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CHATGPT AS A TOOL IN HIGHER EDUCATION – ANALYSIS OF STUDENT UTILIZATION AND PERCEPTION

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Purpose: The purpose of this paper is to explore how students at the Faculty of Management at the University of Gdańsk use ChatGPT, a generative AI tool, for academic purposes. The study focuses on their motivations, perceptions, and overall attitudes toward the tool in the context of higher education.
Design/methodology/approach: The research combines a literature review with empirical findings from a survey conducted among 260 students. This mixed-method approach allows for an in-depth analysis of how ChatGPT is applied in academic settings.
Findings: The findings indicate that ChatGPT is widely used for tasks such as quick information retrieval, writing assistance, and idea refinement. Students primarily value its efficiency and the potential to improve the quality of their work. However, concerns were also raised regarding the reliability of content, and its possible negative impact on creativity and critical thinking.
Research limitations/implications: The study is limited to one faculty and one institution, which may affect the generalizability of the findings. Future research should consider a broader sample across various academic disciplines and institutions.
Practical implications: The results highlight the need for structured educational programs that support students in the responsible and ethical use of AI tools. Institutions of higher education could use these insights to develop policies and guidelines that foster thoughtful and informed integration of AI into academic practice.
Social implications: This research contributes to the ongoing discussion about the societal impact of AI in education. By addressing students' concerns and behaviors, it encourages a more reflective approach to the use of generative AI and can inform future strategies for its ethical implementation.
Originality/value: This paper offers a unique perspective on student interaction with generative AI, supported by empirical data. It adds value to the academic discourse by providing actionable insights for both researchers and practitioners interested in the evolving role of AI in higher education.
Keywords: chatGPT, higher education, AI tools, generative artificial intelligence, student perception.
Category of the paper: research paper.

1. Introduction

Artificial intelligence (AI) plays an increasingly significant role in academic education, offering new opportunities for both students and educators. These include quick information retrieval, improved understanding of complex topics, and the personalization of the learning process. However, integrating AI into education also introduces risks, such as limiting the development of critical thinking and creativity. Among various AI tools, Chat GPT, developed by OpenAI, has emerged as a prominent language model capable of generating human-like text based on prompts. ChatGPT holds significant potential for broad application in education, offering functionalities such as text generation, question answering, and language translation. This can result in both beneficial and adverse consequences (Kasneci et al., 2023; Gimpel et al., 2023). Even before the widespread adoption of ChatGPT, higher education had become a crucial area for the implementation of such technologies (Al Muid et al., 2021).

This article adopts a theoretical and empirical perspective, emphasizing the transformative potential of AI tools in education. It aims to provide a balanced understanding of how ChatGPT and similar technologies can enhance the learning process. At the same time, it acknowledges the risks, including ethical dilemmas, potential over-reliance, and challenges. By grounding this analysis in a review of current literature and practical applications, the article highlights the dual-edged nature of AI in education. The first part of this article reviews literature on generative AI in higher education. The second part presents findings from study conducted at the University of Gdańsk, analyzing student utilization and perceptions of ChatGPT. Despite significant interest in this area among researchers, the topic remains relatively new and rapidly evolving. There is still a notable research gap regarding long-term implications of using generative AI in education.

2. Artificial Intelligence and ChatGPT in Higher Education

2.1. Foundations of Artificial Intelligence

Artificial intelligence (AI) has rapidly advanced, particularly in the digital era accelerated by the Covid-19 pandemic. The journey began in 1950 with A.M. Turing, who designed Turing Test, to evaluate whether a machine could mimic human-like intelligence through natural language communication (Turing, 1950). Despite decades of attempts, most AI systems failed this test. However, in 2024, researchers from the Stanford School of Humanities and Science conducted studies confirming that the latest version of ChatGPT, namely ChatGPT-4, operates in a manner consistent with human behaviour, with the distinction of exhibiting significantly more altruistic and cooperative behaviour (Jackson et al., 2024).

Definitions of AI vary widely. McCarthy described it as the science and engineering of creating intelligent machines (McCarthy, 2007). Since then, many definitions have emerged, emphasizing aspects such as learning (Castelvecchi, 2016) and the ability to mimic human skills and competencies (Brynjolfsson et al., 2017). Currently, the literature on research in this field presents various perspectives and definitions depending on the areas of study. There is still no single, universally agreed-upon definition of artificial intelligence. As Jiang et al. (2022) have noted, artificial intelligence has permeated our daily lives and begun to play a transformative role in areas such as education, transportation, industry, healthcare, and many others. AI has become a significant factor in driving socio-economic changes globally and has contributed to the rapid development of modern technologies that support scientific research across various fields. According to Gams et al. "artificial intelligence, also known as machine intelligence, is the intelligence demonstrated by machines as opposed to the natural intelligence exhibited by humans and other animals. Artificial intelligence, therefore, performs human cognitive functions such as perception, processing of input data from the environment, and learning" (Gams et al., 2019). Berente et al. proposed define AI „as the frontier of computational advancements that references human intelligence in addressing ever more complex decision-making problems" (Berente et al., 2021, Engström et al., 2024). The authors indicate that they perceive intelligence more as a process rather than a phenomenon. Sheikh et al. (2023) add that, in its most precise definition, AI represents the replication of human intelligence by computers.

2.2. ChatGPT in Education Context

Generative artificial intelligence (Generative AI) is increasingly gaining significance in both various industrial sectors and education. According to the definition provided by Feuerriegel et al., generative AI refers to computational techniques capable of creating new, meaningful content, such as text, images, or audio, based on provided training data. Examples of such tools include Copilot, DALL-E, and ChatGPT (Feuerriegel et al., 2024).

ChatGPT operates as a conversational agent that employs large language models (LLMs). The acronym GPT stands for Generative Pre-Trained Transformer, representing a series of language models created by OpenAI and trained on extensive datasets sourced from the Internet (Gimpel et al., 2023). This cutting-edge technology, quickly gained a huge number of users, exceeding one million in the first week (Caldarini et al., 2022; Farhi et al., 2023). The term "conversational agent" refers to software that utilizes natural language to interact with users, either textually (as chatbots) or vocally (as virtual assistants) (Gimpel et al., 2023; McTear et al., 2016). Dwivedi et al., point out that an AI tool such as ChatGPT generates texts that cannot be distinguished from text written by a human (Dwivedi et al., 2023).

ChatGPT, as a tool utilized by participants in higher education, offers substantial capabilities. For students, it can become an indispensable resource due to its numerous advantages: it is user-friendly and accessible, and it possesses broad applicability across various

academic disciplines. This makes it highly valuable for a range of tasks such as language translation, grammatical correction, writing assignments, calculations, text summarization, and explanation. Conversely, this tool can also aid lecturers in managing written work, generating ideas for exercises, creating presentations, and identifying discussion topics for classes. Furthermore, it can serve as support for research and administrative tasks (Atlas, 2023; Gimpel et al., 2023). According to Kasneci et al. (2023), large language models like ChatGPT in higher education enhance the process of generating summaries and outlines, enabling students to swiftly apprehend core concepts and systematically structure their writing. Furthermore, they play a significant role in advancing research skills by offering comprehensive information and resources on designated topics, identifying underexplored areas, and pointing out prevailing research trends. This support aids students in achieving a more profound understanding and critical analysis of the subject matter.

The use of ChatGPT enhances productivity and student life satisfaction by providing comprehensible and relevant answers. However, limitations related to response bias, limited knowledge, and lack of emotional intelligence pose significant challenges to building trust and student engagement (Rehman et al., 2024). Another challenge concerns academic integrity, including plagiarism and cheating, emphasizing the need for institutions to develop guidelines for the ethical use of AI in education (Rejeb et al., 2024). Cotton et al. (2024) highlight concrete cases of plagiarism and academic dishonesty involving ChatGPT, emphasizing that such tools can be easily misused as a form of contract cheating. This poses serious challenges for maintaining integrity in academic assessment. Their findings underline the urgency of developing clear policies and student guidance on the ethical boundaries of AI use in academic work. In the interest of education, it is crucial to integrate ChatGPT rapidly into teaching processes, educate students on its proper usage, and prepare them for a future involving AI technologies (Mennella, 2024).

The Technology Acceptance Model (TAM), developed by Davis (1989), posits that two key factors — perceived usefulness and perceived ease of use — determine users' acceptance of new technologies. In the context of AI tools such as ChatGPT, these dimensions play a crucial role in shaping students' attitudes and intentions to adopt such tools in educational settings. Almogren et al. (2024) applied TAM to the case of ChatGPT and found that perceived ease of use and usefulness significantly influence positive user attitudes, while factors such as feedback quality, evaluation practices, and social norms further affect students' intention to use the tool. Similary, Rejeb et al. (2024), using web mining and natural language processing (NLP) techniques, highlight that ChatGPT is a vital educational tool supporting dynamic and interactive learning environments. Furthermore, Shloul et al. (2024) assessed the impact of activity-based teaching and the use of ChatGPT on students' academic performance. Their findings show that activity-based teaching increases engagement, motivation, and critical thinking skills, leading to better academic outcomes. Additionally, the integration of ChatGPT

supports active learning by offering new opportunities for interactive learning and personalized assistance, aiding in the understanding and exploration of complex concepts.

In Table 1, the findings of selected studies on the role of ChatGPT in education are summarized, highlighting its benefits and challenges. ChatGPT has been shown to enhance productivity, communication skills, programming comprehension, critical thinking, and academic performance. It also offers personalized support, fostering engagement and satisfaction among students. However, challenges such as ethical concerns, trust issues, and the need for clear usage guidelines remain. Factors like perceived usefulness, ease of use, and social influence affect its adoption, while cultural and personal factors, including morality and religion, shape attitudes toward the tool. Research on ChatGPT in higher education spans countries such as the United Arab Emirates, Peru, Saudi Arabia, Vietnam, and Norway, reflecting its global relevance.

Table 1.
Summary of studies on ChatGPT in education

Authors	**Year**	**Country**	**Sample Size**	**Key Findings**
Farhi et al.	2023	United Arab Emirates	388	ChatGPT transforms education, enhancing productivity and creativity, but raises ethical and dependency concerns. Students in the UAE highlight its potential and risks, urging clear guidelines to balance innovation and integrity.
Ngo	2023	Vietnam	200	Students appreciate ChatGPT's ability to save time and offer personalized tutoring, enhancing academic engagement. However, concerns about source reliability, ethical usage, and the need for clear usage guidelines remain pivotal for its adoption.
Singh et al.	2023	United Kingdom	430	High awareness of ChatGPT exists among students, yet its academic use remains limited. Concerns about ethical usage and unclear university policies highlight the need for explicit guidelines and integration into educational frameworks.
Acosta-Enriquez et al.	2024	Peru	595	Cognitive and affective components significantly shape attitudes toward ChatGPT among students. Behavioral intentions arise from cognitive beliefs and emotional responses, while gender and age exhibit minimal moderating effects.
Rehman et al.	2024	Saudi Arabia	305	ChatGPT improves productivity, engagement, and academic satisfaction by enhancing accessibility and supporting unique learning experiences. However, trust concerns arise due to biases, limited emotional intelligence, and incomplete knowledge.
Jalon et al.	2024	Philippines	82	ChatGPT aids Python programming learning by enhancing comprehension, efficiency, and student satisfaction. However, it shows limitations with complex tasks. No significant exam score differences were found between users and non-users, promoting balanced adoption.

Cont. table 1.

Sundkvist, Kulset	2024	Norway	99	ChatGPT is perceived as useful and trusted for academic purposes, particularly for course-specific questions. However, social influence and trust issues affect its adoption, especially in accounting contexts, with varied acceptance across disciplines.
Chellappa, Luximon	2024	India	149	Design students find ChatGPT engaging and easy to use, appreciating its capabilities for generating ideas and learning. However, UXD students struggle with prompt formulation, highlighting the need for tailored educational integration.
Elbaz et al.	2024	Oman	312	ChatGPT adoption enhances academic performance among business students, driven by perceived usefulness and ease of use. Personal morality and religion-based ethics moderate its use, emphasizing the need for ethical guidelines.
Youssef et al.	2024	United Arab Emirates	353	ChatGPT significantly enhances student engagement, critical thinking, and academic achievement by providing personalized, interactive support. Its integration into education fosters motivation and promotes deeper learning among students in UAE universities.

Source: author's own compilation from multiple studies.

The use of ChatGPT by students is an emerging area of research, gaining increasing attention among academics who encounter this technology both as educators and researchers. Although some aspects have been explored, further analysis is needed to understand how acceptance and perception may evolve over time and how cultural contexts influence its integration into education.

3. Materials and methods

The main objective of the study is to identify how students utilize ChatGPT for academic purposes. Specifically, the study aims to verify the various activities for which students employ ChatGPT, analyze their motivations for using the tool, and assess their attitudes towards ChatGPT technology. This includes evaluating their trust, sense of security, perceived reliability, and the impact of ChatGPT on their creativity and critical thinking skills. Additionally, the study seeks to examine the educational needs of students regarding the effective use of ChatGPT in a university setting.

To obtain the results, a survey method was applied using the CAWI (Computer-Assisted Web Interview) technique. The study was conducted in April and May 2024 among students of the Faculty of Management at the University of Gdańsk. The sample consisted of 260 respondents, exclusively full-time students (both undergraduate and graduate). In this study, the selective quota sampling procedure was employed. The characteristics of the respondents are presented in Table 2.

Table 2.
The respondents' demographic data by gender and age

Gender										
	Female			Male			Other			Total
no.	174			81			5			260
%	66.9			31.2			1.9			100
Age										
	17	18	19	20	21	22	23	24	25+	Total
no.	1	13	31	54	51	51	32	17	10	260
%	0.4	5	11.9	20.8	19.6	19.6	12.3	6.5	3.9	100

Source: own elaboration.

In the following sections, there are presented research findings that provide insights into how students of the management faculty use ChatGPT and their attitudes toward it across different factors. The analysis focuses on students from the Management Faculty at the University of Gdańsk, studying programs such as management, finance, accounting, information technology and econometrics. These programs were chosen due to their emphasis on tasks related to managing large datasets, which are valuable in business management, finance, marketing and data management in IT or using programming and querying languages. These fields prepare graduates for careers in various business domains and are intrinsically linked with data operation, content creation, and service design.

4. Results

The initial phase of the study focused on verifying whether respondents are using ChatGPT for academic purposes. The findings reveal that an overwhelming majority of respondents (93.8%) utilize ChatGPT in their academic activities, while only 6.2% reported not using the tool.

Thus, the sample for further analysis included only those who use ChatGPT (n = 244). At the time of the study, two versions of ChatGPT were available: GPT-3.5 (free version) and GPT-4.0 (paid version). Students were asked which version of ChatGPT they were using, with an additional option to indicate if they were unsure. The results are as follows: 86.9% use the free version, 7.8% use the paid version, and 5.3% are unsure which version they use (presumably the free version).

It is important to note that ChatGPT is evolving dynamically. At the time the study was conducted, GPT-3.5 was available, but during the analysis of the results, this version was no longer accessible. It is highly likely that future development will bring additional versions with enhanced functionalities. The question regarding the version used aimed to verify whether students opt for a paid subscription, as this may influence their usage patterns. However, the names and features of ChatGPT versions may vary in the future, which is a factor worth considering in subsequent studies.

The frequency of ChatGPT usage for academic purposes was also examined among the students who use the tool. The results are as follows: 4.9% use it daily, 38.9% several times a week, 32% several times a month, 13.5% once a week, and 10.7% less than once a month. This indicates that the vast majority of students use AI support several times a month or several times a week. In the next part, the study examined for which tasks students employ ChatGPT and what their motivations are for using the tool. The results are presented in Table 3.

Table 3.
The structure of the respondents' answers regarding the usage of ChatGPT and motivations for academic tasks

Items	**Yes**		**No**		**Total**	
	answers					
	no.	%	no.	%	no.	%
Activities						
quick information retrieval	177	72.5	67	27.5	244	100
assistance with writing papers and assignments	167	68.4	77	31.6	244	100
support in understanding difficult concepts (easy explanations)	103	42.2	141	57.8	244	100
language correction of texts (writing in a more polished language)	79	32.4	165	67.6	244	100
help with studying (interactive Q&A sessions)	58	23.8	186	76.2	244	100
translating texts into other languages	44	18.0	200	88.0	244	100
I use ChatGPT for academic tasks because…						
I want to minimize the time needed to complete the task	157	64.3	87	35.7	244	100
I want to minimize the effort required for the task	92	37.7	152	62.3	244	100
I want to do the task correctly (avoid mistakes)	124	50.8	120	49.2	244	100
I seek inspiration or refine my ideas to make the task even better	190	77.9	54	22.1	244	100

Source: own elaboration.

The results indicate that the most common use of ChatGPT among students is for quick information retrieval, with 72.5% of respondents using it for this purpose. Assistance with writing papers and assignments follows closely at 68.4%. However, fewer students use ChatGPT for understanding difficult concepts (42.2%), language correction (32.4%), interactive Q&A sessions (23.8%), and translating texts (18.0%).

Regarding motivations, the primary reasons for using ChatGPT are seeking inspiration or refining ideas (77.9%) and minimizing the time needed to complete tasks (64.3%). Half of the students use it to ensure tasks are done correctly (50.8%), while a smaller proportion aims to minimize effort (37.7%). These findings suggest that while ChatGPT is widely used for efficient information retrieval and enhancing the quality of academic tasks, students are also motivated by the desire to save time and improve their work quality.

In the final part of the study, the focus was on assessing students' attitudes towards ChatGPT. This involved constructs such as evaluating their level of trust, sense of security, perceived reliability, and the impact of ChatGPT on their creativity and critical thinking skills. Each construct was measured using one or two items. Additionally, the study aimed to identify the educational needs of students for the effective use of ChatGPT within the university setting.

A five-point Likert scale was used to assess attitudes. Respondents were asked to indicate their level of agreement with statements about using ChatGPT. The results are presented in Table 4.

Most respondents agree that they trust the information obtained from ChatGPT. Over one-third (38.5%) agree or strongly agree with this statement, while 29.1% somewhat disagree or strongly disagree. A neutral stance was expressed by 32.4% of respondents. These results suggest that although there is a certain level of trust, a significant portion of students remain skeptical or neutral. On the other hand, the majority of respondents (44.2%) strongly agree that they verify information obtained from ChatGPT using other sources, and 36.1% agree with this statement. Only 11.5% of respondents do not feel the need to verify information. This indicates a cautious approach by students towards information obtained from ChatGPT and frequent verification of this information through other sources.

Respondents' opinions on privacy and data protection are divided. About 40.2% agree (or strongly agree) that they have no privacy concerns. On the other hand, a similar portion, 37.3%, somewhat disagree (or strongly disagree) with this statement. A neutral stance was expressed by 22.5% of respondents. These results indicate some concerns about privacy and data protection among a portion of the respondents.

Opinions on the reliability of ChatGPT are diverse. Approximately 34.8% of respondents agree that ChatGPT always answers their questions, with an additional 5.7% strongly agreeing with this statement. However, 29.5% somewhat disagree, and 15.2% strongly disagree, indicating significant reservations about its reliability. A neutral stance was expressed by 14.8% of respondents. These results suggest that while many users consider ChatGPT to be reliable, there is a substantial group that harbors doubts.

Most respondents believe that ChatGPT provides new ideas and perspectives. About 47.5% agree, and 24.2% strongly agree with this statement (a combined total of 71.7%). Only 3.7% strongly disagree, and 11.5% somewhat disagree. A neutral stance was expressed by 13.1% of respondents. These results suggest that students perceive ChatGPT as a valuable source of inspiration. On the other hand, 30.3% agree that excessive use of ChatGPT may negatively affect their creativity, and 27.1% strongly agree with this statement (a combined total of 57.4%). About 17.2% somewhat disagree, and 9.4% strongly disagree, indicating some concerns about its impact on creativity. A neutral stance was expressed by 16.0% of respondents. This indicates that despite recognizing ChatGPT as a source of inspiration, there is an awareness and concern about its potential impact on creativity.

Table 4.
Attitudes and perceptions of ChatGPT among students using it for educational purposes

Items	Scale	no. of answers					
		% of respondents' answers					
		aggregated amount of respondents' answers (%)					
		1 - strongly disagree	2 - disagree	3 - neither agree nor disagree	4 - agree	5 - strongly agree	total
Trust							
I trust the information I receive from ChatGPT.	no.	13	58	79	89	5	244
	%	5.3	23.8	32.4	36.5	2.0	100
	%	29.1		32.4	38.5		100
I verify the information obtained from ChatGPT with other sources.	no.	7	21	20	88	108	244
	%	2.9	8.6	8.2	36.1	44.2	100
	%	11.5		8.2	80.3		100
Security							
I have no concerns about privacy and data protection when using ChatGPT.	no.	40	51	55	70	28	244
	%	16.4	20.9	22.5	28.7	11.5	100
	%	37.3		22.5	40.2		100
Reliability							
ChatGPT always answers my questions.	no.	37	72	36	85	14	244
	%	15.2	29.5	14.8	34.8	5.7	100
	%	44.7		14.8	40.5		100
Creativity							
ChatGPT provides me with new ideas and perspectives.	no.	9	28	32	116	59	244
	%	3.7	11.5	13.1	47.5	24.2	100
	%	15.2		13.1	71.7		100
I am concerned that excessive use of ChatGPT may negatively affect my creativity.	no.	23	42	39	74	66	244
	%	9.4	17.2	16.0	30.3	27.1	100
	%	26.6		16.0	57.4		100
Critical thinking							
I am concerned that excessive use of ChatGPT may negatively affect my critical thinking skills.	no.	30	37	39	76	62	244
	%	12.3	15.2	16.0	31.1	25.4	100
	%	27.5		16.0	56.5		100
Education need							
I believe that universities should teach proper usage of ChatGPT.	no.	10	16	49	75	94	244
	%	4.1	6.6	20.1	30.7	38.5	100
	%	10.7		20.1	69.2		100

Source: own elaboration.

Similar to the concerns about creativity, 31.1% of respondents agree that excessive use of ChatGPT may negatively impact their critical thinking skills, with 25.4% strongly agreeing (a combined total of 56.5%). About 15.2% somewhat disagree, and 12.3% strongly disagree. A neutral stance was expressed by 16.0% of respondents. These results also indicate concerns about the potential impact on critical thinking skills. This suggests that users are aware of the potential negative effects of over-reliance on the AI tool.

More than two-thirds of respondents believe that universities should teach the proper use of ChatGPT. Among them, 38.5% strongly agree with this statement, and 30.7% agree. Only 4.1% strongly disagree, and 6.6% somewhat disagree. A neutral stance was expressed by 20.1% of respondents. These results indicate strong support for education in the field of AI.

Summarizing the previous results, the average for all areas was also calculated. If a construct included two items, their average was calculated. For the reverse statements (opposite of the studied feature), the scale was inverted for calculations. The results of these calculations are presented in Figure 1, providing a more precise understanding of respondents' attitudes and opinions towards ChatGPT, allowing for better insights into both the positive and negative aspects of using this tool in education.

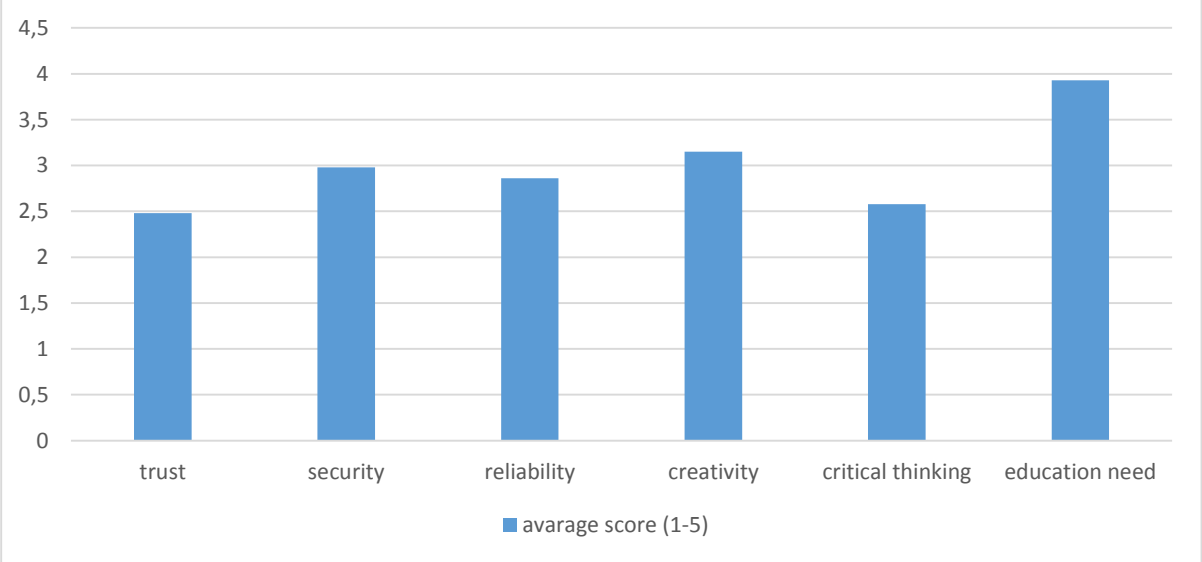

Figure 1. Mean scores of respondents' attitudes and perceptions toward ChatGPT.
Source: own elaboration.

In the graph, the X-axis represents the evaluation categories, while the Y-axis shows the mean score on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). An analysis of the mean scores for individual constructs shows diverse student attitudes towards ChatGPT. The highest mean was for the construct regarding the need for education (3.93), indicating a strong belief among students that universities should teach the proper use of ChatGPT. Creativity scored a mean of 3.15, suggesting that students see ChatGPT as a valuable source of inspiration and new ideas. On the other hand, trust (2.48), security (2.98), reliability (2.86), and critical thinking (2.58) scored lower. These results indicate some concerns among students about these aspects. The lowest mean was for the trust construct, suggesting that students are not fully convinced of the reliability of the information obtained from ChatGPT.

5. Discussion

The findings of this study align with the growing body of research highlighting the transformative potential of ChatGPT in higher education. Consistent with previous studies, the results indicate that ChatGPT is widely used by students for various academic tasks, including quick information retrieval, writing assistance, and idea generation. The high adoption rate of ChatGPT observed in this study (93.8% of respondents) mirrors findings by Farhi et al. (2023) and Singh et al. (2023), who documented similar enthusiasm for generative AI tools among students.

One significant contribution of this study is the detailed analysis of student motivations for using ChatGPT. Most respondents cited time efficiency and task quality improvement as primary drivers, reflecting trends identified by Rehman et al. (2024), who noted that ChatGPT enhances productivity and satisfaction. This focus on efficiency aligns with the observed preference for features such as quick information retrieval and personalized assistance.

These findings can be interpreted through the lens of the Technology Acceptance Model (TAM), which emphasizes perceived usefulness and perceived ease of use as critical determinants of user acceptance. The high percentage of students who use ChatGPT to minimize task time (64.3%) or improve outcomes (50.8%) reflects strong perceived usefulness. Similarly, widespread use for idea generation (77.9%) suggests that students find the tool easy and intuitive to use, reinforcing TAM's second key construct - perceived ease of use.

However, the study also highlights several challenges associated with ChatGPT's use in education. Concerns about trust, reliability, and its potential impact on critical thinking and creativity were evident among respondents. These findings are consistent with previous literature (Rehman et al., 2024; Sundkvist & Kulset, 2024), which emphasized that while ChatGPT offers significant advantages, its limitations—such as biased responses and over-reliance—pose challenges for educational integrity and student development. Notably, over half of the respondents in this study expressed concerns about ChatGPT's effect on creativity and critical thinking, corroborating the cautionary insights of Mennella (2024).

The dynamic nature of ChatGPT adoption necessitates further research, especially given potential differences across countries, types of institutions (technical, artistic, medical), fields of study, as well as demographic factors such as gender and age. Cultural nuances and institutional contexts may significantly influence how students and educators perceive and utilize AI tools, as supported by Elbaz et al. (2024) and Acosta-Enriquez et al. (2024). Addressing these dimensions can help in tailoring effective educational strategies.

The findings also underline the importance of structured educational initiatives. A strong majority of respondents advocated for universities to teach the proper use of ChatGPT, highlighting the need for structured guidelines and educational interventions. This aligns with the recommendations of Almogren et al. (2024), who emphasized the role of comprehensive

training programs in ensuring the responsible use of generative AI in education. Additionally, equipping university staff with the necessary digital skills to stay ahead of technological trends—particularly given the proficiency of Generation Z in navigating these tools—is a pressing challenge that requires institutional attention.

Furthermore, the study points to both benefits and risks associated with ChatGPT in education. Benefits include individualized learning, self-checking, and accelerated processes, while risks involve cybersecurity threats, data privacy concerns, and intellectual property issues. Questions about the long-term implications of using such tools, including their potential to undermine creativity and critical thinking, remain open. These findings echo the need for balanced integration of ChatGPT, as its short period of availability limits comprehensive evaluation of its long-term impact.

6. Conclusion

This study contributes to the understanding of ChatGPT's role in higher education, providing insights into student usage patterns, motivations, and perceptions. The high adoption rate of ChatGPT demonstrates its utility as a versatile tool for academic purposes, offering benefits such as enhanced productivity, improved learning outcomes, and personalized support. However, challenges related to trust, reliability, and the potential impact on creativity and critical thinking highlight the need for a balanced approach to integrating generative AI in education.

The findings also underscore the significant need for education on the ethical and effective use of AI tools. To address this, educational institutions should take proactive steps to equip students with the necessary skills and knowledge for responsible AI use. These measures could include organizing workshops on the ethical application of ChatGPT and other generative AI technologies, as well as implementing policies to regulate their use in academic assessments, such as exams. By acknowledging both the potential and limitations of these technologies, universities can foster a balanced and conscious approach to integrating AI into education. To put these recommendations into practice, institutions could introduce pilot projects where ChatGPT is used under supervision in selected courses, offer training for educators on how to use AI responsibly in teaching, and review assessment formats to better support originality and critical thinking. These steps may help ensure that AI is used in a way that supports learning while protecting academic values.

Concrete risks have already appeared in academic contexts, including the use of ChatGPT to generate entire essays without proper attribution, which raises concerns about plagiarism. Another issue is the spread of false or misleading information caused by AI hallucinations - situations where the model produces content that sounds convincing but is factually incorrect

or entirely fabricated. These challenges show how important it is to teach students to think critically about AI-generated content and understand when it supports learning and when it replaces their own work.

Addressing these challenges requires a multi-faceted strategy. Universities should focus on developing clear institutional guidelines and good practices, as well as offering training programs for faculty members to help them effectively incorporate AI into teaching and stay ahead of technological advancements. Furthermore, the potential for ChatGPT to reshape traditional assessment methods—such as essay writing or case study analyses—underscores the need for innovation in academic evaluation.

Future efforts should also explore the dynamic and context-specific aspects of ChatGPT adoption, considering differences across cultures, institutions, and disciplines. Additionally, longitudinal studies are needed to assess whether the benefits of ChatGPT outweigh its risks in the long term. By fostering informed and responsible use of ChatGPT, educational institutions can harness its potential to support meaningful learning experiences while mitigating its risks.

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