

**ARTIFICIAL INTELLIGENCE AND ACADEMIC STRESS
REDUCTION AMONG UNDERGRADUATE STUDENTS:
EVIDENCE FROM PRINCE ABUBAKAR AUDU UNIVERSITY,
ANYIGBA, KOGI STATE, NIGERIA**

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Abstract

This study examined the influence of Artificial Intelligence (AI) on academic stress reduction as perceived by undergraduate students of Prince Abubakar Audu University, Anyigba, Kogi State, Nigeria. The study was anchored on the Technology Acceptance Model and Cognitive Load Theory. A mixed-methods, descriptive survey design was adopted, and a multi-stage sampling technique was used to select 380 undergraduates from the Faculties of Management Sciences, Social Sciences and Natural Sciences, with the sample size determined using Krejcie and Morgan's formula. Primary data were obtained through structured questionnaires and in-depth interviews, while secondary data were drawn from journals, textbooks and other relevant publications. Quantitative data were analysed using frequencies, percentages, mean scores, chi-square and independent samples t-test, while qualitative data from the interviews were analysed thematically. Findings revealed a high prevalence of AI usage among undergraduates, with ChatGPT the most widely used tool, followed by Meta AI, Google Gemini, Grammarly, Microsoft Copilot, QuillBot and Photomath. Students reported using these tools mainly to generate ideas, summarise lecture notes, improve writing, solve academic problems and prepare for examinations. Hypothesis testing revealed a statistically significant relationship between the prevalence of AI usage and academic stress reduction ($\chi^2 = 43.805$, $df = 1$, $p < .001$) and between patterns of AI usage and academic stress reduction ($\chi^2 = 96.755$, $df = 1$, $p < .001$), while no significant difference was found in the reduction of academic stress between male and female undergraduates ($t(378) = -0.542$, $p = .588$). The study concluded that artificial intelligence has become an important academic resource that contributes meaningfully to reducing academic stress among undergraduates when used responsibly. It recommended that university management should organise regular AI training programmes, strengthen digital infrastructure and develop clear policies guiding the ethical and effective use of artificial intelligence among students.

Keywords: Artificial Intelligence; Academic Stress; Undergraduate Students; Technology Acceptance; Cognitive Load; Nigeria

1. Introduction

Artificial Intelligence (AI) has reshaped the education sector, driving considerable change in teaching methods and student learning experiences. Through data-driven machine learning techniques, AI can optimise learning outcomes, streamline pedagogical processes and tailor educational tools to individual needs, offering a promising route to personalised learning and improved academic performance. The rapid integration of AI into higher education has expanded access to innovative learning opportunities, while also introducing new academic and emotional demands for students (Kamalov et al., 2023).

The integration of artificial intelligence into higher education has significantly transformed teaching, learning and assessment processes worldwide. AI-powered tools such as intelligent tutoring systems, automated feedback platforms, generative AI applications and adaptive learning systems are increasingly used to enhance academic performance and provide personalised learning experiences. Such tools have the potential to support students by reducing academic workload, improving efficiency in research and assignments, and offering timely academic assistance (Bhutoria, 2022; Kamalov et al., 2023).

Academic stress is a common challenge among university undergraduates and is often associated with heavy coursework, tight deadlines, examinations and performance expectations. Persistent academic stress can negatively affect students' mental health, motivation and academic outcomes (Pascoe et al., 2020). Concurrently, students' access to AI, their competence in using such tools, and their perceptions of AI's usefulness may all influence how effectively AI reduces academic stress. Chan and Hu (2023) found that university students generally hold favourable views of generative AI as an academic support tool, while also expressing concern about overreliance and its implications for independent thought. This underscores the mixed but largely positive terrain that students navigate as AI becomes embedded in academic tasks.

Undergraduates at Prince Abubakar Audu University, Anyigba, like their counterparts elsewhere, face considerable academic stress arising from heavy workloads, tight deadlines and performance pressures. While AI tools have increasingly been adopted in higher education generally, there remains limited empirical evidence on their role in reducing academic stress among undergraduates in the Nigerian university context. This study was therefore designed to examine the influence of artificial intelligence on academic stress reduction as perceived by undergraduates of Prince Abubakar Audu University, with a view to generating evidence that can inform student-centred AI policies and practice.

1.1 Statement of the Problem

University undergraduates often face high levels of academic stress owing to heavy coursework, tight deadlines, examinations and the need to meet performance expectations. Persistent stress can negatively affect students' mental health, motivation and academic outcomes, making it a critical concern for educators and policymakers. Although artificial intelligence has been widely adopted in higher education to support teaching, learning and assessment, there is limited research on its potential to reduce academic stress among undergraduates, particularly within Nigerian university settings (Kamalov et al., 2023).

Furthermore, students' access to AI, their level of competence in using these tools and their perceptions of AI's usefulness may influence how effectively AI reduces stress. Without localised research in the Nigerian university context, it is difficult for educators and administrators to design interventions or policies that leverage AI to support students' mental well-being. This study therefore sought to investigate how AI influences academic stress reduction as perceived by undergraduates of Prince Abubakar Audu University, providing evidence for strategies to enhance learning efficiency and psychological resilience.

1.2 Objectives of the Study

The broad objective of the study was to examine the influence of artificial intelligence on academic stress reduction as perceived by undergraduates of Prince Abubakar Audu University. The specific objectives were to:

- i. examine the prevalence of AI usage among undergraduates in the University;
- ii. identify the types and patterns of artificial intelligence used by undergraduates for academic purposes;
- iii. investigate the influence of AI usage on the reduction of academic stress; and
- iv. examine measures suggested by students to enhance the use of artificial intelligence for reducing academic stress.

1.3 Research Hypotheses

The following null hypotheses were formulated and tested for the study at the 0.05 level of significance:

1. H0₁: There is no significant relationship between the prevalence of AI usage and the reduction of academic stress among undergraduates.
2. H0₂: There is no significant relationship between the pattern of AI usage and the reduction of academic stress among undergraduates.
3. H0₃: There is no significant difference in the reduction of academic stress between male and female undergraduates.

2. Literature Review

2.1 Conceptual Review

2.1.1 Artificial Intelligence and Academic Stress

Artificial intelligence refers to the development of computer systems capable of performing tasks that ordinarily require human intelligence, including learning, reasoning, problem-solving and language comprehension. In educational settings, AI-powered tools such as intelligent tutoring systems, automated feedback platforms, virtual learning assistants and generative applications enable students to access academic support instantly and complete tasks more efficiently (Kamalov et al., 2023). These tools help simplify learning processes by providing explanations, recommendations and personalised feedback, thereby reducing the frustration associated with difficult academic activities.

Academic stress, on the other hand, is the psychological strain that arises from the demands associated with academic responsibilities, such as coursework, examinations, competition among peers, time

limitation and the pressure to achieve high academic standards (Lazarus & Folkman, 1984; Misra & McKean, 2000). Academic stress reduction refers to the process of minimising or managing this psychological and emotional pressure through coping strategies, support systems and learning tools that help students handle academic responsibilities more effectively while maintaining their mental well-being. According to Pascoe et al. (2020), academic stress reduction involves supportive interventions such as time management strategies, academic assistance and technological tools that enable students to cope with academic demands.

The relationship between the two concepts lies in the growing recognition that artificial intelligence, when properly deployed, can function as a structural support that eases the demands placed on students. By simplifying complex tasks, offering immediate feedback and reducing the time required to complete academic work, AI has the potential to serve as a stress-buffering resource within the modern university environment (Bhutoria, 2022; Wilks, 2008).

2.1.2 Types, Patterns and Prevalence of Artificial Intelligence Usage Among Students

Artificial intelligence tools available to students may be broadly classified as generative tools, intelligent tutoring systems, virtual learning assistants and chatbots, adaptive learning systems, and automated grading and feedback systems. Generative tools such as ChatGPT create content in response to user prompts and are widely used for generating ideas, summarising notes, drafting essays and solving academic problems. Intelligent tutoring systems analyse students' responses, identify learning gaps and provide tailored explanations, allowing learners to progress at their own pace. Virtual learning assistants and chatbots answer questions, provide reminders and support academic planning, while adaptive learning systems adjust instructional content to match individual learning patterns. Automated grading and feedback systems, for their part, reduce the time students spend awaiting results and allow prompt correction of errors (Kamalov et al., 2023).

The extent to which these tools are adopted and used by students for academic purposes constitutes the prevalence of AI usage. This prevalence has grown considerably in recent years owing to improvements in digital infrastructure and the widespread availability of internet-enabled devices, together with the low cost or free availability of many AI platforms. Usage also varies with students' level of digital literacy, academic discipline and the extent of institutional support available to them (Bhutoria, 2022).

2.2 Empirical Review

Bhutoria (2022) conducted a systematic review of AI-driven personalised education in the United States, China and India using a human-in-the-loop model, and found that adaptive learning systems, intelligent tutoring systems and learning analytics platforms enhance students' learning experiences by matching instructional content to individual needs and pace. The review indicated that such systems can indirectly reduce academic stress by helping students manage coursework more effectively, although their effectiveness depends on digital infrastructure, teacher readiness and institutional support. The study, however, did not specifically examine how AI usage influences academic stress reduction among undergraduates in developing-country or African university contexts, a gap the present study addresses.

Cambra-Fierro et al. (2024) examined the adoption of ChatGPT and its influence on faculty well-being in higher education and found that academic staff who actively used the tool for content

development, lesson preparation and administrative duties experienced reduced workload pressure and improved job satisfaction, provided that digital competence, institutional support and ethical use were in place. Because the study concentrated on lecturers rather than undergraduates, it leaves open the question of how similar AI tools influence students' own experience of academic stress, which this study investigates directly.

Chan and Hu (2023) explored students' perceptions of generative artificial intelligence in higher education and found that many students regard tools such as ChatGPT as valuable for idea generation, academic writing, summarising materials and clarifying difficult concepts, while also expressing concern about overreliance, academic integrity and the possible erosion of critical thinking when the technology is misused. Although informative on perceptions and challenges, the study did not examine the influence of generative AI on academic stress reduction specifically.

Kamalov et al. (2023) reviewed recent developments in AI technologies used in education, including intelligent tutoring systems, adaptive learning platforms, predictive analytics and generative tools, and concluded that AI is reshaping higher education by enhancing personalised learning, improving teaching efficiency and providing immediate access to academic support, subject to ethical, data-privacy and regulatory safeguards. The review, however, addressed the transformative role of AI in general terms rather than its specific bearing on students' stress levels.

Makhambetova et al. (2021) examined personalised learning strategies as tools for improving students' academic performance and motivation, finding that individualised instructional pacing and targeted feedback improve understanding and engagement. The study focused primarily on learning outcomes and motivation rather than the psychological benefits of such technologies, leaving a gap regarding their relationship with academic stress that the present study seeks to fill.

Pascoe et al. (2020) examined factors associated with academic stress among university students and found that digital learning technologies can reduce academic stress by helping students manage time effectively and access academic resources quickly, thereby improving coping strategies and overall academic well-being. While the study identified the general role of technology in easing academic pressure, it did not examine artificial intelligence specifically, a gap the present study addresses through its focus on AI tools within a Nigerian university.

In all, the reviewed studies indicate a consistent finding that AI-based tools can ease academic workload and improve learning efficiency, but they leave a gap regarding the specific relationship between AI usage and perceived academic stress reduction among undergraduates in Nigerian universities. The present study addresses this gap using empirical evidence from Prince Abubakar Audu University, Anyigba.

2.3 Theoretical Framework

This study is anchored on the Technology Acceptance Model and Cognitive Load Theory.

Technology Acceptance Model

The Technology Acceptance Model (TAM), developed by Davis (1989), explains how users come to accept and use new technologies. The model proposes that perceived usefulness (the degree to which a person believes a technology will enhance performance) and perceived ease of use (the degree to which a person believes using it will be free of effort) jointly shape attitudes toward a technology,

which in turn shape behavioural intention and actual use. External variables such as users' experience, technological skill and institutional support influence both perceptions. Venkatesh et al. (2003) later integrated TAM with related models into the Unified Theory of Acceptance and Use of Technology, broadening its explanatory reach across organisational and educational settings. In the context of this study, TAM helps explain why undergraduates who perceive AI tools as useful for completing assignments and managing coursework, and easy to use, are more likely to adopt them, with adoption in turn contributing to reduced academic stress.

Cognitive Load Theory

Cognitive Load Theory, proposed by Sweller (1988), explains how the human brain processes information during learning. The theory holds that working memory has limited capacity, and that when learners are exposed to excessive information or complex tasks, this capacity becomes overloaded, leading to stress and reduced learning efficiency. Sweller (1988) distinguished intrinsic cognitive load, arising from the inherent difficulty of a task; extraneous cognitive load, arising from how information is presented; and germane cognitive load, the productive mental effort devoted to building understanding. Applied to this study, the theory suggests that AI-based tools can lower extraneous cognitive load by simplifying complex academic tasks, structuring information clearly and providing immediate explanations, thereby freeing mental capacity for deeper learning and reducing the stress associated with cognitive overload.

Both theories complement one another in explaining the findings of this study: TAM accounts for why and how students come to adopt AI tools, while Cognitive Load Theory explains the mechanism through which such adoption translates into reduced academic stress.

3. Methodology

The study adopted a descriptive survey research design within a mixed-methods framework, combining quantitative and qualitative approaches to obtain a fuller picture of students' experiences. The design is appropriate for studies that seek to understand a population's perceptions by collecting and analysing data from a representative sample (Kothari, 2004).

The study was conducted at Prince Abubakar Audu University, Anyigba, Kogi State, Nigeria. The population comprised all undergraduate students of the University, numbering 33,071. The target population was drawn from the Faculties of Social Sciences (4,209 students), Natural Sciences (4,749 students) and Management Sciences (4,195 students), a combined total of 13,153 students. The sample size of 380 was determined using Krejcie and Morgan's (1970) formula for sample size determination, at a 95 per cent confidence level and a 5 per cent margin of error.

A multi-stage sampling technique was employed. Purposive sampling was first used to select the three faculties on account of their relevance and population size. Simple random sampling was then used to select two departments within each faculty (Business Administration and Banking and Finance from Management Sciences; Sociology and Political Science from Social Sciences; and Microbiology and Computer Science from Natural Sciences), after which proportionate sampling distributed the sample across departments based on their population, and simple random sampling was used to select individual respondents.

Primary data were collected using a structured questionnaire and an in-depth interview guide, while secondary data were drawn from journals, textbooks and other relevant publications. The questionnaire captured demographic information alongside closed-ended items using multiple-choice and Likert-scale formats aligned with the study's objectives, while the interview guide used open-

ended questions to elicit detailed accounts of students' experiences. Face and content validity were established through review by the researcher's supervisor, while reliability was assessed through a pilot study analysed using Cronbach's alpha, with a coefficient of 0.70 or above considered acceptable (Taber, 2018; Taherdoost, 2016).

Quantitative data were analysed using frequencies, percentages and mean scores, while chi-square and independent samples t-test were used to test the stated hypotheses at the 0.05 level of significance. Qualitative data obtained from the interviews were analysed thematically. Ethical considerations observed throughout the study included informed consent, voluntary participation, and the anonymity and confidentiality of respondents' information.

4. Results

4.1 Socio-Demographic Characteristics of Respondents

Of the 380 respondents, 196 (51.6%) were female and 184 (48.4%) were male. The majority (70.8%) were aged between 21 and 25 years, and most (95.3%) were single. In terms of faculty, 198 (52.1%) were from Social Sciences, 126 (34.7%) from Management Sciences, and 48 (13.2%) from Natural Sciences, drawn fairly evenly across the 300 and 400 levels of study (33.9% and 33.2% respectively). Nearly all respondents (99.5%) owned a smartphone, tablet or laptop, indicating that respondents were well positioned to access and use artificial intelligence tools for academic purposes.

4.2 Prevalence, Types and Patterns of Artificial Intelligence Usage

Findings revealed a high prevalence of AI usage among undergraduates. As shown in Table 1, most respondents used AI tools regularly for academic work (76.3%), for assignments (78.4%) and for searching academic information (81.8%), while 83.4% found AI tools easily accessible and 87.9% reported that many students around them used AI tools for academic purposes.

Table 1

Selected Indicators of AI Usage Prevalence Among Undergraduates (N = 380)

Item	Yes n (%)	No n (%)	Not Often n (%)
Uses AI tools regularly for academic work	290 (76.3)	38 (10.0)	52 (13.7)
Uses AI tools when doing assignments	298 (78.4)	21 (5.5)	61 (16.1)
Uses AI tools to search for academic information	311 (81.8)	14 (3.7)	55 (14.5)
Finds AI tools easily accessible	317 (83.4)	15 (3.9)	48 (12.6)
Many students around them use AI tools	334 (87.9)	9 (2.4)	37 (9.7)

Source: Field survey, 2026.

With regard to the types of tools used (Table 2), ChatGPT was the most widely used (86.6%), followed by Meta AI (70.8%), Google Gemini and Grammarly (59.7% each), Microsoft Copilot (57.0%), Duolingo (53.4%), QuillBot (53.2%) and Photomath (49.7%). Regarding patterns of use, students used AI mainly to generate ideas for assignments (78.9%), to select different tools depending on the academic task (78.4%), during assignment deadlines (77.3%), to summarise lecture notes (76.1%), and, most prominently, whenever they found academic tasks difficult (82.9%).

Table 2*Types of Artificial Intelligence Tools Used by Undergraduates (N = 380)*

AI Tool	Yes n (%)	No n (%)	Not Often n (%)
ChatGPT	329 (86.6)	6 (1.6)	45 (11.8)
Meta AI	269 (70.8)	44 (11.6)	67 (17.6)
Google Gemini	227 (59.7)	89 (23.4)	64 (16.8)
Grammarly	227 (59.7)	103 (27.1)	50 (13.2)
Microsoft Copilot	216 (57.0)	116 (30.6)	47 (12.4)
Duolingo	203 (53.4)	114 (30.0)	63 (16.6)
QuillBot	202 (53.2)	146 (38.4)	32 (8.4)
Photomath	189 (49.7)	146 (38.4)	45 (11.8)

Source: Field survey, 2026.

4.3 Influence of Artificial Intelligence Usage on Academic Stress Reduction

As shown in Table 3, most respondents agreed that AI tools help them complete academic tasks more quickly (84.8%, $M = 2.02$), manage academic workload more effectively (82.7%, $M = 2.00$), understand difficult academic topics (83.7%, $M = 1.97$) and reduce the stress associated with tight deadlines (81.5%, $M = 2.04$). Overall, 74.4% agreed that AI use helps reduce their overall academic stress ($M = 2.12$), while a smaller proportion (68.9%) agreed that it reduced examination anxiety specifically ($M = 2.27$), suggesting that AI's stress-relieving effect is felt more strongly in task management than in examination-related anxiety.

Table 3*Selected Indicators of AI Influence on Academic Stress Reduction (N = 380)*

Item	Agree n (%)	Mean
Helps complete academic tasks more quickly	322 (84.8)	2.02
Helps manage academic workload effectively	314 (82.7)	2
Improves understanding of difficult topics	313 (82.4)	2.02
Reduces stress from tight academic deadlines	310 (81.5)	2.04
Helps better understand difficult topics	318 (83.7)	1.97
Reduces anxiety before examinations	262 (68.9)	2.27
Helps reduce overall academic stress	283 (74.4)	2.12

*Note. Scale: 1 = Strongly Agree to 5 = Strongly Disagree; lower means indicate stronger agreement.**Source: Field survey, 2026.*

4.4 Suggested Measures to Enhance the Use of Artificial Intelligence

Respondents strongly supported institutional measures to enhance the responsible use of AI. As shown in Table 4, 90.0% supported regular training programmes on the effective use of AI tools ($M = 1.69$), 88.5% supported educating students on responsible and ethical AI use ($M = 1.86$), and 88.7% supported the provision of reliable internet access ($M = 1.81$). Similarly, 88.9% agreed that students should be guided on how to use AI without becoming overdependent on it ($M = 1.75$), and 84.2% supported the establishment of clear institutional policies guiding AI use in academic activities ($M = 1.89$).

Table 4

Selected Suggested Measures for Enhancing AI Use (N = 380)

Measure	SA+A n (%)	Mean
University should organise AI training programmes	342 (90.0)	1.69
Students should be educated on ethical AI use	336 (88.5)	1.86
University should provide reliable internet access	335 (88.7)	1.81
Students should be guided against overdependence on AI	338 (88.9)	1.75
Clear policies should guide AI use in academic activities	320 (84.2)	1.89

Note. SA = Strongly Agree; A = Agree.

Source: Field survey, 2026.

4.5 Hypothesis Testing

Hypothesis One. H0₁: There is no significant relationship between the prevalence of AI usage and the reduction of academic stress among undergraduates.

Table 5

Chi-Square Test of the Relationship Between Prevalence of AI Usage and Academic Stress Reduction

Prevalence Level	High Stress Reduction n (%)	Low Stress Reduction n (%)	Total n (%)
High prevalence	151 (68.6)	69 (31.4)	220 (100.0)
Low prevalence	55 (34.4)	105 (65.6)	160 (100.0)
Total	206 (54.2)	174 (45.8)	380 (100.0)

Note. $\chi^2 (1, N = 380) = 43.805, p < .001$.

The Pearson chi-square value of 43.805 with 1 degree of freedom and $p < .001$ is statistically significant at the 0.05 level. The null hypothesis was therefore rejected, indicating a statistically significant relationship between the prevalence of AI usage and the reduction of academic stress among undergraduates of Prince Abubakar Audu University. Students with a higher prevalence of AI usage were more likely to report greater reduction in academic stress.

Hypothesis Two. H0₂: There is no significant relationship between the pattern of AI usage and the reduction of academic stress among undergraduates.

Table 6

Chi-Square Test of the Relationship Between Pattern of AI Usage and Academic Stress Reduction

Usage Pattern Level	High Stress Reduction n (%)	Low Stress Reduction n (%)	Total n (%)
High usage pattern	160 (77.3)	47 (22.7)	207 (100.0)
Low usage pattern	46 (26.7)	126 (73.3)	172 (100.0)
Total	206 (54.4)	173 (45.6)	379 (100.0)

Note. $\chi^2 (1, N = 379) = 96.755, p < .001$.

The Pearson chi-square value of 96.755 with 1 degree of freedom and $p < .001$ is statistically significant at the 0.05 level. The null hypothesis was therefore rejected, indicating a statistically significant relationship between the pattern of AI usage and the reduction of academic stress. Students

who used AI tools more consistently and strategically were more likely to experience greater academic stress reduction.

Hypothesis Three. H0₃: There is no significant difference in the reduction of academic stress between male and female undergraduates.

Table 7

Independent Samples t-Test for Academic Stress Reduction by Sex

Sex	n	Mean	SD	t	df	p
Male	184	2.04	0.8	-0.54	378	0.59
Female	196	2.08	0.7			

Note. Equal variances assumed (Levene's $F = 0.046$, $p = .830$).

The independent samples t-test yielded $t(378) = -0.542$, $p = .588$, which is not statistically significant at the 0.05 level. The null hypothesis was therefore retained: there is no statistically significant difference in the reduction of academic stress between male and female undergraduates of Prince Abubakar Audu University.

5. Discussion of Findings

The finding of a high prevalence of AI usage among undergraduates, led by ChatGPT, Meta AI, Google Gemini and Grammarly, is consistent with Bhutoria (2022), who reported that generative AI has considerably transformed higher education by providing personalised learning support, and with Chan and Hu (2023), who found that university students increasingly rely on generative AI to complete academic tasks more efficiently. The finding also supports the Technology Acceptance Model, which holds that technologies perceived as useful and easy to use are more readily adopted (Davis, 1989; Venkatesh et al., 2003).

Regarding the influence of AI on academic stress reduction, the finding that AI helps students complete tasks more quickly, understand difficult concepts and manage workload aligns with Pascoe et al. (2020), who reported that digital learning technologies help students manage time and access resources more efficiently, thereby easing academic pressure. The significant chi-square relationships found between both the prevalence and pattern of AI usage and stress reduction ($\chi^2 = 43.805$ and $\chi^2 = 96.755$ respectively, both $p < .001$) reinforce this conclusion and are consistent with Cognitive Load Theory, which holds that tools reducing unnecessary mental effort enable learners to process information more effectively and experience less strain (Sweller, 1988).

The strong support expressed by respondents for institutional measures, including training programmes, improved internet access and clear policies on ethical AI use, corroborates Kamalov et al. (2023), who argued that responsible AI adoption in education requires appropriate institutional strategies and regulatory safeguards, and Cambra-Fierro et al. (2024), who similarly found that the benefits of AI adoption in academic settings depend on adequate digital infrastructure and institutional support.

Finally, the absence of a significant gender difference in academic stress reduction, $t(378) = -0.542$, $p = .588$, suggests that male and female undergraduates benefit from AI-assisted learning in broadly similar ways. This finding is consistent with the general pattern reported by Chan and Hu (2023),

who found that the educational benefits of generative AI are experienced across different groups of students once access and digital competence are comparable. Taken together, the findings support both theoretical strands guiding the study: students adopt AI tools when they perceive them as useful and easy to use, and this adoption reduces academic stress by lowering the cognitive burden associated with academic tasks.

6. Conclusion

This study concluded that artificial intelligence has become an important academic resource among undergraduates of Prince Abubakar Audu University, Anyigba. A large proportion of students regularly use tools such as ChatGPT, Meta AI, Google Gemini, Grammarly, Microsoft Copilot, QuillBot and Photomath to support their learning, complete assignments, prepare for examinations and conduct academic research. By providing quick access to information, simplifying difficult concepts, improving writing and reducing the time required to complete academic tasks, AI enables students to manage their academic workload more effectively, with the statistically significant relationships confirmed through hypothesis testing supporting this conclusion.

However, no significant difference was found between male and female students in the degree of stress reduction associated with AI use, indicating that both genders benefit comparably from AI-supported learning. Artificial intelligence therefore holds real potential to improve the quality of learning and reduce academic stress when used responsibly, provided institutions actively promote its ethical and effective use.

7. Recommendations

Based on these findings, the following recommendations are made:

1. University management should organise regular training programmes, workshops and digital literacy campaigns to educate students on the effective, ethical and responsible use of artificial intelligence for learning, research and academic problem-solving.
2. University management should improve digital infrastructure by providing reliable internet connectivity, computer laboratories and institutional access to approved AI tools that support teaching, learning and research.
3. Lecturers should integrate artificial intelligence into teaching by guiding students on the appropriate use of AI for assignments, research and academic writing, while emphasising originality, critical thinking and academic integrity.
4. Students should use artificial intelligence as a supplementary learning tool rather than a substitute for independent learning, verifying AI-generated information against credible academic sources.
5. University management should formulate clear institutional policies on the acceptable use of artificial intelligence in academic activities to promote ethical use and prevent academic misconduct. The University counselling and academic support units should collaborate to provide awareness programmes that educate students on how artificial intelligence can be used to manage academic workload without creating overdependence on technology.

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