CHAT-ATTITUDE OF STUDENTS: ACADEMIC DISCIPLINES AND EDUCATION LEVELS AS PREDICTORS OF AI CHATBOT USAGE

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ABSTRACT

The purpose of the current study is to investigate the academic disciplines and education levels as factors influencing the attitude of students toward the use of AI chatbots. The aim is to compare the difference in the mean of chat-attitude scores across academic disciplines and across the education levels of college students using AI chatbots. The research gap arises in how academic disciplines and education levels shapestudents' chat-attitude. The present study employed a quantitative cross-sectional survey involving a sample of 501 college students using an online snowball sampling method. A validated self-structured questionnaire was used to collect data, and ANOVA was applied for data analysis. The results demonstrate a statistically significant difference in chat-attitude across academic disciplines and education levels. The study concludes that academic discipline is a humble predictor of chat-attitude and drives differences in chatbot use in academia.

Keywords: *Academic disciplines, Artificial Intelligence (AI) Chatbots, attitude& Education Levels.*

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INTRODUCTION

Chat-attitude is the term refers to students' attitude toward the usage of Artificial Intelligence (AI) Chatbots. The integration of artificial intelligence (AI) chatbots in educational environments offers dynamic opportunities to provide AI-assisted learning experiences. By using AI chatbots (Chat GPT, Socratic, Gemini & Google Meena), students are transforming the educational landscape. These chatbots help students to prepare explanations, improve writing, solve problems, translate text and provide individual academic guidance. (Kasneci, 2023)

Students' attitudes and experiences of such tools are the crucial factors that can affect the successful implementation of AI in the teaching-learning process. According to Fishbein, attitude as an affective, action-oriented tendency shaping how individuals evaluate and respond to stimuli. Attitude strongly predicts technology adoption(MacKenzie, 1989).

With rising AI chatbots in Indian higher education the existing empirical evidence on the influence of academic disciplines and education levels on chat-attitude is scanty, additional research is necessary (Dwivedi, 2023). The present study explores whether students' attitude toward AI chatbot usage significantly differ by academic disciplines and education levels.

NEED AND SIGNIFICANCE OF THE STUDY

In higher education, AI chatbots have become increasingly popular as they facilitate adaptable and effective learning(Zawacki-Richter, 2019). This study is needed as limited research has examined across academic disciplines and education levels variations in chat-attitude toward AI chatbot usage. This gap highlights the need for the current study. Understanding such variations can assist teachers, educators, policy makers and design more inclusive AI-assisted learning activities. This study is significant as it provides evidence that disciplines and educational levels shape students' openness to AI tools.

LITERATURE REVIEW

Dwivedi et al. (2023), demonstrated that students have both a positive and negative attitude towards AI chatbots with respect to cognitive independence. Kasneci et al. (2023), stated that the attitudes of students are based on the amount of academic support provided by AI tools. Kumar et al. (2024), examined university students who showed different attitudes based on

the ethical risks of AI use. Fosner (2024), revealed a significant variation in the attitude between academic disciplines regarding the use of chatbots by AI. Al Awadhi et al. (2024), noted that attitude is the main driver of AI chatbots like ChatGPT, which is a predictive core in AI adoption. Rosmayanti (2024), found that learners express a positive attitude towards the use of chatbots in language learning environments. Tang et al. (2025) constructed and validated a scale that assessed the attitude towards the use of generative AI tools in academics in higher education. In particular, insufficient research has investigated how the factors of academic discipline and level of education jointly affect the attitudes of students towards the use of AI chatbots in India. Combinatory research on the two predictors as the key to designing inclusive AI-supported learning environments. This gap provides the rationale for the formulation of the present research questions and hypotheses.

RESEARCH QUESTIONS

1. Does students' attitude toward AI chatbot usage differ across academic disciplines?
2. Does students' attitude toward AI chatbot usage differ across education levels?

OBJECTIVES

1. To examine the mean difference in students' attitude towards AI chatbots usage with respect to academic disciplines.
2. To analyse the mean difference in students' attitude toward AI chatbots usage with respect to education levels.

RESEARCH HYPOTHESES

H_1: There is a significant mean difference in students' attitude toward AI chatbots usage with respect to the academic disciplines of college students.

H_2: There is a significant mean difference in students' attitude toward AI chatbots usage with respect to the education levels of college students.

METHODOLOGY

The current study involved a quantitative and cross-sectional survey design to examine the difference in the mean of chat-attitude scores across academic disciplines and education levels of college students using AI chatbots.

population and sampling technique

The study population encompass Indian undergraduate (UG), post-graduate (PG) & research students across academic disciplines (Arts/Humanities, Science, Technology & Medical) and across education levels (UG, PG & research students) using AI chatbots. A total of 501 students participated, selected through an online snowball sampling method. Informed consent was obtained from all students. To analyse the data using SPSS version 20. ANOVA with Scheffe post-hoc test was applied to analyse the variations among above mentioned groups.

RESEARCH TOOL

The Attitude toward AI chatbot usage (AAIC) with a 5-point Likert scale (1 = Strongly disagree to 5 = Strongly agree).

DATA INTERPRETATION

Testing of Null Hypotheses

H_{01}: There is a significant mean difference in students' attitude toward AI chatbotsusage with respect to the academic disciplines of college students.

Table1

Significant mean difference in students' attitude toward AI chatbots usage with respect to academic disciplines of college students.

Variable	Academic Disciplines	N	Mean	SSb	SSw	df	'f" value	Sig.
Attitude	Arts/Humanities	90	78.38	3007.75	75889.97	3,497	6.57	0.00*
	Science	139	72.44					
	Technology	167	74.79					
	Medical	105	71.17					

(SSb = Sum of squares between groups; SSw = Sum of squares within groups; df = degree of freedom) & (*Significant at 0.05 level)

The ANOVA results show a statistically significant difference between groups, df (3,497) = 6.57, $p < 0.05$. The significant F-value suggests that academic discipline has a meaningful effect on students' attitude toward AI chatbots usage across academic disciplines. From Table 1, it is inferred that the calculated f-value (6.57) is statistically significant at the 0.05 level.

Therefore, H_{01} is rejected, and H_1 is accepted. Scheffe post hoc test was conducted to identify the specific group differences, as shown in the following table: -

Table1.1

Post hoc-Scheffe

Variable	Academic Disciplines				Mean Diff.	Sig.
Attitude	**Arts/Humanities**	**Science**	**Technology**	**Medical**		
	78.38	72.44	-- --	-- --	5.94	0.01*
	78.38	-- --	74.79	-- --	3.59	0.18
	78.38	-- --	-- --	71.17	7.21	0.00*
	-- --	72.44	74.79	-- --	2.35	0.43
	-- --	72.44	-- --	71.17	1.27	0.89
	-- --	-- --	74.79	71.17	3.62	0.14

Table 1.1 shows that Arts and Humanities students showed a significantly higher attitude toward AI chatbot usage compared to students in Science and Medical disciplines. Whereas, no significant difference was found between Science, Technology & Medical ($p > 0.05$). Furthermore, students from the medical discipline displayed the lowest attitude as compared to other academic discipline groups.

H_{02}: There is a significant mean difference in students' attitude toward AI chatbots usage with respect to the education levels of college students.

Table2

Significant mean difference in students' attitude toward AI chatbots usage with respect to the education levels of college students

Variable	Education Levels	N	Mean	SSb	SSw	df	'f" value	Sig.
Attitude	UG	389	76.98	1484.13	73453.19	2,498	5.03	0.01*
	PG	64	74.38					
	Research	48	73.72					

The ANOVA results show a statistically significant difference between groups, df (2,498) =5.03, $p < 0.05$. From Table-2, it is inferred that the calculated F-value (5.03) is statistically significant at 0.05 level.The significant F-value suggests thateducation level has a meaningful effect on students' attitude toward AI chatbots usage.Therefore, H_{02} is rejected, and H_2 is accepted. Scheffe post hoc test was conducted to identify the specific group differences, as shown in the following table:

Table2.1

Post hoc - Scheffe

Variable	**Education Levels**			**Mean Diff.**	**Sig.**
Attitude	**UG**	**PG**	**Research**		
	76.98	74.38	--	1.40	0.70
	76.98	--	73.72	5.83	0.01*
	--	74.38	73.72	4.44	0.16

Table-2.1 shows that the undergraduate students' group has statistically significantly higher attitude than the research scholar students' group, whereas no significant difference exists between UG and PG & PG and research students. Therefore, meaningful variation in the attitude toward AI chatbot usage between UG and Research student groups.

DISCUSSION

The finding indicates that student's attitude toward AI chatbots varies across academic disciplines and education levels. Arts & Humanities students tend to view chatbots as supportive tools for content understanding and idea generation, whereas Science and Medical students often exhibit more cautious attitude due to concerns about accuracy and ethical use. Education level differences may be attributed to academic maturity with UG students showing more openness to experimenting with emerging technologies, while research scholars demonstrate more critical attitude related to originality. The findings are consistent with Kasneci et al. (2023), who reported that non-technical students showed higher openness to AI tools, and are further supported by Kumar et. al. (2024). In the terms of education levels, the present result aligns with Fosner et.al. (2024), who found UG students showed higher positive attitude than research scholars. However,Dwivedi et al. (2023), students from

science and technology disciplines may show higher acceptance due to greater to digital exposure.

CONCLUSION

The findings affirm that the two predictors have an effect on chat-attitude. The attitude was more positive among the UG students compared to the research scholars. Students of Arts and Humanities were also more attitude-oriented than Science and Medical students. These results indicate that the attitude towards AI chatbots is not homogeneous. They are influenced by the learning needs, academic expectations, and familiarity to the technology. The outcomes highlight the need for AI training and responsible use guidelines, particularly for higher education levels that may be more scepticaland contribute to the design of inclusive AI-based learning educational settings.

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