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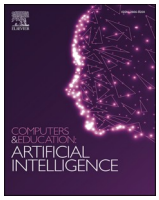

Analyzing the students' views, concerns, and perceived ethics about chat GPT usage

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ABSTRACT

Artificial Intelligence has greatly revolutionized education in many aspects. Today, AI-enabled language models, such as ChatGPT, are gaining popularity due to their characteristics and benefits. However, users also consider them a threat to educational integrity and purposes. This research examined ChatGPT usage among students in the United Arab Emirates (UAE), their views, concerns, and perceived ethics. The data was gathered from 388 students from two universities in Al Ain city using Yamane's formula. Findings showed that students consider ChatGPT a revolutionary technology that helps students in many ways. The gathered data showed that the effect of ChatGPT Usage remained significant on students' views. The path analysis also supported the second hypothesis, proposing the significant effect of ChatGPT on Students' Concerns. Finally, the findings also indicated the validation of the final hypothesis, showing the significant effect of ChatGPT Usage on the Perceived Ethics among the students in the UAE. Therefore, this study concluded that using ChatGPT in education has useful and concerning effects on educational integrity. However, implementing practical guidelines can assist in making informed decisions and shaping policies within educational institutions. Recognizing the complexities and importance of ChatGPT usage, teachers and policymakers can keep a balance by leveraging Artificial Intelligence technology to improve education while upholding ethical practices that promote critical thinking, originality, and integrity among students.

1. Introduction

Students in higher education institutions regulate their educational and personal lives in a technology-enhanced environment, primarily based on Artificial Intelligence (AI). For instance, as a part of Artificial Intelligence, Natural Language Processing (NLP) has led to the creation of state-of-the-art virtual assistance and chatbot understanding and generating human language (Farrokhnia et al., 2023). Here, Holmes and Tuomi (2022) cited an example of students switching to digitalized learning platforms. Artificial Intelligence is incorporated to guide, help, and assist students in customizing their learning experiences. Today, students have increased access to Artificial Intelligence-enabled writing tools, facilitating them with real-time feedback and correction options regarding grammar, punctuation, and expression. Besides, these tools also help them to revise the sentence structure, word tone, and choice and improve the overall quality of their writing material. These tools also contain chatbots providing self-studying suggestions, enabling them to approach information, acquire answers to their question, and avail problem-solving AI-enabled solutions. According to Caldarini et al. (2022), one of the significant aspects of Artificial Intelligence education is the significant capability to improve students' learning experiences, provide them with personalized support, and enhance their academic performance. As a result, higher education institutions across the globe are preferring, adopting, and integrating AI-enabled writing tools, plagiarism-checking technology, automated assessments, and AI-powered learning and curriculum analytics to avail maximum

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benefits.

Similarly, ChatGPT, as a recent phenomenon, has gained much attention and has been adopted among the higher education systems. According to Susnjak (2022), ChatGPT is an exceptional chatbot, which stands for Chat Generative Pre-trained Transformer, and emerged as one of the most influential AI-driven chatbots. However, despite the popularity and adoption of ChatGPT in the education arena, researchers have raised concerns about its use and ethics. As Rudolph et al. (2023) noted, the utilization of ChatGPT in education and academia has flared a serious discussion covering the prospects and risks associated with Artificial Intelligence technologies. The introduction of ChatGPT has kindled debates about its implications. Supporters of ChatGPT emphasize its ability to improve education through features, i.e., adaptive and personalized learning environments. Some scholars (See Qadir, 2022) voice concerns about the ethical considerations surrounding ChatGPT and its possible negative impact on assessment practices, students' higher-order thinking skills, and scientific integrity. As Welding (2023) argued, the opinions about ChatGPT use and ethics vary and cannot be ultimately decided on its utmost status as a major language and writing model. As a result, a strain of students and institutions consider it ethical, while many consider it a threat to educational integrity and purpose, indicating a dilemma regarding its Usage.

2. Research gap and objectives

Today, ChatGPT has become a strong consideration for educational institutions and students. Besides, it has shifted from a non-profit organization to a commercial business model, having several implications for the users. Talking specifically about ChatGPT in education, several studies have investigated the factors behind its usage (Annamalai et al., 2022; Ibrahim Zakarneh et al., 2021), preliminary discussion of ChatGPT as a language model and main ethical concerns about its use in different fields (Kasneci et al., 2023; Sok & Heng, 2023; Tlili et al., 2023). However, these studies are based on some specific regions. Besides, existing studies on ChatGPT in the United Arab Emirates focused only on the other domains regarding ChatGPT usage (Halaweh, 2023; Tlili et al., 2023), including ChatGPT integration in the classroom environment for student achievement purposes (Allam et al., 2023), indicating a gap in addressing ChatGPT from students' perspectives including ethics and concerns. Current research fills these two gaps and examines students' opinions from the United Arab Emirates. The primary aims of this research study are to examine (i) students' knowledge and opinion about ChatGPT use, (ii) Students' concerns regarding ChatGPT use for educational purposes, and (iii) the ethics students perceive as important when they intend to use ChatGPT. Thus, this research is divided into different sections. The first section provides an overview of the introduction and statement of the problem, further narrowing down study gaps and aims. The second section involves citing and discussing the supportive literature and theory. The third section highlights the most suitable methodological approaches employed in this research. The fourth section involved data analysis and results, while the fifth section discussed the results, implications, and limitations.

3. Review of literature

This section discusses and highlights the literature concerning ChatGPT technology and its Usage in educational arenas. The cited literature discussed ChatGPT based on the studies witnessing its applicability, usability, and concerns related to education. The relevant discussion further led to narrowing down the topic, and study hypotheses and conceptual framework were proposed accordingly.

3.1. An overview of ChatGPT technology

ChatGPT was released to the public on November 30th, 2022, as a cutting-edge AI tool swiftly achieving an exceptional number of subscribers, surpassing one million within its first week (Caldarini et al., 2022). ChatGPT uses an extensive dataset of human conversations for practicum using the OpenAI language model. Consequently, it can regulate complex tasks and develop responses that resemble human speech. ChatGPT comprehends and processes natural language, producing highly refined and accurate responses using deep learning techniques (Susnjak, 2022). ChatGPT uses different language models; they are designed on extensive datasets to anticipate the next words in a sentence, further leading to compelling, coherent, human-like results in response to a statement or question. ChatGPT contains 300 billion words comprising 570 GB of data, with over 175 billion parameters (United Nations EducationalScientific and Cultural Organization, 2023). According to Shahriar and Hayawi (2023), despite Google and Meta having also developed their language models, ChatGPT remained the most popular one. Open AI is a revolutionary move, providing the public with increased access to use and experience its use personally. Quintans-Júnior et al. (2023) further stated that ChatGPT is based on transformative architecture. An essential aspect of ChatGPT is its learning capability from the users based on their feedback for further training and modification as human AI trainers aid by providing conversation in which both the AI assistant and the users are represented. Besides, AI trainers also provide the system with written suggestions to facilitate them in writing their proposals more effectively, generating a dialogue format (Farhi et al., 2022; Jeljeli et al., 2022).

3.2. ChatGPT in education

A survey study by BestColleges, United States (Appleby, 2023), examined the students' views and concerns regarding ChatGPT use. Results showed that more than half of college students considered using ChatGPT to complete assignments and exams as cheating. Contrarily, 20% of the students opposed this notion, while the remaining students (30%) disagreed. The survey also revealed that 43% of students had prior experience using AI tools, and half admitted reliance on them for their assignments and exams. In simple words, approximately 1 in 5 college students revealed utilizing AI to assist them in completing their tasks and projects. Students who used ChatGPT did so for personal projects, out of curiosity, and for entertainment purposes.

Generative AI models have attracted the public's attention and attraction due to their exceptional ability to generate content that resembles human-created content. Two well-known examples of these models are ChatGPT and DALL-E, released by OpenAI in 2022 (Sallam, 2023), which are based on GPT architecture and have obtained widespread popularity. ChatGPT has exhibited exceptional performance in different application domains, such as generating coherent content and essays, answering as a chatbot, decrypting languages, responding to questions, and assisting with programming code. Existing research also indicates the developers' utmost concern in fine-tuning these Language Models (LLMs) for specific tasks and exploring their prospect for transfer learning in new domains. As a result, both learners and teachers can benefit from ChatGPT for different academic and research objectives. Students can obtain help from ChatGPT in solving intricate problems, answering questions, writing essays, and understanding specific topics, further accelerating their learning process. Also, ChatGPT can provide support for programming-related questions, allowing students to improve their programming skills (Rahman & Watanobe, 2023) (P.2). According to Adiguzel et al. (2023), ChatGPT offers various opportunities to learners, including the enhancement of intrinsic learner motivation, enabling a deeper understanding of concepts and the evolution of expertise. Automation is important in fast lesson design, allowing educators to develop engaging and compelling learning material more efficiently. Also, the development of assessment strategies is improved, with many institutions opting for verbal exams, teamwork, and handwritten inspections. This transition in assessment techniques underlines the evaluation of prompts and the recombined outcome, signifying the

knowledge creation and the connection between creative and critical thinking. Based on the cited literature, it is hypothesized that:

H1. ChatGPT Usage significantly affects Students' Views.

3.3. Concerns about ChatGPT use in education

Despite ChatGPT offering several prospects, its use in the academic realm presents its concerns and challenges. One major fear is the possibility of AI systems strengthening preexisting bias and discrimination within research and education. Also, there is a potential risk of AI systems being manipulated or tampered with, leading to unreliable or biased outcomes (Kooli, 2023). A literature review-based study by Lo (2023) discussed the understanding of ChatGPT's abilities in various subject domains, its probable applications in education, and the concerns raised by researchers during the initial three months of its release. The findings indicated that ChatGPT's performance varied across different subject domains, with remarkable results observed in disciplines, i.e., economics, satisfactory programming outcomes, but unsatisfactory mathematics performance. ChatGPT holds commitment as an assistant for instructors, aiding in developing course materials, providing suggestions, and serving as a virtual tutor for students, helping answer questions and fostering teamwork. However, its use also presented challenges, i.e., the generation of incorrect or falsified information and the capability to deter plagiarism detection systems. Hence, it is hypothesized that:

H2. ChatGPT Usage significantly affects Students' Concerns.

3.4. ChatGPT Usage and Perceived Ethics

According to the current research (Zhu et al., 2023), ChatGPT use can improve learning experiences by providing personalized assistance, enabling access to information, and promoting critical thinking skills. They argue that ChatGPT can be a practical tool for students to modify their writing, research, and problem-solving abilities when used responsibly. Nevertheless, sceptics raise apprehensions about possible overreliance on AI, citing worries about originality, creativity, and the development of independent thinking.

The BestColleges, United States study revealed that 50% of students used ChatGPT for only a portion of the work while completing the majority themselves. Furthermore, 30% of the students relied on ChatGPT for most of their assignments, and 17% used it to complete a project, submitting it without making revisions (Appleby, 2023). Another study by Sallam (2023) examined the use of ChatGPT in medical education. Results from the review approach revealed that some primary concerns linked to ChatGPT use were raised, such as ethics, copyright, transparency, and legal issues. Other considerations included bias, plagiarism, absence of originality, inaccurate content leading to false educational and professional narratives, limited knowledge, incorrect citations, cybersecurity susceptibilities, and the risk of spreading misinformation (infodemics). Thus, Eken (2023) stated that the integration of ChatGPT in education can have ethical challenges, compromising the basic values of education.

Nevertheless, utilizing AI in research, education, and practice also promises advancement. As AI tools continue to develop, it becomes essential for scholars and educators to vigorously engage in critical discussions and philosophical analyses concerning the implications, ethics, and drawbacks linked with including AI in education. Thus, based on the discussed literature, this study proposed the following third hypothesis and indicated the overall conceptualization in Fig. 1.

H3. ChatGPT Usage significantly affects Perceived Ethics.

4. Methodology

This study involved a cross-sectional design, focusing on providing generalizable results from the data gathered within a shorter period (Fetters et al., 2013). The data was obtained by using structured questionnaires. The respondents were approached directly after acquiring formal permission from the selected institutions. Once they provided their informed consent, the questionnaires were distributed. The respondents were also informed that they could quit completing the surveys anytime they wanted without any obligations. The data was later evaluated and coded to proceed with the analyses based on descriptive and inferential statistics.

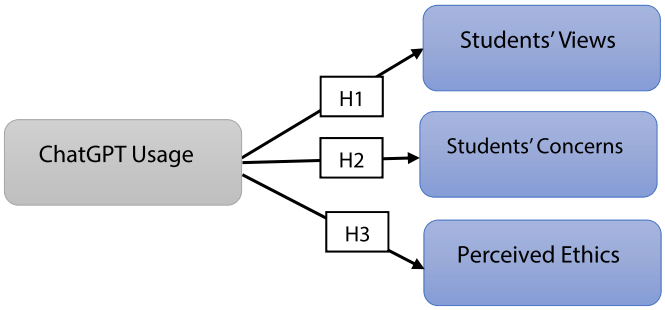

Fig. 1. Conceptual framework.

4.1. Sampling procedures

The target population of the current research involved higher-education level students in Al-Ain City, United Arab Emirates, with a total population of 36,316 students in three universities. Al Ain was selected in the current research as the relevant city is comparatively more digitalized and is the fourth largest city in the Eastern region of Abu Dhabi. However, based on the sample selection as a formal research criterion, two universities were selected for the current research with 13,316 students (Al Ain University, 2022; United Arab Emirates University, 2023). Based on the number of students, the sample size was determined by using Yamane's (Adam, 2020) formula. The relevant formula calculated a total sample size of 388 with the degree of expected error at 0.05 respondents as ideal for current research.

Further, the researchers physically visited both institutions and distributed the questionnaires. However, the researchers selected five departments from each institution, including Media and Journalism, Law, Computer Sciences, Management Sciences, and Pharmaceutical Sciences, for the questionnaire distribution process. Notably, the questionnaires were randomly distributed without any other criteria based on gender, age, study level, and others. The data was gathered from May 2023 to June 15, 2023. After gathering the data, the obtained questionnaires were evaluated, indicating 13 questionnaires as missing and wrongly filled by the respondents. Thus, 375 questionnaires were finalized for further analysis with a response rate of 96.6%, which is greater than the minimum of 60% (Deutskens et al., 2004). The descriptive analysis of respondents' demographics showed that 73.1% of respondents were males and 26.9% were females. 50.9% of them were 1–20 years old, 26.9% were 21–25 years old, 17.6% were 26–30 years old, and 4.5% of respondents were 30 years old or above. Concerning the study year of the respondents, 50.4% were at the undergraduate level, 25.9% were Postgraduate level students, 21.1% were Graduate level students, and 2.7% were Doctorate level scholars. Finally, 38.7% of respondents had pharmaceutical sciences as their primary, 37.3% were from Management Sciences, 15.2% were from Computer Sciences, 4.8% were from Law, and 4.0% were from Media and Journalism sciences. Table 1 indicates the detailed descriptives of respondents' demographic profiles.

4.2. Measurement tool

The measurement tool in the current research was designed by

Table 1
Demographic profile of study respondents.

Variables	Category	N	%	*M*	*SD*	*VAR*
Gender	Female	101	26.9	1.73	.444	.197
	Male	274	73.1			
Age	17–20	191	50.9	3.143	.969	.940
	21–25	101	26.9			
	26–30	66	17.6			
	30 and above	17	4.5			
Study Year	Undergraduate	189	50.4	1.80	.913	.835
	Graduation	79	21.1			
	Postgraduation	97	25.9			
	Doctorate	10	2.7			
University Major	Media	15	4.0	4.01	1.04	.109
	Law	18	4.8			
	Computer Sciences	57	15.2			
	Management Sciences	140	37.3			
	Pharmacy	145	38.7			

adopting measures and scales from preexisting studies, mainly survey-based empirical literature. The questionnaire was divided into five sections. The first section comprised questions regarding respondents' demographics, while the other four were based on measuring primary constructs. Following are the details of questionnaire items, their sources, and results of construct reliability to ensure the generalizability of study outcomes (Artioli & Kashiwagura, 2010). Table 2 summarizes the items, sources, and results of their reliability analysis. The predictor construct of the current research was "**ChatGPT Usage**."In their study, the relevant constructs are measured by Haleem et al. (2022), providing a primary idea regarding the popular opinion of ChatGPT users. Current research also measured ChatGPT usage by adopting five items from the study by Haleem and their colleagues. The composite reliability analysis of the constructs revealed the Composite Reliability value at 0.837 (>0.7) and Cronbach Alpha value at 0.756 (>0.7). The construct " **Students' Views**" was measured by adopting items from the study by Haleem et al. (2022). The researchers adopted five measurement items and designed a Five-point Likert scale. The composite reliability analysis of the constructs revealed the Composite Reliability value at 0.881 (>0.7) and Cronbach Alpha value at 0.831 (>0.7). "**Students' Concerns**" was measured by adopting survey items from the study by Welding (2023). Notably, Welding was surveyed in Best Colleges USA to examine the students' views about ChatGPT usage for educational purposes. A total of six items were selected for the current research. The composite reliability analysis of the constructs revealed the Composite Reliability value at 0.799 (>0.7) and Cronbach Alpha value at 0.746 (>0.7). Further, "**Perceived Ethics**" for ChatGPT usage was examined by adopting survey items from the study by Malmström et al. (2023). Five measurement items were selected and employed after formal edits in the current research. The composite reliability analysis of the constructs revealed the Composite Reliability value at 0.830 (>0.7) and Cronbach Alpha value at 0.749 (>0.7).

5. Study findings

As the analysis was based on descriptives and inferential statistics, the inferential statistics were employed based on Partial Least Square Structural Equation Modelling (PLS-SEM). In this regard, the convergent validity of the survey instrument was examined by conducting the Confirmatory Factor Analysis (CFA) as a data reduction approach to examine the internal consistency between study variables. Table 3 shows the CFA values for each item. It was found that most of the CFA values remained greater than the minimum threshold value of 0.5 while the Average Variance Extracted (AVE) values were also greater than 0.5 (ChatGPT Usage 0.507, Students' Views 0.599, Students' Concerns 0.508, and Perceived Ethics 0.555). Thus, both criteria indicate that convergent validity is established as the constructs are internally consistent.

Table 2
Measurements items, sources, and reliability of study instrument.

Variables	Measurement Items	Source	CA	CR
ChatGPT Usage	ChatGPT is a cutting-edge trending writing model today. ChatGPT helps students to compose essays and write articles. ChatGPT helps students to translate language and compose poetry. ChatGPT is a formidable tool for increasing human productivity. ChatGPT is a revolution in Natural Language Processing capability. ChatGPT is full of creative ideas to share with students.	(Haleem et al., 2022)	0.756	0.837
Students' Views	ChatGPT provides students with the best possible writing ideas. ChatGPT is an effective problem-solving pathway. ChatGPT can gain knowledge from its human users as a key feature. ChatGPT is important in the education sector as it helps students with gaining answers to their questions. ChatGPT provides students with useful website links for education.	(Haleem et al., 2022)	0.831	0.881
Students' Concerns	It is unethical for students to depend on the ChatGPT tool to write their assignments. I am worried about the dependency on ChatGPT for educational purposes. I am concerned that ChatGPT dependency can destroy the purpose of education. ChatGPT dependence can adversely affect students' critical thinking capabilities. ChatGPT can adversely affect students' creative writing capabilities.	(Welding, 2023)	0.746	0.799
Perceived Ethics	ChatGPT can provide unreliable data, threatening the students' efforts. I refrain from writing the text for assignments to avoid ethical dilemmas. I use ChatGPT only for creative ideas concerning education. ChatGPT should only be used by students with special needs (dyslexic, ASD) Developing ethical guidelines for using ChatGPT is the institution's liability. Using AI-enabled tools should be prohibited in educational institutions.	(Malmström et al., 2023)	0.749	0.830

The goodness of fit is an important measure to determine the convergent validity of measurement tools. According to Mérigot et al. (2010), the relevant criteria help to examine the extent to which the obtained values fit well with the expected values. Table 4 shows the chi-square value was 124.039, the Non-Fit Index value was 0.477, and the Standardized Root Mean Square Value was 0.178, under the

Table 3
Confirmatory factor analysis (convergent validity testing).

Constructs	CFA	AVE	Cutoff Value
ChatGPT Usage	0.805	*0.507*	*> 0.5*
	0.707		
	0.696		
	0.709		
	0.634		
Students' Views	0.772	*0.599*	*> 0.5*
	0.791		
	0.814		
	0.839		
	0.639		
Students' Concerns	0.850	*0.508*	*> 0.5*
	0.500		
	0.486		
	0.411		
	0.794		
	0.665		
Perceived Ethics	0.863	*0.555*	*> 0.5*
	0.798		
	0.612		
	0.671		
	0.562		
	0.415		

Table 4
Goodness of fit.

	Values
RMSEA	0.178
d_ULS	5.438
d_G	1.096
Chi-square	2051.157
NFI	0.477

minimum cutoff value of 0.85 (Sun, 2005), indicating a good fit.

According to Cheung and Wang (2017), discriminant validity should be based on the Fornell Larcker criterion and the Hetreotrait-Monotrait ratio. The current research also examined discriminant validity using both approaches. First, results from Table 5 show no concerns regarding discriminant validity. In simple terms, the calculations indicate no link between the calculated correlations. Besides, the Hetreotrait-Monotrait ratio of ChatGPT Usage was 0.718, Students' Concerns was 0.459, Perceived Ethics was 0.735, and Students' Views was 0.518. Overall, the HTMT values for all the constructs remained less than 0.85 (Rasoolimanesh, 2022), indicating the measurement tool has discriminant validity.

The coefficient of Determination R^2 was determined before testing the structural model in current research. According to Lee et al. (2012), the relevant analysis helps examine predictor variables' predictive power. In simple terms, it helps determine the extent to which predictor variables are causing variance in the endogenous variables. Results showed a 31.7% variance in Students' Concerns, 54.8% in Perceived Ethics, and 54.3% in the Students' Views. Overall, the predictor variable is found to have a moderate level of predictive power (Refer to Table 6).

Finally, the effect of ChatGPT Usage on Students' Views, Concerns, and Perceived Ethics was examined by conducting the path analysis (See Table 7). Path analysis aimed to determine the path values between the predictor and dependent variables and the significance of these effects

Table 6
Coefficients of determination R^2.

	R^2	Strength
Students' Concerns	0.317	Moderate
Perceived Ethics	0.548	Moderate
Students' Views	0.543	Moderate

(Kelcey et al., 2021). According to Kooli (2023), ChatGPT is popular among young students, revolutionizing their learning and interaction with technology. ChatGPT, as an intelligent virtual assistant, provides instant answers to questions, aids research, and assists with homework assignments with its vast knowledge and natural language processing capabilities. Thus, the results of the first study hypothesis **H1: ChatGPT Usage significantly affects Students' Views,** showed that the effect of ChatGPT Usage on the Students' Views was significant with the beta coefficient value β 0.378 and p-value at p > 0.000***. Yang (2023) noted that ChatGPT is a versatile AI language model to aid students in different ways. It can serve as a virtual tutor, providing explanations and assistance in subjects, act as a language practice partner for language learning, offer writing support and feedback, help in research by providing relevant information, act as a stress-relief conversational partner, boost curiosity and exploration of new topics, assist in learning coding and technical skills, help in exam preparation, aid in personal organization and time management, and promote critical thinking through engaging discussions.

Further, the second hypothesis, "**H2: ChatGPT Usage significantly affects Students' Concerns**," was examined. The results indicated that the effect of ChatGPT Usage on Students' Concerns also remained significant, with the beta coefficient value β 0.563 and p-value at p < 0.000***. According to Kasneci et al. (2023), as students increasingly engage with ChatGPT, several concerns emerge regarding its potential unethical use, excessive dependency, and impact on writing and thinking capabilities. An overreliance on ChatGPT for academic tasks could impede critical thinking and creativity, as students may become overly dependent on AI for solutions. Balancing its use with traditional learning methods is needed to promote independent thinking. Also, while ChatGPT can assist in writing tasks, students should only partially depend on it, as it may hamper their writing skills and the development of original thoughts.

Finally, the third hypothesis, "**H3: ChatGPT Usage significantly affects Perceived Ethics"**, was tested and remained statistically significant in the current study (β 0.442 and p-value at p < 0.000***). According to Tlili et al. (2023), the ethics of using ChatGPT in educational settings involve multifaceted considerations. Refraining from writing text for assignments to avoid ethical dilemmas acknowledges the possibility of plagiarism and academic dishonesty. Using ChatGPT solely for generating creative ideas about education can be a positive approach as it promotes original thinking and prevents overreliance. Limiting its use to students with special needs recognizes the probable benefits of providing tailored support. However, developing comprehensive ethical guidelines for ChatGPT usage falls under the students and the institution's responsibility to ensure responsible and fair use. Therefore, results also indicated that the path between ChatGPT Usage and Students' Concerns was the strongest, while the path between ChatGPT Usage and Perceived Ethics was the second strongest. The path between ChatGPT Usage and Students' Views was the weakest. Overall, the

Table 5
Discriminant validity analysis.

	ChatGPT Usage	Concerns	Perceived Ethics	Students' Views	Hetreotrait-Monotrait ratio
ChatGPT Usage	0.712				0.718
Students' Concerns	0.563	0.713			0.459
Perceived Ethics	0.442	0.665	0.745		0.835
Students' Views	0.378	0.585	0.569	0.774	0.518

Table 7
Path analysis, regression weights.

Relationships	β	*t*-statistics	*P*-value	Mean	SD	Confidence Interval	
						2.50%	97.50%
ChatGPT Usage → Students' Views	0.378	6.256	0.000***	0.470	0.044	0.655	0.827
ChatGPT Usage → Students' Concerns	0.563	16.536	0.000***	0.735	0.056	0.434	0.653
ChatGPT Usage → Perceived Ethics	0.442	9.658	0.000***	0.541	0.075	0.330	0.625

$p < 0.00$ -> $p < 0.5$ (Accepted).

results remained supportive and indicated ChatGPT Usage's significant effect on Students' Views, Concerns, and Perceived Ethics. Table 7 shows the results of the path analysis.

6. Discussion

This research study has considerable importance due to its special focus on ChatGPT's Usage in education from the view of students in the United Arab Emirates (UAE). While existing literature has examined the different aspects of ChatGPT, i.e., the language model and ethical concerns, this study addresses a crucial gap by filing in on students' opinions, concerns, and ethical considerations about its Usage for educational purposes. By focusing on this precise demographic within the UAE, this research provides localised insights and offers a more extensive understanding of the effect of ChatGPT in an educational context. This research study's sample selection and methodology are well-considered and aptly aligned with the research objectives. By focusing on higher-education level students in Al-Ain City, United Arab Emirates, the researchers relied on a specific demographic that directly relates to the study's aims. This purposeful selection ensures that the data gathered provides detailed insights into the perspectives and attitudes of students toward ChatGPT usage in an educational context. The research method was based on the cross-sectional design that involved data gathering using structured surveys, which were further analyzed using Partial Least Square-Structural Equation Modeling.

Thus, the rigorous approaches to gathering data and analysis instilled confidence in the reliability and applicability of the study's findings. Therefore, the path analysis supported all the research hypotheses, indicating the importance, concerns, and perceived ethics regarding ChatGPT among Emirati students. The first study hypothesis was "**ChatGPT Usage significantly affects Students' Views**," which remained validated. It was found that students consider ChatGPT as an advanced writing model that promotes different tasks such as composing essays, translating language, and even composing poetry. They view it as a transformative tool that significantly improves human productivity and significantly advances Natural Language Processing (NLP) capabilities (Haleem et al., 2022). This perspective aligns with the results of the study by Adiguzel et al. (2023), which similarly emphasize ChatGPT's crucial role as an indispensable writing aid for students across various writing endeavours. Also, students see ChatGPT as a robust resource that encourages their productivity and generates high-quality written content, offering practical guidance and fostering creative expression. The second hypothesis," **ChatGPT Usage significantly affects Students' Concerns**," also remained significant in the current study. Based on the students' views about ChatGPT usage, the results also showed that students favour using ChatGPT for educational applications.

Nevertheless, they also expressed concerns regarding the ethical considerations associated with its use. It is important to note that this study centres around using ChatGPT among students, affecting their formation of opinions, identifying concerns, and establishing ethical guidelines for its educational use. ChatGPT use raises concerns among its users, as study respondents also argued that it is ethically problematic for students to depend heavily on ChatGPT for composing their assignments. They expressed concerns regarding the potential over-reliance on ChatGPT for educational tasks, as Welding (2023) highlighted in their study. As argued, depending on ChatGPT may damage the fundamental objectives of education, potentially negatively impacting students' critical thinking and creative writing skills.

Finally, the third hypothesis was "**ChatGPT Usage significantly affects Perceived Ethics**," which was also supported by the path analysis. Malmström et al. (2023) argued that there are several ethical reflections of ChatGPT usage as the users have a clear idea regarding employing ChatGPT to generate educational content to sidestep ethical quandaries. As Chan and Hu (2023) stated, ChatGPT for brainstorming creative concepts related to education is an effective tool today. Now, ChatGPT ought to be reserved for students with specific requirements. Thus, despite the concerns, the positive aspects of ChatGPT also require some ethical consideration. As Welding (2023) suggested, adhering to ethical principles when using ChatGPT for educational objectives is important. This practice supports the integrity of academic pursuits, encourages individual development through autonomous reasoning, supports reasonable Usage of AI technologies, guarantees impartial assessment, prevents excessive reliance on AI, and finally leads to enduring advantages in students' educational journey and future purposes.

6.1. Implications and conclusions

ChatGPT is a relatively new phenomenon that needs much more consideration, so this study offers practical implications for students, teachers, stakeholders, and others. First, this research provides valuable insights into how students perceive and utilize ChatGPT, shedding light on their provocations for using the tool, their experiences, and their concerns regarding its ethical implications. Findings emphasize educators and policymakers to formulate appropriate guidelines and address probable issues. Besides, the construct "Perceived Ethics" concerns include reliance on ChatGPT for critical thinking and negative impacts on creative thinking and writing capabilities. By identifying these ethical concerns, the research would help initiate discussions on accountable use and encourage ethical consideration regarding educational Usage.

Furthermore, the results can serve as useful input for developing policies and guidelines for using AI-enabled tools like ChatGPT in educational institutions. They would further help institutions determine appropriate contexts and restrictions for use, define ethical limitations, and establish frameworks prioritizing students' academic integrity and well-being. Thus, it is concluded that ChatGPT used for educational purposes is both helping and threatening educational integrity. However, introducing practical guidelines can further help inform decision-making and policy development in educational institutions. By recognizing the complexities and implications of ChatGPT usage, teachers and policymakers can work towards creating and sustaining a balance between leveraging Artificial Intelligence technology for educational uses and ensuring ethical practices that promote critical thinking, creativity, and integrity among learners.

6.2. Limitations

Despite this study providing a baseline, empirical reflection of students' ChatGPT use, views, concerns, and perceived ethics, it has some primary limitations. First, this study was conducted in Al-Ain City, UAE,

indicating that the acquired results cannot be generalized to other geographical situations. Future researchers can conduct similar studies in other cities and countries to avail in-depth details from the other geographical regions. The second limitation involves a limited overview of students' concerns, as the preexisting ones have provided an extensive view of students' concerns. However, there can be other different considerations that could be examined. Future researchers can focus on these concerns more extensively to delimit this scope. Finally, this study is based on simple surveys with no theoretical implications for future studies. Researchers can further examine this phenomenon from theoretical perspectives to maximize its implications and theoretical contributions.

Ethical approval

Written informed consent was obtained from the participants of the study. This research is approved by the Research Ethics Committee at Al-Ain University, AL Ain City, United Arab Emirates.

Data availability

The data are available upon reasonable request from the corresponding author.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Study Acronyms

UAE	United Arab Emirates
NLP	Natural Language Processing
AI	Artificial Intelligence
CA	Cronbach Alpha
CR	Composite Reliability
AVE	Average Variance Extracted

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