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Usage of Artificial Intelligence among College Students- A study on Patterns, Perceived Benefits and Concerns

ORIGINAL ARTICLE

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Abstract

Artificial intelligence has become an integral part of an individual's life. In the education sector, AI enhances learning experiences and helps students complete their academic tasks more efficiently and effectively. This study examines the usage patterns, perceived behavior, and concerns about AI usage among college students. A descriptive research design was used, and data were collected from 100 undergraduate and postgraduate students. The data collection was done through structured questionnaire sent through Google forms. Convenient sampling technique was adopted for the selection of respondents. Students have a postive view towards AI because it helps them to work more easily and creatively. At the same time they were concerned that over dependence on AI may cause them to lose their critical thinking,academic dishonesty etc. The independent sample test showed there is no significant gender difference in AI . The study concludes that AI is a very important tool in education sector,but it should be used carefully, ethically with proper awareness.

Key Words

Artificial Intelligence, AI Usage, Perceived Benefits, AI Concerns.

Introduction

AI has entered and enhanced every facet of the society including education.Tools like Google Gemini,Chat GPT, Grammarly, and various AI powered research and writing assistants have become accessible to students, changing how they study, write, research, and complete academic tasks. What was once considered a computer related aspect is now used everyday by college students in every discipline. The change has been particularly visible in higher education, where students use AI, note only for academic support but also for personal productivity, language refinement, career preparation, creative work, and life decisions.

The ease and efficiency provided by these AI tools have made them more attractive among students, who have grown up along with rapid digital transformation. However those growing dependence on AI has also raised questions about critical thinking, academic integrity, over-dependence on technology and digital divide between students who have access and those who do not. Even though AI is widely used by college students, more empirical research is needed to determine not only whether or not students utilize AI, but also how, why and what they perceive to be its advantages and disadvantages.

Review of Literature

Basch et.al.(2025). Based on classroom, coursework, and personal applications AI knowledge and usage among college students was studied. Basch et al. (2025) The study found frequent and infrequent of AI. Frequent Users were more than infrequent users. The frequent studied AI through internet and showed higher familiarity to AI. The frequent users found AI beneficial for Educational purposes, Creative writing and critical thinking.The infrequent were more concerned about ethical policy.

Hemosura (2025) found that majority of college students at Isabela State university are familiar with the Artificial Intelligence usage. They used it for their assignments, project work etc. They were more concerned about misinformation and accuracy. A strong sentiment for ethical and responsible usage of AI was expressed.Training programmes in the university helps students in the technical and ethical aspects of AI was suggested.

Siswahyuningsih, Z. & Mahfudhoh, A (2025) study dealt with the intensity and satisfaction of AI usage among College students. The study showed a positive relationship between usage and satisfaction. The study suggested regulation of AI usage , as it negatively affects the critical thinking skills of the students

Significance of the Study

Students will have a better understanding of their own AI usage patterns and they should analyse how these tools impact their academic integrity, productivity and learning.Instead of ignoring or prohibiting the use of AI educators can create more effective teaching methodologies, assessments and academic practices consider the reality of AI assisted learning in their academic progression. The institutions can maintain a balance between innovation and academic integrity by the guidelines and regulations on the use of AI. The parents can understand how their children using AI in their academic activities. The development of digital literacy programs and curriculum that equip students to utilize AI critically, morally and successfully in the education field.

Objectives of the Study

1. To identify the usage patterns of Artificial Intelligence among College students.
2. To assess the perceived benefits of Artificial Intelligence in academic and learning activities.
3. To examine the concerns of college students regarding the use of Artificial Intelligence.

Research Methodology

Research Design

This study used a descriptive research design to explore how college students use Artificial Intelligence (AI). This approach was ideal because it helped gather clear, numerical data about students' AI habits, the benefits they see, and any worries they might have.

Population of the Study

The study focused on both undergraduate (UG) and postgraduate (PG) students attending college.

Sample Size

A total of 100 students participated, including a mix of undergraduates and postgraduates.

Sampling Technique

Participants were chosen through convenience sampling, meaning students who were easily accessible and willing to take part were selected.

Data Collection

Data came from a structured questionnaire shared via Google Forms. The questionnaire had two parts: the first asked for basic demographic info like gender, age, and study program, while the second part included statements about AI use, benefits, and concerns, using a five-point scale from Strongly Disagree to Strongly Agree.

Sources of Data

Most of the study relied on primary data collected directly from students through the questionnaire. Secondary data from books, journals, articles, and online resources were also reviewed to provide background support.

Data Analysis

The responses were coded and analyzed using SPSS software. Descriptive statistics like Mean and Standard Deviation summarized the data on AI usage, benefits, and concerns. To check if male and female students differed significantly in their views, an Independent Samples t-test was conducted, with results considered significant at the 5% level ($p < 0.05$).

Result Analysis

Table 01: Demographic Characteristics of Respondents

Variables	Category	No. of Respondents	Percentage
Gender	Male	27	27
	Female	73	73
Age	18-20	34	34
	21-23	52	52
	Above 23	14	14
Course of study	Undergraduate	72	72
	Post graduate	28	28
Year of study	First Year	11	11
	Second year	32	32
	Third Year	57	57
Stream of study	Arts	15	15
	Science	32	32
	Commerce	53	53
Frequency of usage	Daily	57	57
	Rarely	05	05
	weekly	38	38
Average time spent per day	Less than 30 minutes	48	48
	30-60 minutes	32	32
	1-2 hours	14	14
	More than 2 hours	06	06

*(**Source:** Primary Data)*

The above table indicates that 73% of the respondents were female and 27% were male. Most of the respondents (52%) belonged to 21-23 years age group, followed by (34%) in the 18-20 years category. Regarding the stream of study, Commerce students (53%) constituted the largest group, followed by Science (32%) and Arts (15%). In terms of educational level, the majority (72%) were undergraduate students,while 28% were postgraduate students. Daily use of artificial intelligence is the most common with 57 respondents (55.3%) reporting that they use AI everyday. The findings indicate that less than 30 minutes of daily usage was the most common pattern among the college students (48%). 32 respondents reported spending 30-60 minutes per day where as only 6 respondents reported using AI for more than 2 hours.

Table 02: Reliability statistics

Construct	No. of items	Cronbach's Alpha	Reliability
AI usage Behavior	5	0.957	Excellent
Perceived Benefits	5	0.952	Excellent
Concerns	5	0.825	Good

The above table presents the reliability statistics of the three constructs used in this study. All the Cronbach's Alpha values are all above the recommended threshold of 0.70. This indicates that the items measuring each construct have good internal consistency and are reliable for further statistical analysis.

Table 03: Usage Behaviour among College Students

Code	Statements	Mean	S.D
UB 1	AI helps me to complete academic task more efficiently	3.85	1.077
UB 2	AI saves time in completing assignments	3.99	1.176
UB 3	AI increases my productivity	3.67	1.101
UB 4	AI improves my learning experience	3.98	1.044
UB 5	AI helps me to understand difficult concepts	4.20	1.064

From the table we can see that AI helps to understand difficult concepts had the highest mean score (M= 4.20 & S.D=1.064) suggesting that AI is the best tool for enhancing conceptual understanding. AI saves time in completing assignments (M=3.99 & S.D=1.176) and AI improves my learning experience (M=3.98 & S.D=1.044) indicates that students think AI helps them to improve their efficiency in learning and reduces study time. Thus the findings shows that students view AI as a valuable tool for improving efficiency,learning capacity and reduces time in their academic progression.

Table 04: Perceived Behaviour towards AI

Code	Statements	Mean	S. D.
PB 1	AI increases my academic productivity	3.66	1.130
PB 2	AI enhances creativity and idea generation	3.80	0.985
PB 3	AI makes learning more engaging	3.79	1.085
PB 4	AI improves my understanding of difficult subjects	4.04	0.974
PB 5	AI reduces time needed to complete tasks	3.88	1.140

Among the five statements, AI improves my understanding of difficult subjects has the highest score (Mean=4.04 & S.D= 0.974). It was followed by AI reduces time needed to complete tasks.(Mean=3.88 &S.D= 1.14) indicating that students recognize AI as a valuable time-saving technique for learning tough subjects.The mean values of 3.80 and 3.79 represents the general agreement that AI enhances creativity and idea generation and makes learning more engaging.

Table 05: Concerns about AI among College tudents

Code	Statements	Mean	S.D
CA 1	Excessive AI use will reduce critical thinking	3.69	1.061
CA 2	AI generated information may be inaccurate	3.38	0.874
CA 3	AI may encourage academic dishonesty	3.23	0.941
CA 4	I am concerned about data privacy while using AI tools	3.47	0.979
CA 5	Students may become overly dependent on AI	4.05	1.114

The result indicate the highest mean score was for the statement Students may become overly dependent on AI (Mean= 4.05, S.D= 1.114),presenting that respondents are highly concerned about the excessive dependence may reduce their thinking and problem solving ability in future.They also expressed concerns about data privacy (Mean= 3.47 , S.D=0.979)and inaccurate information (Mean= 3.38 & S.D= 0.874).

Table 06: Gender wise comparison of AI Usage, perceived Benefits and concerns (Indepent sample t test)

Variable	t	p	Interpretation
AI usage	1.776	0.790	No significant gender difference
Perceived Benefits	0.758	0.450	No significant gender difference
Concerns	1.241	0.218	No significant gender difference

Table 6 presents the results of the independent samples *t*-test conducted to examine gender differences in AI usage, perceived benefits, and concerns among college students. The findings reveal that there is no statistically significant difference between male and female students in any of the three variables, as all the p-values are greater than the 0.05 level of significance. Specifically, AI usage ($t = 1.776$, $p = 0.079$), perceived benefits ($t = 0.758$, $p = 0.450$), and concerns ($t = 1.241$, $p = 0.218$) did not differ significantly based on gender. These results indicate that both male and female students exhibit similar patterns of AI usage, perceive comparable benefits, and share similar concerns regarding the use of Artificial Intelligence in education.

Conclusion

A I has entered the relm of higher education and has become indispensible tool for students.Being a new tool which is used widely need to properly understand how the students use this is necessary.This study is done to understand how the students engage these tools,usage patterns, perceived benefits and concerns while using AI. This in turn will help to make judicious academic policies , teaching practices and support systems. By studying the opportunities and risk that AI presents this research provides a balanced and evidence based information about the role of AI in shaping the future of students in their higher education.

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