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The Influence of ChatGPT Usage on the Learning Motivation of Social Studies Education Students at Universitas Negeri Semarang

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Abstract
The use of artificial intelligence (AI) technology has become increasingly widespread in the field of education to support the learning process, including in enhancing students' learning motivation. This study aims to analyze the effect of ChatGPT usage on the learning motivation of students in the Social Studies Education Program at Universitas Negeri Semarang. This research employs a quantitative method with a survey design and simple linear regression analysis. The findings reveal that the use of ChatGPT has a positive and significant effect on students' learning motivation, with a contribution of 56.9%. The analysis is grounded in Self-Determination Theory and Expectancy-Value Theory, which emphasize that ChatGPT contributes to fulfilling basic psychological needs and enhancing expectancy for success and perceived task value. Thus, ChatGPT has proven to be an effective learning support tool that enhances students' learning motivation. However, its use should be accompanied by sufficient digital literacy and academic guidance to optimize its benefits and minimize the risk of dependency.

Keywords
ChatGPT; Artificial Intelligence; Learning Motivation

INTRODUCTION

In today's digital era, the pace of technological development is extremely rapid, driving information globalization that transforms various aspects of societal culture. Innovations in information technology continue to emerge, aiming to provide efficiency, convenience, and comfort in daily activities, including in fulfilling needs (Nasution, 2023). The use of technology in education has rapidly advanced through the integration of intelligent systems. These systems adopt principles of artificial intelligence (AI), designed to mimic human cognitive abilities, including decision-making processes similar to human thinking patterns (Hamdi et. al., 2021).

Advancements in AI technology have brought significant impacts across various fields, including education. Various parties within the academic environment, such as students, lecturers, and educational staff, have utilized AI to support the learning process in numerous activities, ranging from online learning to improving critical thinking skills. AI is often used to search for information, complete tasks more quickly, and obtain comprehensive explanations instantly, thereby supporting increased academic productivity (Wulandari *et al*., 2023).

One of the most widely discussed AI innovations is ChatGPT, a Generative Pre-trained Transformer language model developed by OpenAI.

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ChatGPT has become a leading AI platform in Indonesia (Katadata, 2025), with around 71% of AI users in Indonesia using ChatGPT as their primary platform. The majority of users come from the productive age group, mostly aged 18–34 years, with predominant usage for educational purposes, information seeking, academic task preparation, and even professional activities. Although the adoption rate of ChatGPT in Indonesia shows high enthusiasm toward AI technology, this increase in users should also be accompanied by an understanding of the potential risks that may arise if the technology is not used wisely.

Behind the various conveniences offered, the presence of ChatGPT presents new challenges, particularly in maintaining students' learning motivation. Many students have come to rely on ChatGPT as their primary tool for overcoming academic difficulties. This aligns with the intended purpose of the technology, which is to simplify processes and enhance efficiency. However, excessive use without proper control can lead to dependency, ultimately hindering students' independence and critical thinking skills. Uncontrolled reliance on AI technology in learning, if left unaddressed, has the potential to disrupt cognitive development and diminish students' learning motivation (Popenici & Kerr, 2017).

On the other hand, these conveniences also present new challenges. Many students are beginning to rely on ChatGPT as their primary tool for addressing academic difficulties. Excessive use without proper control can trigger dependency on AI, hindering students' independence and critical thinking skills (Popenici & Kerr, 2022; Nasution & Hutauruk, 2023). This dependency poses a risk of diminishing learning motivation. Learning motivation is the internal drive that compels an individual to engage in learning activities to achieve specific goals (Hamzah, 2019). When students become overly reliant on AI, they tend to become passive and reluctant to develop their self-capabilities independently. However, learning independence is crucial to ensure that students do not always depend on others when facing academic challenges or professional life in the future.

Mahfud *et al*. (2023) emphasize that uncontrolled use of AI can reduce self-confidence and critical thinking skills. As a result, students become reluctant to read reference materials, rarely engage in discussions with peers or lecturers, and are less active in the learning process. Therefore, the use of AI needs to be balanced with reflective awareness and academic responsibility to continue supporting the optimal development of learning motivation.

Several educational psychology theories explain how these factors influence learning motivation. According to the Expectancy-Value Theory (Eccles & Wigfield, 2022), learning motivation arises when students believe they are capable of completing a task (high expectancy)

and perceive the task as valuable to their goals. ChatGPT, by assisting students in understanding course material and completing tasks effectively, can enhance their confidence (expectation) and the perceived value of the tasks for their academic development, thereby boosting learning motivation (Eccles & Wigfield, 2022).

Furthermore, Self-Determination Theory emphasizes the importance of feelings of competence and autonomy in intrinsic motivation (Deci & Ryan, 2020). Students' ability to use ChatGPT strategically, such as formulating appropriate questions or evaluating responses, can enhance their sense of competence (Yuan & Hou, 2023). This increased sense of competence aligns with higher intrinsic motivation, suggesting that ChatGPT has the potential to support deeper learning engagement.

Several previous studies have demonstrated a significant impact of AI usage on students' learning motivation. Nelliraharti (2024) reported a correlation of 0.600 (with a contribution of 36%) between AI usage and the learning motivation of students at UIN Ar-Raniry, indicating a strong relationship between these variables. Hayatun Nufus (2024) at STMIK Antar Bangsa also found that the general use of AI enhances learning motivation, although the study cautioned about the potential for student dependency on AI. The study by Ramadhan *et al*. (2023) at the Institut Teknologi Sepuluh Nopember emphasized that ChatGPT can improve the quality and productivity of learning. However, if not managed properly, it may threaten academic integrity, such as the tendency toward plagiarism.

Most of these studies have focused on programs in the fields of information technology and language studies. Research on the impact of AI, particularly ChatGPT, on students in the social sciences and humanities is still very limited. However, students in the Social Studies Education program are required to think analytically, reflectively, and to connect various social phenomena. They play a strategic role as future educators and critical thinkers in the digital age. Therefore, it is essential to explore how ChatGPT influences the learning motivation of Social Science students specifically.

Universitas Negeri Semarang (UNNES), as a higher education institution, needs to deeply understand the implications of utilizing artificial intelligence (AI) on students' learning behaviors. This study aims to analyze the extent to which the use of ChatGPT influences the learning motivation of students in the Social Studies Education Program at UNNES. This research contributes theoretically by enriching the discourse on the impact of AI usage, particularly ChatGPT, on students' learning motivation in the social sciences and humanities, an area that has been relatively under-researched, using the frameworks of Self-Determination Theory and Expectancy-Value Theory. Practically, the findings of this study can serve as a reference for lecturers, students, and

policymakers in designing technology-based learning strategies that support independence, reflection, and the wise use of AI to enhance learning motivation.

RESEARCH METHOD

This study employs a quantitative associative approach aimed at testing the effect of ChatGPT usage on students' learning motivation. The research was conducted in May 2025 at the Social Studies Education Program of Universitas Negeri Semarang. The population consists of 123 second-year students from three class groups. The respondents involved in this study were active students currently enrolled in the semester and had experience using ChatGPT for learning purposes at least once in the past month. The sample size was determined using Slovin's formula with a 10% margin of error, resulting in a total of 55 respondents. The sampling technique was purposive, based on the specified characteristics. Data were collected through an online four-point Likert scale questionnaire that had been tested for validity and reliability, distributed via Google Form. Data analysis was performed using simple linear regression with the help of SPSS version 25 software, along with a residual normality test as a prerequisite for the analysis.

RESULTS AND DISCUSSION

Before analyzing the relationships between variables, the initial step taken was to test the research instrument's feasibility through validity and reliability tests. This test is essential to ensure that the instrument accurately measures the intended construct and produces consistent data. According to Sugiyono (2021), an instrument is considered valid if it can accurately capture data from the variables being studied, and reliable if it yields consistent results even when used at different times.

Validity Test

In any research that employs a questionnaire method, conducting a validity test is an essential step to ensure that the instrument truly measures the intended variables accurately and appropriately. In this study, the validity test was carried out using the product-moment correlation technique, analyzed with the help of SPSS software. The decision criteria were based on the comparison between the calculated r value (r calculated) and the table r value (r table), where an item was considered valid if r calculated > r table, and invalid if r calculated < r table. The results of the instrument validity test are presented as follows.

Table 1. Validity Test for ChatGPT

No.	Indicator	Statement	R calculated	R table	Desc.
1	Intensity of ChatGPT Usage	I use ChatGPT regularly to assist my learning process.	0,704	0,266	Valid
2		I use ChatGPT more than three times a week.	0,679	0,266	Valid
3		I use ChatGPT to complete most of my college assignments.	0,667	0,266	Valid
4	Purpose of Using ChatGPT	I use ChatGPT to understand course materials.	0,701	0,266	Valid
5		I use ChatGPT to find academic references.	0,695	0,266	Valid
6		I use ChatGPT for practice questions or tests.	0,682	0,266	Valid
7	Ease and Effectiveness of Use	ChatGPT is easy to use without needing help from others.	0,690	0,266	Valid
8		ChatGPT helps me understand the material more quickly.	0,693	0,266	Valid
9		ChatGPT makes me more confident when completing assignments.	0,687	0,266	Valid
10	Skills and Responsibility in Usage	I know how to create effective prompts when using ChatGPT.	0,705	0,266	Valid
11		I double-check answers from ChatGPT with other sources.	0,698	0,266	Valid
12		I am aware that results from ChatGPT may not be entirely accurate.	0,709	0,266	Valid

Source: obtained from primary data, 2025.

Based on Pearson correlation (Product Moment) calculations, with a total number of respondents (N) = 55 and a significance level of 5%, the critical value r table is 0.266. The validity test results show that the calculated correlation coefficient (r calculated) for each item in the ChatGPT usage variable (X1–X12) is greater than the r table value (0.266). Therefore, all items in the ChatGPT usage variable are considered valid.

Table 2. Validity Test for Learning Motivation

No.	Indicator	Statement	R calculated	R table	Desc.
1	Autonomy (Learning Autonomy)	I am free to choose the learning methods I prefer.	0,712	0,266	Valid
2		I feel that I have control over how I learn.	0,700	0,266	Valid
3		I can manage my own study time and learning methods.	0,685	0,266	Valid
4	Competence (Feeling Capable)	I feel capable of understanding college material without assistance.	0,709	0,266	Valid
5		I am confident in completing tasks independently.	0,695	0,266	Valid
6		I am confident that I can achieve the learning goals I set for myself.	0,703	0,266	Valid
7	Relatedness (Social Connection)	I feel supported by friends and lecturers in my learning.	0,688	0,266	Valid
8		I enjoy discussing the course material with others.	0,679	0,266	Valid
9		I feel that I am part of a positive learning environment.	0,697	0,266	Valid
10	Extrinsic Motivation (from external sources)	I study to achieve high grades.	0,702	0,266	Valid
11		I study because I want to be praised by lecturers/parents.	0,689	0,266	Valid
12		I study to avoid being scolded.	0,676	0,266	Valid

Source: obtained from primary data, 2025.

The validity test for the learning motivation variable also shows that all 12 questionnaire items have a calculated correlation coefficient (r calculated) greater than the table value (r table) of 0.266. Therefore, all items in the learning motivation instrument are valid. This means that the research instrument is considered valid and ready to be used for data collection.

Reliability Test of the Instrument

The reliability test was conducted to measure the internal consistency of the instrument items used in the study. The analysis was carried out using Cronbach's Alpha technique.

Table 3. Reliability Test Results

Variable	Cronbach Alpha	Description
ChatGPT Usage	0,925	Reliable
Learning Motivation	0,938	Reliable

Source: obtained from primary data, 2025.

The reliability test results show a Cronbach's Alpha value of 0.925 for the ChatGPT usage variable and 0.938 for the Learning Motivation variable. Both values exceed the minimum threshold of 0.70 (Hair *et al*., 2021). Therefore, it can be concluded that the instruments for both variables have very high reliability and are consistent in measuring the intended constructs.

Normality Test

The normality test is one of the classical assumption tests conducted to determine whether the data in the study are normally distributed or not. Normal distribution is an important requirement in linear regression analysis, as it can affect the validity of the analysis results (Ghozali, 2021).

Table 4. Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		55
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	3.60064840
Most Extreme Differences	Absolute	.087
	Positive	.087
	Negative	-.056
Test Statistic		.087
Asymp. Sig. (2-tailed)		.200[c,d]

Source: obtained from primary data, 2025.

The normality test was conducted to ensure that the residual data were normally distributed. This test used the Kolmogorov-Smirnov method. Based on the test results, the Asymp. Sig. value was found to be 0.200, which is greater than the significance level of 0.05. Therefore, the normality assumption is satisfied, and the residual data are considered normally distributed. As a result, the simple linear regression analysis can be proceeded with confidence.

Simple Linear Regression Test

The simple linear regression test is used to determine the linear effect of one independent variable on a single dependent variable. This analysis aims to explain the causal relationship between variables and to predict the value of the dependent variable based

on the independent variable (Ghozali, 2021). Therefore, this test is appropriate for research involving only two main variables. The R Square (R^2) value indicates the percentage of variation in the dependent variable that can be explained by the independent variable in the model. The higher the R Square value, the better the model is at explaining the relationship between the variables(Ghozali, 2021).

Table 5. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.754[a]	.569	.561	3.634
a. Predictors: (Constant), ChatGPT				

Source: obtained from primary data, 2025.

Based on the Model Summary output, the correlation coefficient (R) is 0.754, indicating a strong relationship between ChatGPT usage and learning motivation. Meanwhile, the coefficient of determination (R Square) is 0.569, which means that 56.9% of the variation in learning motivation can be explained by ChatGPT usage, while the remaining 43.1% is influenced by other variables not included in this research model. The Adjusted R Square value of 0.561 reinforces the stability of the regression model constructed.

Table 6. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	925.253	1	925.253	70.046	.000[b]
	Residual	700.092	53	13.209		
	Total	1625.345	54			
a. Dependent Variable: Learning Motivation						
b. Predictors: (Constant), ChatGPT						

Source: obtained from primary data, 2025.

The significance value (Sig.) in the F-test column indicates whether the regression model as a whole is capable of explaining the relationship between the independent and dependent variables. If the Sig. value < 0.05, the model is considered statistically significant (Santoso, 2020). The results of the simple regression significance test using the ANOVA table show an F value of 70.046 with a significance level (p) = 0,000 (p<0,05). This means that ChatGPT usage significantly influences students' learning motivation. It also indicates that the regression model is valid and can be used to predict learning motivation based on the ChatGPT usage variable.

Table 7. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.650	3.199		3.016	.004
	ChatGPT	.744	.089	.754	8.369	.000
a. Dependent Variable: Motivasi Belajar						

Source: obtained from primary data, 2025.

The regression coefficient (B) indicates the magnitude of change in the dependent variable resulting from a one-unit change in the independent variable. The Sig. value in this column determines whether this effect is statistically significant. If Sig. < 0.05, the independent variable has a significant influence on the dependent variable (Ghozali, 2021). Based on the Coefficients table, the regression equation is obtained as follows.

$$Y = 9{,}650 + 0{,}744X$$

The constant (a) = 9,650 indicates that if there is no ChatGPT usage, the predicted learning motivation score for students is 9.650. The regression coefficient (b) = 0,744 means that for every one-unit increase in the ChatGPT usage score, the learning motivation score increases by 0,744. The variable ChatGPT usage has a t-value of = 8,369 (p=0,000), indicating a positive and statistically significant effect on learning motivation. This result supports the research hypothesis, which states that there is an effect of ChatGPT usage on learning motivation.

The results of this study indicate that ChatGPT usage significantly influences students' learning motivation. These findings reinforce those of previous studies, such as Nelliraharti (2024), who reported a 36% contribution of AI technology to students' learning motivation. In this study, the effect is even stronger, at 56.9%. This suggests that the integration of artificial intelligence, particularly through the ChatGPT platform, plays a significant role in enhancing both the quality and intensity of students' learning motivation in the digital era.

A Holistic Self-Determination Theory Analysis of ChatGPT's Role in Learning Motivation

According to Self-Determination Theory (SDT), an individual's learning motivation is influenced by the fulfillment of three basic psychological needs: autonomy, competence, and relatedness (Deci & Ryan, 2000). As an intelligent medium based on artificial intelligence (AI), ChatGPT has the potential to fulfill these three needs.

First, autonomy refers to the extent to which individuals feel they have freedom in choosing and managing their learning process. Students who feel they have control over how they learn tend to have stronger intrinsic motivation (Deci & Ryan, 2000). ChatGPT provides

students with the opportunity to determine their own topics, study time, and learning methods that they consider most effective. Interaction with ChatGPT allows them to access materials according to their own needs and pace, thereby enhancing their sense of ownership over the learning process. These findings align with the report by Zhou & Li (2023), which states that ChatGPT fulfills the need for autonomy by providing personalized and flexible feedback, supporting a more self-directed and tailored learning experience. For Social Studies Education students, autonomy might manifest in choosing case studies related to social phenomena or designing lesson plan simulations with ChatGPT, thereby increasing ownership over their discipline-specific learning process

Second, competence refers to the need to feel capable of mastering tasks and achieving academic goals. ChatGPT facilitates the fulfillment of this need by providing instant explanations and relevant feedback. When Social Studies Education students experience challenges in designing classroom activities on topics such as social stratification or political systems, ChatGPT can offer scaffolding such as illustrative discussion prompts and conceptual clarifications that enhances their self-efficacy in executing these pedagogical tasks. These findings are consistent with Zhou's (2024) study, which states that the use of ChatGPT improves competence perception, particularly in digital learning among teachers. Theoretically, AI serves as an effective learning facilitator by offering immediate and responsive support, helping learners build a stronger sense of academic capability.

Third, social relatedness refers to the need to feel accepted and connected with others within the learning environment (Ryan & Deci, 2017). Although ChatGPT is a non-human system, Social Studies Education students may employ its outputs such as debate prompts on contemporary social issues as a foundation for collaborative activities, thereby facilitating peer interaction and cultivating a sense of belonging within their cohort. For example, discussions generated with ChatGPT can serve as material for peer discussions among students, fostering a more collaborative learning atmosphere. This indicates that ChatGPT-based learning experiences can still fulfill the need for social relatedness. Zhou et al. (2024) also note that ChatGPT supports a sense of connection through interactive dialogues that enhance users' emotional engagement, making the learning process more engaging and socially enriched.

An Expectancy-Value Theory Analysis of ChatGPT's Impact on Motivation

The passage discusses the Expectancy-Value Theory (EVT) developed by Eccles and Wigfield (2022), which posits that learning motivation is determined by two main components: expectancy for success and task value. Expectancy for success refers to an individual's belief in their

ability to complete a specific task. The features of ChatGPT, which provide easily understandable explanations and high accessibility, make students feel more confident in completing academic tasks. In Social Studies Education, When students perceive that ChatGPT delivers contextualized responses pertinent to social issues or social studies pedagogy, they are likely to exhibit elevated expectations of successfully producing papers, RPPs (Learning Implementation Plans), or social case study analyses, thereby enhancing their intrinsic motivation.

Research findings indicate that this confidence is reinforced by positive experiences using ChatGPT. Ali *et al*. (2023) also note that generative AI like ChatGPT can enhance expectancy for success by providing quick and accurate feedback. Furthermore, a meta-analysis by Guan *et al*. (2025) shows that students' learning perceptions improve with the duration of ChatGPT usage, along with an increase in the positive feedback they receive.

In addition to expectancy for success, Expectancy-Value Theory (EVT) also emphasizes the importance of task value, which consists of four main components: intrinsic value, utility value, attainment value, and cost. Intrinsic value refers to the enjoyment or interest an individual feels toward a task. Through interactive learning methods such as simulated conversations and quizzes, ChatGPT enhances students' active participation by making the learning experience more engaging and dynamic. Adan (2024) notes that these features serve as a unique attraction for students who require quick and informative responses.

Utility value refers to how useful a task is in relation to practical or long-term goals. In Social Studies Education, ChatGPT can be conceptualized as an instrumental resource for assembling open educational materials, formulating social research proposals, or generating public policy analyses aligned with the curriculum. Engaging with ChatGPT in these capacities reinforces students' perception of its direct applicability to their prospective roles as social studies teachers—for instance, by facilitating rapid consultation on participatory pedagogical methods or by providing illustrative examples of recent social case studies. These findings align with the study by Chan & Zhou (2023), which found that a high perception of utility value encourages students' intention to continue using AI technology in their learning process.

Furthermore, attainment value refers to the importance of a task in relation to one's personal identity and aspirations. Students in this study view academic success as an essential part of their self-identity. When ChatGPT helps them complete tasks effectively, it strengthens their sense of pride and self-confidence. Ali *et al*. (2023) note that the use of ChatGPT enhances students' self-esteem and motivation to achieve future aspirations.

However, the Expectancy-Value Theory also highlights the aspect of cost, which refers to the negative

consequences or additional effort arising from task execution. One concern that arises is that excessive use of ChatGPT may lead to dependency and diminish critical thinking skills. Blahopoulou and Ortiz-Bonnin (2025) note that students are aware of the risk of decreased learning process value if they rely too heavily on AI. Mahfud *et al*. (2023) also warn that uncontrolled use of ChatGPT can harm cognitive aspects and students' learning autonomy. Although the primary focus of this research is on the positive impacts, survey findings indicate that some students remain aware of the potential risks associated with using ChatGPT. They emphasize the importance of having adequate digital literacy to ensure that the use of this technology is conducted wisely, balanced, and does not neglect ethics or independent thinking skills.

Overall, autonomy reflects the level of control students have in the learning process, competence indicates their confidence in mastering the material, connection describes their experiences of social interaction, and extrinsic motivation relates to the external benefits of using ChatGPT. These four aspects complement and reinforce students' learning motivation. From a theoretical integration perspective, Self-Determination Theory explains the internal reasons why students are motivated to learn, namely because their basic psychological needs are met. Meanwhile, Expectancy-Value Theory elucidates the external values and expectations that students perceive when using ChatGPT. The combination of these two theories reinforces the conclusion that ChatGPT significantly supports the enhancement of students' learning motivation, both intrinsically and extrinsically. In other words, the presence of ChatGPT as a learning aid not only provides efficiency but also offers personal and emotional meaning in the learning process of students in the Social Studies Education Program at Universitas Negeri Semarang.

CONCLUSION

The results of this study indicate that ChatGPT usage has a positive and significant effect on the learning motivation of Social Studies Education students at Universitas Negeri Semarang, Cohort 2022. This is supported by simple linear regression analysis, which yielded an R^2 value of 0.569, meaning that 56.9% of the variability in learning motivation can be explained by ChatGPT usage, while the remaining 43.1% is influenced by other factors outside the research model. The significance value of 0.000 and a t-value of 8.369 confirm that this effect is statistically significant. These findings are further supported by Self-Determination Theory (SDT) and Expectancy-Value Theory (EVT), which show that artificial intelligence tools like ChatGPT can enhance students' intrinsic motivation by fulfilling psychological needs such as autonomy, competence, and relatedness, as well as increasing perceived success expectations and task value.

REFERENCES

Adan, A. (2024). Motivasi penggunaan ChatGPT oleh mahasiswa Ilmu Perpustakaan UIN Ar-Raniry Banda Aceh. *Indonesian Journal of Library and Information Science*, 5(2), 120–128.

Ali, J. K. M., Shamsan, M. A., Hezam, T. A., & Mohammed, A. A. Q. (2023). *Impact of ChatGPT on learning motivation: Teachers and students' voices*. Journal of English Studies in Arabia Felix, 2(1), 41-49.

Ali, A., Rahmawati, D., & Syafrudin, A. (2023). *Pemanfaatan ChatGPT dalam meningkatkan motivasi belajar siswa*. Jurnal Inovasi Pendidikan, 18(2), 133–140.

Amiryousefi, M. (2023). ChatGPT in education: Blessing or curse? *Education and Information Technologies*, 28(3), 3451–3466. https://doi.org/10.1007/s10639-023-11647-z.

Blahopoulou, M., & Ortiz-Bonnin, S. (2025). Exploring the impact of AI-based learning tools on academic integrity and cognitive engagement. *Journal of Educational Technology and Ethics*, 13(1), 66–79. https://doi.org/10.1016/j.jete.2025.01.006.

Chan, T. Y., & Zhou, L. (2023). Students' intention to adopt ChatGPT in higher education: The role of perceived usefulness, enjoyment, and cost. *Education and Information Technologies*, 28, 4317–4332. https://doi.org/10.1007/s10639-023-11689-3.

Databoks Katadata. (2025, April 25). *ChatGPT, Aplikasi AI Paling Banyak Digunakan Warga RI*. Diakses dari https://databoks.katadata.co.id/teknologi-telekomunikasi/statistik/680af50c1aecd/chatgpt-aplikasi-ai-paling-banyak-digunakan-warga-ri.

Eccles, J. S., & Wigfield, A. (2022). From expectancy-value theory to situated expectancy-value theory: A developmental, social cognitive, and sociocultural perspective on motivation. *Contemporary Educational Psychology, 68*, 101994.

Eccles, J. S., & Wigfield, A. (2022). *Expectancy-value theory of achievement motivation*. Contemporary Educational Psychology, 67, 101–110.

Ghozali, I. (2021). *Aplikasi Analisis Multivariate dengan Program IBM SPSS 25* (9th ed.). Semarang: Badan Penerbit Universitas Diponegoro.

Guan, Y., Zhang, C., & Lee, C. (2025). AI-enhanced learning and student motivation: A meta-analysis of ChatGPT in postsecondary education. *Computers & Education*, 210, 105982. https://doi.org/10.1016/j.compedu.2025.105982.

Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2021). *Multivariate Data Analysis* (8th ed.). Cengage.

Hamdi, S., Surur, M., & Wibowo, R. A. (2021). *Artificial Intelligence dalam*

Transformasi Digital Pendidikan di Era Industri 4.0. Jurnal Teknologi dan Sistem Informasi, 9(2), 101–110. https://doi.org/10.33365/jtsi.v9i2.1234.

Hidayanti, R. (2023). Pemanfaatan ChatGPT dalam proses belajar mahasiswa di era AI: Studi kasus di Universitas Negeri Makassar. *Jurnal Pendidikan Teknologi dan Informasi*, 10(2), 88–95. https://doi.org/10.21009/jpti.v10i2.3021

Jayaputri, H. E. (2024). *ChatGPT in action: Unraveling Its Impact on Student Motivation in English Language Learning*. Scope: Journal of English Language Teaching, 8(2), 448-456. http://dx.doi.org/10.30998/scope.v8i2.22375

Kemendikbudristek. (2023). *Adopsi teknologi AI dalam Pendidikan Tinggi di Indonesia*. Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia.

Mairisiska, T., & Qadariah, N. (2023). Persepsi mahasiswa FTIK IAIN Kerinci terhadap penggunaan ChatGPT untuk Mendukung Pembelajaran di Era Digital. *Jurnal Teknologi Pembelajaran Indonesia*, 13(2), 34–45.

Mahfud, C., Raharjo, S. T., & Zainudin, M. (2023). *The Influence of Artificial Intelligence on Students' Learning Motivation and Independence in Higher Education*. *Jurnal Pendidikan Teknologi dan Kejuruan*, 39(2), 151–160.

Mahfud, F. H., Sari, R. P., & Wibowo, A. (2023). *AI dan motivasi belajar di era digital: Antara potensi dan tantangan*. Jurnal Pendidikan Teknologi, 9(1), 45–54.

Nashir, M. H., Wirakusumah, T. K., & Erlandia, D. R. (2023). Hubungan Penggunaan ChatGPT dengan Pemenuhan Kebutuhan Mahasiswa. *Filosofi: Publikasi Ilmu Komunikasi, Desain, Seni Budaya*, 1(1), 56–67.

Nasution, A. R., & Hutauruk, B. S. (2023). *Kecerdasan Buatan dalam Dunia Pendidikan: Peluang dan Tantangan*. *Jurnal Teknologi Pendidikan*, 25(2), 120–132. https://doi.org/10.21009/jtp.v25i2.3050.

Nelliraharti, N. (2024). *Pengaruh Artificial Intelligence (AI) Terhadap Motivasi Belajar Mahasiswa.* Journal of Education Science (JES), 10(1), 139–151. https://doi.org/10.33143/jes.v10i1.3993.

Nufus, Hayatun. (2024). *Pengaruh Penggunaan ChatGPT Terhadap Motivasi Belajar Mahasiswa STMIK Antar Bangsa*. Jurnal Teknik Informatika, 10(1), 28–31.

OpenAI. (2024). *ChatGPT: Optimizing Language Models for Dialogue*. https://openai.com/chatgpt.

Palayukan, H., Dewantara, H., Nurjannah, E., Pebrian, O., Sarmila, & Al Ayyubi, T. (2024). *Investigasi Persepsi Mahasiswa terhadap Chatgpt dalam Model Blended Learning pada Pembelajaran Matematika*. Journal of Vocational, Informatics and Computer

Education, 2(1), 14–22. https://doi.org/10.61220/voice.

Popenici, S. A. D., & Kerr, S. (2022). *Exploring The Impact of Artificial Intelligence on Teaching and Learning in Higher Education*. *Research and Practice in Technology Enhanced Learning*, 17(1), 1–13. https://doi.org/10.1186/s41039-022-00170-5.

Risnina, N. N., Permatasari, S. T. I., Nurulhusna, A. Z., Anjelita, F. M., Wulaningtyas, C., & Rakhmawati, N. A. (2023). *Pengaruh ChatGPT Terhadap Proses Pembelajaran Mahasiswa di Institut Teknologi Sepuluh Nopember*. JPBB: Jurnal Pendidikan, Bahasa dan Budaya, 2(4), 119–132.

Ryan, R. M., & Deci, E. L. (2000). Self-Determination Theory and The Facilitation of Intrinsic Motivation, Social Development, And Well-Being. *American Psychologist*, 55(1), 68–78.

Santoso, S. (2020). *Menguasai Statistik di Era Revolusi Industri 4.0 dengan SPSS 25*. Jakarta: Elex Media Komputindo.

Siregar, F. H., Hasmayni, B., & Lubis, A. H. (2023). *The Analysis of Chatgpt Usage Impact on Learning Motivation Among Scout Students*. International Journal of Research and Review, 10(7), 632–638.

Sugiyono. (2021). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D* (26th ed.). Alfabeta.

Uno, Hamzah B. (2019). *Teori Motivasi dan Pengukurannya: Analisis di Bidang Pendidikan*. Bumi Aksara.

Wulansari, O. D., Eunike, P., & Wardhani, P. A. P. (2024). *Pengaruh ChatGPT dan Literasi Digital Terhadap Motivasi Belajar Mahasiswa*. Jurnal Penelitian Pendidikan, Psikologi dan Kesehatan, 5(3), 831–840.

Wulandari, R., Sari, D. P., & Rahmawati, E. (2023). *Pemanfaatan Artificial Intelligence dalam Dunia Pendidikan Tinggi: Tantangan dan Peluang*. Jurnal Teknologi Pendidikan, 25(1), 45–56.

Wulandari, N. R., Syahputra, R., & Manik, E. (2023). *ChatGPT dan produktivitas akademik mahasiswa: Studi deskriptif di perguruan tinggi*. Jurnal Ilmu Pendidikan, 22(2), 102–115.

Yunarzat, E., Sida, S. C. N., & Kasman. (2024). *Pengaruh Penggunaan Chatgpt Terhadap Motivasi Belajar Siswa di Sekolah Menengah Kejuruan*. Edukatif: Jurnal Ilmu Pendidikan, 6(2), 1607–1626.

Zhou, L., & Li, J. J. (2023). *The Impact of Chatgpt on Learning Motivation: A Study Based on Self-Determination Theory*. Education Science and Management, 1(1), 19–29.

Zhou, Y., Li, J., & Zhang, H. (2024). *Perceived autonomy, competence, and relatedness in AI-based learning platforms*. Journal of Educational Technology Research, 41(3), 225–240.