

ARTIFICIAL INTELLIGENCE AND UNIVERSITY STUDENTS' ACADEMIC STRESS: EVIDENCE FROM AMBROSE ALLI UNIVERSITY, EKPOMA

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Abstract

This study investigated the influence of artificial intelligence (AI) on academic stress among Ambrose Alli University students in Nigeria. Three research questions and one null hypothesis guided this study. The study adopted descriptive and correlational research designs. The population consisted of all 400-level students in Faculty of Education. simple random sampling technique was used to select 280 students representing 20% of the total population. Two research instruments title: Artificial Intelligence Usage Questionnaire (AIUQ) and Academic Stress Questionnaire (ASQ) were used for the data collection. The face and content validation were employed while the split-half reliability method produce a reliability coefficient of .73 indicating acceptability of the instrument. Mean and standard deviation were used to answer the research questions while the Pearson's Product Moment Correlation Coefficient was employed to test the hypothesis at 0.05 level of significance. Findings revealed that the level of AI usage among university students was high, the level of academic stress experienced by students was low and there was a significant moderate positive relationship between AI usage and academic stress among university students in the faculty of education Ambrose Alli University, Ekpoma. Based on the findings it was therefore recommended among others that universities should develop clear policies and training programmes on the responsible and ethical use of AI, strengthen the counseling and stress management services, and establish institutional mechanisms for monitoring AI usage while addressing the academic pressures associated with its adoption.

Keywords: Academic Stress, Ambrose Alli University, Artificial Intelligence, University Students.

Introduction

Academic stress could be seen as a type of stress that occur due to academic demands or unresourceful study environment which exceed the ability of a student to cope with or overcome. Persistent worry, emotional responses, headaches, procrastination and sleep disturbance are symptom of reaction to stress most times. Shiral et al (2024) explained that academic stress could be a turn out from examinations, assignment deadline, fear of failure, competition with peers and uncertainty about future career prospects. Prolonged exposure to academic stress could lead to negative mental health issues such as depression, burnout, anxiety disorder and reduction in academic performance. When stress becomes chronic in nature, it impairs cognitive functioning, leads to reduction in memory retention and could weaken students' ability to perform optimally. From observation, while academic stress is traditionally associated with workload and examinations, the modern era has introduced new dimensions to this phenomenon known as artificial intelligence (AI).

Artificial intelligence can be seen as a computer system designed to perform tasks that require human ability such as problem solving, language processing, data analysis and decision making. AI have recently significantly transform the academic landscape in the sense that it has reshaped how students gain access to relevant information, complete assignments, interact with peers and engage with academic matters. Although it offers numerous advantages, it also introduces new forms of pressure and psychological challenges. On the advantage side, AI enhance learning efficiency, clarify complex concepts and provide prompt response to academic demand which reduces students' academic workload and pressure and in turn improved understanding of course materials. On the other hand, AI presents some stressors in the sense that most students feel compelled to use AI tools competitively in order to meet up with peers who depend on technology for faster task completion, fear of falling behind in technologically advanced academic environment, concerns about academic integrity, plagiarism detection and ethical use of AI tools create uncertainty (Al-Rahmi et al., 2022). Aldhafeeri and Khan (2023) stated that while generative AI tools enhance productivity, it also raises concerns about total dependency, academic dishonesty and reduction of critical thinking confidence.

Several related studies have been carried out as it relates to the use of Artificial Intelligence. Balabdaoui et al. (2024) carried out a survey on students' usage of AI at technical university. Findings showed that majority of

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the student uses AI in the study location. Wendell et al. (2025) studies the behaviour and readiness of undergraduate students in utilizing AI for academic purposes at Isabel State University. Results show that students possess moderate to high familiarity with AI technologies, yet frequency of use remains lower, indicating a gap between awareness and application. Brown et al. (2025) investigated AI usage, attitudes, and literacy in higher education and research perceptions of AI among university students and staff, focusing on socio demographic predictors of use, attitudes and literacy. Result showed that Higher socioeconomic status predicts more frequent use, and older age predicts lower AI literacy. Qualitative findings highlight concerns about academic repercussions of AI and threat to jobs. Participants highlight a lack of guidance and need for support to promote responsible use. Universities should increase engagement, and provide unambiguous guidance, to tackle misperceptions of how AI is used by others and address staff and student fears impacting AI acceptance and adoption. Grajeda et al (2023) assessed the adoption and impact of AI tools in higher education in private university in Latin America. Findings indicate a high level of AI usage and significantly positive impact of A.I. tools on student academic experiences, including enhanced comprehension, creativity, and productivity. Importantly, the study identifies areas with low and high A.I. integration, serving as an institutional diagnostic tool.

Simran and Vandana (2025) examined the academic stress experienced by girls' and boys' students in college of Nagpur City, Maharashtra. Findings showed that level of academic stress among college students was high in Nagpur City, Maharashtra. Osenweugwor and Ohanaka (2019) investigated the levels of perceived academic stress among undergraduate students in a University in Nigeria. The findings revealed that male undergraduate students reported higher academic stress level than the females. Basireddy et al., (2023) aims to understand the level of academic stress faced by undergraduate students and the different sources that contribute to it. Study found that the level of academic stress was low in the study location.

Aniella and Gabriel (2025) investigated the impact of AI technologies on students' learning processes and academic performance, with a focus on their perceptions and the challenges associated with AI adoption a case study of National University of Science and Technology in Politehnica Bucharest. However, result implies that AI usage significantly impact academic performance of students in the study location. Latifa (2023) explore the factors that impact the behavior and attitude of students toward the use of AI in higher education. Results showed that effort expectancy does not significantly influence attitudes toward AI use in higher education. Latifa (2024) examined the impact of AI on students' academic performance, focusing on factors such as improved student performance, attitudes toward learning, motivation for study habits, and learning mechanisms. Finding showed that AI usage by students' easy their academic tension in the study location.

Although the use of AI is not challenge free, accepting or acknowledging the fact that AI is not inherently harmful in the sense that their impact largely depends on the usage patterns, digital literacy, policies of the institution and students' ability to cope. Responsible AI integration, clear academic integrity guideline and structured digital literacy programs can mitigate negative outcomes due to the fact that when universities provide training on ethical AI usage, time management and mental health awareness, students are empowered to leverage technology constructively. Excellence still remain the central objective of university education but its pursuit often generates academic stress due to psychological, institutional and social pressures. In this digital age, AI usage has introduced new dimensions to this stress. While AI seems to enhance learning efficiency and personalization, it also seems to raise concern about dependency, ethical usage and performance pressure. Therefore, understanding the influence of AI on academic stress is essential for developing policies, support systems and coping strategies that could promote both academic excellence and students' wellbeing in contemporary higher education hence this study is an attempt to examine the influence of AI on academic stress among university students.

Statement of the Problem

The pursuit of academic excellence has suddenly become demanding in today's contemporary higher system of education due to heightened academic expectations, competition for grade, employability pressures and rapid technological advancement. As universities continue to make much demand on innovation, digital competence and higher academic, on the other end students are confronted with complex academic and psychosocial challenges which significantly affect their wellbeing. Huang and Oju (2021) clearly stated that academic stress which was primarily associated with examinations and heavy workload has evolved into a much multidimensional phenomenon influenced by technological, psychological and social factors.

The introduction of AI tools into academic system has really transformed the manner at which learning, assignment, research processes and assess to material is been carried out although AI applications such as writing tools, adaptive learning systems and feedback platforms were designed to enhance maximum efficiency

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and personalized learning, their rapid adoption seem to have introduced stress among students recently. Students recently display performance anxiety from perceived technological inadequacy as a result of fear of academic misconduct allegations, uncertainty relating to ethical AI usage and pressure to remain competitive in an increasingly digital academic world.

Despite growing research on academic stress and digital technology use, there remains insufficient integrative analysis of how AI influence academic stress among university students in Ambrose Alli University, Ekpoma. Most existing studies examine either technological benefits or mental health outcomes independently, without comprehensively addressing their interactive effects on students' academic experiences in Ambrose Alli University, Ekpoma. Furthermore, institutional responses often focus on technological integration without equally prioritizing psychological support systems which could create a gap between digital advancement and student well-being hence this study.

Purpose of the Study

The purpose of this study was to examine the influence of AI on academic stress among Ambrose Alli University students. Specifically, the study sought to:

1. determine the level of AI usage among Ambrose Alli University students;
- investigate the level of academic stress among Ambrose Alli University students; and
3. ascertain the relationship between AI usage and academic stress among Ambrose Alli University students.

Methods

The descriptive and correlational research designs was employed in this study. The population of the study involve all 400 level students in the Faculty of Education, Ambrose Alli University Ekpoma, Edo State, the simple random sampling technique was employed to select twenty percent of the total population which is 280 students which stand in as the respondents for the study. Two instruments were used in this study titled: Artificial Intelligence Usage Questionnaire (AIUQ) and Academic Stress Questionnaire (ASQ) developed by the researchers. The content and face validity were carried out by two experts from the department of Guidance and Counselling; and measurement and evaluation, faculty of education, Ambrose Alli University Ekpoma. In order to determine the reliability of the instrument, the split-half reliability method was used, and the items in the instruments yielded a reliability index of .73 (73%) and .70 (70%) respectively, hence, considered reliable for this study. The administration process was done with the help of two trained research assistants. Research questions 1 and 2 was answered using mean and standard deviation while hypothesis 1 was tested using the Pearson's Product Moment Correlation Coefficient at a .05 level of significance.

Results

Research Question 1: What is the level of AI usage among Ambrose Alli University students?

Table 1**Artificial Intelligence Usage Among Ambrose Alli University Students'**

S/N	Items	N		SD	Remark
	AI tools aid me to complete my coursework and assignments	280	3.06	.867	High
	I mainly use AI tools often for my academic activities	280	3.42	.789	High
	AI usage help to enhances my writing, grammar and editing academic work	280	3.28	.781	High

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When academic work seems difficult, I rely on AI for solution	280	3.17	.872	High
AI have become an important part of my daily learning routine	280	3.47	.684	High
Total		3.28		High

Data from Table 1 above indicated that the level of AI usage was high. All five items were rated high mean value ranging from 3.06 to 3.47 and the total grand mean value of 3.28 also falls within the high decision range. Hence, it was concluded that students make use of AI tools to complete coursework and assignments, academic activities, enhancement of writing, grammar and editing academic work, rely on AI for solution on difficult academic work and AI have become an important part of their daily learning routine indicating that the level of artificial intelligence usage among university students was high in the study location.

Research Question 2: What is the level of academic stress among Ambrose Alli University students?

Table 2**Academic Stress Experienced by Ambrose Alli University Students**

S/N	ITEMS	N		SD	REMARK
	Academic workload is overwhelming	280	2.79	.924	High
	Balancing academic responsibilities with my personal life is most time difficult	280	1.89	.803	Low
	I experience pressure from lecturers, parents and peers to perform well academically	280	2.73	.876	High
	Currently I feel mentally exhausted based on academic responsibilities	280	1.94	.859	Low
	I consider my current academic stress level to be high	280	2.06	.777	Low
	Total		2.28		Low

Data from Table 2 above indicated that the level of academic stress experienced by students was low. All five items were rated high mean value ranging from 1.89 to 2.79 and the total grand mean value of 2.28 also falls below the high decision range. Hence, it was concluded that students ability to balance academic responsibilities with their personal life is most time not difficult, students are not mentally exhausted based on

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academic responsibilities and don't consider academic stress level to be high although they are faced with pressure from lecturers, parents and peers to perform well academically while academic workload is overwhelming. This indicates that the level of academic stress experienced among university students in the study location was low.

Hypothesis 1: There is no significant relationship between AI usage and academic stress among Ambrose Alli University students.

Table 3**Artificial Intelligence Usage and Academic Stress**

Variables	N	SD	Pearson r-coefficient	p-value	Decision
AI Usage		3.28	.792		Null hypothesis rejected (p<.05)
	280		.418*	.003	Null hypothesis rejected (p<.05)
Academic Stress		2.11	.876		Null hypothesis rejected (p<.05)

. Correlation is significant at the .05 level (2-tailed).

Note: Pearson r- coefficient $\pm .00 - .39$ = Weak relationship Pearson r- coefficient $\pm .40 - .69$ = Moderate relationship Pearson r- coefficient $\pm .70 - 1.00$ = Strong relationship

Result from Table 3 implies that there is a statistical significant moderate positive relationship between the use of artificial intelligence and academic stress among university students which means AI serves as an important supportive tools but increasing usage could lead to more academic pressure such as higher expectations. Hence, based on the findings it could be said that there is a significant relationship between artificial intelligence usage and academic stress among university students in the study location.

Discussion

Result from Table 1 above demonstrated that the level of AI usage among university students was high. The rationale behind this could be as a result of artificial intelligence ability to support this study in their learning, improving academic performance and meeting the demands of the university educational system. Result aligns with Balabdaoui et al. (2024) who's findings show that majority of the student uses AI in the study location. Result agreed with Wendell et al. (2025) whose findings show that students possess moderate to high familiarity with AI technologies, yet frequency of use remains lower, indicating a gap between awareness and application. Result supported that of Brown et al (2025) whose result showed that higher socioeconomic status predicts more frequent use, and older age predicts lower AI literacy. Result is in line with Grajeda et al. (2023) whose findings indicate a high level of AI usage and significantly positive impact of A.I. tools on student academic experiences, including enhanced comprehension, creativity, and productivity.

Findings from table 2 indicate that the level of academic stress experienced by university students was low. The outcome of these findings could be that students currently have access to various academic support resources such as lecturers and peers that are willing to assist, digital technologies such as AI tools that make academic tasks more manageable. Result is in line with Simran and Vandana (2025) whose findings show that level of academic stress among college students was high in Nagpur City, Maharashtra. Result agreed with Osenweugwor and Ohanaka (2019) who's findings revealed that male undergraduate students reported higher academic stress level than the females. Result did not support that of Basireddy et al. (2023) who found that the level of academic stress was low in the study location.

Result from Table 3 showed that there is a significant moderate positive relationship between artificial intelligence usages an academic stress among university students. The outcome of this result could be that students who totally depend on AI may experience concerns about the accuracy of the information provided,

academic integrity, need to verify and refine AI output before submission of assignment or project. Result is in line with Aniella and Gabriel (2025) whose result indicates that AI usage significantly impact academic performance of students in the study location. Result agreed with Latifa (2024) whose finding showed that AI usage by students' ease their academic tension in the study location. Result disagreed with Latifa (2023) whose results showed that effort expectancy does not significantly influence attitudes toward AI use in higher education.

Conclusion and Recommendations

The place of AI usage in current day academic activities cannot be undermined. The study clearly showed that the level of AI usage was high, level of academic stress experienced was low and there was a significant moderate positive relationship between artificial intelligence usage an academic stress among university students

Base on the findings the following recommendations were made

1. Universities should endeavor to develop policies and training programmes that encourage responsible usage of AI tools for academic purpose.
2. Counselling services, mentoring programmes and stress management initiatives should be strengthened by universities.
3. Universities should endeavor to monitor the usage of AI while addressing the academic pressures associated with it usage among students.

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