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ORIGINAL

ChatGPT in the Academic Sphere: Teacher Aspirants' Perceptions of Privacy and Security Across Education Career Programs

ChatGPT en el ámbito académico: Percepciones de los aspirantes a docentes sobre la privacidad y la seguridad en los programas de formación en educación

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ABSTRACT

The integration of artificial intelligence (AI) into education has raised questions about privacy, security, and ethical use, particularly with tools such as ChatGPT. While prior research has focused primarily on students' adoption, limited attention has been given to teacher aspirants' perceptions across education career programs, leaving a gap in understanding future educators' readiness to engage with AI. This study aimed to determine the perceived privacy and security of ChatGPT among teacher aspirants and to examine whether significant differences exist across programs in teacher education. A descriptive-comparative quantitative design was employed, involving 150 respondents enrolled in the Bachelor in Elementary Education (BEED), Bachelor in Secondary Education (BSED), Bachelor in Special Needs Education (BSNED), Bachelor in Early Childhood Education (BECED), and Bachelor in Culture and Arts Education (BCAED) programs. Data were collected through a structured online questionnaire with 14 items on a five-point Likert scale and analyzed via descriptive statistics and one-way ANOVA. The results revealed generally positive perceptions of ChatGPT's privacy (M = 3,44, SD = 0,84) and security (M = 3,42, SD = 0,83). However, uncertainty persisted regarding the safety of sharing personal information. No significant differences were observed across the five programs, indicating shared perceptions regardless of disciplinary background. Notably, consistent with national trends, teacher education remains dominated by female students. The study concludes that while teacher aspirants recognize ChatGPT's benefits, concerns about data privacy and security persist. It is recommended that teacher education programs integrate AI literacy training, with emphasis on data ethics, transparency, and responsible usage, to prepare future educators as both confident and cautious technology users.

Keywords: ChatGPT; Privacy and Security; Education; Programs.

RESUMEN

La integración de la inteligencia artificial (IA) en la educación ha generado interrogantes sobre la privacidad, la seguridad y el uso ético, particularmente con herramientas como ChatGPT. Mientras que investigaciones previas se han centrado principalmente en la adopción de los estudiantes, se ha prestado poca atención a las percepciones de los aspirantes a docentes en los distintos programas de formación, lo que deja una brecha en la comprensión de la preparación de los futuros educadores para interactuar con la IA. Este estudio tuvo como objetivo determinar la percepción de privacidad y seguridad de ChatGPT entre los aspirantes a docentes y examinar si existen diferencias significativas entre los programas de formación docente. Se empleó un diseño cuantitativo descriptivo-comparativo, con la participación de 150 estudiantes de los programas de Licenciatura en Educación Primaria (BEED), Licenciatura en Educación Secundaria (BSED), Licenciatura en Educación Especial (BSNED), Licenciatura en Educación Infantil (BECED) y Licenciatura en

Educación en Cultura y Artes (BCAED). Los datos se recopilaron mediante un cuestionario estructurado en línea de 14 ítems con una escala Likert de cinco puntos y se analizaron con estadísticas descriptivas y ANOVA de una vía. Los resultados revelaron percepciones generalmente positivas sobre la privacidad (M = 3,44, DE = 0,84) y la seguridad (M = 3,42, DE = 0,83) de ChatGPT. Sin embargo, persistió la incertidumbre respecto a la seguridad al compartir información personal. No se observaron diferencias significativas entre los cinco programas, lo que indica percepciones compartidas independientemente del campo disciplinar. Cabe destacar que, en consonancia con las tendencias nacionales, la formación docente sigue estando dominada por mujeres. El estudio concluye que, si bien los aspirantes a docentes reconocen los beneficios de ChatGPT, persisten preocupaciones sobre la privacidad y la seguridad de los datos. Se recomienda que los programas de formación docente integren capacitación en alfabetización en IA, con énfasis en la ética de los datos, la transparencia y el uso responsable, para preparar a los futuros educadores como usuarios tecnológicos confiados pero cautelosos.

Palabras clave: ChatGPT; Privacidad y Seguridad; Educación; Programme.

INTRODUCTION

Artificial intelligence (AI) has increasingly shaped a wide range of domains, including business, health, communication, and particularly education, where its applications and implications continue to attract growing scholarly interest.[1,2,3,4] Among recent innovations, the Chat Generative Pretrained Transformer (ChatGPT) has become one of the most widely recognized AI tools. This large language model is capable of performing complex tasks such as composing essays and speeches, summarizing texts, refining drafts, generating outlines, and even assisting with research and statistical analyses.[5,6,7,8] Because of these features, ChatGPT has become a widely accessible support system for students, including undergraduates, who use the tool to clarify concepts, comprehend materials, and seek academic assistance. Its convenience and immediacy, however, are paired with rising concerns about privacy, data security, bias, and plagiarism, which have led to mixed reactions in higher education. Some institutions have banned its use, citing risks of misinformation and academic dishonesty,[9,10] whereas others have cautiously integrated it into teaching and advising processes, recognizing its potential to guide students in course selection, academic preparation, and career decision-making.[11,12]

Research has explored users' perceptions of ChatGPT across different educational settings and populations. For example, studies have examined the motivation of EFL and ESL students to continuously use ChatGPT,[13] the perspectives of undergraduates and postgraduates in China,[14] and the perceptions of both students and teachers in higher education contexts. [15] Research has also focused on specific disciplines, such as the perceptions of design students in India[16] and the views of STEM teachers regarding ChatGPT.[17] Broader inquiries into AI in education have highlighted its applications in academic writing,[18,19] its role in digital literacy,[20] and the attitudes of educators toward technology integration.[21,22] In the context of the Philippines, a growing body of research has emerged in teacher education, focusing on AI acceptance,[23] attitudes and perceived effectiveness,[24] AI-related anxiety, and [25] attitudes.[26] These investigations confirm the relevance of AI in education while also revealing differences in how it is perceived and adopted across contexts and populations.

However, despite these contributions, there remains a notable lack of focus on teacher aspirants' perceptions of ChatGPT in relation to privacy and security and how these perceptions may differ across education programs. Teacher aspirants are a critical group of interest because they are future educators who influence how AI is modeled, integrated, and regulated in classroom practice. Their views are not only reflections of current student perceptions but also projections of how future generations of learners may encounter and engage with AI in education. Understanding how these aspirants perceive issues of privacy and security in ChatGPT use is essential to ensuring that their future teaching practices embody responsible, ethical, and balanced approaches to technology adoption.

To address this gap, the present study investigated the perceived privacy and security of ChatGPT among teacher aspirants from different education career programs. By examining perceptions across English, science, and mathematics, this study sought to determine whether significant differences exist among groups. In doing so, it provides a more comprehensive understanding of the relationship between AI use and teacher preparation and offers insights that may inform program design, institutional policies, and strategies for the responsible integration of AI in education.

LITERATURE REVIEW

AI Privacy and Security

Privacy is defined as the right to control personal information, whereas security pertains to safeguarding sensitive data from unauthorized access.[27,28] These factors remain critical in shaping user trust and acceptance of artificial intelligence (AI) in education. ChatGPT, as a leading generative AI tool, has been linked to risks

of privacy leakage, unauthorized data use, and exploitation,[29,30] leading some institutions to restrict its use on ethical grounds. [31] Nonetheless, students continue to adopt ChatGPT because of its utility in assignments, writing, and learning support, often weighing its benefits more heavily than its risks.[32] Transparency and explainability have therefore emerged as essential in building trust, as users increasingly demand clarity in data collection, storage, and use.[33,34]

Globally, studies have emphasized both opportunities and challenges. Wang et al.[35] mapped the breadth of AI applications in education, whereas a subsequent meta-analysis by Wang et al.[36] demonstrated that ChatGPT exerts a large positive effect on learning performance and moderately positive effects on learning perception and higher-order thinking, moderated by course type, duration, and learning model. Vieriu et al.[37] confirmed AI's ability to improve outcomes while cautioning against overreliance, privacy threats, and reduced critical thinking. Ismail and Aloshi[38] highlighted the inadequacy of existing laws in addressing privacy issues, calling for robust governance policies and data literacy training. Verboom et al.[39] revealed diverse attitudes among academic stakeholders, stressing the alignment of technology with ethical principles and decent work standards. Mienye et al.[40] outlined the ethical risks of opaque decision-making and biased outputs, recommending explainable AI (XAI) and frameworks for human oversight. Dahabiyeh et al.[41] added empirical evidence that awareness of ChatGPT's privacy policy, including data collection, disclosure, and safeguards, influences usage intentions, mediated by privacy concerns. Rajeb et al.[42] further demonstrated through web mining and NLP analysis that while ChatGPT enhances writing ability and supports interactive learning, it also amplifies the risks of plagiarism, cheating, and ethical misuse, highlighting the need for institutional policies to regulate AI adoption. Synthesizing broader perspectives, systematic reviews such as those of Mai et al.[43] and Adel et al.[44] collectively emphasize that while ChatGPT enhances personalized learning, engagement, and academic outcomes, it also raises persistent concerns regarding bias, accuracy, ethics, and the limits of replicating human interaction. These reviews affirm that ChatGPT's pedagogical value is inseparable from its ethical risks, requiring continuous monitoring and responsible integration in education.

In the Philippines, studies reflect similar complexities in AI adoption. Dumagay et al.[23] reported that teacher aspirants are generally ready to adopt AI, whereas Serdenia et al.[24] reported moderate acceptance and favorable attitudes tempered by ethical concerns. Maghanoy et al.[25] highlighted greater AI-related anxiety among women and those with lower qualifications, and Gapol et al.[45] noted differences in knowledge and willingness by gender and year. Balasa et al.[46] confirmed the influence of demographic factors on attitudes, and Francisco et al. reported positive perceptions across affective, cognitive, and behavioral dimensions. Research on actual use has also expanded. Clorion et al.[47] reported frequent reliance on AI for academic writing. Cabato[48] reported neutral to positive attitudes among preservice and ESL teachers, whereas Fuentes et al.[49] and Bantoto et al.[50] emphasized ChatGPT's value as a learning tool but underscored the need for structured training. Espartinez[15] provided further nuance, identifying three distinct viewpoints among students and professors in Philippine higher education, namely, Ethical Tech Guardians, Balanced Pedagogy Integrators, and Convenience-Embracing AI Enthusiasts, revealing how ethical, innovative, and pragmatic perspectives shape AI acceptance. Other related studies reinforce this picture. Santos et al.[51] linked anxieties to the perceived dominance of AI, Gregorio et al.[52] documented strong technological competence and ethical awareness among preservice teachers, and Berganio et al.[53], Abequibel et al.[54], and Flores et al.[55] highlighted the role of digital literacy and attitudes toward technology in shaping readiness. Importantly, teacher education in the Philippines is predominantly female,[56,57,58,59.60] a demographic reality that often influences patterns of acceptance, anxiety, and willingness to engage with technological innovations.

Collectively, these studies highlight that AI in education is marked by both promise and peril. It improves efficiency, personalization, and engagement but simultaneously raises challenges tied to privacy, ethics, and trust. Effective integration requires governance structures, transparent data practices, and continuous teacher preparation to balance innovation with responsibility.

METHOD

Research Design

The study employed a quantitative descriptive–comparative research design to investigate teacher aspirants' perceived privacy and security in using ChatGPT. As Kothari[61] emphasized, descriptive research seeks to portray the characteristics of individuals or groups, whereas comparative research examines variations across contexts. Accordingly, the present study is descriptive because it aims to describe respondents' perceptions, and it is comparative because it examines whether these perceptions significantly differ when viewed across education career programs. Furthermore, the study is nonexperimental, as no interventions or manipulations of variables were applied.

Respondents of the Study

The population comprised 150 students enrolled in the Bachelor of Elementary Education (BEED), Bachelor of Secondary Education (BSED), Bachelor of Special Needs Education (BSNED), Bachelor of Early Childhood

Education (BECED), and Bachelor of Culture and Arts Education (BCAED) programs. A stratified random sampling procedure was implemented, treating each program as a stratum and drawing a random sample within strata to achieve balanced allocation across programs. Participation was voluntary.

Research Tool

For the study, an online survey questionnaire was distributed to gather the respondents' perceptions of privacy and security when ChatGPT was used. The instrument was fully adapted from Albayati[5] and demonstrated reliability, with all items exceeding a Cronbach's alpha value of 0,7. The form was composed of five sections: (1) informed consent, (2) personal information, (3) perceived privacy toward ChatGPT, (4) perceived security toward ChatGPT, and (5) acknowledgment of participation. In total, the questionnaire contains 14 items and uses a 5-point Likert scale, with responses ranging from "1 – Strongly Disagree" to "5 – Strongly Agree."

Data collection procedure

The research survey questionnaire was converted into a Google Form, and online data gathering was employed. An accessible link and invitation were individually forwarded to the respondents through Facebook Messenger to ensure quick reach. The respondents were assured that they could answer the survey at their convenience, and it was emphasized that participation was voluntary and that withdrawal had no consequences. No additional information was collected; only personal details such as course, age, and year level, along with the questionnaire responses, were needed.

Data Analysis Procedure and Statistical Treatment

The study utilized a Google Form to gather data online; consequently, the responses were transferred to a Microsoft Excel spreadsheet where the data were coded accordingly. The academic disciplines were coded as follows: 1 for Bachelor of Elementary Education (BEED), 2 for Bachelor of Secondary Education (BSED), 3 for Bachelor of Special Needs Education (BSNED), 4 for Bachelor of Early Childhood Education (BECED), and 5 for Bachelor of Culture and Arts Education (BCAED). Before analysis, the data were cleaned, and normality was tested via the Kolmogorov–Smirnov test.

The data were then analyzed via the Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics were employed to determine perceptions of privacy and security when ChatGPT was used. For interpretation, the following Likert scale ranges were applied: 1,00–1,80 = Strongly Disagree, 1,81–2,60 = Disagree, 2,61–3,40 = Neutral, 3,41–4,20 = Agree, and 4,21–5,00 = Strongly Agree.[62] To examine differences across education career programs, a one-way ANOVA was conducted.

RESULTS AND DISCUSSION

Level of perceived privacy toward ChatGPT

Table 1. Descriptive statistics on the perceived privacy of preservice teachers toward ChatGPT

Privacy	Mean	SD	Interpretation
1. I think ChatGPT shows attention for the privacy of its users.	0,49	0,78	Agree
2. I feel safe when I send personal information to ChatGPT.	0,88	1,04	Neither/Nor Agree
3. I think ChatGPT is following the personal data protection laws.	0,49	0,76	Agree
4. I think ChatGPT only collects user personal data that are necessary for its activity.	0,77	0,74	Agree
5. I think ChatGPT respects the user's rights when obtaining personal information.	0,7	0,75	Agree
6. I think that ChatGPT will not provide my personal information to other companies.	0,32	0,95	Neither/Nor Agree
Overall	0,44	0,84	Agree

As presented in table 1, the respondents demonstrated a generally favorable perception of ChatGPT's privacy, with an overall mean of 3,44 (SD = 0,84), interpreted as "Agree." The highest-rated item was "I think ChatGPT shows attention for the privacy of its users" (M = 3,49, SD = 0,78), followed closely by "I think ChatGPT only collects user personal data that are necessary for its activity" (M = 3,77, SD = 0,74) and "I think ChatGPT respects the user's rights when obtaining personal information" (M = 3,70, SD = 0,75), indicating agreement with ChatGPT's attention to data privacy and compliance with data protection principles. Conversely, the lowest-rated item was "I feel safe when I send personal information to ChatGPT" (M = 2,88, SD = 1,04), reflecting neutrality and a degree of uncertainty regarding the safety of sharing sensitive data.

These findings suggest that while respondents generally trust ChatGPT's adherence to privacy standards, reservations remain regarding the security of personal information. This aligns with Kelley et al. [63], who noted that users often express trust in AI systems' privacy protection but remain cautious about the handling and potential exposure of personal data. Similarly, Dahabiyeh et al. [41] highlighted that awareness of specific dimensions of ChatGPT's privacy policies, such as data collection and disclosure, significantly influences users' intentions for continued use. In both cases, while users recognize the benefits of AI tools, unresolved concerns about data handling practices underscore the importance of transparency and robust privacy safeguards.

Level of perceived security toward ChatGPT

Table 2. Descriptive statistics on the perceived security of preservice teachers toward ChatGPT

Security	Mean	SD	Interpretation
1. I think ChatGPT has mechanisms to ensure the safe transmission of its users' information.	3,62	0,76	Agree
2. I think ChatGPT shows good security care while using.	3,53	0,74	Agree
3. I think ChatGPT has the sufficient technical capacity to ensure that no other organization will supplant its identity on the internet.	3,48	0,82	Agree
4. I am sure of the identity of ChatGPT when I establish contact via the internet.	3,37	0,83	Neutral
5. When I send data to ChatGPT, I am sure that they will not be intercepted by unauthorized third parties.	3,27	0,91	Neutral
6. I think ChatGPT has sufficient technical capacity to ensure that the data I send will not be intercepted by hackers.	3,35	0,87	Neutral
7. I think ChatGPT has sufficient technical capacity to ensure that the data I send cannot be modified by a third party.	3,35	0,87	Neutral
Overall	3,42	0,83	Agree

As shown in table 2, the respondents expressed generally favorable perceptions of ChatGPT's security, with an overall mean of 3,42 (SD = 0,83), interpreted as "Agree." The highest-rated item was "I think ChatGPT has mechanisms to ensure the safe transmission of its users' information" (M = 3,62, SD = 0,76), reflecting agreement that ChatGPT prioritizes secure data transmission. Similarly, "I think ChatGPT shows good security care while using" (M = 3,53, SD = 0,74) and "I think ChatGPT has sufficient technical capacity to ensure that no other organization will supplant its identity on the internet" (M = 3,48, SD = 0,82) also demonstrated positive perceptions of its technical safeguards. However, items related to identity verification and the protection of data from unauthorized access or modification scored lower, such as "I am sure of the identity of ChatGPT when I establish contact via the internet" (M = 3,37, SD = 0,83) and "When I send data to ChatGPT, I am sure that they will not be intercepted by unauthorized third parties" (M = 3,27, SD = 0,91). These results suggest a degree of uncertainty regarding ChatGPT's resilience against external threats such as hackers and data interception.

These findings are consistent with those of Leschanowsky et al.[64] who highlighted that while users may generally trust conversational AI systems, lingering doubts about data security persist. Dahabiyeh et al.[41] further emphasized that awareness of AI privacy policies significantly influences continued usage, with unresolved concerns about data interception and unauthorized access reducing user confidence. Similarly, Mienye et al.[40] stressed the importance of explainable and transparent AI mechanisms, arguing that opaque security processes can diminish user trust even when technical safeguards are present. Collectively, these studies affirm that while ChatGPT is perceived as capable of ensuring secure information exchange, gaps in transparency and confidence in external protection remain areas of concern.

Differences in the Perceived Privacy Toward ChatGPTs across Educational Career Programs

Table 3. Differences in the Perceived Privacy Toward ChatGPTs across Educational Career Programs of preservice teachers

Variable	Program	Mean	SD	F	p	Interpretation
Privacy	Culture and Arts Education	3,29	0,57			
	Early Childhood Education	3,41	0,73			
	Elementary Education	3,45	0,46			Not Significant
	Secondary Education	3,40	0,63			
	Special Needs Education	3,66	0,69	1,561	0,1871	

As shown in table 3, the results indicate no statistically significant differences in the level of perceived privacy toward ChatGPT across the five educational career programs, with F = 1,561 and p = 0,1871, which exceeds the 0,05 alpha threshold. This finding suggests that respondents' perceptions of privacy in the use of ChatGPT are not shaped by their program affiliation.

The mean scores ranged from 3,29 to 3,66, with special needs education reporting the highest mean (M = 3,66, SD = 0,69), followed by elementary education (M = 3,45, SD = 0,46), early childhood education (M = 3,41, SD = 0,73), secondary education (M = 3,40, SD = 0,63), and culture and art education (M = 3,29, SD = 0,57). While there are minor variations across groups, these differences are not statistically meaningful.

This result aligns with the findings of Al-Abdullatif et al.[65] who reported that students' perceptions of ChatGPT are more strongly shaped by AI literacy and the perceived value of the tool rather than their academic background. In this context, the present study confirms that concerns over privacy appear consistent across different education programs, suggesting that privacy-related perceptions of ChatGPT are generalizable and not discipline specific.

Differences in perceived security toward ChatGPT across educational career programs

Table 4. Differences in the perceived security of ChatGPT across educational career programs for preservice teachers

Variable	Program	Mean	SD	F	p	Interpretation
Security	Culture and Arts Education	3,25	0,66			
	Early Childhood Education	3,33	0,60			
	Elementary Education	3,45	0,63			Not Significant
	Secondary Education	3,44	0,74			
	Special Needs Education	3,61	0,67	1,425	0,2281	

As presented in table 4, the findings indicate no statistically significant differences in the level of perceived security toward ChatGPT across the five educational career programs, with F = 1,425 and p = 0,2281, which is above the 0.05 threshold. This result suggests that respondents' perceptions of the security of ChatGPT are relatively uniform regardless of program affiliation.

The mean scores ranged from 3,25 to 3,61, with special needs education reporting the highest mean (M = 3,61, SD = 0,67), followed by secondary education (M = 3,45, SD = 0,63), early childhood education (M = 3.44, SD = 0.74), elementary education (M = 3,33, SD = 0,60), and culture and art education (M = 3,25, SD = 0,66). Although slight variations are observable across programs, they are not statistically significant, as confirmed by the p value. The implication of this study is that both concerns and confidence regarding ChatGPT's security are similarly shared by respondents across different education programs.

CONCLUSION

This study examined teacher aspirants' perceptions of privacy and security in relation to ChatGPT and how these factors influence its use in academic contexts. The findings revealed that respondents generally perceive ChatGPT positively, particularly in terms of its potential to support academic tasks and enhance efficiency. Nevertheless, concerns persist regarding the handling of personal information, security risks, and the ethical implications of AI-generated content. Importantly, while these concerns are evident, they do not prevent students from using the tool, reflecting a balance between recognition of its benefits and cautiousness about its risks. The results also indicate that perceptions of privacy and security do not significantly differ across education career programs, suggesting that these issues are broadly shared regardless of disciplinary background. Moreover, given that teacher education programs are predominantly female, as reflected in the present sample, considerations of gender dynamics may be important in framing future AI literacy initiatives.

RECOMMENDATIONS

In light of these findings, it is recommended that educational institutions strengthen transparency regarding data handling practices associated with AI tools such as ChatGPT. AI literacy programs should be embedded into teacher education curricula, with a focus on privacy, security, and responsible use. Training on data ethics and digital responsibility must be prioritized to prepare teacher aspirants not only to use AI effectively but also to critically evaluate its risks and limitations. Institutions may also collaborate with AI developers to provide clear information on data usage and safeguards within the platform itself. Furthermore, because women dominate teacher education, training and development programs should be inclusive and sensitive to gendered experiences of technology adoption, ensuring that the needs of the majority are addressed while still encouraging balanced participation across genders. By implementing these measures, teacher education

programs can cultivate future educators who are both confident and cautious in their use of AI, ensuring that technological integration in classrooms is effective, ethical, and sustainable.

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