Original Research Article

Factors Influencing the Use of AI Tools Among Undergraduate Students in the UK: Differences by Year of Study and Subject Area

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ABSTRACT

As Artificial Intelligence (AI) becomes increasingly prevalent, questions have arisen regarding the motivations that drive students to rely on it. This study investigates the factors influencing the likelihood of AI use among undergraduate students, and how these factors vary by year of study and broad subject area. A Chi-Square Test for Homogeneity was conducted for each factor within these groups to determine whether significant differences existed in the proportions of students selecting particular motivations or uses. The dataset analyzed was drawn from a survey of 1,041 undergraduate students in the United Kingdom. The findings indicate that students primarily use AI to save time, improve the quality of their work, and obtain instant support, while they are less likely to use AI when concerned about accusations of cheating or the risk of false or biased results. Significant differences emerged in students' use and motivations behind the likelihood of AI for data analysis, summarization, and improving work quality across years of study. Differences were also observed in generating text, summarizing, coding, saving time, and concerns about cheating across subject areas. These results underscore the need for educators to provide greater support to younger students, as well as equitable education and access to AI resources across disciplines. Moreover, educators should refine guidelines for AI use to reflect disciplinary differences, and future research should examine how these needs evolve within specific fields.

Keywords: GenAI; ChatGPT; Undergraduate Students; Usage Patterns; Year of Study; Subject Area; Likelihood of Use; UK Universities

INTRODUCTION

Since the release of ChatGPT in 2022, industries worldwide have experienced significant transformation, with sectors such as technology and finance increasingly adopting AI tools (1). In hiring and human resources, for instance, AI can efficiently match companies with qualified candidates, assess soft skills, scan resumes, and even predict employee retention risks. Similarly, in finance, AI enables the rapid analysis of large datasets while helping detect and prevent fraud (1).

Within education, the impact of AI has been especially rapid and disruptive. Many high school and undergraduate students now integrate ChatGPT into their daily academic work, ranging from assistance with assignments to the production of full essays, even in settings where its use is formally restricted (2). While AI provides clear benefits in terms of efficiency and support, concerns have grown among educators

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and researchers regarding issues of overreliance and academic dishonesty (3). These concerns are not unfounded: in the United Kingdom alone, over 7,000 confirmed cases of AI-related cheating have been reported, amounting to 5.1 per 1,000 students (4). Further evidence suggests the problem is even broader; surveys indicate that 88% of students use AI in assessments, and researchers at the University of Reading found that their assessment systems failed to detect AI-generated submissions 94% of the time (4).

One promising way to approach this issue is to examine both the *motivations* driving students toward greater or lesser reliance on AI and the *specific uses* of AI across different groups. Among possible groupings, such as gender, ethnicity, university type, age, and region, differences by year of study and broad subject area are particularly meaningful. For example, identifying how usage patterns vary across grade levels can help educators determine which students require closer guidance to prevent overreliance or misconduct. Likewise, understanding how students in different subject areas perceive the benefits and drawbacks of AI can inform targeted interventions, such as adjusting workload expectations or providing discipline-specific guidelines for responsible AI use.

LITERATURE REVIEW

This review examines prior research on higher education students' perceptions and uses of AI tools, including comparisons between demographic groups, the influence of background characteristics, awareness and adoption of generative AI (GenAI), ethical perspectives, and international comparisons of tool types, purposes, and attitudes toward cheating and critical thinking.

Since the widespread adoption of AI in education, students' perceptions of these tools have become a subject of active debate. Several studies highlight differences across student groups. For example, Cabrera-Arnau found that international students, particularly those from China and India, reported higher past and intended future usage of AI compared to domestic students in the U.K., with male students also showing higher usage frequencies than females across both groups (5). Similarly, Arowosegbe et al. reported high awareness of GenAI for academic and general purposes, with many students using it for grammar correction, idea generation, and answering questions (6). Over half of the respondents believed AI provided academic advantages, and 40% expressed an overall positive perception (6). Taken together, these studies demonstrate generally favorable attitudes toward AI, with the former emphasizing usage frequency across groups and the latter highlighting common applications.

Other studies focus on usage patterns across years of study and ethical concerns. Sunmboye et al. found that first-year students relied more heavily on AI tools, while later-year students preferred face-to-face instruction (7). Female students also expressed greater concern about inaccuracies compared to males (7). In contrast, Weerasinghe and Abeysinghe reported widespread use of AI for grammar checking, enhancing subject knowledge, and coding, with nearly three-fourths of students employing AI for research-related tasks such as identifying topics, setting objectives, and summarizing literature (8). Together, these findings suggest that both year of study and gender influence not only the extent of AI use but also students' motivations and concerns.

Finally, ethical considerations remain central in the literature. Parker et al. found that many students engaged with ChatGPT for academic work and generally perceived it as improving their performance (9). However, students expressed a wide range of ethical views about using AI for academic tasks, underscoring the complexity of attitudes toward academic integrity (9).

While prior research has explored perceptions and uses of AI across demographic groups, few studies have directly examined the factors that make students more or less likely to rely on AI. Moreover, limited research has been conducted specifically on U.K. undergraduates, and broad subject areas remain underexplored. This study addresses these gaps by investigating both the motivations for and uses of AI among U.K. undergraduate students, and by analyzing how these differ across year of study and broad subject areas.

METHODS AND MATERIALS

Research Design

This study addressed two research questions: (1) the factors that influence the likelihood of AI tool use among undergraduate students in the U.K., and (2) whether the proportions of students selecting these factors differ by year of study and broad subject area. To answer the first, the top three factors, both encouraging and discouraging AI use, were identified from the dataset. To address the second, the study applied statistical tests to examine differences across subgroups.

Data Collection

The dataset consisted of survey responses from 1,041 full-time undergraduate students in the U.K., collected by Savanta, and the author has no access to the personal information of the survey participants. For this analysis, three questions were selected:

1. "Which of the following have you used artificial intelligence (AI) for this academic year? (Include AI used for any purpose, including your studies, employment, hobbies, and so on.)"
2. "Which of the below, if any, are reasons which make you more likely to use AI tools for your studies?"
3. "Which of the below, if any, are reasons which make you less likely to use AI tools for your studies?"

The groups of interest were year of study (first year, second year, third year or above) and broad subject area (Health, STEM, Social Sciences, Arts and Humanities).

Statistical Analysis

A Chi-Square Test for Homogeneity was used to assess whether significant differences existed in the distribution of responses across subgroups. In this context, the categorical variables were either *uses of AI* or *motivations for more or less use*, while the populations were the subgroups of year of study and subject area. The test statistic is defined as:

$$\chi^2 = \Sigma \frac{(\text{Observed count} - \text{Expected count})^2}{\text{Expected count}}$$

where observed count is the actual number of students choosing each factor and expected count is the theoretical count under the null hypothesis of equal distributions. Degrees of freedom were calculated as $(r-1)(c-1)$, where r is the number of rows and c the number of columns. The p-value represents the probability of observing results at least as extreme as those obtained, assuming no differences exist among groups.

Multiple tests were conducted to compare subgroup proportions for each categorical variable. All analyses were performed using the SUBEDI statistical software, with contingency tables input manually.

RESULTS

This study analyzed responses to three survey questions across two grouping variables. The first question addressed the *uses* of AI, the second examined *motivations for greater use*, and the third examined *motivations for lesser use*. Responses were compared across two groupings: year of study (first year, second year, third year or above) and broad subject area (Health, STEM, Social Sciences, and Arts and Humanities).

Chi-Square Tests for Homogeneity were conducted for each categorical variable (the response options to the survey questions) to determine whether differences existed in the proportions of students across subgroups. To address the first research question, a table summarizing the most frequently reported factors influencing AI use is presented. To address the second research question, results from the significance tests are reported to highlight where subgroup differences were statistically significant. Finally, a table of frequency counts is included to illustrate the scale of participation and provide context on the demographics of the sample.

Factors Influencing the Likelihood of AI Use

To address the first research question, this study examined the proportions of students in the full sample who selected each factor influencing their likelihood of AI use. Among reasons for *greater use*, the most frequently cited were: saving time (51.1%), improving the quality of work (50.1%), and obtaining instant support (40.3%). Among reasons for *less use*, the leading factors were: fear of being accused of cheating by the institution (52.9%), concern about false results or hallucinations (51.1%), and concern about biased results (37.3%). Table 1 presents the full distribution of responses for each factor across all 1,041 participants.

Students' Usages of AI

To address the second research question, whether the proportions of students choosing each factor differed by year of study or broad subject area, Chi-Square Tests for Homogeneity were conducted on AI usages across subgroups.

Table 2 reports the demographic breakdown of respondents by year of study, age, gender, ethnicity, and broad subject area. Table 3 presents the Chi-Square results, including the test statistic, p-values, and significance levels. One limitation of these analyses was that some categorical variables had small sample sizes, which reduced the reliability of the results; in particular, the "something else" category within broad subject areas did not meet the minimum expected count threshold.

For year of study, significant differences were observed in students' use of AI for data analysis and

presentations ($p = 0.01$), summarization, note-taking, or quizzing university textbooks ($p = 0.04$), and the category "something else" ($p = 0.05$). For broad subject areas, significant differences were identified in the use of AI for generating text ($p = 0.03$), writing computer code ($p = 3.0 \times 10^{-8}$), summarization or note-taking ($p = 0.05$), another study-related use ($p = 5.0 \times 10^{-10}$), and reporting no use at all ($p = 0.0005$).

These results indicate that students at different grade levels and from different subject areas vary in how they use AI, though the present analysis does not specify which groups account for the differences. In practice, this means that AI usage patterns are not uniform across the undergraduate population: while some students may rely on AI for tasks such as summarizing content, others may use it more for data analysis or for purposes not directly captured in the survey. The presence of these differences suggests that grade level and subject area likely shape the ways students approach and integrate AI into their academic work.

In summary, three usage categories showed significant variation by year of study, while five categories differed by subject area. These findings

Table 1. Distribution (% of Total Sample Selection) of the Factors Influencing the Likelihood of AI Use

Reasons for More AI Use	Percentage (%)
To save me time	51.1
To improve the quality of my work	50.1
I learn more if I use AI than if I don't	20.0
To improve my AI skills	28.0
To get instant support	40.3
To get support outside of traditional study hours	28.6
Because other students use AI	15.5
To get personalized support	32.3
My institution encourages me to use AI	13.4
Something else (please specify)	0.3
Nothing: I have no interest in using AI tools	6.5

Reasons for Less AI Use	Percentage (%)
The environmental impact	15.2
Getting biased results	37.3
Getting false results/hallucinations	51.1
Being accused of cheating by my institution	52.9
It is not fair to other students who do not use AI	20.6
I will learn more if Ido not use AI	18.4
Not enough is done to protect my data privacy	23.3
The use of data to train AI models without the authors' consent	16.0
My institution discourages or bans the use of AI	31.3
Tools are too expensive	19.9
Something else (please specify)	0.5
Nothing: I am fully comfortable using AI tools	3.8

Table 2. Demographic Breakdown of Respondents by Year of Study (Age, Gender, Ethnicity, Subject Area) Relevant to AI Use Patterns

	First Year	Second Year	Third Year or Above
Total	373	321	347
Age			
<21	314	199	178
>21	59	122	169
Gender			
Man	163	135	151
Woman	204	177	193
Non-binary	5	7	3
In another way	1	1	0
Prefer not to say	0	1	0
Ethnicity			
White	225	210	221
Mixed	23	24	24
Asian	73	44	65
Black	44	40	33
Other ethnic group	7	3	3
Prefer not to say	1	0	1
Broad Subject Area			
Health	47	55	59
STEM	143	126	121
Social Sciences	118	99	110
Art and Humanities	45	25	47

indicate that students from different grade levels use AI in distinct ways, while subject-based patterns also emerge. For example, STEM students were more likely to use AI for coding, Arts and Humanities students for text generation and summarization, and Health students reported lower overall use compared to other fields.

Motivations Behind More AI Use

The second survey question examined reasons that made students more likely to use AI. A Chi-Square Test for Homogeneity was conducted for each motivation within year of study and broad subject area. Table 4 reports the test results at an alpha level of 0.05.

For year of study, significant differences were observed for the motivation *"to improve the quality of my work"* ($p = 0.01$). For broad subject areas, significant differences were found for the motivations *"to save me time"* ($p = 0.04$) and *"nothing: I have no interest in using AI tools"* ($p = 0.005$). In both cases, the proportions of students selecting these options varied across subgroups.

Although interpretation is limited in this section, some patterns are noteworthy. First-year students may be more likely to use AI to improve the quality of their work compared to upper-year students, reflecting differences in academic experience and confidence with course material. Similarly, students in text-heavy fields such as English may turn to AI more often to save time, while students in disciplines emphasizing critical thinking, such as sociology, may be less inclined to adopt AI, contributing to higher selections of "nothing."

In practical terms, these findings suggest that motivations for using AI are not uniform across students. Differences by grade level indicate that some

Table 3. Chi-Square Tests Comparing AI Usage Across Year of Study and Subject Area (Significant Results Indicate Usage Differences Between Groups)

Usages	Chi-Square Test Statistic	P-Value	Significance	Usages	Chi-Square Test Statistic	P- Value	Significance
Generating text e.g. ChatGPT	(1) 0.68 (2) 9.11	(1) 0.71 (2) 0.03*	(1) No (2) Yes	Summarizing, note-taking or quizzing university textbooks e.g. Kortext	(1) 6.61 (2) 7.84	(1) 0.04* (2) 0.05*	(1) Yes (2) Yes
Translation or language support e.g. Google Translate	(1) 1.71 (2) 5.25	(1) 0.43 (2) 0.15	(1) No (2) No	Generating images, videos or audio e.g. DALL-E	(1) 1.09 (2) 7.47	(1) 0.58 (2) 0.06	(1) No (2) No
Speech-to-text transcription e.g. automatic captions on Youtube	(1) 1.06 (2) 3.73	(1) 0.59 (2) 0.29	(1) No (2) No	Another use related to my studies e.g. medical software	(1) 2.46 (2) 46.40	(1) 0.29 (2) 5.0×10^{-10}*	(1) No (2) Yes
Enhancing and editing your writing e.g. Grammarly	(1) 3.90 (2) 3.34	(1) 0.14 (2) 0.34	(1) No (2) No	Something else	(1) 6.19 (2) 5.49	(1) 0.05* (2) 0.14	(1) Yes (2) No (Conditions not met)
Data analysis and presentation e.g. Julius AI	(1) 9.43 (2) 4.99	(1) 0.01* (2) 0.17	(1) Yes (2) No	None of the above	(1) 1.35 (2) 17.79	(1) 0.51 (2) 0.0005*	(1) No (2) Yes
Writing computer code e.g. GitHub Copilot	(1) 0.48 (2) 37.94	(1) 0.79 (2) 3.0×10^{-8}*	(1) No (2) Yes				

(1) = Year of Study; (2) = Broad Subject Areas; * = p-values 0.05.

Table 4. Chi-Square Tests Comparing Motivations for Increased AI Use Across Year of Study and Subject Area (Significant Results Indicate Motivational Differences Between Groups)

Motivations	Chi-Square Test Statistic	P-Value	Significance	Motivations	Chi-Square Test Statistic	P-Value	Significance
To save me time	(1) 1.27 (2) 8.05	(1) 0.53 (2) 0.04*	(1) No (2) Yes	Because other students use AI	(1) 5.68 (2) 3.04	(1) 0.06 (2) 0.39	(1) No (2) No
To improve the quality of my work	(1) 10.32 (2) 0.89	(1) 0.01* (2) 0.83	(1) Yes (2) No	To get personalized support	(1) 1.76 (2) 7.42	(1) 0.41 (2) 0.06	(1) No (2) No
I learn more if I use AI than if I don't	(1) 0.67 (2) 4.53	(1) 0.71 (2) 0.21	(1) No (2) No	My institution encourages me to use AI	(1) 4.94 (2) 4.20	(1) 0.08 (2) 0.24	(1) No (2) No
To improve my AI skills	(1) 0.30 (2) 2.16	(1) 0.86 (2) 0.54	(1) No (2) No	Something else	(1) 1.81 (2) 1.70	(1) 0.41 (2) 0.64	(1) No (Conditions not met) (2) No (Conditions not met)
To get instant support	(1) 0.36 (2) 3.08	(1) 0.83 (2) 0.38	(1) No (2) No	Nothing: I have no interest in using AI tools	(1) 4.00 (2) 13.05	(1) 0.14 (2) 0.005*	(1) No (2) Yes
To get support outside of traditional study hours	(1) 0.30 (2) 1.13	(1) 0.86 (2) 0.77	(1) No (2) No				

(1) = Year of Study; (2) = Broad Subject Areas; * = p-values 0.05.

students may be more inclined to use AI to improve the quality of their work. Similarly, variation across subject areas suggests that disciplinary context influences AI adoption: in some fields, students may integrate AI more readily as a tool for productivity, whereas in others, higher proportions of students report not using AI at all. These patterns highlight that both academic stage and disciplinary environment shape the perceived value and role of AI in students' learning.

Overall, fewer significant differences were identified for this question compared to the first survey question. Results for the category *"something else"* were invalid for both groups due to small cell counts, limiting interpretation.

Motivations Behind Less AI Use

The third survey question examined factors that made students less likely to use AI. A Chi-Square Test for Homogeneity was performed for each factor, comparing proportions across year of study and broad subject area. Table 5 reports the results at an alpha level of 0.05.

For year of study, significant differences were observed for the motivations *"being accused of cheating by my institution"* ($p = 0.003$) and *"something else"* ($p = 0.05$). For broad subject areas, no significant differences were identified.

Table 5 shows that most concerns about limiting AI use, such as environmental impact, privacy, or fairness, are shared broadly across students. However, year of study was associated with differences in the concern of being accused of cheating, indicating that views on academic integrity risks vary depending on students' academic stage. This suggests that while general concerns are universal, perceptions of specific risks, such as cheating, are not consistent across grade levels.

Overall, only two variables showed significant differences, both within year of study. These differences may reflect variation in student perspectives across grade levels, with older students potentially being more cautious due to greater exposure to academic integrity cases, and younger students possibly more concerned due to lower confidence and heightened sensitivity to authority. However, the specific direction of these relationships has not yet been fully explored and requires further investigation.

Table 5. Chi-Square Tests Comparing Motivations for Reduced AI Use Across Year of Study and Subject Area (Significant Results Indicate Motivational Differences Between Groups)

Motivations	Chi-Square Test Statistic	P-Value	Significance	Motivations	Chi-Square Test Statistic	P-Value	Significance
The environmental impact	(1) 2.00 (2) 4.30	(1) 0.37 (2) 0.23	(1) No (2) No	Not enough is done to protect my data privacy	(1) 4.04 (2) 0.48	(1) 0.13 (2) 0.92	(1) No (2) No
Getting biased results	(1) 1.72 (2) 7.45	(1) 0.42 (2) 0.06	(1) No (2) No	The use of data to train AI models without the authors' consent	(1) 1.30 (2) 4.30	(1) 0.52 (2) 0.23	(1) No (2) No
Getting false results/ hallucinations	(1) 2.21 (2) 4.14	(1) 0.33 (2) 0.25	(1) No (2) No	My institution discourages or bans the use of AI	(1) 2.91 (2) 7.51	(1) 0.23 (2) 0.06	(1) No (2) No
Being accused of cheating by my institution	(1) 11.85 (2) 3.69	(1) 0.003* (2) 0.30	(1) Yes (2) No	Tools are too expensive	(1) 3.93 (2) 6.90	(1) 0.14 (2) 0.08	(1) No (2) No
It is not fair to other students who do not use AI	(1) 3.29 (2) 3.36	(1) 0.19 (2) 0.34	(1) No (2) No	Something else	(1) 5.96 (2) 1.91	(1) 0.05* (2) 0.59	(1) Yes (Conditions not met) (2) No (Conditions not met)
I will learn more if I do not use AI	(1) 2.43 (2) 6.82	(1) 0.30 (2) 0.08	(1) No (2) No	Nothing: I am fully comfortable using AI tools	(1) 0.71 (2) 2.49	(1) 0.70 (2) 0.48	(1) No (2) Yes (Conditions not met)

(1) = Year of Study; (2) = Broad Subject Areas; * = p-values 0.05.

DISCUSSION

Factors Influencing the Likelihood of AI Use

The study's findings demonstrate that UK undergraduate students primarily employed AI for time management, quality enhancement, and immediate assistance. Many struggled with deadlines and turned to AI as a quick solution, echoing Arowosegbe et al.'s observation that revealed students predominantly utilized AI for purposes such as responding to academic queries (6).

The findings might also be suggestive of a lack of support, as help was not always readily accessible for students when they encountered obstacles. As a result, many students turned to AI tools such as ChatGPT to complete tasks efficiently. While AI has proven to be a valuable resource for guiding students, these results underscore the need for universities to provide additional academic support, such as expanded tutoring services and increased opportunities to engage with instructors.

Students were also cautious about AI due to concerns about academic dishonesty, accuracy, and bias. These findings suggest that students were highly conscious of academic integrity and the potential penalties associated with misconduct, while also prioritizing quality over convenience. Accordingly, colleges should encourage students to approach AI use with a critical mindset, recognizing that it may not always provide reliable answers. Educators should also make clear when AI use is appropriate and emphasize that employing it for dishonest purposes will result in serious consequences.

Variation in AI Use and Attitudes by Year of Study

Patterns of AI use differed across year groups, with first-year students showing greater reliance on AI,

consistent with Sunmboye et al.'s findings (7). These differences also suggest that the amount of time spent in college may influence a student's experience and skill in certain areas. Therefore, universities should provide younger students with training to adapt, while upperclassmen could offer mentorship to younger students.

Differences in motivations also emerged: for example, younger students were more likely to use AI to enhance work quality. This suggests that some students struggled more than others to put forth their best effort in completing assignments. Colleges should therefore provide additional support to younger students in managing assignments and emphasize the importance of quality over speed.

Finally, concerns about cheating also varied across years. These results suggest that some students were more aware of issues of academic integrity than others, further reinforcing the need for institutions to provide clear education on academic honesty and the potential consequences of misconduct.

Broad Subject Area

Differences were also clear across disciplines. Students in Health, STEM, Social Sciences, and Arts and Humanities engaged with AI in different ways, whether for text generation, coding, or summarization. These results suggest that students in different majors have distinct needs with AI usage. Accordingly, universities should establish tailored guidelines for AI use across disciplines, as assignment types differ, and faculty members should assist students in applying AI according to their specific requirements.

Motivations varied as well: some students saw AI as a time-saver, while others expressed little interest in using it at all. These responses indicate that majors with heavier workloads may see AI as a time-saving device, while fields that emphasize critical thinking or practical application may foster more skepticism toward AI. Institutions should consider these disciplinary differences when creating AI-related guidelines, while still providing consistent education about responsible AI use to all students, including those who rarely engage with these tools.

Limitations

Limitations Regarding to the Lack of Sufficient Expected Counts

One limitation of this study is that some results from the Chi-Square Tests for Homogeneity were inapplicable due to the small number of students selecting certain options (specific usages or motivations). As a result, the expected counts for those tests fell below five, meaning the statistical conditions were not met.

For Chi-Square Tests for Homogeneity, one of the main assumptions is that there should be adequate expected cell counts, which means that the expected frequencies in each cell of the contingency table should be sufficiently large to ensure that the approximation of the chi-square distribution is valid. To be sufficiently large, the conventional rule is that no more than 20% of expected counts should be smaller than 5, and none of the expected counts should be smaller than 1. The expected count in each cell represents the frequency you would expect if there were no association between the variables, which is different from the observed counts. The formula is:

$$E = \frac{(\text{Row Total}) * (\text{Colume Total})}{\text{Grand Total}}$$

where Row Total is the total number of observations in that row, the Column Total is the total number of observations in that column, and the Grand Total is the overall sample size. If the observed counts are far from the expected counts, then there is evidence of association.

Because the chi-square approximations for a few tests are no longer reliable, the resulting p-values may be biased. Specifically, they can overstate significance or become overly sensitive to small deviations. The contributions from low-count cells may dominate the test statistic in a misleading way, potentially rendering some results invalid. Because the p-values are invalid for a few of the significance tests, significant differences in the proportions of students choosing each motivation or factor relating to AI usages are not accurate, and this study may have overlooked some of the results, leading to inaccurate interpretations. For example, categories chosen by only a handful of students may have appeared disproportionately significant despite the very small number of observations. However, because only a small number of significant tests are affected, the majority of results remain valid and applicable.

Study Limitations and Constraints of Using the Existing Dataset

A further limitation relates to the scope of application: the survey included only undergraduate students in the U.K., so the findings cannot be generalized to broader populations, such as all

undergraduate students worldwide or all students in the U.K. Finally, because the survey relied on self-reported responses, voluntary response bias may have influenced the data collection process, potentially affecting accuracy and introducing bias. Despite these limitations, the study offers meaningful insights into how undergraduate students in the U.K. are engaging with AI, providing a foundation for future research. Another limitation is that the dataset used in this research was drawn from an existing source, which limited control over how survey questions were phrased and how responses were categorized. This constraint may reduce the ability to obtain more nuanced insights from the data.

In terms of sampling, it is unclear how the original participants were selected, making it difficult to determine whether they are representative of the broader population of U.K. undergraduates. If certain groups, such as students from particular disciplines or year levels, were over- or underrepresented, selection bias may have occurred, reducing generalizability. In terms of survey design, although the exact wordings of questions are available, there are still risks that remain. Leading or ambiguous phrasing may have introduced wording bias, and the use of fixed response categories could oversimplify complex behaviors or attitudes, forcing participants into options that did not fully reflect their views. Additionally, the sequencing of items or lack of piloting could have influenced responses in ways that cannot be assessed. In terms of data processing, the treatment of missing or incomplete responses was determined by the dataset creators, not by this study. If non-responses were excluded or imputed without transparency, this could introduce bias into the analysis.

Finally, because the survey relied on self-reported responses, voluntary response bias may have influenced the data collection process, potentially affecting accuracy and introducing bias. Despite these limitations, the study offers meaningful insights into how undergraduate students in the U.K. are engaging with AI, providing a foundation for future research.

CONCLUSION

This study aimed to examine the factors influencing students' likelihood of using or avoiding AI, as well as differences in usage and motivations across year of study and broad subject areas. The key findings indicate that students most often use AI to save time, enhance the quality of their work, and obtain immediate support, while they are less likely to use it due to concerns about being accused of cheating or receiving false or biased results. The study also revealed significant differences by year of study in uses such as data analysis and summarization, and by subject area in uses such as text generation, summarization, and coding. Motivational differences were likewise observed, including quality improvement across years of study, saving time across subject areas, and fear of being accused of cheating across disciplines.

These results highlight the need for educators to provide additional support to younger students and to offer clearer guidance on the appropriate use of AI. Colleges should also ensure equitable education and access to AI resources across all majors while adapting guidelines to reflect the specific needs of different disciplines. Future research could further investigate how AI use evolves within academic fields, for example, whether majors traditionally less reliant on AI become more dependent on it over time or whether usage patterns shift as disciplinary needs change.

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CONFLICT OF INTERESTS

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