



Artificial Intelligence Adoption among College Students: A Study of Usage, Awareness and Perceptions

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Abstract: Artificial Intelligence (AI) has become increasingly widespread in higher education on the basis of how students learn, complete academic tasks, etc. This study analyses the usage, awareness and perceptions of AI tools among students. We collected a primary data using questionnaire with a sample of 320 students. The questionnaire was prepared to measure the frequency of AI usage, awareness, commonly used tool, using purpose, accuracy, productivity, etc. and chi-square test were used to analyse the association between AI usage frequency and factors such as age, gender, and course. The result shows that 97.375% were aware of AI, the majority of AI tools were aged between 19-21 years (50.9365%) the most commonly used AI platform was Chat-GPT (87.8125%), familiarity between most of students for using AI is intermediate (56.875%), AI tools were mostly used for study purposes (87.5%) and 82.5% students agreed that these tools provide clear instruction. The majority rated AI accuracy and satisfaction between 4 out of 5. Age was resulted in a statistically significant association ($p=0.02373$) with frequency of AI usage, while gender ($p=0.182411$) and course ($p=0.325036$) were not statistically significant associated. The study concludes that AI tool awareness and usefulness are growing more widespread among college students. More inclusive participation of education levels is recommended for future research to improve understanding of AI utilization trends in higher education.

Keywords: Artificial Intelligence, AI Tools, Higher Education, College Students, AI Awareness, AI Usage, Student Perceptions, Academic Learning, ChatGPT, AI Adoption.

1. INTRODUCTION

Artificial Intelligence (AI) is the term used to describe the creation of computer systems that can carry out complex tasks which typically require human intelligence, such as making decisions, comprehending speech and identifying patterns or images. The rapid advancement of AI is changing various fields and education is no exception. It has increasingly been used in education which is also called AIED (Vieriu & Petrea, 2025). AI is the new genre which has been steadily taking root and is now a powerful reality in the existing world.

Artificial intelligence (AI) is influencing all areas of our lives today. It is used across various industries and applications, transforming how tasks are performed. Artificial intelligence technology is becoming the basis for business. It is developing quickly and has enormously impacted today's world. AI technologies are beneficial not only to the business sector but also to the educational domain (Jereb & Urh, 2024).

A more appropriate and specific definition of AI is "a system ability to correctly interpret external data, to learn from such data, and to use those learnings to achieve specific goals and

tasks through flexible adaptation" (Tin, 2024). Recently, technological developments transform many different fields, including education. One of the most significant innovations has been the development and utilization of Artificial Intelligence (AI) tools in academic environment (Idrisu et al., 2025).

As AI brings convenience to our daily life in every aspect, more and more students use AI in their study. A survey against 320 students (Jabbar, n.d.). The European Commission recently published a guide that contained advice for educators and school administrators, which concluded: From the way we stay informed to the way we make decisions, artificial intelligence (AI) is becoming ubiquitous in our economy and society. Naturally, it has reached our schools as well. AI in education is no longer a distant future. It is already changing the way schools, universities and educators work and our children learn. It is making educational settings more responsive by helping teachers address each learner's specific needs. It is fast becoming a staple in personalised tutoring and in assessment. And it is increasingly showing its potential to provide valuable insights in student development. The impact of AI on our education and training systems is undeniable and

will grow further in the future (Fullan et al., 2023). Artificial intelligence focusses on developing technological systems that can generate human like outputs in various forms like images, text, audio, video.

2. LITERATURE REVIEW

The increasing adoption of Artificial Intelligence (AI) into higher education has changed the way students access information, complete academic tasks, etc. Recent research has therefore focused on understanding students' awareness, frequency of AI usage, preferred AI tools, and perceptions of their usefulness.

Jereb and Urh (2024) conducted a study in 2024 on the use of intelligence in university students in Slovenia. Their research looked at how familiar students are with AI, how often they use AI what skills they have with AI, how satisfied they are with AI and what benefits they get from AI. They also compared how AI is used by genders and by students, in different fields of study using ANOVA.

Iddrisu et al. (2025) studied the gender variations in adoption and usage patterns of AI tools. They also studied perception of students on usefulness of AI for academic writing. They analysed the data with help of descriptive statistics, chi-square tests to examine association between gender and frequency of AI usage, independent sample t-test to study perception based on gender.

Fošner (2024) studied the usage, attitudes and perceptions of AI tools among university students in Slovenia. They measured the frequency of AI usage the purposes for which these AI tools are used and the students' attitudes and perceptions towards AI in education. For analysis they used Analysis of Variance (ANOVA) to test differences in AI tool usage based on the level and field of study.

Stöhr et al. (2024) studied the students' adoption and perceptions of Chat-GPT and other AI chatbots in education across Swedish universities. They used statistical methods to analyse usage, attitudes and concerns and a chi-square test to identify relations, between attitudes and usage and gender academic level and field of study. The results showed awareness and use of Chat-GPT among students but not of other AI chatbots.

Tin (2024) looked at how the demographic factors of students affect their understanding of AI knowledge and their feelings about AI and their overall grades in school. They pointed out that age has an effect on AI knowledge and how students feel about AI showing that it is important to take factors into account in education and research. Their research found that not all demographic factors are strongly linked to AI knowledge and feelings, about AI. They also said that detailed understanding of these links is needed.

Abbas et al. (2024) They looked at how university students use AI. They found that students mainly used Chat-GPT for academic work. Researchers also found that most use of Chat-

GPT was related with delays in completing academic tasks and memory related concerns. Their study shows that AI can be useful for students but large amount use of AI may also affect their academic performance.

Fullan et al. (2023) This paper aims to discuss how AI-based programs, such as Chat-GPT, can be applied in pedagogy, didactics, and leadership to change the educational field. The technology can be implemented to reduce teachers' burden, provide personalized learning experiences and feedback. Yet, the unethical use of the technology, invasion of privacy, reconsideration of evaluation practices, and techno-determinism are critical concerns associated with the innovation. The authors propose that AI should be embedded in the educational environment to support instruction and interpersonal skills, including empathy, collaboration, and social intelligence.

Vieriu and Petrea (2025) This study aimed to determine the impact of artificial intelligence (AI) on the students' learning process and academic performance. The data was gathered from 85 university students, and the results confirmed the effect of AI on personalization of learning, academic performance, accessibility of information and engagement. However, the participants also reported several negative aspects of using technology in education, including development of reliance on technology, lack of critical thinking, invasion of privacy, distribution of misinformation and academic dishonesty. The researchers suggest that educational AI should be implemented cautiously and only after students are ethically trained.

Chen et al. (2025) The paper explores how AI affects student engagement in learning. The article analyses the impact of artificial intelligence in the educational field from 2007 to 2024. The research involves such AI examples as chatbots, intelligent tutoring, personalized learning, automated feedback, and machine learning on students' behaviour, emotions, and cognition. However, issues of privacy, unreliable data, overreliance, and teachers' role are critical challenges that have to be addressed.

Brusilovsky (2023) notes that the focus of AI in education research, which used to lead the pack when it came to emphasizing the learner's role, has failed to keep up with the general efforts to understand how people and machines can work together. By focusing on personalization modelling, presenting, and selecting content he/she cites the work on recommender systems and such things as open learner models as examples of this kind of research.

Chan (2023) created a survey among 457 students and 180 staff members of the university in Hong Kong to define social and behaviour trends of generative AI, like Chat-GPT. The author introduced the AI Ecological Education Policy Framework that comprises pedagogy, governance, and transactions and was shaped by the principles for educational organizations related to academics, equity, and staff.

Delcker et al. (2024) Surveying 638 first-year students across Germany and Switzerland. They looked at how AI-related competencies - things like skills, attitude, and knowledge - shape students' plans to use AI tools and their actions in real life. A good attitude turned out to be the strongest positive force behind wanting to use these tools and it led to actual use. On the other hand, skill level had a small negative effect. Competence and seeing the benefits also helped students view AI as a collaborative partner.

3. OBJECTIVES

- To study the usage of Artificial Intelligence (AI) among college students.
- To study the level of awareness about Artificial Intelligence among college students.
- To identify the most commonly used AI platforms among college students.
- To examine the major purposes for which college students use AI.
- To study whether AI usage is associated with gender, age and field of study.
- To measure the benefits of using AI among college students.

4. METHODOLOGY

- For this study, data have been collected through survey. The sample has primarily been taken from the students, through convenience sampling. The sample size taken is 320, ("Journal of Childhood Literacy and Societal Issues," 2024) and the type of data collected is primary.
- The survey used Google Forms for the research, which has been provided through WhatsApp and social media groups. The survey is based on questionnaire. In order to protect participants privacy, the questionnaire was intended for anonymous collection of information. The questionnaire consisted demographic data which include the name, age, gender, education status. The survey aimed to find out the usage trends of different AI Tools among the college students.
- The analysis of the collected data encompassed both descriptive and inferential statistical methods to test hypothesis using Excel. Descriptive statistics were employed to address the distribution of responses about AI usage and attitudes.
- We applied chi-square tests to test differences between the sub-groups, complemented by corrected standardized residuals. Those tests were suitable as they correspond to the categorical and ordinal nature of our variables without the need to meet the assumption of normality.

5. RESULTS

5.1. Age Distribution

Age is one of the important demographic factors that can help in explaining the pattern of use of AI tools among college students. The students were classified into 4 age groups: 16-18

years, 19-21 years, 22-24 years and 24+ years. The distribution of students across these age groups is shown below with help of pie chart and table.

Table 1: Distribution of the age

AGE	NO. PEOPLE	PERCENTAGE
16-18	142	44.375
19-21	163	50.9375
22-24	12	3.75
24+	3	0.9375

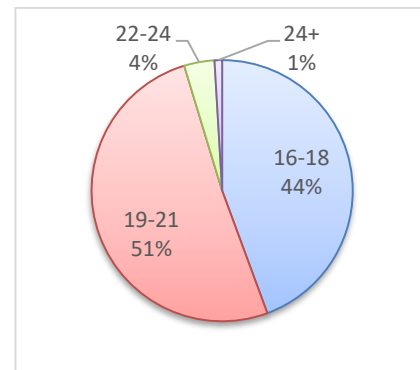


Fig 1: A pie chart showing distribution of the age.

According to age the usage of AI trends is higher in age group of 19-21 years i.e., 50.9375%, while the usage is less in age group of 24+ years i.e., 0.9375%.

5.2. Awareness

It is an important factor is assessing students' familiarity with AI. The students were asked whether they have heard about AI or not. The data is presented below with the help of pie chart and table.

Table 2: Whether students have heard about AI or not:

AWARE	NO. PEOPLE	PERCENTAGE
Yes	318	99.375
No	2	0.625

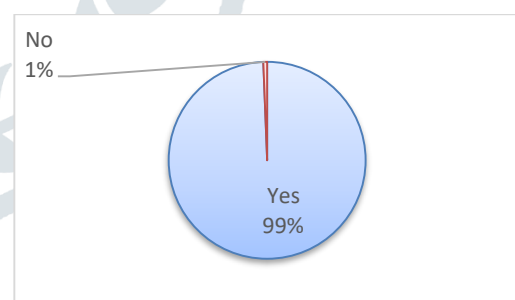


Fig 2: A pie chart showing whether students have heard about AI or not.

The result shows that most of the people have heard about the term AI i.e., 99.375% and very less students did not hear the term AI i.e., 0.625%.

5.3. Familiarity and Experience

The familiarity with AI technology helps to assess the level at which students have experience using AI tools. The students were asked to rate their familiarity as Never tried, Beginner, Intermediate, Expert. The responses collected are shown below using pie chart and table.

Table 3: distribution of the familiarity on the usage of AI tool:

FEATURES	NO. PEOPLE	PERCENTAGE
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Never Tried	12	3.75
Beginner	104	32.5
Intermediate	182	56.875
Expert	22	6.875

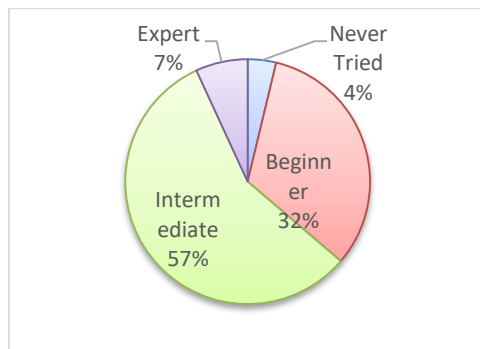


Fig 3: A pie chart showing distribution of the familiarity on the usage of AI tool.

Based on the familiarity of the AI tool the result shows that most of the students are intermediate in the use of AI tool i.e., 56.875% and very less students never tried AI tool i.e., 3.75%.

5.4. Most commonly used GPTs

The use of different AI tools depends on students' preferences and requirements. The students were asked which AI tools they use often which included Chat-GPT, Gemini, perplexity, Claude, and other tools. Following are the responses shown using bar chart and table.

Table 4: distribution of which AI tool is most commonly used by students

AI TOOLS	NO. PEOPLE	PERCENTAGE
Chat GPT	281	87.8125
Gemini	204	63.75
Perplexity	78	24.375
Claude	102	31.875
Other	49	15.3125

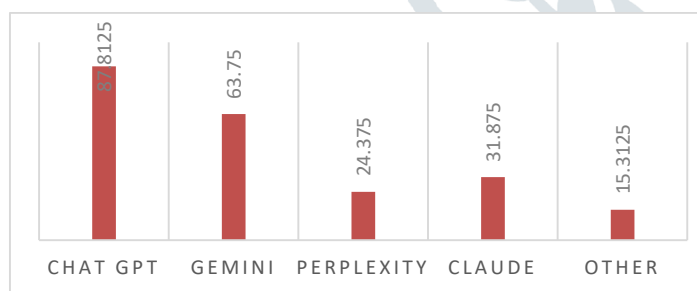


Fig 4: A bar graph showing distribution of which AI tool is most commonly used by students.

The survey shows that most of the students use Chat-GPT i.e., 87.8125% and very less students use other AI tools.

5.5. Frequency of AI use

The frequency of AI tools shows how regularly students use AI in their academic or other activities. The students were asked how often they used AI tools. The responses are shown below using pie chart and table.

Table 5: distribution of the frequency of use of AI tools:

FEATURE	NO. PEOPLE	PERCENTAGE
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Never	2	0.625
Rare	47	14.6875
Very Rare	16	5
Often	197	61.5625
Very Often	58	18.125

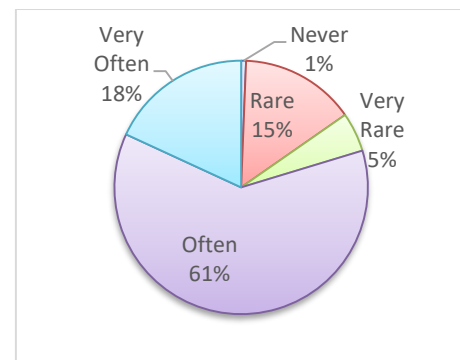


Fig 5: A pie chart showing distribution of the frequency of use of AI tools.

The use of AI tools shows that the students use it often i.e., 61.5625% and very less students don't use AI tools i.e., 0.625%.

5.6. Purpose of Use

AI tools can be used by students for various purposes. The students were asked for which purpose they used AI tools like research, grammar correction, Innovation idea, Study purpose, others. The responses are shown below using bar chart and table.

Table 6: Distribution of the students for which purpose the students are using the AI tools:

PURPOSE	NO. PEOPLE	PERCENTAGE
Research	221	69.0625
Grammar Correction	98	30.625
Innovation Idea	124	38.75
Study Purpose	280	87.5
Others	81	25.3125

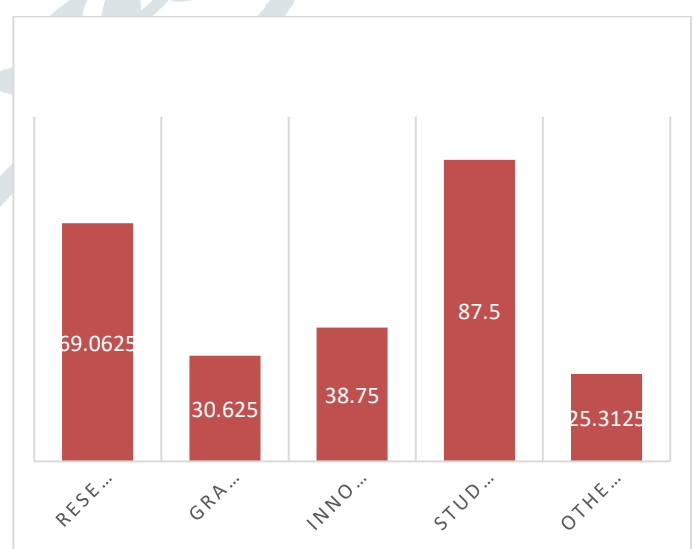


Fig 6: A bar graph showing distribution for which purpose the students are using the AI tool.

The result shows that most of the students use AI tool for study purpose i.e., 87.5% and very less students use AI tool for other purposes i.e., 25.31%.

5.7. Accuracy Rating

The accuracy of AI generated results is an important factor when considering the trustworthiness of AI tools. The students were asked to rate how accurate they find the results generated by AI. Following are the responses shown using a pie chart and table.

Table 7: distribution of accuracy of the results provided by AI tools:

RATING	NO. PEOPLE	PERCENTAGE
1	9	2.8125
2	18	5.625
3	144	45
4	136	42.5
5	13	4.0625

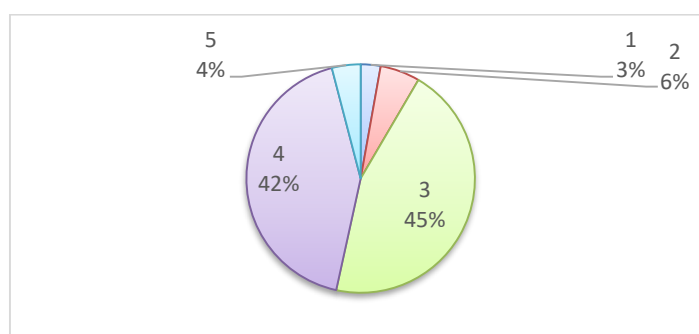


Fig 7: A pie chart showing the distribution of accuracy of the results provided by AI tools.

The result shows that most of the students rated 4 out of 5 i.e. 42.5% and very few students rated 1 out of 5 i.e. 2.8125%.

5.8. Clarity of the Output/Information

The students were asked whether AI tools provide clear instruction. Their responses are shown below using pie chart and table.

Table 8: distribution of clarity of information provided by AI tool for students.

FEATURE	NO. PEOPLE	PERCENTAGE
Yes	264	82.5
No	56	17.5

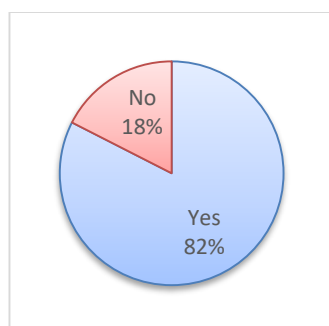


Fig 8: A pie chart showing distribution of clarity of information provided by AI tool for students.

The result shows that AI tool provides clear instruction to students i.e. 82.5% but very few students says that AI tool does not provide clear instruction i.e. 17.5%.

5.9. Productivity using AI Tools

Productivity can be in several ways such as enhance decision making, giving quick response, improve writing quality, and 24/7 availability. The students were asked how AI impacted their productivity. Following responses are shown below using bar chart and table.

Table 9: Distribution of the productivity of AI tools..

FEATURES	NO. PEOPLE	PERCENTAGE
Enhance decision making	109	34.0625
Giving quick response	207	64.6875
Improve writing quality	104	32.5
Others	184	57.5



Fig 9: A graph showing distribution of productivity of AI tools.

The result shows, most of the students believe that AI tool helps in giving quick response i.e., 64.6875% and few students believe that AI tool helps in improve writing quality i.e., 32.5%.

5.10. Satisfaction using AI Tools

The expectation with AI tools helps to assess satisfaction with the results provided by these tools. The students were asked to rate how often AI tools meet their expectations on a scale of 1 to 5 (5 indicates higher satisfaction). Responses are shown below using pie chart and table.

Table 10: Distribution of expectation of task:

RATING	NO. PEOPLE	PERCENTAGE
1	7	2.1875
2	19	5.9375
3	143	44.6875
4	134	41.875
5	17	5.3125

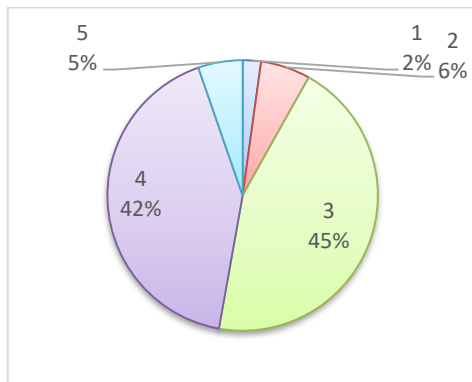


Fig 10: A pie chart showing distribution of expectation of task.

The result shows, most of the students rated 3 out of 5 i.e., 44.6875% and very few students rated 1 out of 5 i.e., 2.1875%.

5.11. Purposes of Using AI Tools

AI tools can help students in various academic activities such as fast learning, generating ideas, explanation of material, task solving, and searching for information. The students were asked how AI tools are helpful to them. The responses are shown below using bar chart and table.

Table 11 : distribution of helpfulness of AI:

FEATURES	NO. PEOPLE	PERCENTAGE
Fast learning	162	50.625
Generating ideas	152	47.5
Explanation of material	204	63.75
Tasks solving	177	55.3125
Searching for information	230	71.875

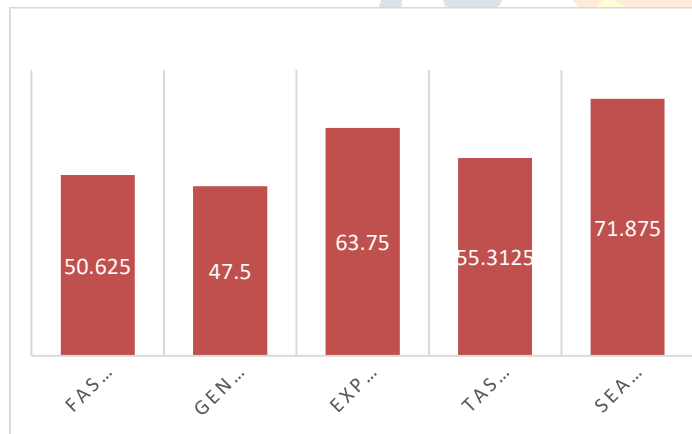


Fig 11: A graph showing distribution of helpfulness of AI.

5.13. Chi-square test of association and residual analysis:

A chi-square test of independence was conducted to check whether AI usage is associated with students age group, gender, and course. The test was performed at a 5% level of significance. Where a significant association was found, residual analysis was further carried out to check the specific groups contributing to the association.

The result shows, most of the students believe that AI tool helps in explanation of material i.e., 63.75% and few students believe that AI tool helps in generating ideas i.e., 47.5%.

5.12. Training for ethical use of AI Tools

Since AI training can help students to develop knowledge and skills needed to use AI tools effectively. The students were asked whether educational institutions should offer training in the use of AI. The responses are shown below using a pie chart and table.

Table 12: distribution of training:

TRAINING	NO. PEOPLE	PERCENTAGE
Yes	297	92.8125
No	23	7.1875

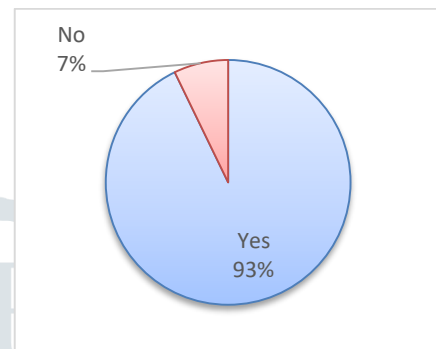


Fig 12: A pie chart showing distribution of training.

The result shows that most of the students believe that educational institution should offer training in field of using AI for students i.e. 92.8125 and very less students believe that educational institution should not offer training in field of using AI for students i.e. 7.1875.

Table 13: Chi-square for AI usage by age, gender and course.

Null Hypothesis	P-value	Decision ($\alpha=0.05$)	Statistic	Relationship	Test
H0: There is no statistically significant association between age group and frequency of AI usage. H1: There is a statistically significant association between age group and frequency of AI usage.	0.023733	Reject H0	χ^2 = 23.50	There is a statistically significant association between age group and frequency of AI usage	Chi-square
H0: There is no statistically significant association between gender and frequency of AI usage. H1: There is a statistically significant association between gender and frequency of AI usage.	0.182411	Accept H0	χ^2 = 6.233	There is no statistically significant association between gender and frequency of AI usage	Chi-square
H0: There is no statistically significant association between course and frequency of AI usage. H1: There is a statistically significant association between course and frequency of AI usage.	0.325036	Accept H0	χ^2 = 9.208	There is no statistically significant association between course and frequency of AI usage	Chi-square

5.14. Residual Analysis

The final analysis of the contingency table is residual analysis. It assesses whether there is an association between age and frequency of use of artificial intelligence.

Table 14: Residual analysis for AI usage by age.

AGE	NEVER	OFTEN	RARE	VERY OFTEN	VERY RARE
16-18	-0.9421	0.489983771	1.126319856	-2.313622107	1.088350606
19-21	0.9722	-0.334108532	-0.80537356	1.923725707	-1.453681597
22-24	-0.2739	-0.142568296	-0.57434823	0.55940239	0.516397779
24+	-0.1369	-0.623161424	-0.6637959	0.618732947	2.194690563

From the residual analysis, it can be seen that the association between age and frequency is found only in very few cells. For instance, there were fewer 16–18-year-olds who marked “Very Often” than expected with the standardized residual of -2.314. It implies that the observed frequency differs from the expected one by more than two standard deviations.

In another cell, for 19–21 year olds, the number of students who marked “Very Often” was higher than expected with a positive value of the standardized residual equal to 1.924. It implies that the observed frequency was higher than the expected one by more than one standard deviation. However, the residual was below the ± 2 threshold, hence was not particularly large.

For 22–24-year-olds, all standardized residuals were within the range of ± 2 , which implies that the observed frequencies were close to the expected ones.

For the 24+ age group, the only category with a residual value exceeding one standard deviation was “Very Rare” with the value of 2.195, which again suggests that the observed frequency was higher than the expected one by more than two standard deviations. However, there were only three students in this category, so the results are not significant due to the small sample size. Thus, from the residual analysis, it can be concluded that the most significant differences were found for the 16–18 age group for “Very Often” category. For the 24+ age group, the biggest difference was in the “Very Rare” category. All the other age groups’ observed frequencies were close to the expected ones.

6. DISCUSSION

The current study aimed to evaluate the awareness, familiarity, and usage patterns of AI tools among university students. Data

was collected from 320 respondents from BSc, BA and Master's level courses. Majority of the participants were in the age bracket of 19 -21 years (50.9%) followed closely by 16-18 years group (44.4%).

More than half of the respondents (56.9%) said that they had intermediate familiarity with artificial intelligence (AI) technology, 32.5% said that they were beginners, and only 6.9% said that they were experts. This shows that AI tools have become quite accessible, but most students do not possess a high level of proficiency in their use, probably because many undergraduates have only recently been exposed to these tools. This is consistent with the result of the reference study that intermediate familiarity was the most common answer. It reflects a more general trend that AI adoption among students is still evolving, not yet established.

Regarding the frequency of use, 61.6% of students reported using AI tools "often", and a further 18.1% reported using them "very often", together indicating that nearly 80% of the sample interacts with AI tools on a regular basis. The high frequency of use can be explained by the easy availability, free access and flexibility of tools such as the most used platform in this study, which was ChatGPT (87.8% of respondents) followed by Gemini (63.7%) and Claude (31.9%). ChatGPT remains the dominant AI tool comparatively to other AI tools, this finding is consistent with Stöhr et al. (2024) who observed that university students were aware of Chat-GPT, while the usage of other AI tools were comparatively lower. This makes Chat-GPT the go-to start, for students who want to use AI. Students use AI tools for study purpose with 87.5% of them. Research is the biggest reason, used by 69.1%. 38.8% use AI tools to come up with new ideas. This shows that students perceive AI tools as academic support tools, not as entertainment or non-academic activities. This can help students to find information and to complete academic work more efficiently in limited time frames.

On the clarity of instruction, a large majority of students (82.5%) agreed that AI tools provide clear instructions for new users. This can be tied to the systematic, conversational interface that most AI platforms now provide.

In terms of how accurate students think AI generated results are, most gave a rating of 3 out of 5 (45.0%). This was very close to the rating of 4 out of 5 which was given by 42.5% of students. The way AI tools performed their expected tasks had a pattern. The common ratings were 3 (44.7%) and 4 (41.9%). Satisfaction with the features of AI tools also followed a path (42.2%) of students rated their satisfaction as 4 out of 5. Overall these results shows that students like AI tools but still have some doubts about whether the content made by AI is trustworthy. This is probably because students know that AI content can be wrong or needs to be checked in some situations.

When it comes to the effect of AI productivity the top benefit mentioned was the tools ability to give answers (64.7%). The next common benefit was being available all the time (57.5%). This shows that students expect access to information in their busy academic lives, where saving time is very important. When asked how AI tools help them personally most students said they use them for searching for information (71.9%). For understanding material (63.7%). This confirms that AI tools are mainly used as help for school work and not for non school related tasks.

Finally, a large number of students (92.8%) said they think universities should offer training on how to use AI tools. This strong agreement shows a difference between how much students use AI tools and how much help they get to learn how to use them properly. This strong consensus shows a glaring disconnect between the widespread use of AI tools and the amount of systematic scaffolding students receive. It suggests universities have an opportunity, and arguably a responsibility, to formally integrate AI literacy into their curriculum, rather than leaving it to students to learn these tools haphazardly from their peers or by trial and error.

Chi-square tests of independence were used to examine whether the frequency of AI tool usage was independent of the demographic characteristics of the respondents such as age group, gender and course of study. The test between age group and frequency of AI usage yielded a statistically significant result, $\chi^2(12) = 23.505$, $p = 0.024$, leading to rejection of the null hypothesis and indicating that AI usage frequency was not independent of age; however, since some expected cell frequencies were below 5 in the smaller age categories (22–24 and 24+), this result warrants cautious interpretation. Standardized residuals revealed that this association was concentrated in the "Very often" category, where 16–18-year-olds used AI less frequently than expected (residual = -2.31) while 19–21-year-olds used it more frequently than expected (residual = 1.92), and the 24+ group ($n = 3$) showed a higher-than-expected count for "Very rare" use (residual = 2.19), a finding that should be treated with caution given the very small subsample. In contrast the Chi-square tests for gender $\chi^2(4) = 6.233$, $p = 0.182$ and course of study, $\chi^2(8) = 9.208$, $p = 0.325$ both failed to reach significance so the corresponding null hypotheses were not rejected, indicating no meaningful association between these two demographic factors and frequency of AI usage in this sample.

Taken together these association analysis suggest that among the variables examined age group is the only factor significantly linked to how often students use AI tools while gender and academic programme show comparatively uniform usage patterns across categories.

7. LIMITATION AND SUGGESTION:

The study has some limitations. The sample was uneven across groups. Females made up 68.4% of respondents. Males 31.6%. Nearly all students were aged 16-21 years, with 44.4% aged

16-18, 50.9% aged 19-21, 3.75% were aged 22-24 and 0.94% were aged 24 and above i.e. just 3 students. Masters students formed 5.9% of the sample. Since these groups are so small the findings cannot be generalised to students or to postgraduate students.

The chi-square test showed a significant association between age group and frequency of AI usage ($p = 0.0237$). Some expected frequencies were below 5 especially in the smaller age groups. The 24+ group has 3 students so its result is unstable. This association should therefore be interpreted with caution.

The data were collected through a questionnaire. So familiarity, frequency of use, accuracy, expectations and satisfaction are all based on students own ratings. Most students rated accuracy as 3 (45.0%) or 4 (42.5%) out of 5.. The accuracy of AI outputs was not checked objectively. The study also covered how students use AI. It did not examine concerns such as integrity or over-reliance. It did not measure the effect of AI on academic performance.

Future studies should include an more balanced sample across gender, age groups and levels of study. There should be students aged 22 and above and more postgraduate students. This would allow reliable comparisons between groups. It would also help avoid the expected frequencies seen here. Researchers could also measure students AI knowledge and the accuracy of AI outputs objectively than relying only on self-ratings. Interviews or focus groups could explain why students choose tools and features. Since 92.8% of students felt that institutions should offer AI training future work could also study the effect of training, on students learning and academic performance. Institutions should consider programmes that teach the effective and responsible use of AI.

8. CONCLUSION

Among all the college students almost everyone had heard of AI. Most of them used AI often mostly for study purpose or doing research. ChatGPT was the tool that people used the most, after that came Gemini and many students used both tools. Students said that AI was useful mainly because it gives quick answers, works all the time and helps them search and understand material. Most students said that accuracy, expectations and features of AI were from moderate to good and found AI tools instructions clear. This shows that AI is a tool in academics but students do not fully trust it. Users who were more familiar with AI reported satisfaction. Every student wanted their university to provide training in AI. This shows that proper education, on use of AI is needed.

A chi-square test showed a significant association between age group and frequency of AI usage, while gender and course did not showed a significant association. Residual analysis showed that the association between age group "16-18" and AI usage was mainly reflected in the "Very Often" category, while the 19-21 age group had a positive residual for "Very Often" category.

CONFLICT OF INTEREST AND FUNDING

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AUTHOR CONTRIBUTIONS

S.P. supervised the study, guided the research design and methodology, and provided critical revisions to the manuscript. S.P., S.G., N.G., and N.B. contributed to the development of the survey instrument, data collection, data preparation, and preliminary analysis. S.P., S.G., N.G., and N.B. contributed to the interpretation of the results and the writing of the manuscript. All authors discussed the findings, reviewed the final manuscript, and approved its submission for publication.

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REFERENCES:

- 1) Tin, T. T. (2024) Demographic Factors Shaping Artificial Intelligence (AI) Perspectives: Exploring Their Impact on University Students' academic performance: https://www.pjlss.edu.pk/pdf_files/2024_2/12248-12264.pdf
- 2) Iddrisu, H. M., Iddrisu, S. A., & Aminu, B. (2025) Gender differences in the adoption, usage, and perceived effectiveness of AI writing tools: <https://ejournal.unma.ac.id/index.php/ijeir/article/view/11717/5974>
- 3) Stöhr, C., Ou, A. W., & Malmström, H. (2024) Perceptions and usage of AI chatbots among students in higher education across genders, academic levels and fields of study. *Computers and Education Artificial Intelligence*, 7, 100259: <https://doi.org/10.1016/j.caeai.2024.100259>
- 4) Abbas, M., Jam, F. A., & Khan, T. I. (2024). Is it harmful or helpful? Examining the causes and consequences of generative AI usage among university students. *International Journal of Educational Technology in Higher Education*, 21(1): <https://doi.org/10.1186/s41239-024-00444-7>

- 5) Jereb, E., & Urh, M. (2024). The Use of Artificial Intelligence among Students in Higher Education. *Organizacija*, 57(4), 333–345: <https://doi.org/10.2478/orga-2024-0024>
- 6) Fošner, A. (2024). University Students' Attitudes and Perceptions towards AI Tools: Implications for Sustainable Educational Practices. *Sustainability*, 16(19), 8668: <https://doi.org/10.3390/su16198668>
- 7) Fullan, M., Azorín, C., Harris, A., & Jones, M. (2023). Artificial intelligence and school leadership: challenges, opportunities and implications. *School Leadership and Management*, 44(4), 339–346: <https://doi.org/10.1080/13632434.2023.2246856>
- 8) Vieriu, A. M., & Petrea, G. (2025). The impact of artificial intelligence (AI) on students' academic development. *Education Sciences*, 15(3), 343: <https://www.mdpi.com/2227-7102/15/3/343>
- 9) Chen, X., Xie, H., Qin, S. J., Wang, F. L., & Hou, Y. (2025). Artificial Intelligence-Supported Student Engagement Research: text mining and Systematic analysis. *European Journal of Education*, 60(1): <https://onlinelibrary.wiley.com/doi/10.1111/ejed.70008>
- 10) Delcker, J., Heil, J., Ifenthaler, D., Seufert, S., & Spirgi, L. (2024). First-year students AI-competence as a predictor for intended and de facto use of AI-tools for supporting learning processes in higher education. *International Journal of Educational Technology in Higher Education*, 21(1): <https://doi.org/10.1186/s41239-024-00452-7>
- 11) Brusilovsky, P. (2023). AI in Education, Learner Control, and Human-AI Collaboration. *International Journal of Artificial Intelligence in Education*, 34(1), 122–135: <https://doi.org/10.1007/s40593-023-00356-z>
- 12) Adamson, D., Dyke, G., Jang, H., & Rosé, C. P. (2014). Towards an agile approach to adapting dynamic collaboration support to student needs. *International Journal of Artificial Intelligence in Education*, 24(1), 92–124: <https://doi.org/10.1007/s40593-013-0012-6>
- 13) Almaraz-López, C., Almaraz-Menéndez, F., & López-Esteban, C. (2023). Comparative Study of the Attitudes and Perceptions of University Students in Business Administration and Management and in Education toward Artificial Intelligence. *Education Sciences*, 13(6), 609: <https://doi.org/10.3390/educsci13060609>
- 14) Chan, C. K. Y. (2023b). A comprehensive AI policy education framework for university teaching and learning. *International Journal of Educational Technology in Higher Education*, 20(1): <https://doi.org/10.1186/s41239-023-00408-3>
- 15) Lo, C. K., Hew, K. F., & Jong, M. S. (2024). The influence of ChatGPT on student engagement: A systematic review and future research agenda. *Computers & Education*, 219, 105100: <https://doi.org/10.1016/j.compedu.2024.105100>
- 16) Chen, X., Xie, H., & Hwang, G. (2020). A multi-perspective study on Artificial Intelligence in Education: grants, conferences, journals, software tools, institutions, and researchers: <https://doi.org/10.1016/j.caeai.2020.100005>
- 17) Hinojo-Lucena, F., Aznar-Díaz, I., Cáceres-Reche, M., & Romero-Rodríguez, J. (2019). Artificial Intelligence in Higher Education: A Bibliometric Study on its Impact in the Scientific Literature. *Education Sciences*, 9(1), 51: <https://doi.org/10.3390/educsci9010051>
- 18) View of the effect of artificial intelligence (AI) on students' learning. (n.d.): <https://ojs.amhinternational.com/index.php/imbr/article/view/4178/2777>