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## The Impact of AI on the Mental Well-being of the Manipur University Students

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### Abstract

Artificial Intelligence (AI) is playing an increasingly significant role in higher education, particularly in supporting students' learning and academic tasks. The present study focuses on how AI affects the mental well-being of postgraduate students of Manipur University. It explores the connections between using AI, academic stress, stress relief, motivation to learn, and overall mental health.

To gather data, the study used a quantitative approach and conducted an online survey using Google Forms in April 2025. A total of 117 students participated, comprising 60 females and 57 males. The data was analyzed using descriptive statistics and Chi-square tests.

The results indicated that students who frequently used AI reported experiencing less academic stress, better mental well-being, and greater motivation to learn than those who used AI less often. Many students found AI tools beneficial for alleviating academic pressure.

The study highlights that when used responsibly and ethically, AI tools can be valuable resources for academic support in higher education.

**Keywords:** Artificial Intelligence, Mental Well-being, Academic Stress, Motivation to Learn, University Students

### Introduction

The rapid development of Artificial Intelligence (AI) has brought significant changes to various sectors of society, including education. In recent years, AI-powered technologies such as intelligent tutoring systems, automated writing assistants, virtual chatbots, and generative AI tools have increasingly become part of students' academic lives. These tools help learners access information quickly, organize study materials, generate ideas, improve writing quality, and solve academic problems efficiently. As a result, AI has emerged as an important technological support system in higher education.

University students often experience academic stress due to heavy syllabi, examinations, deadlines, competition, and expectations for academic success. Excessive academic stress may negatively affect students' mental well-being, motivation, learning performance, and overall quality of life. Therefore, students continually seek strategies and resources to cope effectively with academic pressure. In this context, AI tools may serve as useful academic companions by simplifying learning tasks, reducing workload, and providing timely assistance.

The growing popularity of generative AI platforms such as ChatGPT, grammar correction tools, summarization tools, and research assistants has transformed how students approach learning activities. Many students now use AI for drafting assignments, understanding complex concepts, preparing presentations, language editing, coding assistance, and exam preparation. These applications may save time, increase productivity, and enhance confidence, thereby positively influencing students' academic experiences.

At the same time, the growing use of AI in education has sparked debates over its psychological and educational effects. Some researchers argue that AI tools can improve motivation, engagement, and personalized learning opportunities. Others caution that overreliance on AI may undermine critical thinking, creativity, and independent problem-solving. Similarly, while AI may reduce stress by easing academic workload, concerns related to misuse, ethical issues, and academic dishonesty remain relevant.

Mental well-being is an essential component of students' academic success. Students who experience high levels of stress often face anxiety, emotional exhaustion, low confidence, and reduced motivation to learn. If used responsibly, AI tools may help improve students' mental well-being by reducing pressure, providing quick guidance, and increasing preparedness. However, empirical evidence on the relationship between AI use and students' psychological well-being is still developing, particularly in university settings.

In the Indian higher education context, the adoption of digital learning technologies has expanded rapidly in the past few years. Students increasingly rely on online platforms and AI-enabled tools for academic support. However, limited studies have examined how AI usage influences academic stress, mental well-being, and motivation to learn among university students.

Therefore, the present study seeks to examine the impact of AI on the mental well-being of Manipur University students. Specifically, the study investigates the level of AI usage among students and its relationship with academic stress, stress reduction, motivation to learn, and mental well-being while coping with academic pressure. The study's findings may contribute to a better understanding of how AI tools can be integrated responsibly into higher education to support student success and well-being.

## **Review of Literature**

The rapid advancement of Artificial Intelligence (AI) has significantly influenced the education sector, particularly in higher education. AI-powered tools such as intelligent tutoring systems, automated writing assistants, chatbots, and generative AI platforms have transformed how students access information, complete academic tasks, and manage learning activities. Recent studies suggest that AI can improve academic efficiency, reduce stress, and enhance students' motivation and learning experiences.

Research by Holmes, Wayne, Bialik, Maya, and Fadel, Charles (2019) highlighted that AI in education has the potential to personalize learning, provide immediate feedback, and support students according to their individual learning needs. Their study emphasized that AI systems can reduce routine academic burdens and create more flexible learning environments.

Similarly, Luckin, Rose et al. (2016) argued that AI technologies can enhance teaching and learning processes by providing adaptive learning support and intelligent guidance. The researchers noted that AI tools can help students overcome learning difficulties, thereby improving confidence and motivation. This finding is relevant to the present study, which examines AI use and students' motivation to learn.

A study conducted by Zawacki-Richter, Olaf, Marín, Victoria I., Bond, Melissa, and Gouverneur, Franziska (2019) reviewed research on AI applications in higher education and found that AI is widely used in student support services, tutoring systems, and administrative

assistance. Their review concluded that AI tools improve efficiency and student engagement, particularly in higher education settings. Increased engagement often contributes positively to students' mental well-being and academic satisfaction.

The emergence of generative AI tools such as OpenAI's ChatGPT has further accelerated interest in AI use among university students. Kasneci, Enkelejda et al. (2023) discussed the opportunities and challenges of ChatGPT in education, stating that AI chatbots can support brainstorming, writing assistance, and personalized explanations. These benefits reduce academic pressure and improve learning motivation. However, the study also warned of risks such as overreliance, plagiarism, and reduced critical thinking when AI tools are misused.

Mental well-being is another important area associated with AI use. According to the World Health Organization (2022), academic stress remains a major concern among university students worldwide, affecting emotional health and academic performance. Technologies that reduce workload and provide academic support may therefore enhance student well-being. AI tools that assist with planning, organizing, and simplifying tasks can reduce anxiety and improve students' coping skills.

Research by Chan, Cecilia K.Y., and Hu, Wenjie (2023) found that students generally hold positive attitudes toward the use of generative AI in learning. Students reported that AI tools helped them save time, understand concepts more quickly, and become more motivated to complete assignments. These findings support the present study's focus on motivation and stress reduction.

Despite these benefits, several scholars have emphasized the need for ethical AI integration in education. UNESCO (2021) recommended that AI in education should promote inclusion, transparency, and human-centered learning while protecting academic integrity. Institutions should guide students toward responsible AI use rather than fostering an unrestricted dependence on it.

In the Indian higher education context, the adoption of digital learning technologies has also increased significantly in the past few years. AI-based learning tools are gradually becoming common among university students for writing assistance, research support, and exam preparation. However, empirical studies examining the relationships among AI use, academic stress, mental well-being, and motivation remain limited, especially in the Manipur context. Therefore, the present study attempts to fill this research gap.

Overall, the reviewed literature indicates that AI tools have considerable potential to reduce academic stress, improve motivation, and support student well-being when used appropriately. However, balanced and ethical use is essential to ensure that students continue to develop independent learning skills.

## **Objectives**

1. To find out whether there is a relationship between the use of AI tools for academic purposes and academic stress among university students.
2. To find out whether there is a relationship between the use of AI tools and the reduction of academic stress among university students.
3. To find out whether there is a relationship between the use of AI tools and students' mental well-being while managing academic pressure.

4. To find out whether there is a relationship between the use of AI tools and students' motivation to learn.

### Methodology

The study was conducted among postgraduate students at Manipur University in April 2025, utilizing a quantitative research design. Data were collected through an online survey via Google Forms, and the survey link was shared via WhatsApp groups across various departments.

A total of 117 students participated in the study, comprising 60 females and 57 males. Participation was voluntary, and informed consent was obtained through Google Forms prior to data collection.

The questionnaire focused on AI usage, academic stress, mental well-being, and motivation to learn. The data were analyzed using descriptive statistics and Chi-square tests.

### Data analysis

**Table 1:** Patterns of AI Usage for Academic Tasks Among Respondents.

Sl no	frequency	percentage
Never	2	1.70
Rarely	11	9.40
Occasionally	51	43.58
Frequently	36	30.76
Always	17	14.56
Total	117	100

The above data clearly indicate that most students use AI tools for academic tasks, with 43.58% reporting occasional use, 30.76% reporting frequent use, and 14.56% reporting always use. Only a small proportion rarely or never use AI tools. This shows that AI tools have become an important academic support system among postgraduate students.

**Table 2:** Patterns of usage of AI and academic stress.

Academic stress	Never	Rarely	Occasionally	Frequently	Always	Chi-square value (P-value)
Always	1 (50)	3 (27.27)	9 (17.64)	8 (22.22)	7 (41.17)	34.085 (0.0053)
Often	00	1 (9.09)	12 (23.52)	17 (47.22)	8 (47.05)	
Sometimes	00	5 (45.45)	29 (56.86)	8 (22.22)	2 (11.76)	
Rearly	1 (50)	2 (18.18)	1 (1.96)	3 (8.33)	00	
Never	00	00	00	00	00	
Total	2 (100)	11 (100)	51 (100)	36 (100)	17 (100)	

Students who use AI more frequently tend to report lower stress levels than those who use it less frequently. Most moderate and frequent users reported stress levels as “sometimes” or “often,” suggesting that AI may help manage academic workload and pressure.

**Table 3:** AI and reduction of academic stress.

There is a statistically significant relationship between AI usage and academic stress among university students. This shows that students' stress levels vary according to how frequently they use AI tools. Students who use AI more often tend to experience lower academic stress than those who use it less frequently.

A large proportion of respondents agreed that AI helps reduce academic stress. Students who use AI frequently, occasionally, and always have consistently shown stronger agreement than those who use it rarely.

The p-value is much lower than 0.05. Therefore, there is a highly significant relationship between AI usage patterns and students' perception that AI helps reduce academic stress.

**Table 4:** AI and mental well-being

Effects of AI on mental well-being when facing academic stress	Never	Rarely	Occasionally	Frequently	Always	Chi-square value (P-value)
Very positive	00	3 (27.27)	5 (9.80)	11 (30.55)	9 (52.94)	50.09 (0.0002)
Positive	00	3 (27.27)	26 (50.98)	14 (38.88)	3 (17.64)	
Neutral	1 (50)	4 (3.41)	19 (37.25)	9 (25)	4 (3.41)	
Negative	00	1 (36.36)	00	2 (5.55)	1 (5.88)	
Very Negative	1 (50)	00	1 (0.85)	00	00	
Total	2 (100)	11 (100)	51 (1.96)	36 (100)	17 (100)	

The above data clearly shows that AI has a positive impact on mental well-being. Frequent users reported positive or very positive effects on their mental well-being. Only a few respondents reported negative effects. This suggests that AI tools provide emotional relief by reducing workload and improving confidence during academic pressure.

AI helps in reducing academic stress.	Never (%)	Rarely (%)	Occasionally (%)	Frequently (%)	Always (%)	Chi-square value (P-value)
Strongly agree	1 (50)	2 (18.18)	6 (11.76)	9 (25)	7 (41.17)	34.09 (0.00065)
agree	00	3 (27.27)	22 (43.13)	18 (50)	10 (58.82)	
Neutral	00	4 (36.36)	20 (39.21)	9 (25)	00	
Disagree	00	2 (18.18)	3 (5.88)	00	00	
Strongly disagree	1 (50)	00	00	00	00	
Total	2 (100)	11 (100)	51 (100)	36 (100)	17 (100)	

The p-value is much lower than 0.05. Hence, there is a statistically significant association between AI usage and students' mental well-being.

Therefore, higher AI use is associated with greater positive mental well-being among students.

**Table 5: The use of AI tools and students' motivation to learn**

Using AI to change motivation to learn	Never	Rarely	Occasionally	Frequently	Always	Chi-square value (P-value)
Increases motivation	1 (50)	3 (27.27)	26 (50.98)	23 (63.88)	11 (66.4)	19.22 (0.0137)
No change	00	4 (36.36)	20 (39.21)	13 (36.11)	5 (29.4)	
Decreases motivation	1 (50)	4 (36.36)	5 (9.80)	00	1 (5.88)	
Total	2 (100)	11 (100)	51 (100)	36 (100)	17 (100)	

The majority of respondents reported that AI tools increase motivation to learn, especially among frequent (63.88%) and always users (66.4%). Some reported no change, while only a small number said AI decreases motivation. So, from the above data, we can say that AI has a positive motivational effect on students' learning behavior.

The p-value is less than 0.05. Therefore, there is a significant relationship between AI use and students' motivation to learn. Students who use AI more frequently tend to be more motivated to learn.

### Conclusion

The findings of the present study show that the use of Artificial Intelligence (AI) tools is positively and significantly associated with university students' academic stress management, mental well-being, and motivation to learn. Students who reported higher levels of AI usage were more likely to experience lower academic stress, perceive greater stress reduction, report better mental well-being, and show increased motivation toward learning.

The Chi-square test results confirmed statistically significant associations between AI usage and all selected variables, suggesting that AI tools can function as effective academic support resources in higher education. By assisting students with academic tasks, improving efficiency, and providing timely support, AI tools may help students cope more effectively with academic pressure and enhance their overall learning experience.

These findings highlight the importance of integrating AI tools into higher education responsibly and ethically. Educational institutions should encourage the constructive use of AI while ensuring academic integrity, critical thinking, and independent learning skills. Further research involving larger samples and diverse educational contexts is recommended to examine the long-term effects of AI use on students' academic performance, psychological well-being, and personal development.

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