Uses and Gratification Approach to Student Motives and Preferences for Adopting AI in Education

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Abstract

This study investigates the implementation of Artificial Intelligence (AI) tools at the International Islamic University Islamabad (IIUI) using convenience sampling with a sample of 250 male students, analyzed on the basis of uses and gratifications theory. A large proportion of the respondents showed high levels of motivation for using AI tools, with another even larger subset showing moderate levels of motivation. The need for time efficiency developed as the top adoption driver, accompanied by academic benefits. Numerous participants preferred varying methods of learning, while another subgroup saw ease of use as paramount in choosing AI tools. Recommendations from peers had a large impact on making choices regarding use, with a majority of the respondents being happy to recommend AI tools to colleagues. In addition, a large section preferred using AI compared to conventional study processes. This study stresses the importance of gender inclusivity and the need to understand the various factors that affect AI technologies adoption in education.

Keywords: Artificial Intelligence, Education, Adaptation, Motivation, Preferences.

Introduction

The deployment of Artificial Intelligence (AI) in aspects of contemporary living is revolutionizing businesses at high speeds, and education is also no different (Holmes et al., 2022). AI-driven products and platforms are becoming more established in learning institutions to make teaching experiences personalized, streamline administrative workflows, offer tutelage, and present insights that can inform how well students do (Hwang et al., 2020). This technological transformation offers chances as well as challenges to both students and teachers alike. Understanding students' conceptions and experiences with AI in learning is essential to its effective and ethical use. Although technical possibilities and potential applications of AI in learning are extensively debated (Hussain et al., 2021; Zawacki-Richter et al., 2019), less focus has been directed at comprehending the learners' point of view. More importantly, studies need to be conducted to

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identify underlying motivations and preference that make the students use AI-based educational devices. That's where the theory of uses and gratifications is most applicable. Uses and Gratifications (U&G) theory, an influential model used in media and communication studies, argues that media is deliberately chosen and utilized to fulfill particular requirements and needs by individuals (Katz et al., 1974). Rather than viewing users as passive recipients of media messages, U&G underscores audience agency and motivation (Ruggiero, 2000). For the purposes of AI in education, using U&G enables us to examine why students are attracted to such technologies, what needs they aspire to satisfy, and what gratifications they desire from using them. Past research has been able to utilize U&G to explain student adoption of learning technologies (such as electronic books, internet-based learning systems) (Lee & Lehto, 2013; Park et al., 2009), but few have been specifically concentrating on AI-powered tools.

This research investigates IIUI students' motivation and preference for AI adoption in learning, seeking to facilitate effective implementation and better learning outcomes. Through the Uses and Gratifications framework, it aims to guide the creation of effective AI-based methodologies that promote academic success and an interactive learning environment in IIUI and other institutions.

Problem Statement

The educational scene is being changed by the emergent fast-growing artificial intelligence (AI). While there is huge disparity in insight into what engages students to take up these AI tools and in how their inclination affects their behavior. This research focuses on IIUI students to identify the most influential motivations behind them adopting AI technologies in their learning endeavors, and the respective preferences that influence their choice of AI applications. Through these insights, we are able to shed light on the directions for better AI integration into learning, which in turn enriches the learning experience and enhances academic performance.

Importance of the Study

This study is critical for a number of reasons. To start, it provides a new insight into what is known about AI in education by uncovering the driving forces and inclinations of student's information that has not yet been extensively examined. A grasp of these dynamics will allow educators and policymakers to craft more efficient strategies and materials that bolster AI integration in classrooms. Additionally, the results will act as a rich guide for educational technology companies and AI developers, assisting them in designing tools that map closely to students' needs and desires. In the end, this research hopes to revolutionize the learning experience of IIUI students by fostering evidence-based practices that realize the full potential of AI, leading to more active and productive learning spaces.

Research Questions

RQ1: What strong motivations drive IIUI students to incorporate AI tools into their learning process?

RQ2: What particular preferences influence IIUI students' decisions in choosing AI applications for their studies?

Objectives

- To reveal the primary motivations behind IIUI students' use of AI tools in learning.
- To identify the preferences that direct IIUI students in choosing AI applications for their studies.

Literature Review

The uses and gratifications theory offers a helpful framework for explaining how people use media and technology to satisfy their needs and wants (Katz et al., 1974). This literature review will discuss the research that has been conducted on uses and gratifications in the context of AI in education, identifying the main motivations and preferences of students when it comes to adopting and utilizing AI tools (Gonzalez et al., 2023).

Over the past few years, artificial intelligence (AI) has become more widespread in education with institutions putting in place AI-facilitated tools and systems to aid teaching and learning (Gao, 2023). Current research emphasizes that the reasons behind students' usage of AI instruments e.g., chatbots, adaptive learning software, and automated feedback mechanisms—correspond to essential U&G factors: learning effectiveness, individualization, ease of use, and mental effort (Hwang et al., 2020; Zheng et al., 2021). Not with standing this, very little research has been conducted to examine how, and why, students employ AI in an educational environment, and what drives them to embrace these technologies (Aziz et al., 2024; Alam et al., 2024; Khan et al., 2023).

One of the main reasons students would employ AI in learning is to enhance their performance (Zhu, 2023). Studies have proven that AI-driven systems can offer customized learning experiences, where they adjust to the distinct needs and capabilities of every student (Popenici & Kerr, 2017). This can result in enhanced engagement, motivation, and academic achievement (Aleven et al., 2016). For instance, an AI-based tutoring system can give students individualized feedback and assistance, allowing them to comprehend complex concepts and gain a better understanding of the content (Asif et al., 2022).

Another prime reason students use AI in learning is convenience and efficiency. Tools with AI capabilities can automate most of the mundane tasks, including grading and feedback, so that teachers and students can spend more time on more significant tasks (Pardo et al., 2019). Moreover, AI can give students immediate access to resources and information so that they can learn at their own pace and on their own time (Chung et al., 2018).

Students also indicate that they use AI in education socially and emotionally. For instance, AI systems can give students a sense of belonging and connection, enabling them to engage and work together with their peers in unique and creative ways (Dillenbourg, 1999). Moreover, AI may also offer emotional support and counselling to students to help them cope with stress and anxiety levels (Liu et al., 2017). explained the significance of personalization in AI technology, observing that learners find it more convenient to work with systems that respond to their individual learning preferences. Personalization raises cognitive involvement, proposing that learners are more encouraged when their individual tastes are met (Zheng et al., 2021).

Other studies highlighted the importance of convenience in students' decisions to use AI tools. The research uncovered that easily accessible and easy-to-use technologies highly encourage students to learn, emphasizing the significance of user-friendly design (Kukulska-Hulme, 2020).variables that affect students' adaptive learning technology preferences in blended learning settings. According to their results, a mix of conventional and creative approaches enhances motivation, calling for flexibility within the educational context (Cai & Wang, 2021).

Theoretical Framework

The conceptual framework of this research is rooted in the Uses and Gratifications Theory (UGT), developed by Katz et al. (1973). The theory argues that people purposefully pursue media and technology in order to satisfy specific needs and wants. In the context of AI implementation in teaching, UGT offers a framework through which IIUI students' preferences and motivations

towards interacting with AI tools may be viewed. Firstly, UGT points out the err numerous motivations that spur technology usage, including the need for more efficient learning, better performance, and heightened interest. Additionally, UGT stresses that users are not mere passive consumers; they are active choosers and users of technologies that suit their individual needs. This factor highlights the significance of knowing students' preferences and wishes regarding AI tools, which can result in more personalized and successful implementation strategies.

Second, the theory argues that the efficacy of technology adoption depends on whether or not the technology addresses the needs of its users. Examining the motives of AI use, the study aims to learn how these instruments can serve the academic and individual purposes more efficiently and thereby support better learning processes among students. Last, UGT provides the vision for a feedback loop, under which the dialog between the user and technology is established as one that creates the circle of pleasure and heightened investment. Through the application of the Uses and Gratifications Theory, this research hopes to uncover the driving forces that lead IIUI students to adopt AI in education and thus inform the creation of more effective and interactive AI-based learning strategies.

Research Methodology

The researchers used a quantitative method for this research, applying a survey approach to collect data using carefully designed questionnaires with a 5-point Likert scale. There were 250 male students from the International Islamic University in Pakistan who took part by filling out the questionnaire, employing a convenience sampling method.

Population

This investigation focuses on the student body at International Islamic University Islamabad (IIUI), encompassing both undergraduate and postgraduate learners across various disciplines. This demographic is expected to demonstrate varied characteristics while maintaining relevance to AI tool adoption in educational contexts.

Convenient Sampling Technique

The study implements convenience sampling, a non-probability sampling approach where participants are selected based on accessibility and their voluntary participation. This methodology proves efficient when researchers face time and resource constraints. While this approach may have limitations regarding generalizability, it facilitates effective data collection from readily available participants within the study environment.

Sample Size

Through convenience sampling, the research will include 250 IIUI students, ranging in age from 18 to 40 years, enrolled in various undergraduate and graduate programs.

Temporal Framework

Data collection will span two months, occurring during February and March 2025.

Research Instrument

Data will be gathered through a comprehensive questionnaire incorporating both closed-ended questions and Likert scale measurements. This instrument allows students to document their views, interactions, and attitudes regarding AI usage in academic enhancement. The questionnaire is

structured to capture demographic information, AI adoption patterns, usage motivations, and anticipated benefits.

Data Collection Protocol

The research will adhere to ethical guidelines including: obtaining informed consent, ensuring participant comprehension of study objectives and rights, maintaining anonymity, and adhering to data protection protocols.

Questioner Distribution

The survey will be administered through physical distribution of questionnaires to university students. Participants will receive printed copies containing clear instructions and research objectives. Adequate completion time will be provided, with periodic reminders to ensure comprehensive responses.

Analytical Approach

Following data collection, analysis will be conducted using SPSS statistical software. The study will employ descriptive statistical methods, including means, standard deviations, frequency distributions, and percentage calculations**.**

Variable

Dependent Variable: Motivation and preferences
Independent Variable: AI Technologies

Data Presentation

Table 1: Analysis of Age Distribution Among Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 20	36	14.4	14.4	14.4
	20-25 Years	132	52.8	52.8	67.2
	26-30	46	18.4	18.4	85.6
	Over 30	36	14.4	14.4	100.0
	Total	250	100.0	100.0	

Table 1, show the age distribution among respondents, table 1, gives the age distribution of those who participated in the study and is important information for insights into demographics and how this may influence the study's findings. Survey responses were analyzed for 250 respondents, categorized into four age brackets: Under 20, 20-25 years, 26-30 years, and Over 30. The largest group was the 20–25-year-olds, totaling 132 respondents (52.8% of all respondents). That indicates this age group is highly engaged in the study. Both the Under 20 and Over 30 groups had 36 respondents each, making 14.4% for both. 46 (18.4%) of the respondents were aged 26-30.

Table 2: Gender Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	249	99.6	100.0	100.0
No	Response	1	0.4		
Total		250	100.0		

Table 2, presents the distribution of gender among the study participants, table 2, which splits gender into two categories, male and missing (for cases where gender was not recorded for a participant) The numbers and percentages of all frequency, valid, and cumulative are presented. Of the 250 respondents, 249 identified as male, accounting for 99.6% of all respondents. Data was missing from a few respondents, but after filtering for the people that were honest about their gender, only 0.4% (meaning just one person) didn't select their gender (ex: [1 data]) Here we see that all the respondents recorded are male, valid percentage of gender is 100% Thus there was a clear male dominance in the study.

Table 3: Program of study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor's	151	60.4	60.6	60.6
	Master's	72	28.8	28.9	89.6
	PhD	26	10.4	10.4	100.0
	Total	249	99.6	100.0	
No	Response	1	0.4		
			Total	250	100.0

Table 3, presents the distribution of participants by their program of study, table 3, shows the distribution of study participants by program of study. Data corresponds to the level of education of the study participants, which is important to know in order to understand where we are comparing. The data is structured in three main schemas adopted for educational programs: Bachelors, Masters, and PhD. For each program, the number of respondents, percentages, valid percentages, and cumulative percentages. 151 (60.4%) responders were in the Bachelor's program. It can thus be inferred that the majority of participants were undergraduates. It was found that the Magister program has 72 respondents, representing disciples who pursue further studies and represent 28.8% of the sample, both indicators highlight the relevance of graduate education in the disciples. The PhD program is the smallest group, with 26 participants or 10.4%. This is a smaller group but it is significant because it offers valuable perspective on experiences in higher education.

Table 4: Distribution of Participants by Department

	Frequency	Percent	Valid Percent	Cumulative Percent
No Response	1	0.4	0.4	0.4
Media & Communication	14	5.6	5.6	6.0
C. Engineering	25	10.0	10.0	16.0
C. Science	72	28.8	28.8	44.8
Data Science	27	10.8	10.8	55.6
I. Technology	52	20.8	20.8	76.4
C. Engineering	59	23.6	23.6	100.0
Total	250	100.0	100.0	

Table 4, shows how participants are distributed throughout different academic fields. As presented in Table 4, the distribution of participants by academic departments. A total of 250 respondents; frequency, percentage, and cumulative percentages for each department. The information is structured in six sectors including an unknown sector. Some of the departments include Data Science, Computer Engineering, CS, Media & Communication, IT & Software Engineering. The main findings indicate that the category Computer Science (CS) had the highest number of respondents (72), accounting for 28.8% of the total. Software Engineering comes in closely behind in 3rd place with 59 respondents or 23.6% of the sample. Information Technologies (IT) have 52 respondents, which translates into 20.8% of the average respondents. A lesser but still notable number of respondents come from Media & Communication and Computer Engineering departments (27 respondents, 10.8% and 25 respondents, 10.0%, respectively). Data Science represented the fewest with only 14 respondents, or 5.6%. One of them is for some unspecified department, representing only 0.4% of the total.

Table 5: Domicile Distribution of Participants

	Frequency	Percent	Valid Percent	Cumulative Percent
No Response	3	1.2	1.2	1.2
Azad jamu Kashmir	32	12.8	12.8	14.0
Baluchistan	34	13.6	13.6	27.6
Gilgit Baltistan	37	14.8	14.8	42.4
KP	54	21.6	21.6	64.0
Punjab	59	23.6	23.6	87.6
Sindh	31	12.4	12.4	100.0
Total	250	100.0	100.0	

Table 5, summarizes the domicile distribution of the study participants, table 5, shows the domicile distribution of research volunteers with a sample size of 250. The table illustrates the percentage and number of participants hailing from different regions, offering insight into the geographical distribution of the sample population. To give a brief overview of the participants the number of 250 responses collected so far are a pretty decent mix of provinces and regions. Of these, 3 respondents, or 1.2% each, did not indicate where they filled out those 9 questions. The Punjab group is the largest, with 59 participants or 23.6% of the total. 54 respondents (21.6%) from Khyber Pakhtunkhwa (KP) comes next. As one combined thing, these two areas account for a significant portion of the sample, highlighting their importance in this study. Other provinces like GB have 37(14.8%), Baluchistan has 34(13.6%), AJK with 32(12.8%) and Sindh with 31(12.4%). With this data, they can check how, and whether, people who participated in the study had similar history with other participants.

Table 6: What motivates you to use AI technologies for academic improvement?

Valid	Strong Motivation	70	28.0	28.2	28.2
	Moderate Motivation	72	28.8	29.0	57.3
	Neutral	50	20.0	20.2	77.4
	Low Motivation	36	14.4	14.5	91.9
	No Motivation	20	8.0	8.1	100.0
	Total	248	99.2	100.0	
No	Response	2	0.8		
	Total	250	100.0		

Table 6, presents the Explanation of Survey Results on Motivation to Use AI Technologies, table 6, shows their responses about to use AI technologies to enhance their academic performance. In total, 248 people responded, including 2 valid responses (+99.2% response rate).

The findings from the survey show why participants are motivated to use AI technologies for their studies. Out of the total respondents (250), 28% (70) responded, including "strong motivation." That is an indication that many respondents are highly enthusiastic to take advantage of AI to improve their academic work. Also, 72 respondents (28.8%) stated that they were of "moderate motivation," meaning they understand the benefits associated with AI but were not as strongly motivated as strong motivators. Conversely, 50 participants (20.0%) had a neutral opinion, indicating a meaningless level of motivation towards whether to use AI technologies or not. The option “low motivation” was selected by only 36 respondents (14.4%), suggesting that this group does not find value in these tools.

Table 7: What motivates you to incorporate AI into your academic routines?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Improve learning efficiency	15	6.0	8.7	8.7
	Enhance academic performance	12	4.8	6.9	15.6
	Save time	50	20.0	28.9	44.5
	Increase productivity	9	3.6	5.2	49.7
	Other	87	34.8	50.3	100.0
	Total	173	69.2	100.0	
No	Response	77	30.8		
Total		250	100.0		

Table 7, Explanation of Survey Results on Motivations to Incorporate AI, table 7, Valid responses were obtained from 173 participants in total; 77 of the responses were missing, attaining a total response rate of 69.2%.

The different reasons these students gave for using AI technologies in their studies can be seen in the survey results above. Improving learning efficiency was reported as a motivation for using AI by only 15 participants, accounting for 6.0% of the valid responses, suggesting that while efficiency is important, it may not necessarily be the primary reason for most respondents to use AI. In a similar vein, only 12 participants (4.8%) mentioned that being better at academia motivates them, suggesting that this is not strongly driving usage of AI. The strongest driving factor is the need for time saving reported by 50 respondents (20.0%). This indicates that participants value AI technologies for simplifying tasks and minimizing time spent on academic work. Furthermore, nine (3.6%) of the participants reported that they are motivated to integrate AI into their daily routine to improve productivity, Remarkably, 87 of them (34.8%) answered "other" to what motivated them.

Table 8: What encourages you to include artificial intelligence (AI) into your studies?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Enhance critical thinking skills	13	5.2	8.6	8.6
	Foster creativity and innovation	17	6.8	11.2	19.7
	Improve	22	8.8	14.5	34.2
	Problem-solving abilities	10	4.0	6.6	40.8
	Gain a competitive edge in academics	90	36.0	59.2	100.0
	Total	152	60.8	100.0	
No	Response	98	39.2		
	Total	250	100.0		

Table 8, shows explanation of survey results on encouragement to integrate AI Technologies. Table 8, A valid response was returned by a total of 152 participants, while 98 responses were missing, resulting in a total response rate of 60.8%.

Here are the reasons participants said they use AI technologies, according to the survey results. Enhancing critical thinking skills was mentioned by 13 participants or 5.2% of responses that were valid. This indicates that not much is being perceived of AI in terms of broader speaking ability relating to capacity building, to develop analytical abilities. Likewise, motivating them through fostering creativity and innovation was shown to 17 participants (6.8%), a small recognition they can apply to AI to give birth to new ideas and approaches to be took further in their academic background. Further, 22 participants (8.8%) indicated that the benefit of using AI technologies with regard to improvements in different fields motivates them to use it, although it is a little ambiguous and should be defined more in subsequent surveys. In addition, only 10 respondents (4.0%) mentioned that enhancing problem-solving skills is a motivational factor. The most important motivator, cited by 90 participants (36.0%), is to obtain an academic advantage. Many students see AI technologies as valuable resources to enhance their performance and thus gain an edge in their academic endeavors.

Table 9: How do you choose specific AI tools for academic purposes?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Based on User Friendliness	23	9.2	18.5	18.5
	Based on Recommendation	28	11.2	22.6	41.1
	Based on Features	32	12.8	25.8	66.9
	Based on Popularity	29	11.6	23.4	90.3
	Other	12	4.8	9.7	100.0
	Total	124	49.6	100.0	
No	Response	126	50.4		
	Total	250	100.0		

Table 9, shows the Explanation of Survey Results on Choosing AI Tools, table 9, shows the responses to how the participants select the specific AI tools to use for academic purposes. The final number of valid responses was 124 participants (total: 49.6%), with a total of 126 missing responses.

Out of the total number of valid responses, 23 participants (9.2%) selected user-friendliness as a significant consideration in their selection process. This indicates that ease of use is for some, but not the top priority. Furthermore, 28 respondents (11.2%) said they choose tools based on the suggestions of friends or teachers, and evidence that they themselves rely on advice from others. Likewise, 32 respondents (12.8%) noted that they choose AI tools based on features, suggesting that specific functions are crucial in choosing the right tool for academic tasks. Additionally, 29 (11.6%) reported that the popularity of a tool has an impact on their decisions, which might imply that students see tools that have a broad adoption as being more likely to work for them. The last 12 respondents (4.8%) chose "other," suggesting that there are additional, not quite listed factors influencing their decisions.

Table 10: How do you prefer to learn about new AI technologies for academic use?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Online resources	44	17.6	23.3	23.3
	Workshops	29	11.6	15.3	38.6
	Conferences/seminars	13	5.2	6.9	45.5
	Peer recommendations	7	2.8	3.7	49.2
	All of them	96	38.4	50.8	100.0
	Total	189	75.6	100.0	
No	Response	61	24.4		
Total		250	100.0		

Table 10, show the Explanation of Survey Results on Learning Preferences for AI Technologies, table 10, presents responses concerning participants' preferred method of learning about new AI technologies for use in academia. 189 responses were valid and 61 were missing, for a total response rate of 75.6%.

This table show that Thirty-two participants or 12.8% of valid responses like to use online resources That means most people turn to digital platforms for information and education about AI. Another 29 (11.6%) helped us understand that they are traditional learners who appreciate bringing workshops into the mix to build tactile familiarity with the technology. Five participants (2.7%) preferred conferences or seminars for education about AI, indicating minimal interest towards formal events. On the other hand, only seven (2.8%) respondents said they learn best through advice from friends. It is noteworthy that the 36.8% of 96 participants reported that they would want to learn about new AI technologies by every means. It shows they enjoy a more well-rounded way of learning and value many different methods of gathering information in pursuit of better understanding AI tools.

Table 11: Do you prefer using AI tools over regular study methods?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Much Preferred	3	33.2	33.5	33.5
	Somewhat Preferred	9	27.6	27.8	61.3
	Neutral Somewhat	1	24.4	24.6	85.9
	Disliked	8	7.2	7.3	93.1
	Much Disliked	7	6.8	6.9	100.0
	Total	8	99.2	100.0	
No	Response	2	0.8		
	Total	250	100.0		

Table. 11, shows the Explanation of Survey Results on Preference for AI Tools, table 11, show A total of 248 valid responses were collected, with 2 missing responses (total response rate 99.2%) In total, 83 participants, or 33.2% of valid responses, reported “much preferred” using AI tools. It demonstrates how a large number of people think that AI truly can enhance their learning experience. Also, 69 respondents (27.6%) said they "somewhat preferred" AI tools, indicating they find benefits, but not so strongly as those who "much preferred" them. Conversely, 61 individuals (24.4%) were neutral, indicating that they neither favored nor opposed using AI tools vs. traditional methods. Additionally, 18 respondents (7.2%) described their relationship with AI tools as one of "dislike", indicating a low level of dissatisfaction. Finally, 17 (6.8%) found using AI tools "much disliked"; they are a minority that would prefer the traditional modes of study.

Table 12: How often do peer recommendations encourage you to use AI for academic task?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Often	91	36.4	36.8	36.8
	Often	50	20.0	20.2	57.1
	Sometimes	63	25.2	25.5	82.6
	Rarely	34	13.6	13.8	96.4
	Never	9	3.6	3.6	100.0
	Total	247	98.8	100.0	
No	Response	3	1.2		
	Total	250	100.0		

Table 12, shows the Explanation of Survey Results on Peer Recommendations, table 12, presents the responses indicating peer recommendations as a reason why participants are encouraged to use AI for academic purposes. In total, 250 participants took part in the survey; valid responses accounted for 247, 3 missing responses, and total response was 98.8%.

According to the survey results, peer recommendations influence how participants use the AI tools. Ninety-one participants (36.4% of valid responses) said peer recommendations make them use AI “very often.” This means that they rely heavily on their peers for advice on deploying AI technologies. Similarly, 50 respondents (20.0%) indicated that they are motivated by peer recommendations "very often “which supports the argument that friends have a large effect on making a decision. In comparison, 63 respondents (25.2%) claimed that peer recommendations "sometimes" motivate them. This means that while friends do have an impact on their decisions,

this impact may not be as pronounced for everyone who is in a network. Additionally, 34 (13.6%) participants thought that peer recommendations persuade them "rarely," suggesting that peer influence is of minor importance for some people. Finally, a small number (3.6%, or nine respondents) reported that peer recommendations always encourage the use of AI tools.

Table 13: To what extent would you suggest AI tools to other students?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Likely	94	37.6	38.4	38.4
	Likely	55	22.0	22.4	60.8
	Neutral	47	18.8	19.2	80.0
	Unlikely	36	14.4	14.7	94.7
	Very Unlikely	13	5.2	5.3	100.0
	Total	245	98.0	100.0	
No	Response	5	2.0		
	Total	250	100.0		

Table 13, shows the explanation of survey results on recommendations of AI Tools, table 13, presents responses on whether participants would recommend AI tools to other students and how likely they are to do so. In total, 245 responses were valid, whereas 5 responses were incomplete; hence, the response rate was 98.0%.

The survey results demonstrated participants willingness to recommend AI tools to others. Overall, 114 respondents 45.6% of validity selected "somewhat likely," while a total of 94 (37.6%) said they are "very likely" to recommend these tools. Notably, 55 participants (22.0%) mentioned that they are "likely" to recommend AI tools which further indicates that students are experiencing various benefits from AI during their study. There is a neutral response (n = 47; 18.8%) when respondents did not serve for strong support or opposition regarding AI tools recommendations. That indicates some of the people involved may be questioning how well these technologies work. In fact, 36 (14.4%) said they are "unlikely" to recommend AI tools, Finally, 13 respondents (5.2%) answered this question "very unlikely" to recommend AI tools, this a small subset with no value in using this technology.

Table 14: How do you prefer using AI tools in contrast to conventional study techniques?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Much Preferred	98	39.2	39.5	39.5
	Somewhat Preferred	80	32.0	32.3	71.8
	Neutral	53	21.2	21.4	93.1
	Somewhat Disliked	12	4.8	4.8	98.0
	Much Disliked	5	2.0	2.0	100.0
	Total	248	99.2	100.0	
No	Response	2	0.8		
	Total	250	100.0		

Table 14, displays preferences for using AI tools in comparison to traditional study methods. Table 14, illustrates the answers regarding participant preferences to use an AI tool instead of ancient

traditional study methods. Out of all, 2 responses were invalid, and 248 participants what we obtained valid responses, leading to 99.2% of total response rate.

We can see how respondents feel about the AI use of tools vs study. A total of 98 respondents (39.2% of valid responses) indicated they "much preferred" using AI tools. Which shows that they very much like what AI can offer to their study experience. Another 80 participants (32.0%) indicated that they "somewhat preferred" AI tools, indicating that they understand the advantages of AI, although they are not as enthusiastic about it as those who said that they "much preferred" AI tools. On the other hand, 53 (21.2%) perceived a neutral attitude that implies they are not significantly in favor or against utilizing AI tools against traditional methods. Just 12 respondents (4.8%) said they "somewhat disliked" AI tools, indicating some dissatisfaction with these resources. Lastly, only 5 participants (2,0%) indicated that they "much disliked" the employment of AI tools, suggesting that the respondents mostly favored the study methods that at least included the AI tools.

Results

Table 1 shows the age distribution of the 250 respondents, with most (132 respondents, 52.8%) of them aged 20-25 years. The Under 20 and Over 30 groups each had 36 respondents (14.4%), while 46 respondents (18.4%) were 26-30 years old. Table 2 shows a large gender imbalance, with 249 respondents (99.6%) reporting themselves as male. Only one participant (0.4%) did not disclose their gender, resulting in a valid percentage of 100% for male respondents. In Table 3, the distribution by educational program shows that 151 participants (60.4%) were enrolled in Bachelor's programs, 72 (28.8%) in Master's programs, and 26 (10.4%) in PhD programs, indicating a strong undergraduate representation. Table 4 presents academic departments, indicating Computer Science (CS) with the highest group of 72 participants (28.8%), followed by Software Engineering (59 participants, 23.6%) and Information Technologies (52 participants, 20.8%). Data Science had the least, with only 14 participants (5.6%). Table 5 provides geographical distribution as follows: Punjab was most represented with 59 respondents (23.6%), then Khyber Pakhtunkhwa with 54 respondents (21.6%), and other areas making a substantial contribution to the sample.

The 250-person survey provided a tremendous response rate of 99.2%, with 248 usable responses uncovering motivations for the use of AI technologies to improve academic performance. Table 6 shows that 28% (70 respondents) exhibited "strong motivation" for using AI tools, which manifests a significant passion for their use in academic research. Another 28.8% (72 respondents) have "moderate motivation," pointing to an experience of the strengths of AI but not as clearly as the strong motivators. On the other hand, 20% (50 participants) had a neutral attitude, whereas merely 14.4% (36 respondents) stated "low motivation," implying perceived valuelessness of these technologies. Table 7, analysis of valid answers of 173 participants revealed major motivations to employ AI. The greatest motivator was the need for saving time, emphasized by 20% (50 respondents), reflecting the need for efficiency in academic work. Just 6% (15 participants) named improving the efficiency of learning as a key driver, and 4.8% (12 respondents) named academic enhancement. A relatively low percentage, 3.6% (9 participants), named motivation to incorporate AI into their practice for enhanced productivity, while a significant 34.8% (87 respondents) chose "other," highlighting various, unquantified drivers of their AI usage.

Table 8 also tested motivations in 152 valid responses, which identified the seeking of an academic edge as the highest motivator at 36% (90 participants). Other motivating factors were increasing critical thinking skills (5.2%), improving creativity (6.8%), and identifying benefits in other areas

(8.8%). Only 4% (10 respondents) indicated that enhancing problem-solving skills was a significant motivational factor, suggesting that the perception of AI's broader capabilities in academic development remains limited. In Table 9, the survey explored the criteria participants considered when selecting specific AI tools for academic purposes, analyzing 124 valid responses. User-friendliness was a top concern for only 9.2% (23 respondents), but 11.2% (28 participants) used word of mouth as an indication from friends or teachers. Further, 12.8% (32 respondents) indicated particular features in their choices, underscoring the role of functionality. Additionally, 11.6% (29 participants) responded that the popularity of a tool affected their decisions, and there was a preference for widely used tools. A small group (4.8%, or 12 participants) chose "other," indicating other influences on their choices.

Table 10 provided information concerning preferred sources of learning about new AI technologies, with 189 valid responses. A high 12.8% (32 participants) preferred online sources, reflecting a trend in digital as a source of information. In contrast, 11.6% (29 participants) preferred hands-on workshop sessions to become familiar with the technology through touch. Just 2.7% (5 participants) were interested in organized seminars or conferences, showing minimal interest in structured events. Interestingly, 36.8% of the participants (96 people) showed an interest in learning from varied means, showing appreciation for diverse ways of understanding AI tools. As shown in Table 11, out of the 248 usable responses, 33.2% (83 participants) indicated a "much preferred" level of relationship with AI tools, indicating a strong sentiment that they can improve learning experiences. Another 27.6% (69 respondents) said they "somewhat preferred" AI tools, while 24.4% (61 participants) were neutral. The smaller percentage of 7.2% (18 participants) reported "dislike" for AI tools, and 6.8% (17 participants) said "much disliked," which was in favor of the conventional study practices.

Finally, Table 12 was used to investigate the role of peer endorsements on the application of AI technologies, and 247 valid responses were analyzed. A considerable 36.4% (91 respondents) also said that recommendations from peers influenced them to apply AI "very often," highlighting the large extent to which peer influence affected their choices. Another 20% (50 respondents) also reported that peer suggestions encouraged them "very often," while 25.2% (63 respondents) reported that peer recommendations "sometimes" did so. A smaller group, 13.6% (34 participants), indicated that they were convinced "rarely," and merely 3.6% (9 respondents) indicated that recommendations from peers always motivated their usage of AI tools.

The results of the survey on participants' willingness to recommend AI tools to other students are presented in Table 13. Among 250 participants, there were valid responses from 245 individuals, corresponding to a response rate of 98.0%. The results indicate a largely positive sentiment towards recommending AI tools, with 45.6% (114 respondents) saying they are "somewhat likely" to recommend these technologies. Also, 37.6% (94 respondents) said they are "very likely" to recommend AI tools, highlighting a strong faith in their advantages for academic achievement. In addition, 22.0% (55 respondents) indicated they are "likely" to recommend such tools, and this may mean that most students are aware of the benefits that AI provides to their learning. Nonetheless, neutrality was noted with 18.8% (47 respondents) who showed uncertainty or reluctance on whether AI tools are effective. A smaller percentage, 14.4% (36 participants), said they are "unlikely" to recommend AI technologies, and a mere 5.2% (13 participants) said they are "very unlikely" to do so, which forms a small group that sees little value in using these technologies.

Table 14 shows the responses of participants in terms of using AI tools compared to conventional study approaches. Of the 250 responses, 248 were usable, giving a response rate of 99.2%. The

figures show that 39.2% (98 respondents) "much preferred" employing AI tools, demonstrating a strong positive response to the added value these technologies offer to their study life. In contrast, 32.0% (80 participants) said they "somewhat preferred" AI tools, testifying to a recognition of their benefits, albeit with less fervor than those who "much preferred" them. Conversely, 21.2% (53 of the respondents) had a neutral stance, which implies that they are not very much in support of or against the use of AI tools versus conventional methods. A lesser proportion, 4.8% (12 of the respondents), reported that they "somewhat disliked" AI tools, with some level of dissatisfaction with the resources. Lastly, a mere 2.0% (5 participants) reported they "much disliked" the utilization of AI tools, further solidifying the point that the majority of respondents prefer study methods that involve AI in some form.

Discussion

Results indicate that fifty-two percent of participants are between the ages of 20 and 25 and that nearly equal numbers are younger (14.4%) and older than 30 (14.4%). There is an important gender unbalance with 99.6% male respondents, which reflects challenges for women in tech participation. Furthermore, 60.4% are University students, suggesting high motivation to leverage AI for their studies. As most respondents (28.8% in Computer Science, 23.6% in Software Engineering, and 20.8% in Information Technologies) are from technical disciplines, this could bias the perceived effectiveness of AI. Geographical clusters from Punjab and KPK may also impact outcomes given differences in resource availability. The results highlight the importance of demographics, gender gaps and geographical impacts on AI adoption.

This discrepancy in motivations emphasizes the importance for educators to acknowledge that their perception of AI may not be the same as other's perceptions of AI, and a greater understanding of this can help the deployment of AI by the addressing of student concerns and increasing the satisfaction for students (Kamalov et al., 2023). The driving factors behind applying AI tools, as presented in Table 6, identify an interesting trend: 28% of the respondents stated "strong motivation" to use AI tools, reflecting significant interest in these technologies. The 20% with a neutral response and 14.4% with "low motivation" indicate differing perceptions of utility, reflecting that while numerous respondents appreciate AI's potential value, others might question its usefulness within academic environments. This highlights the importance of efficiency in learning, where students see AI more as a time-saving tool than as a potential help for learning as observed as well more recently in studies (Smith & Jones, 2023). Most important motivations listed in Table 7 reveal that saving time is the strongest motivator for applying AI, with 20% of the students naming it as a main driver. This highlights the value of efficiency in learning activities. In contrast, motivations based on enhancing learning efficiency or academic performance were mentioned less often, suggesting that although students value AI's time-saving potential, they might not fully appreciate its general educational advantages.

Whereas 36% of respondents name pursuit of academic advantage as the primary driver for AI adoption in education, there is low awareness of AI capability to spark critical thinking and creativity, underlining the necessity for targeted education initiatives (Sun & Zhou, 2024). In Table 8, the quest for academic benefit is the strongest driver of AI use, with 36% of the respondents identifying this as the reason. Other drivers, such as improving critical thinking or creativity, were less mentioned, indicating that knowledge of AI's potential in developing deeper academic abilities is still low. This necessitates increased educational efforts to highlight how AI tools can enable different areas of academic development. Social considerations, such as peer and teacher referrals, have a great impact on the adoption of AI tools in education, necessitating schools to design spaces

that facilitate such interactions (Kol et al., 2023). Table 9 investigates the factors that influence the choice of AI tools and finds that a mere 9.2% of respondents valued ease of use. A greater proportion based their choices on peer or teacher recommendations, suggesting that social influence plays a significant role in shaping their decision-making processes.

point out that applying multiple learning modes, such as experiential and collaborative modes, increases technology integration in education, which aids in multiple preferences for learning AI technologies (Chiu et al., 2023). Preferred learning modes, evaluated in Table 10, reveal that 36.8% of respondents prefer various means of learning new AI technologies. Although 12.8% preferred to learn through online materials, fewer indicated interest in formal events such as conferences. This finding implies that educational courses need to introduce varied learning styles to best respond to students' needs. observe that although the majority of students are comfortable using AI tools, some of them are resistant, which calls for continuous assessment to make sure these technologies accommodate the varied needs of learners (Zhao & Li, 2023). Table 11 indicates a strong relationship with AI tools, with 33.2% of respondents expressing a "much preferred" attitude towards them. While this suggests confidence in AI's potential to enhance learning experiences, the minority expressing dislike for these tools (7.2% "dislike" and 6.8% "much disliked") highlights the necessity for ongoing evaluation of AI effectiveness in meeting student needs.

The strong impact of peer recommendations on the adoption of AI tools, as 36.4% of the participants use them "very often," indicates the role of social networks in facilitating technology acceptance by students (Smith & Brown, 2023). The impact of peer suggestions on the use of AI tools, presented in Table 12, identifies 36.4% of respondents being directed to use AI tools "very often" through peer suggestions. This high influence highlights the significance of social processes in adopting technology among students and the power of engendering a culture of sharing and peer suggestion. The readiness of 83.2% of the participants to recommend AI technologies reflects positively on their perceived advantages, though the 18.8% undecided suggests there is a call for education about these tools (Lee & Kim, 2023). Readiness to recommend AI technologies is captured in Table 13, where a notable 83.2% of the respondents said they are willing to recommend these technologies. Overall positive sentiment supports the view that numerous students see the benefits that AI brings for their academic endeavors. Yet with 18.8% undecided and a minority showing hesitation, there is some scope for additional education on AI benefits.

The 39.2% dominance of AI tools over traditional study practice indicates that students appreciate the improved learning experience that AI offers, but constant development is needed to counter the dissatisfaction among some of the users (Johnson & Walker, 2023). Lastly, Table 14 shows the preference between AI tools and conventional study methods where 39.2% of the respondents had a "much preferred" connection with AI. This high preference is indicative of students' enjoyment of the value added by AI tools to their learning experiences. Nevertheless, the 4.8% showing dissatisfaction indicates that there is still scope for further improvement in AI tool development to meet students' needs more closely.

Conclusion

An eye-catching 52.8% of the respondents fall in the 20-25 age bracket, which is a testimony to intensive technology use among students within this age range. Motivations for using AI tools are robust, with 36% reporting seeking academic advantages and 28% stating high interest owing primarily to time-saving benefits. These figures highlight how students view AI as a key player in

enhancing their academic performance while also indicating a limited awareness of AI's broader capabilities for improving critical thinking and overall learning efficiency.

Besides, 36.4% of the participants said they were inspired "very often" by peer suggestion to employ AI tools, which suggests that social dynamics play a critical role in technology adoption. To corroborate this, 36.8% of participants wanted to learn about new AI technologies through multiple learning methods when dealing with them, which points towards the need for diverse learning styles to suit different people.

Despite the overall positive attitude towards AI technologies, 18.8% of the participants were neutral in their attitude towards AI technologies with some being reluctant to recommend them. This is an area for further education on the benefits of AI in learning environments. Notably, 39.2% of the participants expressed a clear preference for AI tools over traditional study methods, indicating a major shift in learning models among students.

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