-being. Both resilience and academic self-regulation also had positive effects on optimism. Furthermore, optimism was found to partially mediate the relationship between resilience and psychological well-being, as well as the relationship between academic self-regulation and psychological well-being. These findings indicate that students with higher levels of resilience and academic self-regulation tend to have a more optimistic outlook on the future, which in turn enhances their psychological well-being.

Keywords: psychological well-being; undergraduate students; optimism; academic self-regulation; resilience

INTRODUCTION

The age period of 18 to 25 years, which encompasses the majority of the university student population, is theoretically classified as emerging adulthood. The theory developed by Arnett defines this phase as a period in which adolescent identities have been relinquished, while new adult identities have not yet been fully formed or committed to (Arnett, 2000). During this stage, students are confronted with three major developmental tasks that serve as indicators of adulthood: the ability to assume responsibility, make decisions, and achieve financial independence. The university environment directly pressures students to meet these three criteria through academic demands, career choices, and personal financial management. These pressures often trigger emotional crises, anxiety, and uncertainty regarding future career and financial stability (Arini, 2021). A survey conducted by SMCCU UNESA in 2024 involving 1,219 students, as reported by Manurung (2025), found that 21.9% of students were in the high-risk group, 43.5% were in the moderate-risk group, and 34.4% were in the low-risk group for experiencing mental health problems.

Ryff (2013) defines Psychological Well-Being (PWB) as a condition in which individuals are able to function optimally through six core components: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. Numerous studies indicate that PWB plays a significant role in supporting students' academic success, with higher levels of PWB being associated with improved academic performance, critical thinking skills, and adjustment to higher education environments (Guamanga et al., 2024). Furthermore, PWB functions as a protective factor against various academic stressors, helping to reduce the risk of burnout and performance anxiety commonly experienced by university students (Li et al., 2025). In contrast, low levels of PWB are associated with increased psychological distress, mild depressive symptoms, decreased motivation, and a decline in academic performance quality (Craig et al., 2025). Empirical evidence from Indonesia also demonstrates a similar pattern, whereby students with higher levels of PWB tend to exhibit greater academic resilience and adaptive capacity, and these conditions can be enhanced through well-planned psychological interventions (Wahyuni et al., 2024).

Several factors, such as resilience, optimism, and academic self-regulation, are considered fundamental in maintaining and enhancing students' psychological well-being amid transitional pressures (Angraini & Raharjo, 2023; Valenzuela, 2020). Resilience refers to an individual's ability to recover from stress, adapt to challenges, and regain healthy psychological functioning after experiencing adversity or hardship (Connor & Davidson, 2003). This capacity is a crucial aspect in supporting students' psychological well-being, particularly in the context of complex academic demands (Angraini & Rahardjo, 2023). Students with high levels of resilience tend to manage academic stress more effectively, thereby maintaining their psychological well-being (Novianti & Alfian, 2021). Research by Saputri and Mulawarman (2022) indicates that resilience is a strong predictor of psychological well-being in both adolescents and university students. However, the role of resilience may operate more optimally when supported by positive cognitive factors such as optimism, which helps individuals interpret difficult situations in a more constructive manner (Arum & Antika, 2022).

Academic self-regulation is also positively associated with psychological well-being, as students who demonstrate strong academic self-regulation typically exhibit higher levels of self-confidence, motivation, and stable self-control, enabling them to cope more effectively with academic obstacles and remain focused on their goals. This is supported by the study

conducted by Rodríguez et al. (2022), which found that self-regulation strategies have a significant relationship with students' well-being. The ability to regulate oneself academically is closely linked to learning success and the development of positive psychological attributes. Valenzuela et al. (2020) found that academic self-regulation—particularly in aspects such as goal setting, decision-making, and the ability to learn from mistakes—contributes to increased autonomy, adaptive functioning, and overall student well-being. In contrast, students who are unable to regulate their learning processes effectively tend to experience academic stress, emotional pressure, and procrastination behaviors, which ultimately have a negative impact on psychological well-being. This pattern is reflected in a study of students at KMPKS Yogyakarta, which showed that low levels of academic self-regulation increase vulnerability to stress and reduce psychological well-being (Nurfitriani & Setyandari, 2022).

Academic self-regulation refers to students' ability to independently manage their learning processes, which includes planning, monitoring, and evaluating the learning strategies they employ. Febriana and Simanjuntak (2021) explain that self-regulation in learning is the process through which individuals regulate their thoughts and behaviors in order to achieve learning goals. This view is consistent with Alhadi and Supriyanto (2017), who state that academic self-regulation is an individual's ability to control the learning process by applying appropriate learning strategies, understanding how to complete tasks, making effective decisions, and maintaining self-motivation. Thus, academic self-regulation can be understood as students' capacity to plan and direct their cognition, motivation, and behavior so that learning goals can be achieved optimally.

Optimism refers to a belief that shapes the way individuals think about events from a positive and hopeful perspective (Musafiri & Umroh, 2022). This optimistic attitude enables students to perceive difficult situations not as threats, but as challenges that should be faced with confidence and enthusiasm. Research has indicated that resilience contributes to psychological well-being, and optimism plays a mediating role in the relationship between resilience and psychological well-being (Souri & Hasanirad, 2011). Furthermore, based on the findings of Kaiser et al. (2020), there is a significant relationship between academic self-regulation and optimism. This relationship may occur because optimistic students tend to believe that their efforts are not in vain, which in turn motivates them to set academic goals, persist in challenging tasks, and manage their time and learning strategies more effectively.

Prior work by one of the authors has investigated psychological well-being and related positive psychological processes among Indonesian students. Ahmad and Silfiasari (2019) reported no significant gender differences in life satisfaction, suggesting that well-being may be shaped more strongly by psychological resources than by demographic characteristics. More recently, Istiqomah et al. (2025) demonstrated that social support significantly reduced feelings of inferiority among university students, with family support emerging as the strongest contributor, further emphasizing the role of psychosocial resources in student adjustment. Despite these contributions, the combined roles of resilience and academic self-regulation in predicting psychological well-being through optimism among emerging adults have not yet been examined, forming the primary focus of the present study. Therefore, this study aims to examine the influence of resilience and academic self-regulation on psychological well-being, with optimism serving as a mediating variable. This study is also particularly important to conduct because many studies have focused solely on the relationship between resilience and psychological well-being, or between academic self-regulation and psychological well-being, with relatively few addressing the combined effects of resilience and academic self-regulation on psychological well-being using optimism as a mediating variable. These limitations

represent an important research gap that warrants further investigation, given that optimism has the potential to enhance academic resilience and students' well-being. Another limitation is the lack of integration of academic self-regulation within such models, despite its crucial role in coping with complex academic pressures among Indonesian university students.

METHOD

Research Design

The research design of this study is correlational with a mediation model. In mediation analysis, independent, mediator, and dependent variables are included to test theoretical assumptions and to understand causal relationships (Memon et al., 2018). This study involves resilience and academic self-regulation as independent variables, optimism as the mediating variable, and psychological well-being as the dependent variable. Several hypotheses are proposed in this study: H1 Resilience has an effect on psychological well-being, H2 Resilience has an effect on optimism, H3 Resilience affects psychological well-being mediated by optimism, H4 Academic self-regulation affects psychological well-being, H5 Academic self-regulation affects optimism, H6 Academic self-regulation affects psychological well-being mediated by optimism.

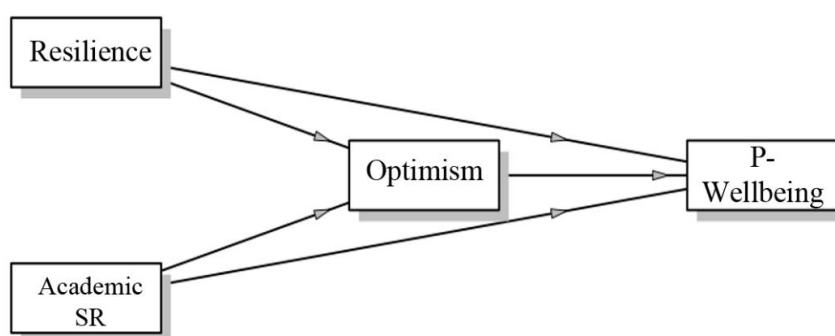


Figure 1. Model Framework

Participants

The participants of this study were 310 university students in Indonesia, aged between 18 and 25 years. The sample size was determined using a rule of thumb approach, which refers to practical guidelines in determining sample size. According to Roscoe, an appropriate sample size for most research ranges from more than 30 to less than 500 respondents. Therefore, the sample size used in this study ($n = 310$) is considered adequate (Sukwika, 2023). The participants were selected using non-probability sampling with an incidental sampling technique. Data were collected using Google Forms, which were distributed online. Random sampling was not feasible in this study due to the voluntary nature of participation, as only individuals who were willing to complete the questionnaire were included as participants. In addition, the target population was geographically dispersed, which further limited the implementation of probability sampling techniques.

Table 1.

Demographic Characteristics of The Research Participants

Gender	Number of Participants	Percentage
Man	76	24,5%
Woman	234	75,4%

Educational Level	Number of Participants	Percentage
S1	263	84,8%
S2/S3	5	1,6%
D1/D3/D4	42	13,5%
Age	Number of Participants	Percentage
18	13	4,1%
19	31	10%
20	71	22,9%
21	112	36,1%
22	57	18,3%
23	22	7%
24	2	0,6%
25	2	0,6%
Total	310	100%

Measurement

This study employed four instruments. Psychological well-being was measured using Ryff's Psychological Well-Being Scale developed by Ryff (1989), which was translated into Indonesian by Putri (2020). This scale consists of 41 items with six response options ranging from strongly agree to strongly disagree, and it demonstrated a reliability coefficient (α) of 0.822. Resilience was measured using the Connor–Davidson Resilience Scale (CD-RISC 25) developed by Connor and Davidson (2003) and adapted by Prawira et al. (2023). This scale contains 25 items with five response options ranging from not true at all to true nearly all the time, with a reliability coefficient (α) of 0.887. Academic self-regulation was assessed using the Self-Regulation Questionnaire (SRQ) developed by Wolters et al. (2006) and adapted by Septian (2018). This scale consists of 24 items with five response options ranging from strongly disagree to strongly agree, and it yielded a reliability coefficient (α) of 0.872. Optimism was measured using The Personal Optimism and Self-Efficacy Optimism Scales–Extended (POSO-E) developed by Jerković et al. (2014). This scale comprises 9 items with four response options ranging from strongly disagree to strongly agree, and it demonstrated a reliability coefficient (α) of 0.78. All instruments used in this study were adopted from previously validated studies and are widely available for academic, non-commercial use. Proper acknowledgment was given to the original developers and adaptors.

Data Analysis

The research procedure consisted of three stages: preparation, implementation, and data analysis. During the preparation stage, the researcher conducted a literature review, prepared the research proposal, and selected the measurement instruments. In the implementation stage,

the researcher distributed the questionnaire online using Google Forms. In the data analysis stage, mediation analysis was conducted using JAMOV software.

RESULT AND DISCUSSION

Result

First, the researcher conducted a descriptive analysis using hypothetical categorization for each variable. The following are the results of the descriptive categorical analysis for each variable.

Table 2.
Categorization of Optimism Scores

Category	Score	Frequency	Percentage
Low	$X < 10,6$	12	3,8%
Moderate	$10,6 \leq X < 21,3$	267	86,1%
High	$X \geq 21,3$	31	10%
Total Number		310	100%

Based on the categorization of optimism scores, the majority of students were in the moderate category, totaling 267 individuals (86.1%). A total of 31 students (10%) were classified in the high category, while only 12 students (3.8%) fell into the low category.

Table 3.
Categorization of Academic Self-Regulation Scores

Category	Score	Frequency	Percentage
Low	$X < 56$	2	0,6%
Moderate	$56 \leq X < 88$	246	79,3%
High	$X \geq 88$	62	20%
Total Number		310	100%

The results of the categorization of academic self-regulation indicate that the majority of students were in the moderate category, totaling 246 individuals (79.3%). Students with high academic self-regulation numbered 62 (20%), while the low category included only 2 students (0.8%).

The categorization of resilience scores showed that no students fell into the low category (0%). A total of 90 students (29%) were classified in the moderate category, while the majority of students, namely 220 individuals (70.9%), were included in the high category.

Table 4.
Categorization of Resilience Scores

Category	Score	Frequency	Percentage
Low	$X < 58,3$	0	0%
Moderate	$58,3 \leq X < 91,6$	90	29,0%
High	$X \geq 91,6$	220	70,9%
Total Number		310	100%

Table 6.
Results of the Normality Test

Skewness	Kurtosis	Criteria	Description
0,344	-0,828	Skewness & Kurtosis = within ± 1.96	Normal

The results of the normality test based on skewness and kurtosis values indicate that the data fall within the range of ± 1.96 , with a skewness value of 0.344 and a kurtosis value of -0.828 . This range meets the criteria for a normal distribution in large sample sizes; therefore, it can be concluded that the research data are approximately normally distributed and suitable for further statistical analysis.

Table 7.
Results of the Multicollinearity Test

Variabel	Tolerance	VIF	Description
resilience	0.587	1.70	No multicollinearity detected
Optimism	0.569	1.76	No multicollinearity detected
Academic Self Regulation	0.836	1.20	No multicollinearity detected

The results of the multicollinearity test indicate that all independent variables have tolerance values above 0.10 and VIF values below 10, namely resilience (Tolerance = 0.587; VIF = 1.70), optimism (Tolerance = 0.569; VIF = 1.76), and academic self-regulation (Tolerance = 0.836; VIF = 1.20). These values indicate that there are no multicollinearity issues among the predictor variables; therefore, all variables can be used simultaneously in the analytical model without excessive intercorrelation.

Table 8.
Mediation Analysis

Type	Effect	Estimate	SE	95% CI Lower	95% CI Upper	β	z	p
Indirect Effects	Resilience → Optimism → P-Wellbeing	0.2848	0.0488	0.1893	0.3800	0.1622	5.84	< .001
	Academic SR → Optimism → P-Wellbeing	0.1153	0.0331	0.0505	0.1800	0.0535	3.49	< .001
Component Paths	Resilience → Optimism	0.1770	0.0142	0.1491	0.2050	0.5680	12.44	< .001
	Optimism → P-Wellbeing	1.6092	0.2432	1.1324	2.0886	0.2856	6.62	< .001
	Academic SR → Optimism	0.0717	0.0175	0.0374	0.1060	0.1872	4.10	< .001
Direct Effects	Resilience → P-Wellbeing	0.8843	0.0746	0.7381	1.0310	0.5037	11.86	< .001
	Academic SR → P-Wellbeing	0.4329	0.0768	0.2823	0.5830	0.2008	5.64	< .001
Total Effects	Resilience → P-Wellbeing	1.1691	0.0652	1.0414	1.2970	0.6659	17.94	< .001
	Academic SR → P-Wellbeing	0.5482	0.0801	0.3913	0.7050	0.2542	6.85	< .001

Based on the mediation analysis conducted, H1, which states that resilience influences psychological well-being, was supported by the data. The direct effect of resilience on psychological well-being was significant ($b = 0.8843$, $SE = 0.0746$, 95% CI [0.7381, 1.0310], $p < .001$). This finding indicates that higher levels of student resilience are associated with higher levels of reported psychological well-being. Furthermore, H2, which states that resilience influences optimism, was also supported. The results indicate that resilience is a significant predictor of optimism ($b = 0.1770$, $SE = 0.0142$, 95% CI [0.1491, 0.2050], $p < .001$). This suggests that students with higher levels of resilience tend to exhibit greater optimism. For H3, which proposes that resilience influences psychological well-being through optimism,

the results showed a significant indirect effect ($b = 0.2848$, $SE = 0.0488$, 95% CI [0.1893, 0.3800], $p < .001$). In addition, the direct effect of resilience remained significant, indicating partial mediation. Thus, H3 was also supported, confirming that optimism partially mediates the relationship between resilience and psychological well-being. For hypothesis H4, academic self-regulation had a significant effect on psychological well-being ($b = 0.4329$, $SE = 0.0768$, 95% CI [0.2823, 0.5830], $p < .001$); therefore, H4 was supported. Students with higher levels of academic self-regulation tended to report better psychological well-being. Next, H5, which states that academic self-regulation influences optimism, was also supported, with a significant effect ($b = 0.0717$, $SE = 0.0175$, 95% CI [0.0374, 0.1060], $p < .001$). This indicates that the ability to regulate one's learning process contributes to higher levels of student optimism. Finally, H6, regarding the indirect effect of academic self-regulation on psychological well-being through optimism, was also supported. The mediation effect was significant ($b = 0.1153$, $SE = 0.0331$, 95% CI [0.0505, 0.1800], $p < .001$). The direct effect remained significant, indicating partial mediation. Thus, higher levels of academic self-regulation are associated with greater student optimism, which in turn enhances psychological well-being.

Discussion

The results of this study indicate that all hypotheses (H1–H6) were supported, suggesting that resilience and academic self-regulation play a crucial role in enhancing students' psychological well-being, both directly and indirectly through optimism as a partial mediator. These findings highlight that personal strengths, such as the ability to recover from adversity and self-regulate, are important factors in the development of psychological well-being, particularly among students aged 18–25 who are in the emerging adulthood phase and facing various academic demands and life transitions (Pathak et al., 2022). Optimism, serving as a mediator, also demonstrates that the way individuals interpret the future positively can strengthen the contributions of resilience and self-regulation to psychological well-being (He et al., 2013).

The findings of this study indicate that resilience has a direct effect on students' psychological well-being (H1), meaning that individuals who are able to recover from adversity, maintain adaptive functioning, and cope effectively in high-pressure situations tend to report higher levels of psychological well-being. This result aligns with the perspective that resilience is a key protective factor that helps individuals face emotional and academic challenges (Novianti & Alfian, 2021). Furthermore, the results of H2 show that resilience also enhances optimism, confirming that the ability to overcome difficulties fosters a more positive outlook on the future through adaptive coping mechanisms, emotional regulation, and a sense of self-control (De la Fuente et al., 2021). Additionally, the findings of H3 demonstrate that optimism mediates the effect of resilience on psychological well-being, indicating that a positive outlook on the future helps to strengthen the impact of resilience on psychological well-being. Because the mediation effect is partial, this suggests that resilience itself is already a strong predictor of well-being, yet optimism still plays a crucial role in clarifying the psychological mechanisms underlying this relationship (Souri & Hejazi, 2014).

The findings of H4 indicate that academic self-regulation has a direct effect on students' psychological well-being. This means that students' ability to manage their learning behaviors, such as setting goals, monitoring the learning process, and evaluating the strategies used, can enhance their sense of competence, self-control, and self-efficacy, which ultimately contributes to the development of psychological well-being (Salleh et al., 2021). These findings are consistent with self-regulated learning theory, which emphasizes that students who can effectively regulate their learning processes are more likely to achieve academic success, reduce academic stress, and experience positive emotions throughout the educational process.

In the context of students aged 18–25, academic self-regulation is particularly important, as this age represents a transitional phase toward independence that requires the ability to manage oneself across various aspects of life (Amelia et al., 2025).

The results of H5 indicate that academic self-regulation has a positive effect on optimism. Students who are able to regulate their learning behaviors, plan steps to complete academic tasks, and evaluate their learning progress tend to feel more confident in their ability to meet academic demands, thereby fostering a positive outlook on the future. This finding aligns with self-efficacy theory, which posits that success in managing academic tasks can enhance self-confidence and positive expectations regarding outcomes (Schunk, 1991). In other words, students who are skilled in regulating their learning processes are likely to have more optimistic expectations because they understand the strategies for task completion and feel better prepared to face various academic challenges (Sabrillah et al., 2025).

In H6, the study found that optimism mediates the effect of academic self-regulation on psychological well-being, highlighting that the psychological process of maintaining a positive outlook serves as a crucial pathway through which self-regulation skills impact student well-being. Students who effectively manage their learning processes typically achieve better academic outcomes, which in turn fosters self-confidence, reduces distress, and enhances a positive outlook on the future, ultimately improving psychological well-being (Matitaputty et al., 2025). However, since the mediation is partial, this indicates that academic self-regulation not only enhances well-being through optimism but also exerts a significant direct effect, for example, by increasing academic control and competence (Rodríguez et al., 2022).

This study has several limitations. The use of self-report instruments may introduce biases, such as social desirability or recall bias. In addition, some participant characteristics were not adequately represented, for example, individuals with very low levels of resilience or low academic self-regulation, meaning that important variations within the population may not have been fully captured in the analysis. The use of incidental sampling also limits the generalizability of the findings to the broader student population. Other relevant variables, such as academic stress, social support, or self-efficacy, were not included, suggesting that important psychological factors may remain unaccounted for in the model. Therefore, future research is recommended to adopt a longitudinal design, broaden and balance sample characteristics, incorporate additional relevant psychological variables, and consider mixed-methods approaches or probabilistic sampling techniques to enhance the external validity of the findings.

This study demonstrates that resilience and academic self-regulation are important predictors of psychological well-being among students aged 18–25. Both variables not only exert a direct influence on students' psychological well-being but also operate through optimism as a partial mediator. Students who are able to recover from adversity and effectively regulate their learning processes tend to view the future more positively, feel more capable of handling academic challenges, and exhibit higher levels of psychological well-being. Optimism serves to explain the psychological mechanism that strengthens the relationship between these personal strengths and psychological well-being. Thus, resilience, academic self-regulation, and optimism are key factors that should be fostered within higher education environments to help students adaptively navigate developmental and academic demands. Nevertheless, the study has limitations in measurement methods, sample characteristics, and unexamined variables, highlighting the need for future research using stronger designs and sampling

techniques to further enrich the understanding of factors influencing students' psychological well-being.

An important aspect that should be considered in interpreting the findings is that the majority of participants were female (75%). Previous studies suggest that female students tend to demonstrate higher levels of academic self-regulation (Elfakki et al., 2021) and are more engaged in reflective and emotional processing (Lithari et al., 2010), which may contribute to higher reported psychological well-being. This pattern is also supported by findings from Ahmad et al. (2025), which indicate that female students tend to score higher in psychological attributes such as emotional intelligence, with the majority categorized in the high and medium levels. This imbalance may have influenced the strength of the relationships observed in this study, particularly in variables related to emotional regulation and optimism. Therefore, the findings should be interpreted with caution, as they may more strongly reflect the psychological patterns of female students rather than the general student population. The findings of this study should also be interpreted within the Indonesian cultural context, which is characterized by collectivistic values (Irawan et al., 2022). In such contexts, social support from family and peers plays a significant role in shaping students' resilience and psychological well-being.

The findings of this study emphasize that personal strengths such as resilience and academic self-regulation play a crucial role in enhancing students' psychological well-being, aligning with the principles of positive psychology, which highlight the cultivation of personal strengths to improve mental health and life satisfaction. The practical implications for higher education institutions include the development of programs that support the enhancement of resilience, such as coping skills training, time management, relaxation, and mindfulness, as well as optimism-based interventions like future-oriented training and hope interventions to strengthen students' positive outlook on the future. Additionally, lecturers are encouraged to implement gradual scaffolding strategies to foster learning independence, while educational staff and counselors should provide psychological support focused on strengthening optimism and resilience to help students overcome academic challenges and improve their psychological well-being.

CONCLUSION

The findings of this study confirm that personal strengths such as resilience and academic self-regulation play an important role in enhancing students' psychological well-being. This result is consistent with the positive psychology approach, which emphasizes the development of individual strengths to promote mental health and life satisfaction. From a theoretical perspective, this study contributes to the literature by extending the understanding of psychological well-being through an integrative model that combines resilience, academic self-regulation, and optimism. Specifically, the findings provide empirical support for the role of optimism as a partial mediator, highlighting that the relationship between personal strengths and psychological well-being is not only direct but also operates through cognitive affective mechanisms related to future expectations. This supports and enriches existing frameworks within positive psychology and self-regulated learning theory by demonstrating how internal regulatory processes and adaptive coping capacities interact in shaping well-being among students in the emerging adulthood phase.

In practical terms, these findings suggest that higher education institutions should develop programs aimed at strengthening students' resilience, such as coping skills training, time management, relaxation techniques, and mindfulness practices, as well as optimism-based

interventions, including future-oriented training and hope interventions, to foster a more positive outlook toward the future. In addition, lecturers are encouraged to implement gradual scaffolding strategies to support the development of students' learning autonomy, while educational staff and counselors should provide psychological support focused on enhancing optimism and resilience to help students cope with academic challenges and improve their overall psychological well-being.

For future research, several directions are recommended. First, longitudinal studies are needed to better capture causal relationships and examine how resilience, academic self-regulation, and optimism develop over time. Second, future studies should involve more diverse and balanced samples, particularly in terms of gender and academic background, to improve generalizability. Third, incorporating additional psychological variables such as academic stress, social support, or self-efficacy may provide a more comprehensive understanding of the factors influencing psychological well-being. Finally, the use of mixed-methods approaches or experimental designs is recommended to explore underlying psychological mechanisms in greater depth and to strengthen the validity of the findings.

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DECLARATION OF POTENTIAL CONFLICTS OF INTEREST

The authors declare that they have no potential conflicts of interest. The authors do not work for, consult with, own shares in, or receive funding from any organization that could benefit financially from the publication of this manuscript, and they have no other affiliations that could be perceived as influencing the reported results.

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