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The Psychological Impact of Artificial Intelligence on Digital Literacy and Cognitive Readiness of Generation Z Students in West Java.

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Abstract: The development of Artificial Intelligence (AI) has had a significant impact on the world of education, especially for Generation Z students known as digital natives. This study aims to analyze the influence of self-efficacy and academic stress on digital literacy and cognitive readiness of Generation Z students in West Java. This study aims to analyze the influence of Self-Efficacy (SE) and Academic Stress on Cognitive Readiness and Digital Literacy in students in West Java. The study used a quantitative approach with a survey design and data collection through questionnaires. The research sample consisted of 400 respondents spread across six cities in West Java. Data analysis was carried out using multiple linear regression, a multicollinearity test, partial test (t), and simultaneous test (ANOVA). The results of the multicollinearity test showed that the SE and Academic Stress variables did not experience significant multicollinearity, with VIF values of 1.021 and Tolerance of 0.980, respectively. The partial test results showed that SE had a positive and significant effect on Cognitive Readiness ($t = 4.926$, $p < 0.001$) and Digital Literacy ($t = 7.562$, $p < 0.001$), while Academic Stress had a positive but insignificant effect on Cognitive Readiness ($t = 0.876$, $p = 0.382$) and a negative but insignificant effect on Digital Literacy ($t = –1.124$, $p = 0.262$). The results of the simultaneous ANOVA test indicated that the overall regression model was significant in predicting Digital Literacy ($F = 39.862$; $p < 0.001$). This study concluded that Self-Efficacy plays an important role in improving students' Cognitive Readiness and Digital Literacy, while Academic Stress did not have a significant effect on either dependent variable. These findings provide implications for the development of intervention programs that emphasize strengthening Self-Efficacy to support students' cognitive readiness and digital literacy.

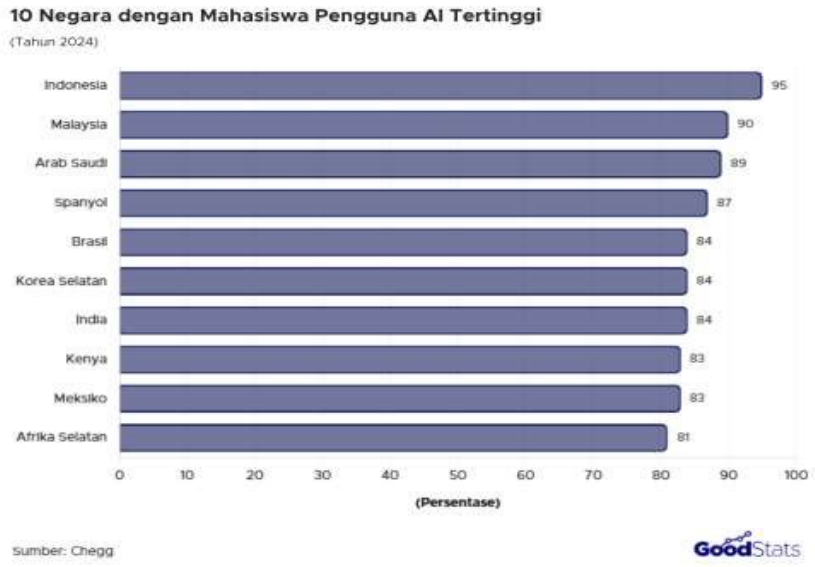
Keywords: Self-Efficacy, Academic Stress, Digital Literacy, Cognitive Readiness, Artificial Intelligence (AI).

INTRODUCTION

The rapid advancement of digital technology has accelerated the emergence of Artificial Intelligence (AI) as a central component in the transformation of educational systems. In

particular, generative AI technologies, such as ChatGPT and similar models, are increasingly utilized as supportive tools in teaching and learning processes, including content summarization, writing assistance, and the provision of adaptive learning materials. Over the past decade, AI has significantly transformed higher education, especially in how Generation Z students interact with information, technology, and learning processes(Garrison & Vaughan, 2008; Junco, 2014; Veletsianos, 2020; Zimmerman, 2000).

Generation Z, born and raised in the digital era, exhibits distinct characteristics, including a high level of familiarity with digital devices, social media, and online platforms as integral parts of daily life (Kim & Lee, 2022; Lazarus & Folkman, 1984). This phenomenon is not limited to developed countries but has also rapidly expanded in Indonesia, particularly among university students. A global survey indicates that approximately 95% of Indonesian students have utilized generative AI in their learning processes, a proportion higher than that observed in many other countries (Alghamdi, 2021; Chemers & Garcia, 2001; Holmes et al., 2021).



However, adaptation to AI-based technologies introduces complex psychological dynamics. On the one hand, AI offers opportunities to enhance learning effectiveness; on the other hand, it may generate psychological pressures that affect students' cognitive readiness. Some students report dependency on AI for completing academic tasks, reduced self-reliance, and changes in critical thinking patterns, such as over-reliance on AI-generated outputs without adequate evaluation. For example, approximately 28% of students have been reported to exhibit tendencies toward AI dependency in completing academic assignments (Holmes et al., 2021; Moreno, 2010; Pekrun et al., 2002).

This issue is important to examine further, as Generation Z students are expected to become key drivers of innovation and adaptation in future education systems. The widespread use of AI raises critical questions regarding how psychological factors may moderate students' ability to develop digital literacy and cognitive readiness in addressing academic and professional challenges (Putri & Raharjo, 2023; Talsma et al., 2018; Zhang & Huang, 2020).

Data from the national digital literacy survey indicate that Indonesia's digital literacy index in 2022 reached a score of 3.54, reflecting an improvement from previous years but still categorized as moderate (Kominfo & Katadata Insight Center, 2022). Furthermore, based on age-group data, approximately 33% of individuals aged 16–24 years are classified as having high digital literacy according to a 2024 survey. Other studies focusing on Generation Z indicate that their digital literacy remains at a moderate level, with a score of 57.5 (on a full scale) in a

national survey measuring digital skills, ethics, safety, and culture among individuals aged 15–24 years.

Considering the widespread use of AI among students alongside the still-developing level of digital literacy, and the limited number of studies integrating these aspects with psychological factors and cognitive readiness, a critical gap in the literature becomes evident.

Previous research highlights digital literacy as a key factor in optimizing the use of technology. Tamborg (2025) emphasized the importance of digital competencies in improving learning quality in the AI era. Additionally, psychological factors such as self-efficacy and academic stress play significant roles in students' learning processes. Self-efficacy, defined as an individual's belief in their capability to successfully perform tasks or overcome challenges, influences how students approach learning situations (Bandura, 1997). Students with higher self-efficacy tend to demonstrate greater confidence in utilizing AI, managing academic stress, and applying digital literacy effectively. Furthermore, self-efficacy can mediate the relationship between cognitive readiness, digital literacy, and academic performance(OECD, 2019).

Conversely, academic stress, which arises from academic pressures such as workload, examinations, deadlines, and high expectations, may negatively affect learning motivation, time management skills, and academic performance. It may also hinder students' ability to adapt to emerging technologies such as AI (Gadzella & Masten, 2005).

Previous studies have examined the relationships between digital literacy, psychological factors, and learning readiness. Smith et al. (2022) found that AI usage improves learning efficiency but may also generate psychological pressure among students who are not adequately prepared. Johnson (2021) suggested that strong digital literacy can mitigate the effects of academic stress, while Gadzella & Masten (2005) emphasized the importance of coping strategies. Oktaviani (2025) reported that digital literacy positively contributes to students' cognitive readiness. However, most existing studies remain limited to general digital technology contexts and have not specifically examined how AI usage interacts with students' psychological factors. This represents a research gap that the present study seeks to address.

This study focuses on understanding the psychological conditions of Generation Z students in West Java in the context of AI-based learning. The objectives are to (1) describe the level of academic stress among Generation Z students in relation to AI utilization in learning, (2) analyze the role of self-efficacy in influencing the relationship between academic stress, digital literacy, and cognitive readiness, (3) evaluate students' level of digital literacy in responding to technology-based learning demands, and (4) assess students' cognitive readiness, particularly their ability to engage in abstract and logical thinking when utilizing AI as a learning tool.

This research is expected to provide a comprehensive overview of students' psychological readiness and capabilities in addressing increasingly complex academic demands in the AI era, as well as to offer a foundation for developing more effective and adaptive learning strategies.

METHOD

This study employed a quantitative research design using a survey approach to examine the relationships among self-efficacy, academic stress, digital literacy, and cognitive readiness among Generation Z university students in West Java within the context of Artificial Intelligence (AI) utilization. This design was selected as it enables the systematic measurement of psychological and cognitive variables through structured questionnaires, as well as the analysis of causal relationships among variables with a relatively large sample size.

The participants consisted of Generation Z students aged 18–25 years who were enrolled in various higher education institutions across West Java. A stratified random sampling technique was applied based on regional distribution (city/regency), ensuring representation of diverse geographical areas and educational institutions. The survey was administered through

both online and offline methods across seven regions, namely Bandung, Cirebon, Sukabumi, Kuningan, Cianjur, Majalengka, and Indramayu. A total of 400 valid responses were obtained and included in the final analysis. This sample size met the minimum requirement based on Cochran's formula with a 95% confidence level, indicating that the data were sufficient for inferential statistical analysis.

The research instrument comprised four theoretically grounded psychological scales. The self-efficacy scale consisted of 20 items designed to assess students' confidence in utilizing AI for academic purposes. The academic stress scale included 27 items measuring the level of psychological pressure experienced by students due to academic demands related to AI usage. The digital literacy scale consisted of 20 items evaluating students' skills, understanding, and ethical awareness in using digital technologies, including AI. Meanwhile, the cognitive readiness scale included 15 items assessing critical thinking, cognitive flexibility, and metacognitive abilities. All items were measured using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), allowing for reliable quantitative analysis.

Data collection was conducted through both online and offline procedures. Online data were gathered using digital survey platforms, while offline data were collected with the assistance of trained enumerators across selected campuses. Before participation, respondents were provided with information regarding the research objectives, confidentiality assurances, and informed consent. The collected data were then screened for completeness and validity, resulting in 400 responses deemed suitable for further analysis.

Data analysis was carried out in several stages. First, descriptive statistics were used to summarize respondent characteristics and the distribution of scores for each variable. Second, reliability testing using Cronbach's alpha and construct validity assessment through Confirmatory Factor Analysis (CFA) were conducted to ensure the internal consistency and validity of the measurement instruments. Third, inferential analysis was performed using Structural Equation Modeling (SEM) based on Partial Least Squares (PLS) to examine both direct and indirect relationships among variables, as well as the mediating role of digital literacy. Mediation analysis was conducted using the bootstrapping technique to determine the significance of indirect effects..

RESULTS AND DISCUSSION

The implementation of the first-year research project (2025), conducted under the Beginner Lecturer Research Scheme, has successfully reached key milestones in accordance with the planned timeline. This study employed a mixed-methods approach, integrating both quantitative and qualitative methodologies to provide a comprehensive understanding of the research problem.

The quantitative component was carried out a structured questionnaire survey designed to measure the intensity of Artificial Intelligence (AI) usage, levels of digital literacy, cognitive readiness, and the psychological impacts experienced by students. The collected data were analyzed using both descriptive and inferential statistical techniques.

In parallel, the qualitative component was conducted through open-ended questions, which were analyzed using content analysis to capture respondents' subjective experiences and perspectives. This approach enabled a deeper exploration of the psychological and contextual dimensions that could not be fully captured through quantitative measures alone.

The target population consisted of Generation Z students aged 18–24 years enrolled in diploma (D3 and D4) and undergraduate (S1) programs at higher education institutions in West Java who actively use AI applications in their academic activities.

Since the exact population size was unknown, the sample size was determined using Cochran's formula with a 95% confidence level, a 5% margin of error, and a population proportion (p) of 0.5, resulting in a minimum required sample size of 385.6 respondents.

To enhance the reliability of the analysis and facilitate data distribution, this study established a target of 400 valid respondents for the quantitative sample. The sampling technique employed was stratified sampling based on the type of institution (public and private universities) and geographical classification (urban and rural areas), with proportional allocation across each stratum. Respondent selection followed a multistage cluster sampling approach by identifying representative campuses within each stratum.

For the qualitative component, purposive sampling was applied, involving approximately 15–30 informants until data saturation was achieved. The selection criteria considered variations in AI usage intensity, type of higher education institution, and academic background to ensure diverse perspectives.

Descriptive Statistics Test

Descriptive statistics are used to provide an overview of the research data, including the minimum, maximum, average (mean), and standard deviation values for each variable. The results of the data processing can be seen in the following table:

Table 1: Descriptive Statistics of Research Variables (N = 400)

Variable	Min	Max	Mean	SD
Psychological Impact of AI	76	180	134.87	16.22
Digital Literacy	20	80	64.23	9.83
Cognitive Readiness	17	60	44.63	7.62

Source: Data processed 2025

Descriptive statistical analysis was conducted to provide an overall profile of the research variables, namely the psychological impact of Artificial Intelligence (AI), digital literacy, and cognitive readiness, based on a sample of 400 respondents.

The results indicate that the psychological impact of AI variable had a minimum score of 76 and a maximum score of 180, with a mean of 134.87 and a standard deviation of 16.216. The relatively high mean score suggests that most respondents experienced notable psychological effects associated with the development and use of AI. However, the relatively large standard deviation indicates considerable variability among respondents, reflecting diverse psychological responses to AI usage.

For the digital literacy variable, the scores ranged from a minimum of 20 to a maximum of 80, with a mean of 64.23 and a standard deviation of 9.834. This average suggests that respondents generally possess a relatively good level of digital literacy, as it exceeds the midpoint of the measurement scale. Nevertheless, the variation of nearly 10 points indicates heterogeneity in digital competencies, with some respondents demonstrating high proficiency while others exhibit comparatively lower levels of digital literacy.

Meanwhile, the cognitive readiness variable showed a minimum score of 17 and a maximum score of 60, with a mean of 44.63 and a standard deviation of 7.619. The relatively high mean indicates that respondents possess an adequate level of cognitive readiness in facing technological challenges. The smaller standard deviation suggests that respondents' perceptions of their cognitive readiness are relatively homogeneous compared to the other variables. Overall, these findings suggest that respondents demonstrate adequate cognitive readiness and relatively strong digital literacy, although the psychological impact of AI varies considerably across individuals.

In general, the descriptive data indicate that the majority of Generation Z students in

West Java exhibit good levels of self-efficacy and digital literacy, varying levels of academic stress, and moderate to high levels of cognitive readiness. These results provide a foundation for further inferential analysis to examine the relationships among variables,

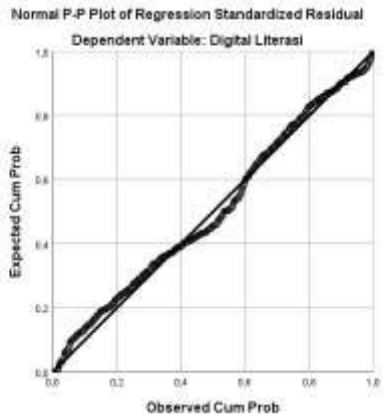
particularly in assessing the psychological impact of AI usage on students' digital literacy and cognitive readiness.

Classical Assumption Test Results

Before conducting the regression analysis, a classical assumption test was performed to ensure the analysis model met statistical requirements.

Normality Test

Chart 1



Source: Data processed 2025

In this study, the normality assumption was evaluated using a Normal Probability–Probability (P–P) Plot, which compares standardized residuals with a theoretical normal distribution represented by a diagonal reference line. The plot indicates that the residual points are distributed closely around the diagonal line and follow its pattern consistently across the range of values.

This pattern suggests that the residuals of the regression model approximate a normal distribution. Therefore, the normality assumption for the regression analysis of the digital literacy variable can be considered satisfied. Ensuring normality of residuals is essential for obtaining unbiased parameter estimates and valid significance testing within the regression model. Although minor deviations are observed in a few points, these are within acceptable limits and do not substantially affect the overall interpretation of the results. Multicollinearity Test

Table 2 shows multicollinearity test results.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	33,744	4,242		7,954	,000		
	SE	,454	,051	,411	8,876	,000	,980	1,021
	Stress	,009	,031	,014	,301	,764	,980	1,021

a. Dependent Variable: Digital Literacy

Source: Data processed 2025

Multicollinearity testing was performed by examining the Tolerance and Variance Inflation Factor (VIF) values. The analysis showed that all independent variables had Tolerance values greater than 0.10 and VIF values less than 10. This indicates that there are no

multicollinearity issues in the regression model. All independent variables in this study (SelfEfficacy and Stress) showed no multicollinearity issues. Therefore, the regression model used is suitable for further analysis.

Table 3 Results of the Determination Coefficient Test Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,409[a]	,167	,163	8,997

a. Predictors: (Constant), Stress, SE
b. Dependent Variable: Digital Literacy

Source: Data processed 2025

Based on the Model Summary table, the R value of 0.409 indicates a fairly strong relationship between the independent variables (Self-Efficacy and Stress) and the dependent variable (Digital Literacy). The R Square value of 0.167 means that 16.7% of the variation in Digital Literacy can be explained by Self-Efficacy and Stress together, while the remaining

83.3% is influenced by factors outside the research model. The Adjusted R Square value of 0.163 confirms the stability of the model after adjusting for the number of independent variables and sample size, thus confirming that this model is still suitable for further analysis.

Furthermore, the Standard Error of Estimate (SEE) value of 8.997 indicates the level of prediction error in the regression model. The smaller the SEE value, the better the model's prediction accuracy. This value indicates that although the model can explain some of the variation in Digital Literacy, there are still other factors that have not been accommodated in the regression model.

Partial t-Test Results

Based on the regression model with independent variables Self-Efficacy (SE) and Stress on the dependent variable Digital Literacy, the partial t-test results can be described as follows:

Self-Efficacy (SE) has a positive and significant effect on Digital Literacy with a t-value of 7.562 and $p < 0.001$, indicating that the higher the respondent's level of Self-Efficacy, the higher their Digital Literacy. Conversely, Stress showed a negative but insignificant effect on Digital Literacy with a t-value of –1.124 and $p = 0.262$, indicating that Stress levels do not significantly contribute to Digital Literacy.

Table 4 Test Results (F Test)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6452,689	2	3226,345	39,862	,000[b]
	Residual	32132,688	397	80,939		
	Total	38585,378	399			

a. Dependent Variable: Digital Literacy
b. Predictors: (Constant), Stress, SE

Source: Data processed 2025

Based on the table, the calculated F value was 39.862 with a significance level (Sig. = 0.000 < 0.05). These results indicate that the regression model constructed with the independent

variables Self-Efficacy (SE) and Stress simultaneously had a significant effect on the dependent variable Digital Literacy.

The Regression Sum of Squares value of 6452.689 explains the variation in Digital Literacy that can be explained by the SE and Stress variables, while the Residual Sum of Squares value of 32132.688 explains the variation that cannot be explained by the model. The total variation (Total Sum of Squares) of 38585.378 is divided between the portion that can be explained by the regression model and the portion that cannot be explained.

Thus, it can be concluded that the regression model used is fit and appropriate, as overall, the independent variables can make a significant contribution in explaining variation in Digital Literacy.

RESULTS X1, X2, Y2

Table 5 Descriptive Statistics Results

Descriptive Statistics

	Mean	Std. Deviation	N
Cognitive Readiness	44,63	7,619	400
Self Eficacy	65,80	8,902	400
Stress Academic	69,07	14,879	400

Source: Data processed 2025

Based on the table, the number of respondents in this study was 400. The Cognitive Readiness variable had a mean of 44.63 with a standard deviation of 7.619, indicating a relatively moderate variation in respondents' cognitive readiness levels. The Self-Efficacy (SE) variable had a mean of 65.80 with a standard deviation of 8.902, indicating that the majority of respondents were in the high self-efficacy category. Meanwhile, the Stress variable had a mean of 69.07 with a standard deviation of 14.879, indicating greater variation among respondents regarding the level of stress experienced.

Table 6: Multicollinearity Test and Partial Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	29,451	3,496		8,423	,000		
	Self Eficacy	,208	,042	,242	4,926	,000	,980	1,021

Stress Academic	,022	,025	,043	,876	,382	,980	1,021

a. Dependent Variable: Cognitive Readiness

Source: Data processed 2025

Multicollinearity Test Results

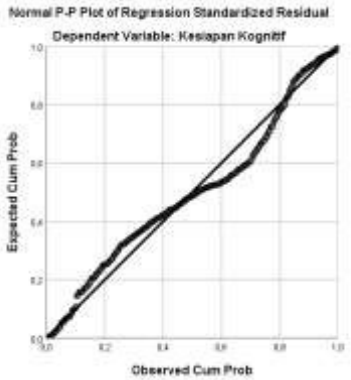
The multicollinearity test results, indicated by a Tolerance value of 0.980 and a VIF of 1.020 for both the SE and Stress variables, indicate that these values are still far below the threshold of 10 for the VIF and above 0.10 for Tolerance. Therefore, it can be concluded that there is no multicollinearity problem in the regression model, and both independent variables can be used simultaneously to predict the dependent variable.

Partial Test Results (t-Test)

Based on the partial test results, the Self-Efficacy (SE) variable has a significant effect on Digital Literacy, with a t-value of 8.876 and a Sig. of 0.000 (<0.05). This indicates that the higher the respondents' SE level, the higher their digital literacy level. Conversely, the Stress variable does not have a significant effect on Digital Literacy, with a t-value of 0.301 and a Sig. of 0.764 (>0.05). This means that respondents' stress levels did not significantly contribute to variations in digital literacy. Therefore, overall, these results demonstrate that SE plays a significant role in improving students' digital literacy, while stress had no significant effect, and the regression model was free from multicollinearity issues.

Overall, these results indicate that Self-Efficacy (SE) is a significant predictor of Cognitive Readiness, while stress is not. Therefore, improving students' cognitive readiness is more determined by their confidence in managing the learning process and facing academic challenges, rather than stress factors.

Chart 2: Normality Test Results (P-P Plot) X1, X2 to Y2



Source: Data processed 2025

The Normal P-P Plot graph displays the distribution of residual points compared to a diagonal line (line of fit). In this figure, the residual points tend to follow the diagonal line pattern, although there are slight deviations at the beginning and end of the curve. This indicates that the distribution of residuals in the regression model is relatively close to a normal distribution. Thus, the assumption of normality in the regression test is met.

Residual normality is important because it is a primary requirement in linear regression analysis, ensuring reliable model estimation results. Small deviations observed at the ends of the line are tolerable, ensuring the regression model remains valid for use.

Table 7: Multicollinearity Test for X1, X2, and Y2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	29,451	3,496		8,423	,000		
	Self Eficacy	,208	,042	,242	4,926	,000	,980	1,021
	Stress	,022	,025	,043	,876	,382	,980	1,021

a. Dependent Variable: Cognitive Readiness

Source: Data processed 2025

Regression analysis showed VIF values for SE and Stress of 1.021 and TOL of 0.980, respectively, indicating no significant multicollinearity. The coefficient results indicate that SE has a positive and significant effect on Cognitive Readiness, while Stress is insignificant.

Partial Test

A partial test was conducted to determine the effect of each independent variable individually on the dependent variable, Cognitive Readiness (Y2). The regression coefficient B = 0.208, t = 4.926, p < 0.001.

This means that SE has a positive and significant effect on Cognitive Readiness. This means that the higher the respondent's level of Self-Efficacy, the higher their Cognitive Readiness. The regression coefficient B = 0.022, t = 0.876, p = 0.382. This means that Stress has a positive but insignificant effect on Cognitive Readiness. This means that the respondent's stress level does not have a significant influence on Cognitive Readiness.

F Test (ANOVA)

Table 8: F Test Results (ANOVA)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1335,557	2	667,778	12,147	,000[b]
	Residual	21825,683	397	54,977		
	Total	23161,240	399			

a. Dependent Variable: Cognitive Readiness

b. Predictors: (Constant), Stress Academic, Self Eficacy

Source: Data processed 2025

Based on the table above, the F test was used to determine whether the overall regression model was significant. If the Sig. <0.05, then the regression model involving Stress and SelfEfficacy simultaneously has a significant effect on Cognitive Readiness. If the Sig. >0.05, the model is insignificant, meaning the two predictor variables together are less able to explain the variation in cognitive readiness.

The calculated F value of 12.147 with a Sig. = 0.000 (<0.05) indicates that the regression model was simultaneously significant. This means that the independent variables, Stress and Self-Efficacy (SE), simultaneously influence students' Cognitive Readiness.

Contextual Interpretation :

1. The model is significant → although the coefficient of determination (R Square) is only 0.058, the F test remains significant due to the large sample size (N = 400).
2. Implications → This indicates that stress and self-efficacy do play a role in cognitive readiness, although their contribution is relatively small (around 5.8%).
3. Conclusion → Higher self-efficacy and better managed stress levels can improve students' cognitive readiness. However, other factors outside this model have a much greater influence.

Table 9: Results of the Coefficient of Determination Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,240[a]	,058	,053	7,415

a. Predictors: (Constant), Stress, Self Eficacy
b. Dependent Variable: Cognitive Readiness

Source: Data processed 2025

Based on the table above, the correlation (R) value indicates the relationship between the independent variables (Stress and Self-Efficacy) and the dependent variable (Cognitive Readiness). A value of 0.240 indicates a positive but weak relationship. An R^2 value of 0.058 means that the independent variables (Stress and Self-Efficacy) only explain 5.8% of the variation in Cognitive Readiness. The remaining 94.2% is explained by other factors not included in the regression model.

This value is an adjustment for the number of predictors in the model. A value of 0.053 indicates that if this model were applied to a broader population, the independent variables would still be estimated to explain approximately 5.3% of the variation in Cognitive Readiness. This value indicates the standard error rate in predicting the dependent variable. The smaller the value, the better the model's prediction. In this case, a value of 7.415 indicates that there is still a significant deviation between the actual and predicted values.

Overall, the regression model with Stress and Self-Efficacy as predictors had a weak relationship with the Cognitive Readiness variable. The contribution of both predictors in explaining the variation in Cognitive Readiness was relatively small (only around 5.8%). This suggests that other factors outside the model are more dominant in influencing students' Cognitive Readiness.

The results of this study indicate that self-efficacy (SE) has a positive and significant effect on both cognitive readiness and digital literacy among university students. This finding is consistent with Bandura's (1997) social cognitive theory, which posits that self-efficacy influences an individual's ability to manage cognitive tasks and להתמודד with challenges effectively. Students with higher levels of self-efficacy tend to demonstrate greater confidence in utilizing digital technologies, organizing learning strategies, and solving problems independently, thereby enhancing both their cognitive readiness and digital literacy.

In contrast, academic stress was not found to have a significant effect on either cognitive readiness or digital literacy. This result aligns with previous studies suggesting that the impact of stress on academic performance or digital competence is not always significant when individuals possess adequate adaptive capacity and coping mechanisms (Misra & McKean, 2000; Vuorikari et al., 2022). These findings imply that even when students experience stress, a high level of self-efficacy may function as a protective factor that mitigates the negative effects of stress on cognitive readiness and digital literacy.

Furthermore, the simultaneous analysis (ANOVA) revealed that the regression model including self-efficacy and stress was statistically significant in predicting digital literacy. This

highlights the importance of considering both variables collectively, even though only self-efficacy demonstrated a significant individual contribution. The qualitative findings further support the quantitative results. Respondents with high self-efficacy reported more structured learning strategies and greater adaptability in using digital technologies. Conversely, respondents experiencing higher levels of stress did not necessarily encounter significant difficulties, particularly when they possessed sufficient levels of self-efficacy.

Overall, this study underscores the critical role of self-efficacy as a key determinant in enhancing students' cognitive readiness and digital literacy. Based on these findings, practical recommendations include the development of training programs, academic guidance, and psychological interventions aimed at strengthening students' confidence, promoting adaptive stress management, and fostering effective digital learning strategies.

CONCLUSION

Based on the findings of this study, it can be concluded that self-efficacy (SE) has a positive and significant effect on students' cognitive readiness and digital literacy, whereas academic stress does not demonstrate a significant influence on these dependent variables. These results support the hypothesis that self-efficacy plays a crucial role in shaping students' cognitive preparedness and digital literacy skills, while also addressing the study's objective of examining the effects of self-efficacy and stress on these outcomes.

The findings highlight that students with higher levels of self-efficacy tend to exhibit greater confidence in academic challenges and in utilizing digital technologies effectively. In contrast, the level of stress experienced by students does not necessarily lead to significant negative outcomes, particularly when self-efficacy is sufficiently developed. This suggests that self-efficacy may function as a protective factor in mitigating the potential adverse effects of stress.

Based on these findings, it is recommended that educational institutions prioritize the development of intervention programs aimed at strengthening students' self-efficacy. Such initiatives may include training in effective learning strategies, digital literacy enhancement programs, and adaptive stress management interventions.

For future research, it is suggested to explore additional variables that may moderate the relationship between academic stress and digital literacy, such as social support, learning motivation, and time management skills. Investigating these factors may provide a more comprehensive understanding of students' cognitive readiness and digital literacy in the context of evolving technological demands.

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