



The Influence of AI and Social Media on Academic and Mental Health: Perspective Makassar State University Students in the Smart Learning Era

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ARTICLE INFO	ABSTRACT
Keywords: Artificial Intelligence Social Media Academic Achievement Mental Health Smart Learning	Background/Context: The era of smart learning has significantly transformed the way students interact with technology, particularly through artificial intelligence (AI) and social media. While these technologies provide opportunities for innovation in education, they also present challenges related to academic performance and mental well-being. Objective/Purpose: This study aims to analyze the influence of AI and social media use on the academic performance and mental health of students at State University of Makassar. Method: A quantitative descriptive approach was applied, using a Likert-scale questionnaire distributed to university students. Data were analyzed to identify patterns and relationships between technology use, academic achievement, and psychological conditions. Results: The findings indicate that AI use has a generally positive impact, particularly in supporting the effectiveness of learning and enhancing academic outcomes. In contrast, the influence of social media is more diverse. While moderate use can provide social and emotional support, excessive engagement is linked to anxiety, stress, and reduced focus, negatively affecting mental well-being. Conclusion: The study highlights the dual role of technology in higher education. AI contributes to more effective and personalized learning, whereas social media requires careful management to prevent adverse effects on students' mental health. These results provide insights for developing strategies that promote a balanced integration of technology in education, ensuring both academic success and psychological well-being in the smart learning era.
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INTRODUCTION

Use intelligence artificial intelligence (AI) in education give Lots benefits, such as more personalized learning and greater access easy for students (Putri et al., 2023). However, the excessive use of AI can cause problem mental health issues such as burnout and “techno struggle,” which affect performance academic students (Imran et al., 2024; Wambsganss et al., 2022). Studies show that students who are too technology dependent risky experience mental fatigue, or “technology fatigue,” which has an impact negative on motivation learning and quality academic they (Romero-Rodríguez et al., 2023; Wijaya et al., 2023). Therefore that 's important for develop a wise approach in using AI for benefits technology this can obtained without harm welfare student.

Study previously has show that application of AI in education bring lots benefits, such as improvement access and personalization learning (Kaiss et al., 2023; Putri et al., 2023). As example, use of chatbots and systems learning adaptive proven can increase experience customized learning with

need students (Nti et al., 2022). In addition, AI also provides convenience in evaluation automatic that speeds up the evaluation process and provides bait come back directly (Chang et al., 2024; Impey et al., 2025). However, some researchers remind that uncontrolled use of AI under control can damage ability Study independent students and lower quality skills critical they (Lillywhite & Wolbring, 2024).

Other findings show that the use of AI in excessive can trigger problem mental health, such as burnout and "techno struggle." In a study conducted in Batam City, the use of AI intensive increase risk of burnout, which is caused by dependence technology and pressure excessive academic (Wijaya et al., 2023). Studies also note that student feel anxious and depressed consequence pressure For adapt with AI in learning, which often exceeds the limits of comfort they (Hawanti & Zubayduloevna, 2023; Lillywhite & Wolbring, 2024). Implications from results This is the need a more approach Be careful in use AI technology in education, for avoid effect negative term long to student mental well-being.

Although study previously has show benefit significant, such as personalization learning and efficiency evaluation (Alifah & Hidayat, 2025; Shahzad et al., 2024) and challenge like decline skills critical consequence dependency, still There is a number of unanswered questions answered. How student can leveraging AI without cause digital fatigue? How institutions education can arrange use of AI for minimize impact the negative to mental health? Is it there are models or approach special that can implemented for maximize benefits of AI in education? Questions This important for explored more continue so that students can utilise technology in a way more wise and effective.

Study This important for help student utilise optimal AI potential without sacrifice their mental health. With understand impact term long use of AI, institutions education expected can create supportive policies use technology in a way wise. In addition, research This can give outlook for campus For develop training or support programs that help student understand and utilize AI with more Good.

Research purposes this is for analyze impact the use of AI on mental well-being and performance academic students. Research this will involving survey and data analysis for evaluate the extent to which the use of AI affects aspects mentioned, as well as for designing more AI use strategies healthy for student.

METHOD

Study This use approach quantitative descriptive For analyze impact use intelligence artificial intelligence (AI) on mental well-being and performance academic Makassar State University students. Approach quantitative descriptive allows researchers evaluate connection between variables in a way systematic and measurable (Costigliola, 2019; Hair & Alamer, 2022).

Population study consists of from students of Makassar State University, with amount respondents as many as 90 people, consisting of of 48 women and 42 men. Respondents originate from various faculty, good from the study program Non-STEM and STEM. Most of respondents aged 16-19 years (15 people) and 20-10 years (55 people). Based on duration use of social media per day, as many as 45% of respondents using social media for 1-4 hours, 30% use not enough from 1 hour, 20% use 4-8 hours, and 5% use more from 8 hours.

Instrument study in the form of questionnaire structured development based on principle compilation instrument study social (Hutahaen, 2015). Questionnaire consists of of two parts main. First part includes identity data respondents, such as type gender, age, faculty, year, duration daily social media usage, as well as experience using AI. Part two contains 22 statements that use scale Likert 1-5, with categories "Strongly Disagree", "Disagree", "Neutral", "Agree", and "Strongly Agree". Statement This covers five aspects, namely intelligence artificial intelligence (AI), social media, smart learning, achievement academics, and mental well-being.

Questionnaire distributed online via Google Forms, which allows respondents For answer with flexibility time and place. Use online questionnaires, such as Google Forms, lots used in study education Because convenience in data collection, efficiency costs, and capabilities For reach respondents in

larger scale large (Widayanti & Pembuatan, 2020). Response data respondents processed in a way descriptive use average statistics for every category statemen. as shown in the following table :

Table 1. Grid Instrument

No	Aspects / Sub Factors	Statement	Number Statement	References
1	Academic Achievement	I feel Make Progress in my learning quality	1	(Syahzad & Khan, 2024)
		I feel make progress in quality studies	2	
		I feel make progress in develop required skills For future career	3	
		I feel make progress in look for opportunity career I in the future front	4	
2	Mental Well-being	I feel optimistic moment using AI and Social Media	5	
		I feel more believe self in Study Because fast and responsive AI support.	6	
		I feel more stress when use tool help learning based technology	7	
		I feel easy handle problem with Good	8	
3	Smart Learning	I feel near with other people at the moment using AI or social media	9	
		With existence technology smart , I feel more motivated For learn various topic	10	
		Social media give I room For support emotional moment Study.	11	
		I feel more motivated Study with existence support from technology smart learning	12	
4	Artificial Intelligence (AI)	The use of AI in learning help I more understand material academic in a way deep.	13	
		I feel motivated in Study moment use AI technology as tool help Study.	14	
		AI helps I arrange time Study more effective, so that performance academic I increase.	15	
		I feel AI provides experience personalized learning , which supports achievement academic.	16	
		AI helps increase focus and efficiency I in finish tasks academic .	17	

Data analyzed in a way quantitative with use Likert scale For evaluate response respondents to statement in questionnaire. Likert scale This consists of of five levels assessment, as shown in Table 2, starting from "Strongly Agree" to "Strongly Disagree." Approach This allows structured measurement to level agreement respondents in each statement . The following scale Likert his :

Table 2. Likert Scale

Scale	Information
5	Strongly Agree
4	Agree
3	Neutral
2	Don't Agree
1	Strongly Disagree

After obtain data from results questionnaire , calculation of average score used For determine trend general from answer respondents . This process involving use the Value Range Interval (NJI) formula for knowing the category interval evaluation based on Likert scale . The NJI formula is as following :

$$\text{Interval Level Value) } = \frac{\text{Max Value} - \text{Min Value}}{\text{Number of Statemnet Criteria}}$$

$$\text{Scale Width} = \frac{5-1}{5}$$

$$= 0.8$$

Can be concluded that :

- a. Index : 1
- b. Index : 1
- c. Index Maximum : 5
- d. Interval: $5-1 = 4$
- e. Interval Distance: $(4- 1) \div 4 = 0.8$

Interpretation This allows distribution category standardized assessment , simplifying the analysis process to the data obtained.

Data in study This analyzed use technique statistics descriptive For give description deep about results research . Statistics descriptive used covers look for average value (mean), looking for mark middle (median), looking for most frequent value appear (mode), count total amount (sum), and mark maximum and minimum for describe data distribution . In addition, the analysis also includes standard deviation for evaluate level data distribution. Approach this help in understand pattern trends and distribution of data in general overall For support interpretation results study.

For total value calculation every the respondents use that is with method following :

If there are 5 statements related to AI and a respondents give response :

$$4, 3, 5, 4, 4 \rightarrow \text{Total} = 4+3+5+4+4=204 + 3 + 5 + 4 + 4$$

$$= 4+3+5+4+4$$

$$=20.$$

As for calculate the average (mean) with formula following :

$$\text{Interval (Level Value)} = \frac{\text{Total score of all respondent}}{\text{Number of Respondents}}$$

As for calculating mode is most frequent value appears in the respondent data. See the total value every respondents for AI variables and search mark with frequency highest.

For calculate Sum with add up all total values respondents, min with look for lowest value from all total values, as for for Maximum with look for mark tall from all total values the.

RESULTS AND DISCUSSION

Study This involving 90 respondents consisting of of 42 males (46.7%) and 48 females (53.3%). The majority respondents be in range aged 20-25 years (61.1%), while the rest be in range aged 16-19 years (16.7%). Respondents originate from various background behind education , with proportion of 71.1% comes from from STEM majors and 28.9% of major Non-STEM.

Based on duration daily social media usage , 36.7% of respondents using social media for 4-8 hours per day, followed by 33.3% who use more than 8 hours, and 30% use social media for 1-4 hours. This data describe level exposure sufficient technology high among students . The table shows the picture as following :

Table 3. Demographics Respondents

Demographic		Counts	% of Total	Cumulative %
Gender	L	42	46.7%	46.7%
	P	48	53.3%	53.3%
Age	16-19	15	16.7%	16.7%
	20-25	55	61.1%	77.8%
Dapartment/Study Program	STEM	64	71.1%	71.1%
	Non-STEM	26	28.9%	100.0%
Average Duration of Social Media Usage per Day	1-4 hours	27	30.0%	30.0%
	4-8 hours	33	36.7%	66.7%
	More than 8 hours	30	33.3%	100.0%

Research result through questionnaire show data distribution based on type gender and age respondents. Based on the type of data gender, as many as 48 respondents various sex women, while 42 respondents various sex man .

Analysis results descriptive against five variables main study shown in the table following :

Table 4. Statistics Descriptive Study

	Intelligence Artificial	Social media	Mental Well-being	Smart Learning	Academic Achievement
N	90	90	90	90	90
Mean	17.0	17.8	17.0	10.6	14.3
Median	17.0	18.0	17.0	11.0	14.0
Mode	15.0	20.0	15.0	12.0	12.0 ^a
Sum	1530	1600	1530	957	1288
Standard deviation	3.80	3.51	3.80	2.43	3.20
Minimum	5	5	5	3	4
Maximum	25	25	25	15	20

In the table descriptive table in (Table 4.) there is a number of the first variable in descriptive variables Intelligence Artificial Intelligence (AI) Majority respondents state that AI technology helps in increase efficiency learning , especially through personalization materials and management time. The average score of 17.0 indicates level good reception to use of AI in learning,

Variables Respondents ' Social Media utilizing social media as means communication and support emotional moment study . However , the height intensity social media use (4-8 hours/ day) shows potential impact negative to mental health , such as anxiety or disturbance concentration.

Variables Mental Wellbeing in part big respondents feel optimistic and more believe self with existence AI technology , although there is report stress consequence demands adaptation technology . The average value of 17.0 indicates majority respondents be at the level neutral mental well-being until positive.

Variables Smart Technology smart learning, like AI, proven increase motivation Study respondents . The relative average score low (10.6) indicates the need optimization features technology clever for support aspect learning critical and for variables Academic Achievement , AI Technology and Social Media support achievement academic through access fast to materials, direct feedback, and flexibility study. Average score of 14.3 reflects influence positive to progress academic respondents.

Data distribution is analyzed using histogram to every variables . Visualization this help in understand pattern general and tendencies that respondents have . The following is curve distribution from each variable :

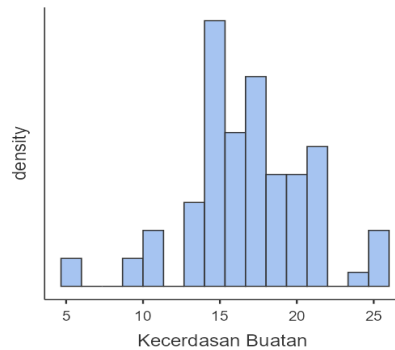


Figure 1. Variable curve Intelligence Artificial

This curve show distribution response respondents to intelligence artificial . The majority response concentrated in the range 15–20, which indicates level reception sufficient technology tall .

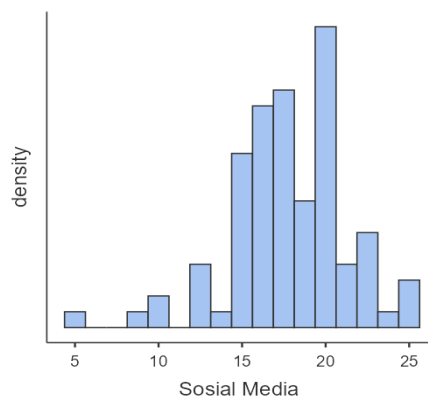


Figure 2. Variable curve Social media

Data distribution for variables social media indicates pattern usage is concentrated in the 10–15 range , reflecting moderate social media activity only among respondents .

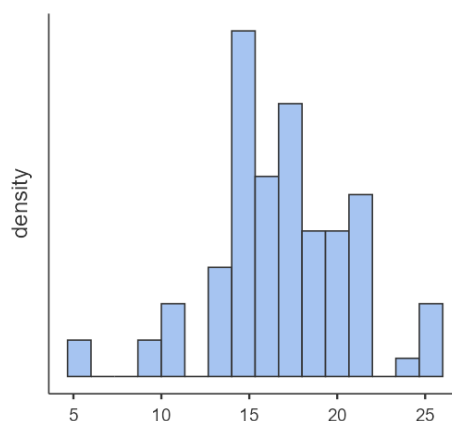


Figure 3. Variable curve Mental Well-being

Variables This show that mental well-being of respondents tend distributed normally , with peak frequency in the range value 10–15.

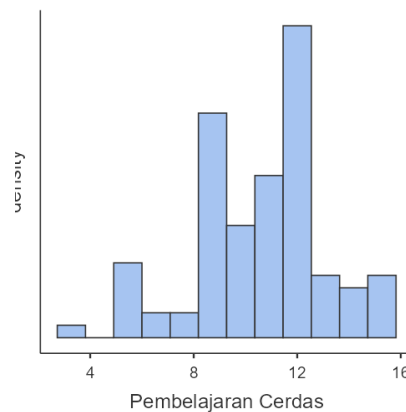


Figure 4. Variable curve Smart Learning

This curve show pattern respondent data distribution to learning based technology smart. The majority respondents be in range value 10–14, which indicates reception tall to method learning This .

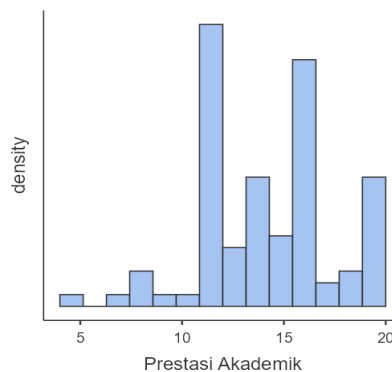


Figure 5. Variable curve Academic Achievement

Distribution of achievement data academic show majority respondents own above average value , with peak in the range 15–18, reflecting level good performance.

Research result This show that use intelligence artificial intelligence (AI) provides impact positive on efficiency and personalization learning students . AI technology , such as use of chatbots and systems learning adaptive , proven increase experience customized learning with need students (Nti et al., 2022; Putri et al., 2023). However , the intensity high use of AI potential cause mental stress , such as burnout and "techno struggle" which can influence performance academic students (Imran et al., 2024; Wijaya et al., 2023). In addition, social media also supports communication emotional, allowing student for collaborate in context academic, but excessive in its use can reduce concentration study they (Shahzad et al., 2024) findings this important because give outlook about how student can utilise technology optimally without sacrifice their mental well-being.

Findings this consistent with study previously shown impact positive AI on personalization learning, as reported by Jian (2023) highlights how technology this can customized For fulfil need Study individual. In addition, it also records that social media can strengthen collaboration and interaction social between students, who support development academic they (Prasasty, 2023). As for the research

more carry on support results this with show that moderate use of social media can increase involvement student in the learning process (Deviv et al., 2024).

However, on the other hand, research this also reminds we will risk use technology in a way excessive, can reduce skills think critical and lowering motivation study. Research results this support view said, because students who are too technology dependent tend experience decline quality skills critical they, who can impact negative on quality academic they.

Although results study this consistent with existing literature, it is necessary recognized that factor alternative can influence the results obtained. For example, the level of student digital literacy or experience they with technology previously can influence how they interact with AI and social media. In addition, the design cross-sectional research and size limited sample can influence accuracy and generalization findings. Research more further involving more samples large and longitudinal design will give a clearer picture clear about impact term long use technology in education.

CONCLUSIONS

Study this show that use intelligence artificial intelligence (AI) in education give benefit significant, especially in personalization learning, management time, and achievements academic. On the other hand, although social media can support communication emotional, excessive use can cause impact negative impact on students' mental health, such as burnout and "techno struggle". Therefore, that 's important for manage use of AI with wise for avoid pressure academic overload and increase student mental well-being.

Study this recommend that institutions education develop policies that regulate the use of AI in wise, with focus on restrictions duration use technology for reduce risk digital fatigue. In addition, it is important for campus for provide training and support emotional so that students can make optimal use of AI without sacrifice their mental health. Research more carry on required for identifying balanced learning models between technology and welfare students, as well as for explore approaches new in overcome impact negative use of AI.

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