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Perceptions, Uses, and Attitudes Towards ChatGPT Among University Students in the Field of Education

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ABSTRACT

Generative AI tools like ChatGPT are reshaping higher education, offering new learning opportunities while raising concerns. This study examines education students' perceptions, uses, and attitudes toward ChatGPT. A quantitative, cross-sectional design was applied with 205 undergraduate and master's students. Data were collected using a validated questionnaire (α = .92) assessing five dimensions. Non-parametric tests were used. Findings show that 90.2% have used ChatGPT, mainly for academic purposes; 82% use it to support their studies, and 23.9% admit to copying content as their own. Affective and academic dimensions received highest ratings. Significant differences appear by gender, age, academic level, year of study, economic status, and unreferenced use. The study concludes that digital literacy and institutional policies are essential for responsible AI integration in higher education.

Keywords: academic integrity, artificial intelligence, ChatGPT, generative AI, higher education, teacher education

INTRODUCTION

In recent years, artificial intelligence (AI) has developed exponentially, with increasingly accessible applications across society. Within this evolution, generative AIs—such as large language models (LLMs) based on Transformer architectures—represent one of the most disruptive advances. These technologies enable automatic generation of text, images, audio, and other content from human instructions.

One of the most representative tools is ChatGPT, developed by OpenAI. Trained on vast linguistic data, this model can answer questions, write essays, summarize information, and generate code. Its natural language interaction has led to widespread adoption in professional and educational settings, opening new possibilities for human–knowledge interaction. The scholarly community has responded with a surge in publications. A recent bibliometric analysis reveals a dramatic increase in research output on generative AI in education since 2023, with the United States, Australia, and the United Kingdom leading contributions (Shahzad et al., 2025).

The impact of generative AI is not only technological but also cultural and epistemological. These tools are reshaping how we access, process, and produce information, a transformation aligned with emerging notions such as the *tiktonian brain* which describe new cognitive configurations shaped by digital environments (Pattier, 2026). This transformation has sparked an intense debate: is generative AI a game-changer that can revolutionise teaching and learning, or does it pose a fundamental danger to academic integrity and the essence of education (Kumar et al., 2025)? On one hand, these technologies offer unprecedented opportunities to personalise learning, foster creativity, and enhance educational experiences. On the other hand, they raise serious concerns about plagiarism, academic dishonesty, and the erosion of critical thinking (Kofinas et al., 2025). Similar concerns have been documented among pre-service teachers, who report dependency, ethical tensions, and moral dissonance when using ChatGPT (Caling et al., 2025). To better understand this tension, scholars have turned to classical psychological frameworks. Montag et al. (2025) revisited Maslow's hierarchy of needs to examine how AI systems can foster or hinder human well-being, arguing that AI should help fulfill fundamental human needs from security to self-actualization.

Recent research highlights that integrating large language models in education, while offering innovative solutions for personalised learning and assessment, also raises ethical concerns, including biased outputs, assessment accuracy, and academic integrity (Li et al., 2024; Parker et al., 2026; Shahzad et al., 2025). Moreover, experimental studies have shown that markers often cannot reliably distinguish human-authored from AI-generated assessments, and that awareness of AI's potential presence can unconsciously influence marking, leading to false positives and false negatives (Kofinas et al., 2025).

In this context, education emerges as a critical space to explore generative AI's potential and implications. As the debate continues, the future of higher education will not be defined by resistance, but by the ability of institutions and individuals to engage with these technologies critically, ethically, and creatively (Kumar et al., 2025).

CHATGPT AND ACADEMIA

The incorporation of ChatGPT into education has sparked debate about its pedagogical value, risks, and the role of educators and institutions in its regulation (García-López et al., 2025). As a support tool, it can offer personalized explanations, rephrase complex concepts, generate study outlines, or assist in lesson planning (van den Berg, 2025). However, concerns arise around plagiarism, misinformation, cognitive dependency, and eroding critical thinking (Ortiz-Bonnin & Blahopoulou, 2025).

Early studies report ambivalent educator perceptions. Some acknowledge ChatGPT's potential to enhance teaching–learning, while others fear loss of teacher agency or threats to traditional assessment (Mamo et al., 2024; Wong, 2024). Among students, adoption has been rapid, often without formal training, favoring instrumental use focused on efficiency over deep learning. Nevertheless, students generally value the tool positively (Martínez-Carrera et al., 2025).

At the university level, ChatGPT has gained relevance due to student autonomy, demanding workloads, and free accessibility (Dhamija & Dhamija, 2024). Research documents student use for writing papers, solving exercises, translating texts, generating ideas, or answering exams. However, most studies remain exploratory and lack empirical foundation (Farinosi & Melchior, 2025). This aligns with systematic reviews indicating that approximately three-quarters of the literature on ChatGPT in higher education is non-empirical, underscoring the need for robust research (Ansari et al., 2024).

A major challenge is the absence of clear institutional guidelines on generative AI. Many universities have yet to define curricular policies or update academic integrity regulations, leaving students and faculty in an ambiguous position (Jensen et al., 2025; Korseberg & Elken, 2025). This ambiguity is compounded by a lack of specific training on ethical, safe, and pedagogically effective use. Furthermore, ChatGPT use may exacerbate inequalities depending on digital competence, language proficiency, access to resources, critical thinking, or prior academic performance (Campo et al., 2025). Its impact is mediated by social, economic, and cultural factors that must be considered in digital inclusion strategies.

Understanding how students perceive and use ChatGPT is essential. Students' attitudes directly influence tool appropriation: perceived usefulness may encourage creative use, while mistrust may limit integration or lead to dishonest

use. Current research shows students value ChatGPT for time-saving, ease of use, and academic support, but express concerns about reliability, information manipulation, dependency, and data privacy (Ansari et al., 2024).

Some studies identify significant differences in ChatGPT perception by gender, age, education level, discipline, or prior digital experience (Arthur et al., 2024; Rajki et al., 2025). These differences suggest not all students access AI the same way, and pedagogical interventions should consider this diversity. Systematic reviews identify TAM, UTAUT, and UTAUT2 as the most frequent frameworks for examining ChatGPT adoption, with key determinants including social influence, perceived usefulness, effort expectancy, and facilitating conditions (Baig & Yadegaridehkordi, 2024). These findings reinforce the relevance of examining sociodemographic and contextual variables.

The debate should not focus exclusively on prohibition or promotion, but on critical, ethical, and pedagogical integration. This requires clear regulatory frameworks based on academic integrity, transparency, and respect for digital rights (Korseberg & Elken, 2025). Specific training is needed for students and faculty to understand these tools' limitations, biases, and potential (Dimeli & Kostas, 2025). This critical AI literacy must be part of university curricula, especially in education degrees (Malik et al., 2024).

Despite growing research, several gaps remain. First, most studies focus on general student populations, with limited attention to teacher education students—future educators who will guide their own students in ethical AI use. Second, few studies adopt a multidimensional approach distinguishing personal, academic, professional, affective, and social dimensions. Third, limited empirical evidence exists on how sociodemographic and contextual variables shape perceptions and uses. This study addresses these gaps by providing a comprehensive, multidimensional analysis of education students' perceptions, uses, and attitudes towards ChatGPT, offering insights for curriculum design, institutional policies, and teacher training.

Objective

The main objective of this study was to analyse the perceptions, uses, and attitudes towards ChatGPT among university students in the field of education. Specifically, it aimed to:

1. Describe students' use of ChatGPT.
2. Assess their perceptions across five dimensions (personal, academic, professional, affective, and social).
3. Examine whether significant differences exist according to gender, age, academic level, year of study, economic status, digital competence, and unreferenced academic use of ChatGPT.

RESEARCH METHOD

Design and Participants

This study is part of a quantitative investigation with a non-experimental, cross-sectional, and descriptive-comparative design. The sample consisted of 205 university students in the field of education, selected through non-probability convenience sampling. Of these, 86.8% were women and 13.2% were men, with ages ranging from 17–18 years (35.1%), 19–20 years (31.2%), 21–22 years (19.0%), and over 22 years (14.7%). Participants were undergraduate (89.3%) or master's students (10.7%) enrolled in the 1st (57.1%), 2nd (7.8%), 3rd (18.0%), 4th (13.2%), 5th (2.9%), or 6th year or beyond (1.0%). They self-assessed their digital competence as low (13.7%), medium (71.7%), or high (14.6%), and their economic level as low (9.3%), medium (86.3%), or high (4.4%).

Instrument

An ad hoc questionnaire was developed, consisting of Likert-type items (scale from 1 to 5) aimed at collecting information on perceptions, attitudes, and use of ChatGPT in academic contexts, as well as sociodemographic and academic variables. The content validity of the questionnaire was assessed through expert judgment by specialists in educational technology and research methodology, who reviewed the wording, relevance, and clarity of the items. The instrument demonstrated high reliability, with a Cronbach's alpha coefficient of .92, indicating excellent internal consistency.

The dimensions, items, and possible responses of the questionnaire are shown in Table 1.

Table 1: Questionnaire on Perceptions, Uses, and Attitudes Towards ChatGPT

Dimension	Question	Possible Responses
Sociodemographic variables	Gender	Male / Female / Other
	Age	Open response
	Level of studies	Undergraduate / Master's / Doctorate
	Year of study	1st / 2nd / 3rd / 4th / 5th / 6th or beyond
	Level of technological competence	Low / Medium / High
	Economic level	Low / Medium / High
	Have you ever used ChatGPT for any reason?	Yes / No

Dimension	Question	Possible Responses
	The first time you used ChatGPT, it was for	Personal / Academic / Professional
	Who encouraged you to use ChatGPT for the first time?	Myself / Friends or acquaintances / Professors / Family
	Have you ever used ChatGPT to assist with your studies?	Yes / No
	Have you ever copied something from ChatGPT and submitted it as your own in an academic assignment?	
	I frequently use ChatGPT	Likert scale 1 to 5
Personal	The personal data stored by ChatGPT is secure	Likert scale 1 to 5
	ChatGPT is a manipulation-free tool	
	I don't mind if ChatGPT stores my personal data or the questions I ask	
	I am used to working with tools similar to ChatGPT	
Academic	ChatGPT is a useful tool for my current studies	Likert scale 1 to 5
	ChatGPT provides reliable answers to my questions	
	ChatGPT saves me time when dealing with my studies	
	ChatGPT is positively affecting the teaching and learning process	
Professional	ChatGPT is a useful tool for my future profession	Likert scale 1 to 5
	I should receive specific training to make better use of ChatGPT in my future career	
	ChatGPT will save me time in my future job	
	ChatGPT is positively affecting my professional future	

Dimension	Question	Possible Responses
Affective	ChatGPT is interesting	Likert scale 1 to 5
	ChatGPT is easy to use	
	I feel motivated to use ChatGPT	
	I am fascinated by the possibilities offered by ChatGPT	
Social	The general use of ChatGPT will make society better	Likert scale 1 to 5
	The use of ChatGPT will benefit society as a whole	
	ChatGPT will help people with fewer resources access quality information	
	ChatGPT will reduce some of the current societal gaps	

Note. Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree).

Procedure

The questionnaire was administered online, ensuring the anonymous, voluntary, and confidential participation of students. Prior to completing the questionnaire, participants were informed about the study's objectives and provided informed consent.

The study and the questionnaire were reviewed and approved by the university's Ethics Committee, in compliance with the ethical principles outlined in the Declaration of Helsinki and current regulations on the protection of personal data.

Data Analysis

Data were analyzed using IBM SPSS Statistics v30.0. Given the ordinal nature of the Likert-type items and the characteristics of several categorical variables, non-parametric statistical tests were primarily applied.

• To compare scores according to gender or other dichotomous variables (such as level of studies or whether students had ever copied), the Mann–Whitney U test was used.

• For variables with more than two groups (such as age, year of study, economic level, or technological competence), the Kruskal–Wallis test was applied. When significant differences were detected, post hoc comparisons were conducted using pairwise Mann–Whitney U tests, applying a conservative p-value correction ($p < .005$) to control for Type I error.

• Additionally, for comparisons involving age groups, parametric analyses (one-way ANOVA with Tukey post hoc tests) were conducted as complementary

procedures to examine the robustness of the results, given the relatively large sample size and the robustness of ANOVA to moderate violations of normality.

• The level of statistical significance was set at $p < .05$ for all tests.

RESULTS

Descriptive Statistics: Usage Patterns

The results show that 9.8% of the sample had never used ChatGPT. A total of 90.2% reported having used it at least once, stating that the first time they used it was for academic purposes (67.7%), personal purposes (20.5%), or professional purposes (2.0%). Among those who had used it, the individuals who encouraged them to use ChatGPT for the first time were friends or acquaintances (60.32%), themselves (23.37%), family members (8.70%), and teachers (7.61%). Additionally, 82.0% of the sample indicated that they had used ChatGPT to assist with their studies. Furthermore, 23.9% acknowledged having copied content from ChatGPT and submitted it as their own in academic assignments.

Descriptive Statistics: Perceptions by Dimension

Table 2 presents the mean scores for the five dimensions evaluated. The highest rated dimension was the affective dimension (M = 3.63), followed by the academic (M = 3.11) and professional (M = 3.10) dimensions. In contrast, the personal (M = 2.27) and social (M = 2.43) dimensions received the lowest ratings, indicating greater caution among students regarding data security, content manipulation, and the societal impact of ChatGPT.

Table 2: Mean Scores by Questionnaire Dimension

Dimension	Mean
Personal	2.27
Academic	3.11
Professional	3.10
Affective	3.63
Social	2.43

Note. Dimensions with a mean score of 3.00 or higher are considered positively rated.

Descriptive Statistics: Item-Level Analysis

Table 3 displays the mean scores for each individual item. The highest-rated items were "ChatGPT is easy to use" (M = 4.32, SD = 0.877), "ChatGPT is interesting" (M = 3.86, SD = 1.053), and "I should receive specific training on ChatGPT for my professional future" (M = 3.50, SD = 1.162). The lowest-rated items included "I am used to working with tools similar to ChatGPT" (M = 1.86, SD = 1.048), "I frequently use ChatGPT" (M = 2.15, SD = 1.164), and "The use of ChatGPT by society will make it better" (M = 2.15, SD = 0.886).

Table 3: Descriptive Results of the Questionnaire Items

Item	Mean	SD
I frequently use ChatGPT	2.15	1.164
The personal data stored by ChatGPT is secure	2.40	0.964
ChatGPT is a manipulation-free tool	2.37	1.033
I don't mind if ChatGPT stores my personal data	2.46	1.312
I am used to working with tools similar to ChatGPT	1.86	1.048
ChatGPT is a useful tool for my current studies	3.30	1.169
ChatGPT provides reliable answers to my questions	3.04	0.989
ChatGPT saves me time when dealing with my studies	3.36	1.247
ChatGPT is positively affecting teaching and learning	2.75	1.130
ChatGPT is a useful tool in my future profession	3.05	1.286
I should receive specific training on ChatGPT for my professional future	3.50	1.162
ChatGPT will save me time in my future job	3.13	1.326
ChatGPT is positively affecting my professional future	2.71	1.080
ChatGPT is interesting	3.86	1.053
ChatGPT is easy to use	4.32	0.877
I feel motivated to use ChatGPT	2.90	1.178
I am fascinated by the possibilities offered by ChatGPT	3.44	1.147
The use of ChatGPT by society will make it better	2.15	0.886
The use of ChatGPT will benefit society as a whole	2.29	0.925
ChatGPT will help people with fewer resources access quality information	2.90	1.221
ChatGPT will reduce some current societal gaps	2.38	1.034

Note. Items with a mean score of 3.00 or higher are considered positively rated.

Significant Differences

By Gender

The Mann-Whitney U test was conducted to analyse differences by gender. For the item "ChatGPT is a useful tool for my current studies," significant differences were found between men and women (U = 1,726.500, p = .015), with men rating its usefulness higher (mean rank = 128.06) than women (mean rank = 99.20).

Similarly, for the item "ChatGPT is interesting," significant differences were found (U = 1,793.000, p = .025), with men showing greater interest (mean rank = 125.59) compared to women (mean rank = 99.57).

By Age

Differences across age groups were primarily examined using non-parametric tests (Kruskal–Wallis). Additionally, a one-way analysis of variance (ANOVA) with Tukey post hoc tests was conducted as a complementary analysis to further explore potential group differences.

Significant age-group differences were found for the item "ChatGPT is interesting" (F = 2.961, p = .033). Post hoc analysis indicated that students aged 17–18 scored significantly lower (mean = 1.92) than those over 22 (mean = 2.57; p = .048), suggesting that younger students find ChatGPT less interesting than older students.

Marginally significant differences were also observed for the item "ChatGPT is a manipulation-free tool" (F = 2.653, p = .050). Students aged 17–18 perceived the tool as less manipulative (mean = 2.51) than those over 22 (mean = 1.90; p = .048).

Significant differences were also found regarding the statement "ChatGPT is a useful tool in my future profession" (F = 3.292, p = .022). Students aged 17–18 scored lower (mean = 2.75) than those over 22 (mean = 3.60; p = .012), indicating that older students perceive greater professional utility in ChatGPT.

In addition, significant differences were observed in the perception that "ChatGPT will save me time in my future job" (F = 3.075, p = .029). Students over 22 (mean = 3.63) scored higher than those aged 17–18 (mean = 2.81; p = .020), indicating a stronger belief in ChatGPT's time-saving potential among older students.

By Level of Studies

The non-parametric Mann-Whitney U test revealed significant differences in the item "ChatGPT is a manipulation-free tool" between undergraduate and

master's students (U = 1279.000, p = .009), with undergraduates (mean rank = 106.01) perceiving ChatGPT as less manipulative than master's students (mean rank = 71.90).

Similarly, the item "I should receive specific training to make better use of ChatGPT in my professional future" showed significant differences (U = 1310.500, p = .014), with master's students (mean rank = 131.60) expressing a greater perceived need for training than undergraduate students (mean rank = 88.16).

By Year of Study

A post-hoc Mann-Whitney U test was conducted following a significant Kruskal-Wallis test result (p = .036, H = 10.267). A significant difference was found between second-year and fifth-year students regarding "ChatGPT is a useful tool for my current studies" (U = 1310.500, p = .005). Fifth-year students rated ChatGPT more positively (mean rank = 5.50) than second-year students (mean rank = 13.75).

Regarding the statement "ChatGPT is a useful tool in my future profession," significant differences emerged (H = 13.453, p = .009, df = 4). Post-hoc analysis revealed differences between first- and second-year students (p = .001), with second-year students (mean rank = 95.63) rating it more positively than first-years (mean rank = 63.09), and between second- and third-year students (p = .004), with second-years (mean rank = 35.06) giving significantly higher ratings than third-years (mean rank = 23.08).

By Level of Technological Competence

The Kruskal-Wallis test was applied to examine differences in questionnaire item responses based on students' self-reported technological competence (low, medium, high). Overall, no statistically significant differences were found across most items.

However, for the item "ChatGPT is a manipulation-free tool," a significant global difference was found (H = 6.275, df = 2, p = .043). Still, post-hoc comparisons using the Mann-Whitney U test did not reveal significant differences between specific pairs after applying the Bonferroni correction ($p < .017$), so no specific group-level differences can be confirmed.

By Economic Level

Regarding the perception that "ChatGPT is positively affecting my professional future," the Kruskal-Wallis test indicated significant differences across students' economic levels (H = 6.998, df = 2, p = .030).

Post-hoc analysis using the Mann-Whitney U test revealed statistically significant differences between students with low and high economic levels (mean ranks = 11.92 and 19.94 respectively, p = .012), as well as between those with medium and high levels (mean ranks = 91.44 and 133.94 respectively, p = .015). These results suggest that students with a higher economic level have a more positive perception of ChatGPT's impact.

By Unreferenced Use of ChatGPT in Academic Work

The Mann-Whitney U test revealed several significant differences related to the item "Have you ever copied content from ChatGPT and submitted it as your own in an academic assignment?"

- "I frequently use ChatGPT" showed a significant difference (U = 2827.000, p = .004), with those who had copied content scoring higher (mean rank = 123.31) than those who had not (mean rank = 96.62).
- For "The personal data stored by ChatGPT is secure", a significant difference was observed (U = 3103.000, p = .037), with mean ranks of 117.67 (copied) and 98.39 (not copied).
- For "ChatGPT is a manipulation-free tool", there was a strong disparity (U = 2710.000, p = .001), with mean ranks of 125.69 (copied) and 95.87 (not copied).
- Regarding "ChatGPT provides reliable answers to my questions", a significant difference was observed (U = 2823.000, p = .003), with higher ratings among those who had copied (mean rank = 123.39) than those who had not (mean rank = 96.60).
- For "ChatGPT saves me time when dealing with my studies", a highly significant difference was found (U = 2438.500, p < .001), with those who had copied scoring higher (mean rank = 131.23) than those who had not (mean rank = 94.13).
- On "I feel motivated to use ChatGPT", a significant difference appeared (U = 2990.500, p = .018), with higher motivation among those who had copied (mean rank = 119.97) than those who had not (mean rank = 97.67).
- Finally, for "ChatGPT will help people with fewer resources access quality information", there was a statistically significant difference (U = 2969.000, p = .015), with higher agreement among those who had copied (mean rank = 120.41) than those who had not (mean rank = 97.53).

DISCUSSION

Widespread Adoption and the Student-Driven Integration of ChatGPT

This study has explored, from a quantitative and comparative perspective, the perceptions, uses, and attitudes of university students in the field of education toward ChatGPT. The findings reflect a high level of penetration of this tool in students' academic lives, with 90.2% of the sample reporting having used it at least once, and 82% stating they use it to support their studies. This aligns with recent research showing rapid adoption of generative artificial intelligence (AI) technologies among university students (Rajki et al., 2025). A large-scale study of 4,005 students across ten countries found a strong positive correlation between ChatGPT use and improved academic performance ($r = 0.845$, $p < .001$), as well as with the development of advanced skills such as academic writing and critical thinking ($r = 0.720$, $p < .001$), reinforcing the potential of these tools to enhance educational outcomes (George-Reyes et al., 2025). Within the broader literature, ChatGPT emerges as a personalised tutor for students, a teaching assistant for educators, an assessment partner, and a co-researcher for academics (Ansari et al., 2024). Similar patterns of adoption have been observed in non-Western contexts: Mekheimer (2026) found that Egyptian university students rated ChatGPT's usefulness significantly higher than their teachers, while teachers expressed greater concern about its compatibility with pedagogical values and academic integrity. This divergence between student pragmatism and teacher caution mirrors our findings and underscores the need for context-sensitive institutional policies.

One of the most relevant findings concerns the general profile of users. Most first-time ChatGPT users do so on their own initiative or upon recommendation from friends, rather than being encouraged by teachers or family members. This autonomy in adopting the tool suggests a phenomenon of technological self-exploration linked to an informal digital culture that is more agile than institutional frameworks, where students act as active agents in integrating technologies into their academic lives. However, this autonomous incorporation may also imply a lack of critical or formative guidance, increasing the risk of uncritical or inappropriate use. As noted in the literature, unsupervised use of ChatGPT poses risks including academic dishonesty, over-reliance leading to cognitive decline, and diminished critical thinking skills (Ansari et al., 2024). In this context, Pattier and Redondo-Duarte (2025) emphasize the teacher's role as guarantor of ethical and balanced education, exercising pedagogical judgment to filter, evaluate, and guide the use of technological resources. They argue that while technology offers new possibilities, it must be employed through reflection and pedagogical judgment to ensure the healthy integral development of students. This underscores the importance of pedagogical spaces to support students in

developing the learning potential of this tool (Rismanchian et al., 2026; Tang et al., 2025).

Perceptions Across Dimensions: Affective Enthusiasm vs. Ethical Caution

Regarding the dimensions evaluated, the most positive perception appears in the affective component, followed by academic and professional aspects, while the lowest ratings are found in the personal and social dimensions. The fact that items related to ease of use and interest in the tool scored above 4 indicates that ChatGPT is perceived as an attractive, intuitive, and accessible tool, consistent with previous studies (Klar, 2025). However, this affective enthusiasm contrasts with relative caution in personal and social aspects, such as data security, content manipulation, or the tool's positive impact on society. This finding reveals a certain dissonance between usability and trust—a duality also documented in recent research (Ortiz-Bonnin & Blahopoulou, 2025). This cautious stance aligns with broader concerns identified in the literature regarding data privacy, over-reliance on AI, cultural sensitivity, and the potential impact on traditional teaching methods and human interaction (Faisal, 2024).

Pedagogical and Professional Implications

From an academic standpoint, students recognize that ChatGPT saves them time (mean = 3.36) and find it useful for their studies (mean = 3.30), although they are less convinced of its positive influence on teaching and learning (mean = 2.75). This may reflect an instrumental view of the tool, oriented more toward efficiency than deep pedagogical improvement. Such a distinction aligns with research showing that educators value AI mainly for time savings but remain hesitant due to ethical concerns and scepticism about its utility (van den Berg, 2025).

This instrumental orientation can also be understood through human needs theory. Montag et al. (2025) argued that AI systems should help individuals satisfy fundamental needs—such as competence, relatedness, and self-actualization—rather than merely enabling task completion with minimal cognitive effort. When students use ChatGPT primarily as a time-saving device, the tool may bypass opportunities for authentic learning and higher-order skill development. Thus, the challenge for educators is not only to teach effective AI use but to foster conditions where AI supports, rather than substitutes, genuine intellectual growth.

Recent cross-national evidence reinforces this challenge. Rizun et al. (2026) found that social influence from university professors was a stronger predictor of students' intention to use ChatGPT than peer influence, and that ethical considerations such as explainability and privacy significantly shaped trust. These findings highlight the critical role of educators and institutional policies in

guiding responsible AI adoption, aligning with our emphasis on structured AI literacy and faculty training.

In the professional domain, perceptions are moderately positive. The statement "ChatGPT will save me time in my future job" received a mean of 3.13, while "it is useful in my future profession" scored 3.05. Notably, the highest-rated item was the need for specific training on ChatGPT for professional practice (mean = 3.50), indicating growing awareness of the competencies required to integrate this technology responsibly. Recent studies also note that AI cannot replace human intelligence and creativity (Vicente-Yagüe-Jara et al., 2023).

The interactive nature of ChatGPT aligns with constructivist pedagogies, shifting instructors from information providers to facilitators of meaningful interactions and fostering critical thinking. Moreover, ChatGPT enables multimodal learning experiences by integrating text, images, and audiovisual content, catering to diverse learning preferences and enhancing engagement (Faisal, 2024). This multimodal potential is particularly relevant for teacher education, as future educators will need to design learning experiences that leverage AI's capabilities while maintaining pedagogical intentionality.

Significant Differences: A Heterogeneous Landscape of AI Engagement

The significant differences found in relation to variables such as gender, age, level of study, university year, socioeconomic level, and having ever copied with ChatGPT reinforce the notion that interaction with this tool is not homogeneous.

Gender

Male students rate the usefulness and interest of ChatGPT more highly than female students, which may be linked to pedagogically relevant gender differences in technology-mediated environments. This aligns with studies showing that men tend to use a wider variety of AI tools or feel more comfortable exploring new technologies without prior experience (Rajki et al., 2025). These findings are consistent with systematic reviews that identify social influence, perceived usefulness, effort expectancy, and facilitating conditions as key determinants of ChatGPT adoption, all of which may be differentially experienced across sociodemographic groups (Baig & Yadegaridehkordi, 2024).

Age and Academic Year

Regarding age, older students tend to perceive ChatGPT as more interesting and useful for their future professional practice. This may reflect a greater ability to project the value of the technology in real work settings. Other

studies suggest that age acts as a moderating variable in the relationship between ChatGPT use and plagiarism (Campo et al., 2025). Likewise, students in more advanced academic years (fifth-year students) assess the academic utility of the tool more positively than those in lower years. This pattern suggests that accumulated academic experience may influence a more nuanced understanding of ChatGPT's potential. These findings are consistent with research showing that master's and doctoral students demonstrate greater use and knowledge of AI tools, while first-year undergraduate students—recently graduated from secondary education—show lower exposure to AI (Rajki et al., 2025).

Socioeconomic Level

With respect to economic level, students from higher-income backgrounds show more positive perceptions regarding ChatGPT's impact on their professional development. This raises questions about possible new technological divides: although generative AI may democratize access to information and resources, in practice, its effective use appears to be conditioned by socioeconomic factors that affect prior digital training, access to devices, and the capacity for autonomous exploration. Additionally, recent research warns that the unequal implementation of these technologies across disciplines and academic contexts may reinforce existing structural disparities, limiting equitable access to the educational benefits of generative AI (Wang et al., 2025).

Global evidence further supports this concern. In a large-scale study of over 20,000 students across 58 countries, Bencsik et al. (2026) found that students from higher socioeconomic backgrounds and from countries with higher ICT development were significantly more likely to use ChatGPT. Their results demonstrate that functional access and institutional support mediate the relationship between national digital development and individual AI use, reinforcing that socioeconomic disparities in ChatGPT adoption are a worldwide phenomenon requiring coordinated policy responses.

Technological Competence

No significant differences were found based on self-reported technological competence. This finding is noteworthy, as it suggests that perceptions of ChatGPT may be shaped more by attitudinal and experiential factors than by students' confidence in their own digital skills. This result aligns with recent empirical research showing that general digital competence does not always predict effective ChatGPT use. Caner-Yıldırım (2025), in a study with 544 undergraduates, found that problem-solving skills and ethical awareness positively influenced actual ChatGPT use, while general digital competence was not a significant predictor. Similarly, Yang et al. (2025) observed that self-efficacy did not predict

performance; instead, the depth of knowledge in prompting (r = 0.40) and prompt relevance (r = 0.42) were positively correlated with academic outcomes. These findings suggest that what matters is not students' perceived competence, but their ability to engage strategically with the tool—formulating effective prompts, managing dialogues, and critically evaluating AI-generated content (Caner-Yıldırım, 2025).

Notably, despite these observed differences, a year-long experimental study found that demographic factors such as gender, race, and first-generation college status showed no significant influence on students' perceptions of ChatGPT (Guo et al., 2025). This finding serves as a caution against over-generalising demographic categories and underscores the need to examine more fine-grained variables such as prior experience, pedagogical context, and specific interaction patterns.

The Subgroup of Students Who Have Copied: A Concerning Profile

Particularly striking are the results associated with students who reported having copied content generated by ChatGPT. This subgroup shows more positive perceptions in many of the evaluated items: they consider the tool to be more reliable, safe, useful, motivating, and less manipulative. These results are in line with literature showing a correlation between the frequency of ChatGPT use and plagiarism (Campo et al., 2025). This correlation raises both ethical and pedagogical challenges. Rather than discouraging use, the act of copying may reinforce a perception of immediate effectiveness, which does not necessarily translate into meaningful learning. These findings are consistent with studies demonstrating that greater awareness of risks associated with ChatGPT use is linked to lower frequency of use and reduced intention to use the tool (Ortiz-Bonnin & Blahopoulou, 2025).

CONCLUSIONS

This study examined education students' perceptions and use of ChatGPT. Findings reveal widespread adoption of the tool, primarily for academic purposes and driven by students' own initiative rather than institutional guidance, highlighting a gap between informal digital practices and formal university frameworks.

Students value ChatGPT positively in affective, academic, and professional terms, appreciating its ease of use and time-saving potential. However, they remain cautious about data security and societal impact, reflecting a dissonance between enthusiasm and ethical concern. The demand for specific training indicates an emerging need for structured AI literacy.

Significant differences by gender, age, academic level, and socioeconomic status point to potential digital divides. Notably, students who admitted copying content from ChatGPT hold more positive perceptions of the tool, suggesting that uncritical use may be reinforced by perceived effectiveness.

The uniqueness of this study lies in its multidimensional approach (personal, academic, professional, affective, and social) and its focus on education students—future educators who will guide their own students in AI use. While previous research has examined perceptions of ChatGPT in general student populations, few studies have provided a comprehensive analysis of these five dimensions together, nor have they specifically targeted teacher education students.

Universities must provide clear institutional guidelines, integrate AI literacy into curricula, and offer targeted training. Educators should shift from surveillance to pedagogical mediation. Future research should employ longitudinal designs and examine specific interaction patterns such as prompt quality. The challenge for higher education is not technological but pedagogical and ethical: to educate future professionals who can engage with AI critically, responsibly, and creatively.

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