



Determining the relationship between stress and self-efficacy in teachers working with children with autism spectrum disorder in Enugu State, Nigeria

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Abstract

Purpose - This study investigates the relationship between teacher stress and self-efficacy, with gender as a moderating factor, among teachers working with children with autism spectrum disorder (ASD) in Enugu State, Nigeria.

Method- A correlational survey research design was employed, guided by two research questions and hypotheses. The study sample comprised 300 teachers purposively selected from special and conventional schools across various educational levels in Enugu State. The participants included 133 (44.3%) males and 167 (55.7%) females. Data were collected using the Teachers' Sense of Efficacy Scale (TSES), with a reliability coefficient of 0.97, and the Rosenberg's Teachers' Stress Assessment Scale (RTSAS), with a reliability coefficient of 0.83. Both instruments contained 15 items measured on a four-point Likert scale.

Results - The findings indicated a significant positive but weak relationship between teacher stress and self-efficacy among teachers handling children with ASD. This suggests that increased stress may correspond to increased self-efficacy levels, possibly due to the development of adaptive skills and functional coping mechanisms. Additionally, gender did not moderate this relationship, suggesting that observed differences in favor of males might be attributed to chance.

Implications - The results highlight the importance of targeted support programmes for teachers working with children with ASD. Enhancing teacher self-efficacy while addressing stress levels can contribute to improved teaching outcomes and teacher well-being.

Originality/Value - This study contributes to the understanding of the dynamics between stress and self-efficacy among teachers of children with ASD in a Nigerian context. It highlights the critical need for interventions tailored to this unique teaching environment.

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Stres guru, efikasi diri, moderasi gender, pendidikan ASD, Negara Bagian Enugu.

Abstract

Tujuan - Penelitian ini menyelidiki hubungan antara stres guru dan efikasi diri, dengan gender sebagai faktor moderator, di antara guru yang bekerja dengan anak-anak dengan gangguan spektrum autisme (ASD) di Negara Bagian Enugu, Nigeria.

Metode- Desain penelitian survei korelasional digunakan, dipandu oleh dua pertanyaan penelitian dan hipotesis. Sampel penelitian terdiri dari 300 guru yang dipilih secara purposif dari sekolah khusus dan sekolah konvensional di berbagai tingkat pendidikan di Negara Bagian Enugu. Para peserta terdiri dari 133 (44,3%) laki-laki dan 167 (55,7%) perempuan. Data dikumpulkan dengan menggunakan Teachers' Sense of Efficacy Scale (TSES), dengan koefisien reliabilitas sebesar 0,97, dan Rosenberg's Teachers' Stress Assessment Scale (RTSAS), dengan koefisien reliabilitas sebesar 0,83. Kedua instrumen tersebut berisi 15 item yang diukur dengan skala Likert empat poin.

Hasil - Temuan menunjukkan adanya hubungan positif yang signifikan namun lemah antara stres guru dan efikasi diri di antara para guru yang menangani anak-anak dengan ASD. Hal ini menunjukkan bahwa peningkatan stres mungkin berhubungan dengan peningkatan tingkat efikasi diri, mungkin karena pengembangan keterampilan adaptif dan mekanisme koping fungsional. Selain itu, jenis kelamin tidak memoderasi hubungan ini, menunjukkan bahwa perbedaan yang diamati dalam mendukung laki-laki mungkin disebabkan oleh kebetulan.

Implikasi - Hasil penelitian menyoroti pentingnya program dukungan yang ditargetkan untuk guru yang bekerja dengan anak-anak dengan ASD. Meningkatkan efikasi diri guru sambil mengatasi tingkat stres dapat berkontribusi pada peningkatan hasil pengajaran dan kesejahteraan guru.

Keaslian/Nilai - Studi ini berkontribusi pada pemahaman tentang dinamika antara stres dan efikasi diri di antara para guru anak-anak dengan ASD dalam konteks Nigeria. Penelitian ini menyoroti kebutuhan kritis akan intervensi yang disesuaikan dengan lingkungan pengajaran yang unik ini.

Introduction

The global prevalence of Autism Spectrum Disorder (ASD) has increased significantly, with current estimates indicating that approximately 1 in 100 children are diagnosed with ASD globally. This rise is attributed to enhanced awareness, improved diagnostic practices, and targeted public health efforts. ASD, a complex neurodevelopmental condition, is characterized by challenges in social communication, restricted interests, and repetitive behaviors, which significantly affect personal, educational, and social functioning. These challenges pose unique demands on teachers working with children with ASD. Teachers must navigate behavioral issues, implement individualized instructional strategies, and manage classroom dynamics, often with limited resources and training. This scenario frequently leads to elevated levels of stress and perceptions of low self-efficacy among teachers, adversely impacting their effectiveness and well-being. Self-efficacy, defined as a teacher's confidence in managing classroom responsibilities and achieving student engagement, is critical for effective teaching, especially in inclusive and special education settings (Kittana, Ahmadani, Williams, Nutrients, & 2023, n.d.; Love, Findley, Ruble, & McGrew, 2020; Stephenson et al., 2023).

This statistic represents a significant rise from earlier figures, primarily attributed to enhanced awareness, refined diagnostic methodologies, and public health efforts aimed at better identifying and supporting the autistic population (Stephenson et al., 2023). A systematic review has reported a median prevalence of 100 cases per 10,000 children across various studies, revealing a male-to-female diagnosis ratio of approximately 4:1 (Wang, Ma, Wang, Zhang, & Chen, 2022; Zeidan et al., 2022). ASD is a multifaceted neurodevelopmental disorder characterized by a spectrum of difficulties in social communication, behavior, and interests. As a neurodevelopmental condition, it affects brain development and shapes how individuals interact, communicate, learn, and behave (Roman-Urrestarazu & van Kessel, 2022). Symptoms generally emerge in early childhood, often prior to the age of three, and continue throughout an individual's life. The term "spectrum" underscores the considerable variability in symptoms and severity among individuals with ASD; while some may require extensive support in daily activities, others may achieve a degree of independence with minimal assistance. This variability includes differences in communication skills, social interactions, and repetitive behaviors, resulting in distinct challenges for each person (Tan, Frewer, Cox, Williams, & Ure, 2021). Consequently, ASD is defined by enduring deficits in social communication and the presence of restricted interests and repetitive behaviors, which can profoundly affect personal, educational, and social functioning. Recognizing these characteristics is essential for developing effective support and interventions that cater to the diverse needs of individuals on the ASD spectrum.

Common manifestations of Autism Spectrum Disorder (ASD) encompass a variety of difficulties that profoundly affect the daily functioning of individuals (Salari et al., 2022). A notable characteristic is the challenge in social communication, where affected individuals may find it hard to comprehend and participate in social exchanges, often demonstrating issues such as avoiding eye contact or struggling to interpret nonverbal signals. Furthermore, many individuals with ASD exhibit repetitive behaviors, which may involve engaging in consistent physical movements or speech patterns, adhering rigidly to established routines, and displaying an intense focus on particular interests (Talantseva et al., 2023). Another significant characteristic is sensory sensitivities, where individuals may respond atypically to sensory stimuli, including sounds, lights, or textures; some may experience hypersensitivity, becoming easily overwhelmed by sensory input, while others may show hyposensitivity, indicating a diminished

awareness of sensory information (Roman-Urrestarazu & van Kessel, 2022). These characteristics illustrate the varied experiences of individuals with ASD and emphasize the importance of customized support and interventions to effectively meet their distinct needs (Hemdi & Daley, 2017). The diagnosis of ASD is generally established through behavioral evaluations performed by healthcare professionals, utilizing criteria specified in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). The assessment process typically involves interviews with caregivers and observations of the individual's behavior in various environments.

In the United States, the prevalence of ASD is notably higher, with the Centers for Disease Control and Prevention (CDC) reporting that approximately 1 in 36 children received an ASD diagnosis as of 2023 ("Data and Statistics on Autism Spectrum Disorder | Autism Spectrum Disorder (ASD) | CDC," 2023). Internationally, prevalence rates differ by region, with reports indicating figures as high as 1.7% in Australia, while lower estimates are found in certain areas of Asia and Africa. Nevertheless, many regions continue to lack comprehensive data due to insufficient diagnostic resources and awareness (WHO, 2023).

The increasing prevalence of ASD poses distinct challenges for teachers who work with these children. The challenges encountered appear to be adversely impacting teachers' self-efficacy. Self-efficacy, a psychological construct articulated by psychologist Albert Bandura, pertains to an individual's conviction in their capacity to perform the necessary actions to achieve particular objectives or results. Bandura characterizes self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Chen et al., 2020; Hwang, 2021; Kim & Lee, 2021; Ortan, Simut, & Simut, 2021). He underscores that self-efficacy plays a crucial role in shaping motivation, behavior, and emotional states, thereby influencing how individuals confront challenges and tasks (Ngu & Lay, 2020). Teachers, as facilitators of knowledge, can also exhibit self-efficacy.

Teacher self-efficacy specifically refers to a teacher's confidence in their ability to effectively manage and execute the responsibilities essential for successful teaching and student engagement. This concept is grounded in Albert Bandura's social cognitive theory, which highlights the significance of self-beliefs in shaping behavior and motivation (Abun, 2021). Teacher self-efficacy is defined as an assessment of one's capabilities to achieve desired outcomes in student learning and engagement, even under challenging circumstances (Liu, Zhu, Dong, & Luo, 2024; Stead, LaVeck, & Hurtado Rua, 2022). It includes a teacher's assurance in managing classroom dynamics, implementing instructional strategies, and motivating students (Burić, Slišković, & Sorić, 2020; Liu, Li, & Cao, 2024; Ortan et al., 2021). Research has shown that teachers with elevated self-efficacy are more inclined to embrace innovative teaching practices, establish ambitious goals, and persevere through challenges. This not only enhances their job satisfaction and mitigates burnout but also has a beneficial effect on student motivation and academic performance (Amin, 2021; Toropova, Myrberg, & Johansson, 2021). Nevertheless, this can be particularly challenging for teachers working with students with Autism Spectrum Disorder (ASD), likely due to the associated stress.

Teachers seem to frequently experience increased stress levels when addressing the varied needs of students with ASD. Stress can originate from multiple sources, particularly in the context of teachers working with students diagnosed with Autism Spectrum Disorder (ASD) (Azizi, Maleki, Mazloomzadeh, & Pirzeh, 2020; Busch, 2018; Ghasemi Bahraseman, Mangolian Shahrabaki, & Nouhi, 2021). Teachers may experience emotional exhaustion due to the intensive support these students require, especially

when faced with challenging behaviors that necessitate specialized management strategies. Stress is characterized as a state of emotional or physical tension that arises from demanding situations or challenges. It represents a natural response that can impact both mental and physical well-being (Asaloei, Wolomasi, & Werang, 2020; Ibda, Wulandari, Abdillah, Hastuti, & Mahsum, 2023; Makara-Studzińska, Wajda, & Lizińczyk, 2020). This phenomenon is often described as a sensation of emotional or physical strain triggered by events or thoughts that evoke feelings of frustration, anger, or anxiety. The body's reaction to such stressors can manifest in various ways, and stress can be classified as either acute or chronic. Acute stress is a temporary response to immediate challenges, such as an unexpected scare or an impending deadline, and it typically resolves quickly, sometimes even enhancing performance and alertness (Hwang, 2021). In contrast, chronic stress persists over a longer duration, often resulting from ongoing issues like financial difficulties or relationship problems, and can lead to significant health complications if not properly addressed (Wu, Hu, & Zheng, 2019).

In the realm of education, stress experienced by teachers working with children with ASD encompasses the psychological and emotional burdens that arise from the distinctive challenges of this role. This stress can stem from a variety of factors, including behavioral issues, communication obstacles, and the pressures of fostering an inclusive educational environment. Teachers frequently encounter considerable stress due to the interplay of these factors, with behavioral challenges being a significant contributor (Nani, Nurjanah, & Naan, 2022). The necessity to manage maladaptive behaviors, such as aggression and self-injury, can exacerbate feelings of anxiety and frustration among teachers. The emotional and social challenges associated with fostering social skills and emotional regulation in children with Autism Spectrum Disorder (ASD) can significantly burden teachers (Onuigbo et al., 2018). Teachers are tasked with the dual responsibility of supporting their students while also managing their own emotional well-being. The demands of their roles are further intensified by the expectations linked to individualized education plans (IEPs) and the need for customized instructional approaches, which can foster feelings of inadequacy among teachers (Rimmele, Ballhausen, Ihle, & Kliegel, 2022). Moreover, the absence of adequate support systems exacerbates these stressors, as many teachers report feeling ill-equipped due to a lack of training in ASD-specific methodologies and limited access to resources. This interplay of factors cultivates a demanding atmosphere that may lead to teacher burnout, adversely affecting both their well-being and self-efficacy, as well as the educational outcomes for their students.

Many teachers may experience a sense of unpreparedness in addressing the unique requirements of students with ASD, stemming from inadequate training and resources. This deficiency can contribute to feelings of inadequacy and heightened stress levels (Hitches, Woodcock, & Ehrich, 2022). The obligation to fulfill educational standards while simultaneously accommodating individual learning needs can create a taxing environment for teachers. They often find it challenging to reconcile curriculum requirements with the necessity for personalized instruction. Managing a classroom that encompasses students with diverse abilities and behaviors can be particularly daunting. Teachers are frequently required to employ individualized strategies while fostering an inclusive atmosphere for all learners. Research has shown that elevated levels of teacher stress can result in burnout, diminished job satisfaction, and a negative impact on self-efficacy, which complicates their capacity to effectively support students with ASD (Pereira, Gonçalves, & Assis, 2021; Skaalvik & Skaalvik, 2017; Wu et al., 2019). Therefore, it is crucial to comprehend the connection between teacher stress and self-efficacy to

inform the development of targeted interventions aimed at assisting teachers in managing their responsibilities and improving their instructional effectiveness.

In Africa, the educational landscape is further complicated by numerous challenges. Teachers frequently encounter a lack of sufficient resources and training necessary to adequately assist students with Autism Spectrum Disorder (ASD), which contributes to heightened feelings of inadequacy and professional burnout (Alabi, Ishola, Onibokun, & Lasebikan, 2021; Ayisi-Boateng et al., 2020). Research has indicated that teachers responsible for children with ASD in Nigeria experience considerable strain due to the absence of early intervention services, thereby amplifying the emotional and psychological pressures they face. The lack of supportive frameworks exacerbates the stress levels among these teachers, underscoring the importance of prioritizing their well-being to foster favorable educational outcomes. This situation is similarly evident in Enugu State.

In Nigeria, and specifically in Enugu State, the educational system faces additional constraints such as inadequate training and resources for teachers handling children with ASD. These limitations exacerbate occupational stress and contribute to diminished self-efficacy. Despite the critical importance of understanding the interplay between teacher stress and self-efficacy, little research has addressed this issue within the Nigerian context. This study aims to explore the relationship between teacher stress and self-efficacy among teachers working with children with ASD in Enugu State, Nigeria, and to examine whether this relationship is moderated by gender.

Objective of the Study

This study aims to investigate the factors influencing teacher stress and self-efficacy among educators working with children with Autism Spectrum Disorder (ASD) in Enugu State, Nigeria. Specifically, the research seeks to determine the nature of the relationship between teacher stress and self-efficacy in this context, exploring whether increased stress levels correlate with changes in self-efficacy. Additionally, the study examines whether gender plays a moderating role in the relationship between teacher stress and self-efficacy. By addressing these objectives, the study seeks to contribute to a deeper understanding of how stress impacts teachers' confidence in their abilities, with the ultimate goal of informing targeted interventions to support educators in managing their responsibilities effectively.

Research Hypotheses

The hypotheses for this study are grounded in Albert Bandura's Social Cognitive Theory, which emphasizes the role of self-efficacy as a critical determinant of motivation, behavior, and emotional regulation. According to Bandura (1997), individuals with high self-efficacy are better equipped to manage stress and persist through challenges, suggesting a potential interplay between stress and self-efficacy in teaching contexts. In addition, transactional models of stress, such as Lazarus and Folkman's (1984) stress appraisal theory, propose that stress outcomes depend on an individual's ability to cope, which is influenced by self-efficacy.

H01: There is no significant relationship between teacher stress and self-efficacy among teachers working with children with ASD. This hypothesis is supported by research indicating that while stress can be debilitating, individuals with higher self-efficacy may employ more effective coping strategies, potentially mitigating its negative effects (Herman, Hickmon-Rosa, & Reinke, 2018). However, the unique challenges of teaching children

with ASD, such as managing behavioral issues and communication barriers, may complicate this relationship, necessitating empirical investigation.

H02: There is no significant relationship between teacher stress and self-efficacy among teachers working with children with ASD as moderated by gender. This hypothesis draws on gender studies in stress and self-efficacy, which suggest mixed findings regarding the influence of gender on stress responses. For example, research by Skaalvik and Skaalvik (2017) found no significant gender differences in teacher self-efficacy, while other studies (Hitches et al., 2022) have suggested that female teachers may experience higher stress levels, potentially impacting self-efficacy differently. This mixed evidence highlights the need to examine gender as a moderating variable in this specific teaching context.

By situating these hypotheses within established theoretical frameworks, the study seeks to provide a nuanced understanding of the interplay between stress, self-efficacy, and gender among teachers of children with ASD.

Research Methods

Research Design

This study adopted a correlational survey research design, a widely used approach in social and behavioral sciences to explore the relationships between variables without manipulation (Creswell, 2014). The design is particularly appropriate for investigating teacher stress and self-efficacy, as it allows for naturalistic observation of these constructs in real-world educational settings (Fraenkel, Wallen, & Hyun, 2012). Given the complexity of inclusive education and the multifaceted nature of teacher roles, this design provides a suitable framework for understanding how stress and self-efficacy interact among teachers working with children with Autism Spectrum Disorder (ASD).

The sample consisted of 300 teachers purposively selected from both special and conventional schools in Enugu State. This sampling method was employed to ensure the inclusion of teachers who specifically work with children diagnosed with ASD, as they are best positioned to provide relevant insights. The sample included 133 (44.3%) males and 167 (55.7%) females, ensuring a balanced representation across genders. Participants were drawn from 50 schools distributed across various educational zones within the state, with ages ranging from 25 to 45 years. The sample size of 300 was determined based on recommendations for correlational research, which generally require a minimum of 10–30 participants per variable to ensure adequate statistical power (Tabachnick & Fidell, 2013). This size also ensures representativeness and allows for reliable subgroup analyses, such as examining gender moderation effects.

Two standardized instruments were utilized for data collection:

Rosenberg's Teachers' Stress Assessment Scale (RTSAS): Adapted for this study, it consisted of 15 items measured on a 4-point Likert scale (1 = Not Often to 4 = Very Often). The original scale demonstrated high reliability with a Cronbach's alpha of 0.83. Sample items include "I have difficulty controlling my class" and "My students make my job stressful." The scale measures stress levels across three categories: low, moderate, and high.

Teachers' Sense of Efficacy Scale (TSES): Adapted from Tschannen-Moran and Woolfolk Hoy (2001), this scale also comprised 15 items measured on a 4-point Likert scale. It assessed teachers'

efficacy in classroom management, instructional strategies, and student engagement, with a Cronbach's alpha of 0.97, indicating excellent reliability. Sample items include “To what extent can you craft good questions for your students?” Both instruments underwent validation to ensure their relevance to the Nigerian context. Content validity was confirmed through expert reviews by educational psychologists, while pilot testing with a small sample of teachers demonstrated satisfactory construct validity.

The data collection was conducted over four weeks with the assistance of four Master's students from the University of Nigeria. Surveys were distributed using a direct delivery and retrieval method. Prior to administration, participants were briefed about the study's objectives and assured of confidentiality. Only teachers who provided informed consent participated.

Descriptive statistics (mean, standard deviation) were used to summarize the data and provide an overview of teacher stress and self-efficacy levels across gender. A simple linear regression model was employed to test the relationship between teacher stress and self-efficacy (H01). To examine the moderating effect of gender (H02), univariate analyses were conducted.

The selection of these analytical techniques was guided by the research objectives and the nature of the data. Linear regression is widely recognized for examining predictive relationships, while univariate analysis is suitable for testing moderation effects. Partial Eta squared (η^2p) was used to estimate effect sizes, following Schober and Boer's (2018) benchmarks for interpreting correlations. The analytical methods were chosen to align with the hypotheses, focusing on both the strength and direction of relationships and the potential moderating role of gender. SPSS version 27 was used for all analyses, ensuring robust statistical computation and reliable interpretation. The sample size of 300 ensured sufficient power to detect significant relationships while allowing for subgroup analyses to enhance the study's credibility.

Results and Discussion

Table 1: Mean and Standard Deviation of the Stress Level and Self-efficacy of Teachers Handling Children with ASD, based on Gender

| Gender | Stress | Mean | Std. Deviation |
|--------|-----------------|-------|----------------|
| Male | Low Stress | 40.63 | 3.159 |
| | Moderate Stress | 41.05 | 5.197 |
| | High Stress | 42.72 | 4.215 |
| | Total | 41.62 | 4.813 |
| Female | Low Stress | 40.17 | 5.573 |
| | Moderate Stress | 40.47 | 5.502 |
| | High Stress | 39.76 | 4.820 |
| | Total | 40.21 | 5.258 |
| Total | Low Stress | 40.35 | 4.660 |
| | Moderate Stress | 40.73 | 5.361 |
| | High Stress | 41.10 | 4.771 |
| | Total | 40.83 | 5.105 |

The results addressing the research question regarding the level of teacher stress and its impact on self-efficacy among teachers working with children with autism spectrum disorder (ASD) reveal distinct patterns based on gender. Male teachers with a low stress level reported a mean of 40.63 (SD = 3.16), indicating that they possess higher self-efficacy compared to female teachers, who had a mean of 40.17 (SD = 5.57) in the same category. This suggests that male teachers may feel more confident in their abilities when experiencing low stress. In the moderate stress category, male teachers had a mean of 41.05 (SD = 5.20), while female teachers reported a mean of 40.47 (SD = 5.50). Again, this indicates that male teachers maintain higher self-efficacy levels than their female counterparts under moderate stress conditions. However, in the high-stress category, male teachers reported a mean of 42.72 (SD = 4.22), while female teachers had a mean of 39.78 (SD = 4.82). This significant difference suggests that male teachers experience greater challenges to their self-efficacy when under high stress compared to female teachers, who exhibit lower stress levels in this category. Therefore, the total means indicate that male teachers have an average stress level of 41.62 (SD = 4.81), while female teachers average at 40.21 (SD = 5.26). The combined total mean for all teachers is 40.83 (SD = 5.11). These findings highlight that male teachers generally report higher self-efficacy at lower stress levels compared to female teachers but face more significant challenges to their self-efficacy as stress increases. This underscores the need for targeted support strategies to help teachers manage stress and enhance their self-efficacy effectively, particularly among male teachers working with children with ASD.

Table 2: Regression analysis of the relationship between Teacher stress and self-efficacy among teachers working with children with ASD.

| Variable | R | R Square | Adjusted R Square | Std. Error of the Estimate | Df | F | p-value |
|---------------|-------------------|----------|-------------------|----------------------------|-------|--------|---------|
| Self-efficacy | .324 ^a | .105 | .102 | 3.977 | 1,298 | 34.908 | <.001 |

a. Predictors: (Constant), Stress

The regression analysis presented in Table 2 examines the relationship between teacher stress and self-efficacy among teachers working with children with autism spectrum disorder (ASD). The results indicate a weak positive correlation between stress and self-efficacy, with an R value of .324. This suggests that as teacher stress levels increase, self-efficacy also tends to increase, indicating that teachers may feel more capable in their roles when experiencing higher levels of stress.

The R² value of .105 indicates that approximately 10.5% of the variance in self-efficacy can be explained by teacher stress, suggesting that while stress is a significant factor, other variables may also contribute to variations in self-efficacy among teachers. The adjusted R² value of .102 further supports this interpretation, indicating that the model accounts for a small but meaningful portion of the variability in self-efficacy. The standard error of the estimate is 3.977, reflecting the average distance that the observed values fall from the regression line and indicating some degree of variability in self-efficacy scores among teachers. The degrees of freedom (df) for this analysis were 1 and 298, with an F statistic of 34.908, which is statistically significant (p<.001). This strong significance suggests that the relationship between teacher stress and self-efficacy is not due to random chance.

Table 3: Univariate analysis of the relationship between Teacher stress and self-efficacy among teachers working with children with ASD as moderated by gender.

| Variables | Teachers Stress | | | | | Teachers Self-efficacy | | | | |
|-------------------|-----------------|------|-------|------|------------|------------------------|-------|-------|------|------------|
| | Mean (SD) | F | df | p | η_p^2 | Mean (SD) | F | df | p | η_p^2 |
| Gender | | | | | | | | | | |
| Male (n=133) | 39.56 (4.68) | .030 | 1,298 | .863 | .000 | 37.27 (4.194) | 1.174 | 1,298 | .280 | .004 |
| Female (n=167) | 39.47(4.91) | | | | | 36.74 (4.195) | | | | |

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The results presented in Table 3 address Research Question 2, which investigates the relationship between teacher stress and self-efficacy among teachers working with children with autism spectrum disorder (ASD), specifically examining how this relationship is moderated by gender. The data indicate that male teachers reported a mean stress level of 39.56 (SD = 4.68), while female teachers had a slightly lower mean stress level of 39.47 (SD = 4.91). The F-value for the comparison of teacher stress between genders was .030 with degrees of freedom (df) of 1 and 298, resulting in a p-value of .863. This high p-value suggests that there is no statistically significant difference in teacher stress levels between male and female teachers, indicating that both genders experience similar levels of stress when working with children with ASD. In terms of self-efficacy, male teachers reported a mean score of 37.27 (SD = 4.194), while female teachers had a mean score of 36.74 (SD = 4.195). The F-value for the comparison of self-efficacy scores was 1.174, with the same degrees of freedom (df) of 1 and 298, yielding a p-value of .280. This also indicates that there is no statistically significant difference in self-efficacy levels between male and female teachers. Therefore, the observed difference in the mean and standard deviation in table 1 in favour of male may be by chance error.

Therefore, these findings suggest that gender does not significantly moderate the relationship between teacher stress and self-efficacy among teachers working with children with ASD. Both male and female teachers experience comparable levels of stress and self-efficacy, implying that interventions aimed at improving self-efficacy and reducing stress should be designed without a specific focus on gender differences. This could lead to more effective support strategies for all teachers in this challenging field.

Discussion

The findings of this study reveal a weak yet significant positive relationship between stress and self-efficacy among teachers working with children with autism spectrum disorder (ASD). This outcome aligns with existing literature, which highlights the nuanced interplay between teacher stress and self-efficacy, particularly in special education settings. For instance, research on self-efficacy in teaching students with ASD has shown that higher self-efficacy is associated with increased teacher engagement and improved individualized education program (IEP) outcomes, while simultaneously being negatively correlated with teacher stress (Love et al., 2020). These findings suggest that as teachers become more confident in managing their classrooms and supporting their students, their stress levels tend to decrease.

The results of this study echo this concept, though the weak nature of the observed correlation indicates that additional factors likely influence these variables. Research conducted during the COVID-19 pandemic provides further insight, demonstrating that heightened external pressures led to elevated teacher stress and diminished positive emotions, adversely affecting their well-being and self-efficacy (Košir et al., 2022). Such findings emphasize how external stressors can exacerbate stress levels and hinder teachers' confidence in their abilities. Similarly, a study of Chinese university teachers revealed that stress stemming from organizational shortcomings negatively affected self-efficacy beliefs (Yin et al., 2020). These findings suggest that while certain stressors may have minimal effects on self-efficacy, others can significantly undermine teachers' confidence in their professional capacities.

The weak positive relationship identified in this study suggests that while stress does not entirely erode self-efficacy, it may create obstacles to optimal teaching performance. Relatedly, research on child behavior problems and parenting stress has demonstrated that greater externalizing behaviors in children correlate with lower parenting self-efficacy and increased stress (Stephenson et al., 2023). This broader context underscores how stressors tied to children's behaviors impact caregivers' sense of efficacy. In a similar vein, the challenges of supporting students with ASD likely contribute to increased teacher stress and shape their perceptions of efficacy.

Empirical profiles of teacher stress and burnout further reinforce the critical connection between teacher well-being and student outcomes. High-stress environments are linked to poorer student performance, highlighting the need to address teacher stress to promote self-efficacy and student success (Herman et al., 2018). Ultimately, the findings of this study suggest that while a positive relationship exists between stress and self-efficacy, it remains weak enough to necessitate further exploration of mediating factors or interventions that could enhance teacher confidence and effectiveness. The findings of the study indicate no significant relationship between stress and self-efficacy based on gender among teachers working with children with autism spectrum disorder (ASD). This result is particularly noteworthy and adds nuance to the existing body of literature on stress and self-efficacy in educational settings. Contrary to these findings, a study by Billett et al. (2023) found that female and younger students experienced higher stress levels and lower academic self-efficacy compared to their peers. This earlier study suggests that gender may influence how stress affects self-efficacy, especially within specific populations. However, the absence of a significant gender-based relationship in this study suggests a more complex interplay of factors that transcend demographic variables. This highlights the need for broader investigations into the determinants of self-efficacy beyond gender differences.

In related research on Irish primary school teachers, perceived stress emerged as a significant predictor of job satisfaction, with higher levels of occupational stress correlating with lower job satisfaction (Skaalvik & Skaalvik, 2016). While this emphasizes the critical influence of stress on job satisfaction, it does not directly address how stress impacts self-efficacy. The findings of this study suggest that while stress may affect job satisfaction, it does not necessarily translate into significant differences in self-efficacy between genders. This indicates that other mediating or moderating factors may play a more pivotal role.

Further insight comes from research on resilience and coping strategies among university students, which has demonstrated a positive relationship between self-efficacy and effective coping styles (Konaszewski et al., 2021). The lack of significant gender-based differences in this study's findings suggests that resilience and coping mechanisms among male and female teachers handling children

with ASD may be relatively similar. This could indicate that both genders employ comparable strategies when managing the stressors associated with teaching children with ASD.

Therefore, this study contributes to the growing body of literature on teacher stress and self-efficacy by revealing a significant yet weak positive relationship, with no influence of gender on this connection.

Future research could benefit from exploring additional variables that may affect this relationship, such as coping strategies or professional development opportunities designed to enhance teacher self-efficacy in high-stress environments. Addressing these factors could ultimately improve outcomes for both teachers and their students with ASD, fostering a more supportive and effective educational experience.

Implications of the Findings

The implications of these findings are multifaceted and provide valuable insights into the dynamics of teacher stress and self-efficacy, particularly in the context of working with children with autism spectrum disorder (ASD).

Teacher Support and Training: The weak positive relationship between stress and self-efficacy highlights the importance of providing teachers with targeted support and professional development. Given that higher self-efficacy is associated with better classroom management and student outcomes, enhancing teachers' confidence in their ability to handle stress and effectively support students with ASD is critical. Professional development programs should focus on building both teaching skills and stress-management strategies.

Addressing Stressors in Special Education: The study underscores the need for schools and educational institutions to address the unique stressors that teachers face when working with students with ASD. This could include providing better classroom resources, reducing class sizes, and ensuring that teachers have access to adequate support from specialists such as behavioral therapists or psychologists. Such interventions could mitigate stress and improve teacher efficacy, potentially leading to better outcomes for students.

Gender-Neutral Approaches to Support: The finding that gender does not significantly influence the relationship between stress and self-efficacy suggests that interventions and support strategies should be designed without assuming gender-specific differences in stress or self-efficacy. Instead, a more individualized approach should be adopted, considering each teacher's unique stressors and coping mechanisms, regardless of gender.

Coping Strategies and Resilience: Given the potential role of coping strategies in buffering the impact of stress on self-efficacy, future research and interventions should explore ways to enhance resilience among teachers. This could include incorporating stress-management techniques into teacher training programs and fostering a supportive work environment that encourages collaboration and peer support among educators.

Long-Term Teacher Well-being: The weak relationship between stress and self-efficacy suggests that while stress affects teacher efficacy to some degree, other factors—such as organizational support, personal coping mechanisms, and professional development—may play a more significant role. Long-term teacher well-being initiatives should prioritize a holistic approach, addressing both personal and institutional factors that contribute to stress and self-efficacy.

Conclusion

The results of this study revealed a significant, yet weak, positive relationship between teacher stress and self-efficacy among educators working with children with autism spectrum disorder (ASD). However, the findings also showed no significant relationship between teacher stress and self-efficacy based on gender, indicating that while stress is generally linked to self-efficacy, gender does not moderate this relationship in the context of teaching students with ASD.

Given these findings, it is crucial for educational institutions to prioritize support systems that enhance teacher self-efficacy while addressing the stressors present in the teaching environment. Professional development programs should focus on equipping teachers with effective coping strategies and resilience-building techniques, regardless of gender. Additionally, school administrators should cultivate a supportive atmosphere that fosters open communication and collaboration among teachers, helping to alleviate stress. Furthermore, policymakers should consider developing targeted interventions to address the unique challenges faced by teachers in both general and special education settings, ensuring that teachers are well-supported in their critical roles.

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