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The Relationship Between Pre-service Teachers' Self-Efficacy in Teaching SWDs, Intensity of ChatGPT Use, and Their Perceived Practicum Stress

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Pre-service teacher preparation is a critical component in ensuring quality education for Students with Disabilities (SWDs), particularly during practicum training, which often serves as both a stage of professional growth and a source of psychological stress. This study examines the relationship between pre-service teachers' self-efficacy in teaching SWDs, their use of ChatGPT, and their perceived stress levels during practicum. A quantitative predictive correlational design was employed with 143 pre-service special education teachers (SETs) from two public universities in Jordan during the second semester of the 2024–2025 academic year. Data were collected using three validated instruments. Results showed that ChatGPT use intensity and self-efficacy were moderate, while perceived stress was also moderate. Regression analysis showed that self-efficacy significantly predicted perceived stress, whereas ChatGPT use did not show a significant effect. These findings emphasize the importance of strengthening pre-service teachers' self-efficacy to reduce stress during practicum and highlight the potential of AI tools as educational and psychological supports. The study recommends integrating training programs that promote responsible and purposeful use of educational technology to enhance professional readiness and mitigate stress in special education settings.

Keywords: *Intensity of ChatGPT Use, Perceived Practicum Stress, SWDs, Teachers' Self-Efficacy.*

Introduction

Preparing pre-service teachers to work in special education is particularly demanding due to the diverse and complex needs of Students with Disabilities (SWDs). Practicum training plays a central role in providing future teachers with opportunities to apply theoretical knowledge in real classroom environments. Practice teaching is considered an invaluable experiential learning stage that prepares pre-service teachers for the realities of the classroom. As Gorospe (2022) noted, the practicum experience often generates worries and anxieties that can weaken teaching self-efficacy

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and ultimately hinder performance. At the same time, this stage can present significant challenges that heighten psychological pressure and stress. These concerns often arise when there is inadequate institutional support or unclear supervisory guidance (Brunsting et al., 2025; Homann & Ehmke, 2025). The emotional strain pre-service teachers experience is determined not only by their workload but also by factors such as supervision quality, available support, and clarity of job expectations. Personal and professional characteristics, especially confidence in one's abilities, play a key role in helping teachers manage stress effectively (Floress, Jenkins, Caldwell et al., 2024). Alongside these personal and environmental factors, the growing use of technology and artificial intelligence has introduced new forms of support for teachers (Anton & Van Ryzin, 2024; Dyantyi & Mkabile-Masebe, 2025; Ibrahim & Ajlouni, 2025). Recent studies indicate that ChatGPT is a useful tool for assisting teachers in lesson planning (Dowd & Langran, 2024), simplifying materials, and developing classroom activities, thereby helping to reduce some of the pressure experienced during practicum (Rakap et al., 2024; Ibrahim & Ajlouni, 2024; Peikos & Stavrou, 2025). ChatGPT has also been recognized as a valuable support for both in-service and pre-service teachers in designing lessons for special education settings (Dowd & Langran, 2024). Despite its perceived usefulness, researchers caution that overreliance on ChatGPT may limit the development of essential skills such as critical thinking and problem solving (Szmyd & Mitera, 2024; Zhai & Wibowo, 2024; Bae et al., 2024). Despite the growing use of artificial intelligence in educational settings, research remains limited on how its application varies across different educational contexts—particularly in Jordan, where AI integration into teacher preparation programs is still in its early stages. This gap highlights the need to examine how factors such as ChatGPT use, personal attributes like self-efficacy, and behavioral outcomes such as practicum stress interact within Bandura's Social Cognitive Theory framework (1989). Although AI use is increasing, little research has explored the relationship between ChatGPT use, self-efficacy, and perceived stress among pre-service teachers. Addressing this gap is critical, as these variables may directly influence the quality of practicum experiences and professional readiness. Previous studies have demonstrated ChatGPT's effectiveness in supporting teachers with lesson planning, documentation, and intervention development (Rakap, 2024; Ibrahim & Ajlouni, 2024; Aydemir, 2025; Damianidou, 2025). Additional research suggests that ChatGPT use can enhance practitioners' confidence while reducing stress levels (Ajlouni et al., 2025; Chang & Hwang, 2024); however, no studies have specifically examined these relationships among special

education practicum students. Exploring this area is particularly important in special education, where structural limitations hinder progress toward Sustainable Development Goal (SDG) 4, Quality Education (Ibrahim & Ajlouni, 2024), which promotes inclusive and equitable learning opportunities (United Nations, 2024). It also aligns with SDG 3, Good Health and Well-Being, as reducing stress and building resilience among pre-service teachers supports their psychological health. Moreover, incorporating emerging tools such as ChatGPT reflects SDG 9, Industry, Innovation, and Infrastructure, which encourages the use of innovation to build more resilient and inclusive systems (Ajlouni et al., 2025).

This study examines the relationship between the intensity of ChatGPT use (X_1), self-efficacy in teaching students with disabilities (X_2), and perceived practicum stress levels (Y) among pre-service special education teachers enrolled in a teacher training program in Jordan. By focusing on this underexplored population, the study aims to better understand how these factors shape pre-service teachers' practicum experiences. Investigating this previously under-researched area provides new insights and practical implications for integrating AI tools responsibly to reduce stress, enhance professional competencies, and create responsive training environments that strengthen special education teacher preparation.

Q1: What are the levels of ChatGPT use intensity, self-efficacy in teaching SWDs, and perceived practicum stress among pre-service SETs?

Q2: Is there a statistically significant correlation between ChatGPT use intensity, self-efficacy in teaching SWDs, and perceived practicum stress among pre-service SETs?

Q3: To what extent do ChatGPT use intensity and self-efficacy in teaching SWDs predict perceived practicum stress among pre-service SETs?

Literature Review

ChatGPT Use in Special Education

There is an ongoing need for instruction that can be tailored to support individual student learning and adapted as those needs evolve, particularly in special education settings. ChatGPT can assist teachers by simplifying materials, designing interactive lessons, developing classroom activities, and adjusting tasks to align with students' developmental levels. It also promotes inclusivity by offering multiple learning approaches and employing scaffolding strategies that encourage active

participation (Harkins-Brown et al., 2025; Goldman et al., 2024). Beyond instructional support, ChatGPT can help reduce the administrative workload required of SETs. Studies have shown its effectiveness in improving the quality and efficiency of IEP goals and documentation, saving educators time and allowing them to focus more on direct student support (Rakap, 2024; Ibrahim & Ajlouni, 2024; Rakap et al., 2024). Similarly, Giaouri (2025) found that AI-assisted IEP goal design provides practical guidance for educators in inclusive settings. ChatGPT has also been used to develop behavioral and physical activity interventions for children with autism, yielding positive results (Aydemir, 2025; Damianidou, 2025). These findings highlight ChatGPT's potential to streamline academic planning while enhancing behavioral and inclusive practices (García-López et al., 2025).

Despite the potential benefits of using AI tools in education, reliance on these technologies raises several concerns. Overuse may hinder critical thinking and analytical reasoning skills (Szmyd & Mitera, 2024), as some users may accept AI-generated responses uncritically, leading to reduced cognitive engagement and weaker decision-making abilities (Zhai & Wibowo, 2024). Institutional challenges, such as unclear policies, ethical issues, and insufficient training, can also limit effective integration (Ghimire & Edwards, 2024; McGehee, 2024; Gadekallu et al., 2025). For pre-service SETs, a key question is whether ChatGPT can enhance self-efficacy and reduce practicum-related stress. Addressing this issue is essential for assessing its true educational value. While AI tools like ChatGPT can provide new forms of instructional and administrative support in special education, it is equally important to recognize the psychological, emotional, and practical challenges that pre-service teachers face during practicum training. Understanding the sources of stress experienced during this stage is crucial for exploring how ChatGPT might help alleviate stress and strengthen teachers' sense of competence.

Perceived Practicum Stress in Special Education

Practicum experience plays an important role in teacher preparation (Misra, 2024). However, despite its importance, it can become a major source of stress—particularly in special education settings. These environments require pre-service teachers to manage individualized instruction, address behavioral challenges, and complete extensive documentation (Adigun et al., 2021). Additional stressors such as time constraints, heavy workloads, and insufficient institutional support further intensify pressure, often limiting opportunities for self-care and well-being

(Homann et al., 2025). Without adequate support, these factors can undermine self-efficacy and increase the risk of burnout (Çetin et al., 2024). Research supports this concern: a systematic review revealed that high workload, limited administrative support, and role ambiguity significantly contribute to burnout among SETs (Brunsting et al., 2025). Context-specific studies have reported varying stress levels; for example, Abaya (2025) found high stress among special education teachers in the Philippines associated with time management and intrapersonal conflict, whereas Alzyoudi (2007) reported moderate stress levels among special education teachers in Jordan.

In response to these challenges, researchers have begun exploring the potential of digital and AI-based tools as complementary supports for teachers. Emerging evidence highlights the positive role of such technologies. For example, Nababan et al. (2024) found that AI-based interactive modules reduced work-related stress among elementary teachers, particularly benefiting female teachers who reported the highest stress levels. These findings suggest that the absence of structured institutional support can heighten practicum stress, potentially weakening teachers' self-efficacy. Sesilia and Saragih (2023) reported that low self-efficacy is associated with higher levels of job stress among special education teachers. Similarly, Gorospe (2022) found that pre-service teachers' teaching anxiety was strongly linked to their sense of self-efficacy, with classroom management emerging as the strongest predictor of their perceived competence. The role of self-efficacy is therefore critical in managing challenges and fostering resilience. Conversely, strengthening self-efficacy through guided practicum experiences and supportive tools such as ChatGPT may help reduce routine demands and enhance teacher confidence.

Self-Efficacy in the Context of ChatGPT

Current literature highlights the potential of AI in educational settings to reduce stress and support student's wellbeing and self-efficacy (Ajlouni et al., 2024; Ajlouni et al., 2025; Kittredge et al., 2025). Research also suggests that AI tools can enhance learning by providing more individualized support (Chauke et al., 2024; Kurtić et al., 2024; Marimon et al., 2025; Owoseni et al., 2024; Wang et al., 2024). Oran (2023) emphasized that teachers' self-efficacy influences not only their performance and motivation but also student outcomes, while noting the lack of research connecting AI use with teacher self-efficacy. Similarly, Alharbi and Iqtadar (2024) found that adequate preparation, positive teacher attitudes, and strong self-efficacy are key to effectively

supporting students with disabilities (SWDs) in inclusive classrooms. Ibrahim and Ajlouni (2024) reported that pre-service special education teachers (SETs) perceived ChatGPT as a valuable tool for meeting professional standards, enhancing learning, and improving competencies, suggesting its potential role in strengthening self-efficacy.

Bouzar et al. (2024) found a positive relationship between AI use and self-efficacy, reporting that postgraduate students who used ChatGPT demonstrated greater confidence in academic writing than non-users. Similarly, Suarez et al. (2025) observed that ChatGPT helped students overcome writing challenges such as writer's block and grammatical errors, thereby enhancing their confidence. However, both studies cautioned that excessive reliance on ChatGPT may impede critical thinking and creativity, underscoring the importance of guided and mindful use. Such support may be particularly valuable in special education settings, where pre-service teachers face distinctive challenges related to individualized instruction and behavioral management. Since prior research has not examined this relationship within special education, further investigation is warranted. The following section introduces Bandura's Social Cognitive Theory (BSCT) as a framework for understanding how self-efficacy, behavior, and environmental factors influence pre-service teachers' perceptions of their practicum experiences.

Bandura's Social Cognitive Theory

BSCT explains human behavior as the result of a continuous interaction among personal, environmental, and behavioral factors (Bandura, 1989). A central construct of this theory is self-efficacy, defined as an individual's belief in their ability to successfully perform specific tasks (Heslin & Klehe, 2006). In this study's framework, self-efficacy represents the personal factor, ChatGPT use represents the environmental factor, and practicum stress represents the behavioral outcome. Consistent with this perspective, research has shown that ChatGPT can help reduce stress and enhance students' confidence (Ajlouni et al., 2025; Chang & Hwang, 2024). However, concerns have also been raised about dependency on ChatGPT, which may negatively affect creativity, learning, and social-emotional well-being (Marisa et al., 2025; Chakraborty et al., 2024).

In the Jordanian context, Ajlouni et al. (2025) found low stress levels among undergraduates, a moderate level of ChatGPT use, and a significant negative relationship between ChatGPT use intensity and academic stress, suggesting that the tool can function as a supportive mechanism for

reducing stress. Similarly, another study in Jordan reported a moderate level of chatbot-based AI use and a significant positive correlation with academic well-being (Ajlouni et al., 2024). In a different context, Chang and Hwang (2024) showed that a ChatGPT-facilitated training model enhanced clinical teachers' achievement and self-confidence by helping bridge theory and practice, demonstrating ChatGPT's potential value in professional development. Taken together, these findings align with BSCT by illustrating the interaction among personal factors (self-efficacy), environmental factors (ChatGPT use), and behavioral outcomes (practicum stress). Furthermore, Oran (2023) highlighted a research gap, noting that no studies have directly examined the relationship between AI literacy and teacher self-efficacy, underscoring the novelty of the present study.

Conceptual Framework

Based on BSCT, the conceptual framework of this study posits that ChatGPT use intensity (environmental factor) and self-efficacy in teaching SWDs (personal factor) influence pre-service teachers' perceived practicum stress (behavioral outcome). BSCT emphasizes that human behavior results from the continuous interaction among personal, environmental, and behavioral factors. This framework illustrates the relationships among the study variables: ChatGPT use intensity (X_1) and self-efficacy in teaching SWDs (X_2) as independent variables, and perceived practicum stress (Y) as the dependent variable. Figure 1 illustrates the conceptual framework of the study, providing the theoretical foundation for examining the research questions.

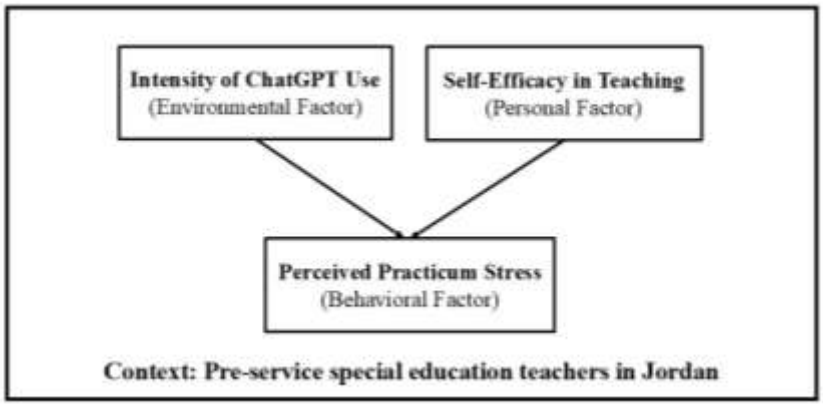

Figure 1. The Conceptual Framework of the Study

Methodology

The following sections outline the research design, study sample, data collection methods, instruments, and data analysis procedures. A predictive correlational design was employed to examine the relationships among ChatGPT use intensity, self-efficacy in teaching SWDs, and perceived practicum stress among pre-service SETs.

Research Design

The study adopted a quantitative predictive correlational design and used a convenience sampling technique to examine the relationship between ChatGPT use intensity, self-efficacy in teaching SWDs, and perceived practicum stress among pre-service special education teachers. Data were collected through an online questionnaire that incorporated three validated scales measuring self-efficacy, ChatGPT use intensity, and perceived stress during participants' practicum experiences.

Population and Sample

The research population comprised all undergraduate special education teachers (SETs) enrolled in practicum courses at public universities in Jordan during the second semester of the 2024–2025 academic year. This population represents pre-service teachers actively engaged in practical teaching experiences with students with disabilities (SWDs). Two public universities—the University of Jordan (UJ) and Hashemite University (HU)—were selected using a random sampling technique from this population. A convenience sample of pre-service teachers from these universities participated in the study. Their demographic characteristics are presented in Table 1.

Table 1

Participated Demographic Characteristics

Variable		Frequency	Percent
University	UOJ	79	55.2
	HU	64	44.8
Gender	Male	5	3.5
	Female	138	96.5
GPA	Poor	8	5.6
	Good	54	37.8
	Very Good	66	46.2
	Excellent	15	10.5
Technological Skills	Beginner	46	32.2
	Intermediate	77	53.8
	Advanced	20	14.0
Practicum setting	School	37	25.9
	center	106	74.1
Total		143	100.0

As shown in Table 1, the majority of participants were female (96.5%), reflecting the typical gender distribution in special education programs in Jordan, where female enrollment at the undergraduate level is generally higher than male enrollment.

Data Collection Procedures

Data were collected using an online self-administered questionnaire over a two-week period before the start of the practicum course. Instructors of the special education practicum courses at the University of Jordan (UJ) and Hashemite University (HU) distributed the questionnaire via e-learning and social media platforms (e.g., Microsoft Teams, Facebook, and WhatsApp) to ensure broad accessibility and participation. Ethical approval for the study was obtained from the Institutional Review Board at UJ (No. 19/2025/159). Participants received an informed consent form outlining the study's objectives. Participation was voluntary, responses were anonymous, confidentiality was maintained throughout the research process, and participants were informed that they could withdraw from the study at any time.

Data Collection Tools

The online self-administered questionnaire consisted of four sections. The first section collected demographic information about the participants, including gender, academic level, GPA, and practicum setting. The remaining sections contained three instruments designed to assess participants' ChatGPT use intensity, self-efficacy in teaching SWDs, and perceived practicum stress, respectively. The validity and reliability of these instruments were evaluated by the researcher through a pilot study involving 25 randomly selected students from the research population, who were excluded from the main study sample.

Intensity of ChatGPT use

The Academic Intensity Use of Chatbot-Based Artificial Intelligence (AIUCA) Scale, developed by Ajlouni et al. (2024), was used to assess pre-service teachers' intensity of ChatGPT use. The AIUCA is a self-administered questionnaire consisting of nine items rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Total scores range from 9 to 45, with higher scores indicating greater ChatGPT use intensity. The developers examined the scale's

psychometric properties, reporting discriminant validity values between 0.527 and 0.939 and a Cronbach's alpha of 0.849, demonstrating strong internal consistency and validity.

Student Teachers' Self-Efficacy in Teaching SWDs scale

The Student Teachers' Efficacy in Teaching SWDs (STETSD) scale, developed by Zhang et al. (2018), was used to assess participants' self-efficacy in teaching SWDs. The scale consists of 24 items divided into four subdomains: (1) Efficacy for Academic Interventions (6 items), (2) Efficacy for Behavioral and Functional Skill Interventions (8 items), (3) Efficacy for Identification and Assessment (7 items), and (4) Efficacy for Professional Ethics (3 items). Respondents rated their confidence on a six-point Likert scale ranging from 1 (no confidence at all) to 6 (complete confidence). Total scores range from 24 to 144, with higher scores indicating greater self-efficacy in teaching SWDs. An example item from the scale is: "Use appropriate instructional sequence, including task analysis, to teach academic and functional skills." The developers established the scale's validity and reliability, reporting discriminant validity values between 0.662 and 0.778 and an excellent internal consistency reliability (Cronbach's alpha = 0.971), confirming the instrument's suitability for measuring pre-service teachers' self-efficacy in teaching SWDs.

Perceived Practicum Stress Scale

The Perceived Stress Scale (PSS), developed by Cohen et al. (1983), is widely recognized for its reliability and validity in measuring perceived stress across various contexts, including educational settings. In this study, the PSS was adapted to assess perceived stress levels among pre-service teachers preparing to begin their practicum experiences in school environments. The adapted scale consisted of 14 items rated on a five-point Likert scale ranging from 1 (never) to 5 (very often). Respondents rated each item based on how they felt while preparing for their practicum. Total scores range from 14 to 70, with higher scores indicating greater perceived practicum stress. An example item is: "How often do you worry about your ability to manage the workload associated with your practicum?" Previous research has confirmed the strong psychometric properties of the PSS, with discriminant validity coefficients ranging from 0.389 to 0.845 and an internal consistency reliability (Cronbach's alpha) of 0.90.

Analyzing of Data

Data were analyzed using SPSS version 26. A series of descriptive, correlational, and predictive analyses were conducted to address the research questions. First, means and standard deviations were computed to determine the levels of ChatGPT use intensity, self-efficacy in teaching SWDs, and perceived practicum stress. Next, Pearson correlation analyses were performed to examine the relationships among these variables. Finally, multiple regression analysis was used to assess the extent to which ChatGPT use intensity and self-efficacy predicted perceived practicum stress. Prior to analysis, data were screened for normality by examining skewness and kurtosis values for all variables. The results indicated that the data met the normality assumptions required for parametric analyses.

Results and Discussion

Preliminary analysis

Before addressing the research questions, preliminary analyses were conducted to ensure that the dataset met the statistical assumptions required for parametric tests. The normality of the study variables was evaluated using skewness and kurtosis values. As shown in Table 2, skewness values ranged from –0.426 to 0.453, while kurtosis values ranged from –0.865 to –0.075. These values fall within the acceptable range of ±1, indicating that the data were approximately normally distributed (Hair et al., 2018).

Table 2

Skewness and Kurtosis of Research Variables

Variable	Skewness	Kurtosis
Intensity of ChatGPT Use	0.453	-0.075
STETSD	-0.426	-0.727
Perceived Practicum Stress	0.022	-0.865

Intensity of ChatGPT Use, Self-Efficacy in Teaching SWDs, and Perceived Practicum Stress among Pre-Service Teachers

To address Research Question 1, Table 3 presents the descriptive statistics for the study variables. The results indicate that the intensity of ChatGPT use among pre-service teachers was moderate, with a mean of 2.86. Self-efficacy in teaching students with disabilities (SWDs) was high, with a mean of 4.98, while perceived practicum stress was at a moderate level, with a mean of 2.78.

Table 3

Descriptive Statistics of Research Variables

Variable	Mean	SD	Level
Intensity of ChatGPT Use	2.86	0.850	Moderate
STETSD	4.98	0.658	High
Perceived Practicum Stress	2.78	0.652	Moderate

The findings revealed that participant's perceived practicum stress was at a moderate level. This level of stress may be attributed to the demands placed on pre-service special education teachers, who are often required to implement detailed behavioral management procedures, increasing their emotional strain. Previous research has similarly emphasized that practicum experiences in special education involve considerable psychological pressure due to intensive instructional responsibilities and classroom management challenges (Gorospe, 2022; Brunsting et al., 2025). Alzyoudi (2007) also reported that special education teachers in southern Jordan experienced moderate levels of psychological stress. In contrast, Ajlouni et al. (2025) found low academic stress among Jordanian undergraduates; however, their study focused on general academic experiences rather than practicum training. This comparison suggests that practicum-related stress may stem from the unique emotional and behavioral demands of working with SWDs, rather than from general academic workload alone.

The second finding indicated that pre-service SETs used ChatGPT at a moderate level. This aligns with previous studies in Jordan that also reported moderate use of chatbot technology, suggesting that while such tools are becoming more prevalent, they are not yet fully integrated into educational practice (Ajlouni et al., 2024). Ibrahim and Ajlouni (2024) similarly found that pre-service SETs regarded ChatGPT as a valuable resource for meeting professional expectations but tended to use it cautiously, which may explain the moderate usage observed in the present study. This cautious approach is consistent with prior research emphasizing the need for structured and guided use of AI tools to prevent overreliance, which may negatively affect critical thinking and problem-solving abilities (Szmyd & Mitera, 2024; Zhai & Wibowo, 2024).

The third finding revealed that pre-service SETs reported high levels of self-efficacy in teaching students with disabilities. Similar results were found by Al-Balushi and Al-Dhafri (2019), who identified strong teaching self-efficacy beliefs among teachers in the Sultanate of Oman. Alamer

(2023) also observed elevated levels of self-efficacy among SETs in Saudi Arabian primary schools, and Abu Hani and Tlafaha (2021) reported comparable outcomes in the central governorates of Jordan. In contrast, Semrein and Al-Ali (2025) found that only 22.9% of early childhood teachers in inclusive public schools in Amman rated themselves as having high self-efficacy, with most participants reporting low to moderate levels—differing from the higher levels observed in the present study. These findings are consistent with Bandura's (1989) Social Cognitive Theory, which highlights mastery experiences as a key source of self-efficacy, suggesting that structured practicum placements may help strengthen pre-service teachers' confidence in their instructional abilities.

Overall, these findings align with Bandura's (1989) Social Cognitive Theory, which emphasizes the interaction between personal factors (self-efficacy), environmental influences (ChatGPT use), and behavioral outcomes (practicum stress). The observed pattern of high self-efficacy, moderate stress levels, and cautious use of ChatGPT underscores the need for structured training programs and institutional support to strengthen self-confidence, reduce stress, and encourage the responsible integration of AI tools in practicum settings.

Correlation Between Intensity of ChatGPT Use, Self-Efficacy in Teaching SWDs, and Perceived Practicum Stress

To answer RQ2, Pearson correlation analyses were conducted to examine the relationships among the study variables. The results are presented in Table 4.

Table 4

Pearson Correlations Among the Research Variables

Variable	Intensity of ChatGPT Use	STETSD	Perceived Practicum Stress
Intensity of ChatGPT Use	1		
STETSD	.286**	1	
Perceived Practicum Stress	-.268**	-.518**	1

Table 4 shows that perceived practicum stress was negatively correlated with both the intensity of ChatGPT use ($r = –.268$, $p < .01$) and self-efficacy in teaching students with disabilities ($r = –.518$, $p < .01$). In contrast, a positive correlation was found between ChatGPT use intensity and self-efficacy ($r = .286$, $p < .01$). The negative correlation between perceived practicum stress and ChatGPT use suggests that greater use of the tool was associated with lower stress levels. Similar

findings were reported by Nababan et al. (2024), who found that interactive AI-based modules reduced work-related stress among teachers. Rakap (2024) also noted that ChatGPT could decrease administrative workloads, allowing teachers to focus more on students and thereby reducing stress. Likewise, Ajlouni et al. (2024) identified a positive relationship between chatbot use and academic well-being, while later research by Ajlouni et al. (2025) found a negative relationship between ChatGPT use and academic stress. Collectively, these studies suggest that AI-based tools such as ChatGPT, when used appropriately, can serve as supportive resources to help manage stress and enhance overall well-being during practicum training.

Second, the results revealed a negative correlation between perceived practicum stress and self-efficacy. Pre-service teachers with higher self-efficacy ratings reported being better able to manage the demands of practicum training. Similar findings have been reported in prior research. Gorospe (2022) found that strong self-efficacy supports coping and resilience when addressing classroom challenges, while Sesilia and Saragih (2023) showed that self-efficacy contributes to reducing job-related stress among special education teachers. However, these results contrast with those of Abaya (2025), who found no significant relationship between self-efficacy and stress among special education teachers in the Philippines. The current finding aligns with Bandura's theory, which posits that individuals with higher self-efficacy beliefs are more likely to view stressful demands as manageable and experience fewer negative emotional responses.

Third, the results revealed a positive and moderate correlation between the intensity of ChatGPT use and self-efficacy in teaching students with disabilities (SWDs), indicating that greater use of ChatGPT is associated with stronger self-efficacy beliefs. Previous research supports this finding: Rakap (2024) noted that AI-based tools facilitate the preparation of individualized education plans, while Ibrahim and Ajlouni (2024) found that pre-service SETs viewed ChatGPT as a valuable resource for meeting professional standards. Similarly, Giaouri (2025) reported that AI tools provide practical guidance for educators in inclusive settings. In the same vein, Suarez (2025) highlighted the role of AI applications in enhancing teachers' confidence, and Bouzar (2024) as well as Chang and Hwang (2024) demonstrated that technology integration can significantly strengthen teachers' professional self-efficacy. Consistent with BSCT(1989), ChatGPT may function as an environmental factor that enhances teachers' confidence and engagement in instructional tasks.

Overall, these findings are consistent with BSCT (1989), which conceptualizes human behavior as the result of ongoing interactions among environmental factors (e.g., ChatGPT use), personal factors (e.g., self-efficacy), and behavioral outcomes (e.g., practicum stress). Therefore, to better support pre-service SETs, teacher education programs should incorporate training that strengthens self-efficacy while promoting the responsible and balanced use of AI tools to help manage stress during practicum experiences.

The predictive ability of intensity of ChatGPT use and Student Teachers' Self-Efficacy in Teaching SWDs on Perceived Practicum Stress

To answer RQ3, a multiple regression analysis was conducted to examine the predictive ability of the study variables. The results are presented in Table 5.

Table 5

Multiple Regression Results for Predictors of Perceived Practicum Stress

Variables	R	R2	F	F Sig.	Beta	T	T Sig.
STETSD	0.533	0.284	27.722	0.000	-.480	-6.431	.000
intensity of ChatGPT use					-.131	-1.759	.081

The analysis revealed that the model was significant ($F = 27.722$, $p < .001$), explaining 28.4% of the variance in perceived practicum stress ($R = .533$, $R^2 = .284$). As shown in Table 5, self-efficacy in teaching SWDs was a significant negative predictor of perceived practicum stress ($\beta = –.480$, $t = –6.431$, $p < .001$), whereas the intensity of ChatGPT use was not a significant predictor ($\beta = –.131$, $t = –1.759$, $p = .081$). The regression formula for predicting perceived practicum stress is presented in Formula 1, where Y represents perceived practicum stress and X represent STETSD.

Formula 1

Regression Formula for Predicting Perceived Practicum Stress

$$Y = –0.480 * X$$

This suggests that although ChatGPT may offer some level of support, its role as an environmental factor is not yet substantial enough to significantly reduce stress among pre-service teachers during practicum. This finding aligns with Ajlouni et al. (2025), who reported a negative correlation between ChatGPT use and academic stress but noted that its use remained largely supplementary. Although ChatGPT use was significantly correlated with lower practicum stress, it did not remain a significant predictor in the regression model when self-efficacy was included. This pattern

suggests that ChatGPT use may be indirectly related to stress through its association with self-efficacy rather than exerting a direct effect. It is possible that pre-service teachers who used ChatGPT developed greater confidence in their teaching abilities, which enabled them to manage practicum-related stress more effectively. This interpretation aligns with Bandura's (1989) theory, which posits that environmental influences affect behavior indirectly through cognitive and personal factors such as self-efficacy (Woreta, Zewude, & Józsa, 2025).

In contrast, self-efficacy emerged as a strong predictor, accounting for nearly one-third (28.4%) of the variance in perceived stress. Pre-service SETs with higher self-efficacy reported lower psychological stress, reflecting their confidence in managing teaching challenges. Sesilia and Saragih (2023) found that self-efficacy plays a critical role in reducing job-related stress among SETs, while Gorospe (2022) reported that pre-service teachers' teaching anxiety was significantly associated with their self-efficacy. Similarly, Alharbi and Iqtadar (2024) emphasized that adequate preparation and strong self-efficacy are essential for effectively supporting SWDs in inclusive classrooms. Klassen et al. (2013) also demonstrated that teacher self-efficacy influences how stress affects professional commitment, underscoring its protective role in high-demand educational environments.

The non-significant role of ChatGPT use indicates that while AI tools may provide some support, their impact remains limited without structured training and institutional support. Although no direct studies have examined this relationship in the context of practicum stress, related research has warned that excessive or unregulated reliance on AI tools may impede the development of essential professional skills (Marisa et al., 2025; Chakraborty, Samant et al., 2024). These findings align with BSCT (1989) suggesting that self-efficacy—a personal factor—plays a significant role in reducing practicum stress, whereas ChatGPT use, as an environmental factor, did not significantly predict stress levels.

Conclusion

This study examined the relationship between pre-service SETs' self-efficacy in teaching SWDs, their intensity of ChatGPT use, and their perceived stress levels during practicum. The results showed that ChatGPT use was moderate, self-efficacy was high, and practicum stress levels were moderate. These findings highlight the critical role of self-efficacy in managing stress during practicum training. They also underscore the importance of building pre-service teachers'

confidence and strengthening their ability to handle challenges in complex educational environments. Although ChatGPT use was moderately associated with higher self-efficacy and lower stress, it did not significantly predict stress levels. While AI tools like ChatGPT can help alleviate psychological stress and streamline certain tasks, they cannot substitute for the comprehensive psychological and pedagogical preparation teachers require. True readiness depends primarily on strong self-confidence, skills, and professional competence developed through training and direct experience rather than technological reliance.

The study highlights the need for comprehensive training programs that not only strengthen trainee teachers' confidence in their professional skills but also promote the responsible use of AI tools. Programs designed to prepare special education teachers should focus on building self-efficacy by emphasizing reflective teaching practices, implementing mentoring initiatives, and providing well-structured practicum experiences. AI tools such as ChatGPT should be integrated thoughtfully to ensure they support—rather than replace—the development of essential learning, problem-solving, and critical thinking skills. This study also has several limitations. The sample was drawn from only two public universities and relied on self-reported data, which may limit the generalizability of the findings.

The sample was predominantly female (96.5%), reflecting the typical gender composition of Jordanian special education training programs. Therefore, the findings primarily represent the perspectives of female pre-service special education teachers in university-based training programs in Jordan. Future research should include participants from a broader range of institutions and demographic backgrounds and employ mixed-method or longitudinal research designs. Such approaches would provide a more comprehensive understanding of how AI use relates to teachers' professional development and emotional well-being across diverse educational contexts.

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