Cognitive Resilience in Special Education: Quantitative Insights into Trauma-Informed Interventions

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ARTICLE INFO	ABSTRACT
	This study utilized quantitative methods to examine the correlation between trauma-informed therapies and cognitive resilience in kids receiving special education. A sample of participants was recruited from special education programs using a convenience sampling method. Data were obtained by employing validated measures of trauma-informed treatments and cognitive resilience. The data was analysed using descriptive statistics, bivariate correlation analyses, multiple regression analysis, and analysis of covariance. The findings demonstrated strong positive associations between trauma-informed treatments and cognitive resilience outcomes. Specifically, trauma-sensitive teaching approaches and tailored assistance were identified as major predictors of resilience. Moreover, those who took part in the high-trauma-informed treatments group had notably elevated cognitive resilience scores after the intervention, in contrast to those in the low and moderate groups. These findings emphasize the significance of trauma-informed strategies in bolstering the cognitive resilience of kids in special education. They offer useful insights for educators and policymakers who want to establish inclusive and supportive learning environments. **keywords:** trauma-informed interventions, cognitive resilience, special education

Introduction

Cognitive resilience holds great significance within the domain of special education. Cognitive resilience refers to the capacity to sustain or recover cognitive capacities when confronted with obstacles or adverse events. The understanding of this notion is crucial for facilitating efficient adaptation and acquisition of knowledge (Belknap & Taymans, 2015). Special education settings are meticulously designed to offer support to kids who encounter diverse obstacles, such as learning difficulties, emotional disruptions, and traumatic encounters (Skårbrevik, 2005). The difficulties encountered by kids in special education can have a significant impact on their cognitive abilities and academic performance. Implementing effective treatments is essential for fostering cognitive resilience in these kids.

There is a growing acknowledgment of the significance of trauma-informed care in educational environments, particularly for children with disabilities who are more susceptible (Corr & Barton, 2018). A crucial element of trauma-informed treatment (Desai, 2023) is recognizing the need of understanding the effects of trauma on individuals and offering customized assistance that addresses their unique experiences. By incorporating trauma-informed concepts into educational procedures, educators may establish settings that foster resilience and facilitate favorable outcomes for kids (Imad, 2021).

Education is placing more attention on trauma-informed treatment. However, further research is necessary to assess the feasibility of this method, specifically in terms of its effect on improving cognitive resilience in kids with special needs. In order to establish strong evidence regarding the outcomes and effectiveness of trauma-informed interventions, it is crucial to conduct quantitative research. While there has been significant investigation into the experiences and perspectives of individuals involved in these interventions (Venet, 2019), such as teachers, administrators, and students, quantitative research is necessary to provide robust evidence.

The objective of this study is to offer numerical analysis on the correlation between trauma-informed therapies and cognitive resilience in special education settings. This study aims to enhance the existing empirical data by

utilizing a rigorous research design and validated measures of cognitive resilience and trauma-informed behaviors. The primary focus is on applying trauma-informed practices within the field of special education.

Problem of Study

Special education students frequently encounter many obstacles that might impact their cognitive abilities and academic achievements. These problems may encompass conditions such as cognitive impairments, affective disorders, and encounters with distressing events. Although there is an increasing acknowledgment of the significance of trauma-informed care in educational environments, there is a dearth of empirical investigation into its efficacy, specifically in terms of its influence on cognitive resilience in special education children. The absence of research in this area emphasizes the necessity for meticulous quantitative investigations to explore the correlation between trauma-informed therapies and cognitive resilience in special education environments.

Research Questions

1. What is the relationship between exposure to trauma-informed interventions and cognitive resilience among special education students?
2. Do certain components of trauma-informed interventions (e.g., trauma-informed classroom practices, individualized support) have a differential impact on cognitive resilience outcomes?
3. How do contextual factors (e.g., school climate, teacher-student relationships) moderate the relationship between trauma-informed interventions and cognitive resilience?

Significance of the Study

This study has important implications for educational practices and interventions that aim to support the cognitive resilience of special education students. The study offers empirical evidence on the effectiveness of trauma-informed interventions, which can contribute to the development of evidence-based strategies that foster resilience in challenging circumstances. In addition, the results of this study have the potential to make a valuable contribution to the continuous endeavors aimed at fostering inclusive and supportive educational settings for students with disabilities. In this study, we aim to deepen our comprehension of the connection between trauma-informed care and cognitive resilience. By doing so, we aspire to enhance the outcomes for special education students and nurture their academic and socio-emotional growth.

Term of the Study

The study spanned a duration of 12 months, commencing from the enrollment of participants and concluding with the analysis and interpretation of data. Special education settings incorporated trauma-informed therapies, and data were gathered to evaluate their influence on cognitive resilience results. The study team further performs studies to investigate the moderating influences of contextual variables on the correlation between trauma-informed therapies and cognitive resilience. After gathering and analyzing the data, the results were consolidated and shared through scholarly papers and presentations.

Limitations of the Study

Although the study design was rigorous, it is important to highlight numerous limitations. The findings of the study may have limited generalizability due to the particular characteristics of the sample group and the circumstances in which the study was performed. Moreover, the utilization of self-report methods for evaluating cognitive resilience and trauma exposure may induce partiality and restrict the accuracy of the findings. Moreover, the study's dependence on cross-sectional data may hinder the ability to make causal conclusions regarding the connection between trauma-informed therapies and cognitive resilience. External influences, such as alterations in school rules or turnover of people, might ultimately affect the execution of trauma-informed therapies and complicate the findings of the study. Although there are certain limitations, we will make attempts to reduce biases and enhance the validity and reliability of the findings.

Literature review and Previous studies

Cognitive resilience, which refers to the capacity to sustain or restore cognitive abilities in the face of challenges, plays a vital role in the academic achievement and socio-emotional welfare of children in special education. In the wider realm of education, there is a growing acknowledgment of the significance of trauma-informed care in addressing the needs of students who have undergone traumatic experiences (LaDuca, 2023). Trauma-informed methods prioritize comprehending the effects of trauma on individuals and implementing supportive treatments that foster healing and resilience (Founds, 2023). Although qualitative studies have examined the experiences and perspectives of trauma-informed practices in educational settings, there is a requirement for quantitative research to offer empirical evidence of their efficacy, especially among special education populations.

Prior studies have investigated the correlation between trauma-informed therapies and different outcomes in educational environments. For instance, Riggs & Landrum (2023) conducted a study examining the effects of trauma-informed practices on student behavior. The study revealed noteworthy enhancements in behavior management and notable decreases in disciplinary occurrences. Moreover, Arbour et al. (2023) conducted a meta-analysis that consolidated results from several research. They determined that trauma-informed

strategies were linked to favorable results for students, such as enhanced academic achievement and increased socio-emotional welfare.

Within the realm of special education, several research have investigated the correlation between exposure to trauma and the ability to bounce back cognitively. Chudzik et al. (2023) performed a investigation to explore the correlation between early trauma exposure and academic performance in special education children. The study revealed a correlation between students who had undergone traumatic experiences and a higher likelihood of facing academic challenges. This emphasizes the necessity of implementing treatments to enhance their cognitive resilience. In addition, Berg et al. (2017) did pioneering research on resilience in children who experience adversity, highlighting the significance of protective variables such as supportive connections and good coping skills in fostering resilience.

Although these studies offer useful insights into the correlation between trauma exposure, cognitive resilience, and educational results, there is still a requirement for quantitative research that explicitly concentrates on trauma-informed therapies in special education settings. Through the use of rigorous research procedures and verified metrics, these studies can offer empirical data on the effectiveness of trauma-informed practices and their influence on the cognitive resilience of special education children. Moreover, quantitative research can assist in identifying precise elements of trauma-informed treatments that are particularly advantageous in fostering resilience and informing the creation of evidence-based interventions customized for the requirements of special education groups.

Methods

The study utilized a quantitative approach to examine the correlation between trauma-informed therapies and cognitive resilience in special education students.

Participants were recruited from special education programs in numerous schools within a given geographic area using a convenience sampling approach. The inclusion criteria encompassed kids who were currently enrolled in special education programs and had undergone trauma, as well as receiving trauma-informed therapies. The exclusion criteria were pupils with significant cognitive impairments that impeded their capacity to engage in the study.

The Trauma-Informed treatments Scale (TIIS) was the main tool utilized in this study. It was particularly created for this research to evaluate the execution and efficacy of trauma-informed treatments in special education environments. The TIIS had Likert-type items that assessed many aspects of trauma-informed care, such as trauma-sensitive teaching methods, personalized assistance, and the general trauma-informed atmosphere within the school setting. The validity of the TIIS was confirmed through a process of expert evaluation and pilot testing with a group of special education teachers and administrators.

The Cognitive Resilience Scale (CRS) was used to assess cognitive resilience. The CRS is a reliable tool used to evaluate an individual's capacity to sustain cognitive functioning when confronted with challenges. The CRS is composed of several subscales that assess cognitive flexibility, problem-solving abilities, and adaptive coping mechanisms. Prior research has shown that the CRS has both reliability and validity when used with various groups, including kids in special education.

Self-report surveys were utilized to gather data from both special education pupils and their teachers. Students utilized the CRS to evaluate their cognitive resilience, while instructors utilized the TIIS to rate the execution of trauma-informed treatments in their classes and schools. Two data collection points were used: before and after the intervention, in order to evaluate alterations in cognitive resilience after the adoption of trauma-informed therapies.

Summary statistics, such as means and standard deviations, were computed to describe the demographic features of the sample and the scores on the CRS and TIIS. Bivariate correlation analyses were performed to evaluate the correlation between trauma-informed interventions and cognitive resilience. This analysis aimed to determine the degree and direction of the link between scores on the Trauma-Informed Interventions Scale (TIIS) and Cognitive Resilience Scale (CRS). Furthermore, multiple regression analysis was used to examine the predictive significance of particular elements of trauma-informed therapies on cognitive resilience results, while taking into account relevant demographic characteristics.

Moreover, a statistical technique called analysis of covariance (ANCOVA) was used to compare the cognitive resilience ratings after the intervention across groups that received different degrees of trauma-informed therapies. This analysis took into account the participants' pre-intervention cognitive resilience scores as a covariate. The objective of this research was to ascertain if the efficacy of trauma-informed therapies differed depending on the level or standard of implementation.

Results

Table 1: Descriptive Statistics for Demographic Characteristics

Variable	Mean	Standard Deviation
Age	10.4	1.8
Gender	1.3	0.5

Grade Level	5.7	1.2
Years in Special Education	3.2	1.5

The participants had an average age of 10.4 years, with a standard deviation of 1.8. Their average grade level was 5.7, with a standard deviation of 1.2. Most of the participants in the study identified as male, with a mean of 1.3 and a standard deviation of 0.5. The average duration of participants' enrollment in special education was 3.2 years, with a standard deviation of 1.5.

Table 2: Descriptive Statistics for Cognitive Resilience Scale (CRS) Scores

Subscale	Pre-Intervention (Mean)	Post-Intervention (Mean)
Cognitive Flexibility	24.5	27.8
Problem-Solving Skills	18.9	21.4
Adaptive Coping Strategies	22.3	24.9

After the intervention, participants showed significant enhancements in cognitive resilience across all subscales. The scores showed a noticeable improvement from before the intervention to after the intervention. Specifically, there was an increase in cognitive flexibility (pre = 24.5, post = 27.8), problem-solving skills (pre = 18.9, post = 21.4), and adaptive coping strategies (pre = 22.3, post = 24.9).

Table 3: Descriptive Statistics for Trauma-Informed Interventions Scale (TIIS) Scores

Subscale	Pre-Intervention (Mean)	Post-Intervention (Mean)
Trauma-Sensitive Teaching Practices	3.2	4.6
Individualized Support	3.8	4.3
School Environment	3.5	4.1

There was a noticeable improvement in the implementation of trauma-informed interventions across all subscales from before the intervention to after the intervention. The scores for trauma-sensitive teaching practices, individualized support, and school environment all showed significant improvement. Before the intervention, the mean scores were 3.2, 3.8, and 3.5 respectively. After the intervention, the scores increased to 4.6, 4.3, and 4.1, indicating a positive change in these areas.

Table 4: Bivariate Correlation Analysis between Trauma-Informed Interventions (TIIS) and Cognitive Resilience (CRS) Scores

Variable	Cognitive Flexibility	Problem-Solving Skills	Adaptive Coping Strategies
Trauma-Sensitive Teaching Practices	0.56**	0.48**	0.52**
Individualized Support	0.42**	0.38**	0.45**
School Environment	0.35*	0.29	0.32*

Across all subscales, there were notable positive correlations observed between trauma-informed interventions (measured by the Trauma-Informed Interventions Scale, TIIS) and cognitive resilience (measured by the Cognitive Resilience Scale, CRS). More specifically, teaching practices that are sensitive to trauma, personalized support, and the overall school environment showed a strong correlation with cognitive flexibility, problem-solving abilities, and adaptive coping strategies. These findings indicate that the implementation of trauma-informed interventions has a positive impact on the cognitive resilience of special education students.

Table 5: Multiple Regression Analysis Predicting Cognitive Resilience from Trauma-Informed Interventions

Predictor	Cognitive Flexibility (β)	Problem-Solving Skills (β)	Adaptive Coping Strategies (β)
Trauma-Sensitive Teaching Practices	0.42**	0.35**	0.39**
Individualized Support	0.30*	0.25*	0.28*
School Environment	0.22	0.18	0.20
Constant	10.20	8.80	9.50

An analysis was conducted using multiple regression to explore the predictive value of trauma-informed interventions, as measured by the Trauma-Informed Interventions Scale (TIIS), on cognitive resilience, as measured by the Cognitive Resilience Scale (CRS), across various subscales. Factors such as trauma-sensitive teaching practices and personalized support were found to be important in predicting cognitive resilience. The standardized beta coefficients provided insights into the strength and direction of these relationships. In

particular, the implementation of trauma-sensitive teaching practices and personalized support has been found to enhance cognitive flexibility, problem-solving abilities, and adaptive coping strategies. In this analysis, the school environment did not emerge as a strong predictor of cognitive resilience.

Table 6: Analysis of Covariance (ANCOVA) Comparing Post-Intervention Cognitive Resilience Scores between Groups Receiving Different Levels of Trauma-Informed Interventions

Subscale	Trauma-Informed Interventions Group	Mean Post-Intervention Cognitive Resilience Score	Standard Error
Cognitive Flexibility	Low	28.2	0.6
	Moderate	31.5	0.8
	High	33.8	0.7
Problem-Solving Skills	Low	22.1	0.5
	Moderate	24.5	0.6
	High	26.3	0.7
Adaptive Coping Strategies	Low	25.4	0.7
	Moderate	27.8	0.9
	High	29.6	0.8

Researchers employed analysis of covariance (ANCOVA) to examine the impact of different degrees of trauma-informed interventions on participants' cognitive resilience. This approach controlled for participants' pre-intervention scores, allowing for a comparison of the changes in cognitive resilience levels. Following the administration of trauma-informed therapy, individuals demonstrated a statistically significant enhancement in cognitive resilience across all domains. Regarding post-intervention cognitive resilience ratings, persons who got highly trauma-informed therapies fared better than both the low- and moderate-trauma-informed groups. These findings suggest that the number or quality of trauma-informed therapy is associated with enhanced cognitive resilience in special education children.

The present findings align with previous research indicating that trauma-informed treatments enhance the cognitive resilience of kids in special education (Chudzik et al., 2023; Joiner & Buttell, 2018; Warfield, 2013). Our research indicates that trauma-informed treatments significantly improve cognitive resilience, as evidenced by the observed improvements in all subscales of the Cognitive Resilience Scale (CRS) following the therapies. According to SAMHSA (2014), trauma-informed interventions have demonstrated efficacy in facilitating the development of adaptive coping mechanisms, problem-solving skills, and cognitive flexibility in special education children.

Furthermore, our research contributes to the current pool of information by identifying the specific components of trauma-informed interventions that have the most significant influence on enhancing cognitive resilience outcomes. Our multiple regression analysis indicates that teaching techniques that demonstrate sensitivity towards trauma and offer personalized assistance have a significant role in fostering resilience among special education children. These characteristics also appeared as important indicators of resilience in all areas of measurement. The studies conducted by Nanda et al. (2018) and Johnson et al. (2020) shown that trauma has a detrimental impact on cognitive abilities and academic achievement. In order to lessen the effects of this influence, previous studies have emphasized the need of establishing supportive relationships and providing personalized therapeutic interventions.

Furthermore, our analysis of covariance (ANCOVA) sheds insight on the diverse degrees of trauma-informed treatments and their impact on post-intervention cognitive resilience ratings. The findings of this study indicate that the effectiveness and strength of trauma-informed therapies play a crucial role in enhancing the resilience of kids in special education. Participants who received high-trauma-informed therapies demonstrated notably higher average cognitive resilience scores after the intervention, in comparison to those in the low and moderate groups. Given the heightened vulnerability of students with disabilities to the adverse effects of trauma, it is imperative for educational institutions to actively and continuously implement trauma-informed practices (Davis & Buchanan, 2020; Bailey, 2022).

Our research has revealed that the use of trauma-informed techniques is essential in mitigating the adverse effects of trauma on both academic and social-emotional outcomes. Stinner et al. (2022) state that trauma-informed techniques facilitate individuals' recovery and resilience by prioritizing a thorough understanding of the impact of trauma on them. These strategies also need the establishment of secure and nurturing environments. Adopting trauma-sensitive pedagogies and implementing specialized support systems in schools can improve the social and emotional health as well as the academic success of all students, with a particular focus on those in special education.

Moreover, the trauma-informed care theoretical framework is reinforced by the substantial favorable associations seen between trauma-informed therapies and cognitive resilience outcomes. The framework emphasizes the significance of establishing circumstances that foster resilience and favorable results for those who have undergone trauma (Long et al., 2024). Our study found that trauma-informed interventions, such as trauma-sensitive teaching approaches and individualized support, were associated with enhanced cognitive

flexibility, problem-solving ability, and adaptive coping mechanisms. These interventions are components of specialized educational programs.

Our research has practical implications for stakeholders in education policy and practice who aim to include trauma-informed practices into special education programs. To cater to the specific requirements of children in special education, educators can tailor trauma-informed interventions by identifying the elements of these programs that bolster cognitive resilience. Investing in trauma-sensitive teaching methods through professional development programs and improved student support services has the potential to promote cognitive resilience results.

However, it is important to acknowledge that our study is subject to some constraints. The use of self-report measures and convenience sampling may limit the generalizability of the findings, despite efforts to minimize biases and ensure the validity and reliability of the results. We suggest that future research endeavors focus on validating the causal connections between trauma-informed therapies and cognitive resilience outcomes through the use of longitudinal methodologies and larger, more diverse samples. Moreover, in order to optimize outcomes for kids in special education, it would be advantageous to do further investigation into the ways in which trauma-informed treatments promote resilience, with a particular focus on the role of social support networks and coping strategies.

Recommendations

According to the results of this study, there are numerous suggestions that can be made to help implement trauma-informed therapies and enhance cognitive resilience in special education kids. First and foremost, educational policymakers should give top priority to incorporating trauma-informed principles into school policies and practices. This should involve ensuring that educators receive sufficient training and support to successfully implement trauma-sensitive teaching strategies and offer personalized assistance to students. It is important to offer professional development opportunities to educators in order to improve their comprehension of trauma and its influence on learning. Additionally, these opportunities should give educators with the essential skills and tactics to establish secure and supportive learning environments.

Schools should give priority to allocating resources towards supporting the implementation of trauma-informed treatments, such as facilitating access to mental health specialists and support services for students who have undergone traumatic experiences. Collaborative alliances of educational institutions, community entities, and mental health practitioners can expedite the provision of comprehensive assistance to students and families, effectively addressing their distinct requirements and fostering resilience.

It is important to cultivate a culture of trauma-informed care in educational environments, emphasizing empathy, comprehension, and sensitivity towards students who have undergone traumatic experiences. Implementing school-wide efforts, such as providing trauma-informed training to all staff members and forming trauma-informed practices committees, may foster a nurturing and inclusive school environment that places a high value on the welfare of every kid.

Further investigation is necessary to delve into the processes by which trauma-informed therapies enhance cognitive resilience and to pinpoint techniques for maximizing the impact of these interventions. Longitudinal studies are necessary to evaluate the enduring effects of trauma-informed treatments on academic and socio-emotional results. Additionally, these studies can help uncover factors that can influence or mediate the connection between trauma exposure, intervention implementation, and resilience outcomes.

Acknowledgments

References

1. Abualrish, M. A., & Khasawneh, M. A. (2024). Using social media as a platform of communication between school administration and the local communities to promote inclusive education for children with special needs. *Studies in Media and Communication*, *12*(2), 79. https://doi.org/10.11114/smc.v12i2.6560
2. Aburezeq, I. M., Dweikat, F. F., Al-Shaar, A. S., & Khasawneh, M. A. S. (2022). Case Study on the Dissemination of Radicalism on social media. *Information Sciences Letters, 11(6)*, pp. 2339–2343. DOI: http://dx.doi.org/10.18576/isl/110640
3. Al Sabi, Y. N., Jaradat, S. A., Ayasrah, M. N., Khasawneh, M. A. S., & Al Taqatqa, F. A. S. (2022). Shyness and its Relation with Self-esteem in Light of Some Variables. *Information Sciences Letters*, *11*(6), 2345-235. https://doi.org/10.18576/isl/110641
4. Alanazi, A. S., Almulla, A. A., & Khasawneh, M. A. (2023). Evaluating the effects of integrating cognitive presence strategies on teacher attitudes and student learning outcomes in special education and autism classrooms. *International Journal of Special Education (IJSE)*, *38*(2), 80-89. https://doi.org/10.52291/ijse.2023.38.24

5. Alanazi, A. S., Almulla, A. A., & Khasawneh, M. A.S. (2023). Exploring the E-learning supporting systems for students with special needs. *Revista de Gestão Social e Ambiental*, *17*(7), e03917. https://doi.org/10.24857/rgsa.v17n7-0
6. Alelaimat, A. M., Baibers, H. S., & Khasawneh, M. A. (2023). Examining the impact of YouTube vlogging on communication skills in teens with speech and language disorders. *International Journal of Data and Network Science*, *7*(4), 2077-2082. https://doi.org/10.5267/j.ijdns.2023.10.100
7. Al-Gaseem, M. M., & Khasawneh, M. A. S. (2022). Action Research in Science Teacher Education Program: Significance and Benefit According to the Students-Teachers' Assessments. *Przestrzeń Społeczna (Social Space)*, *22*(3), 97-113.
8. Al-Gaseem, M. M., & Khasawneh, M. A. S. (2023). Environmental Orientation for Art Teachers Education Program (EOATEP). *Journal of Higher Education Theory and Practice*, *23*(12), 209-223.
9. Alkhasawneh, T., Al-Shaar, A. S., Khasawneh, M.A.S.., Darawsheh, S., & Aburaya, N. (2022). Self-Esteem and its Relationship to some Demographic Variables among Students with Learning Disabilities. *Information Sciences Letters*, *11(6),* pp. 1929–1936. http://dx.doi.org/10.18576/isl/110609
10. Alkhawalde, M. A., & Khasawneh, M. A. (2024). Designing gamified assistive apps: A novel approach to motivating and supporting students with learning disabilities. *International Journal of Data and Network Science*, *8*(1), 53-60. https://doi.org/10.5267/j.ijdns.2023.10.018
11. Alkhawaldeh, M. A., Alwaely, S. A., Al Sabi, Y. N., Abueita, S. D., Alomari, N., Al Taqatqa, F. A. S., ... & Al-Shaar, A. S. (2023). Parents' role in gifted students' educational issues and development. *Information Sciences Letters*, *12*(3), 1215-1221. https://doi.org/10.18576/isl/120312
12. Alkhazaleh, M., Khasawneh, M. A. S., Alkhazaleh, Z. M., Alelaimat, A. M., & Alotaibi, M. M. (2022). An Approach to Assist Dyslexia in Reading Issue: An Experimental Study. *Social Space*, *22*(3), 133-151.
13. Almulla, A. A., Khasawneh, M. A., Abdel-Hadi, S. A., & Jarrah, H. Y. (2024). Influence of non-linear storytelling in video games on cognitive development among students with learning disabilities. *International Journal of Learning, Teaching and Educational Research*, *23*(1), 84-97. https://doi.org/10.26803/ijlter.23.1.5
14. Alomari, M. A., Alqudah, R. A., Al Rub, M. A., Alqsaireen, E. M., & Khasawneh, M. A. S. (2023). The Role of Media in Educational Social Construction of Children with Special Needs. *Information Sciences Letters*, *12*(7), 2933-2940.
15. Alomari, M. A., Daradkah, S. A., Al Rub, M. A., Alqsaireen, E. M., & Khasawneh, M. A. (2023). Utilization of Multimedia Services in Libraries for Students with Disabilities. https://doi.org/10.18576/isl/120717.
16. Alrishan, A. M. H., Alwaely, S. A., Alshammari, A. K., Alshammari, R. K., & Khasawneh, M. A. S. (2023). The impact of the Teacher's personality on the motivation of learning the English language among governmental school students in Saudi Arabia. *Information Sciences Letters*, *12*(3), 1223-1230.
17. Al-Rousan, A. H., Ayasrah, M. N., & Khasawneh, M. A. S. (2023). Psychological Stability and its Relationship to Academic Performance Among Secondary School Students. https://doi.org/10.18576/isl/120335
18. Alsowait, M. M., Obeidat, S. S., Obeidat, L. M., Ayasrah, M. N., & Khasawneh, M. A. (2023). Aligning Translation: A guide for special education teachers and parents. *Studies in Media and Communication*, *12*(1), 102. https://doi.org/10.11114/smc.v12i1.6573
19. Alsowait, M. M., Obeidat, S. S., Obeidat, L. M., Ayasrah, M. N., & Khasawneh, M. A. (2023). Navigating the social media landscape: A guide for special education teachers and parents. *Studies in Media and Communication*, *12*(1), 102. https://doi.org/10.11114/smc.v12i1.6573
20. Alsrehan, H., Alhrahsheh, R., AlOdwan, S. S., Nser, K. K., Darawsheh, S. R., Khasawneh, M. A.S, & Owis, M. Z. (2024). Virtual reality socialization groups on Facebook: A new frontier for children with social anxiety disorder. *International Journal of Data and Network Science*, *8*(2), 1229-1236. https://doi.org/10.5267/j.ijdns.2023.11.011
21. Alwaely, S. A., Almousa, N. A., Helali, M. M., Ali, R. M., Rashed, R. M., Mashal, A. A., Saleh, S. G., Darawsheh, S. R., & Khasawneh, M. A. (2024). Teacher-student rapport and gamified learning: Investigating the role of interpersonal variables in classroom integration. *International Journal of Data and Network Science*, *8*(2), 1319-1324. https://doi.org/10.5267/j.ijdns.2023.11.003
22. Alwaely, S. A., El-Zeiny, M. E., Alqudah, H., Alamarnih, E. F., Salman, O. K., Halim, M., & Khasawneh, M. A.S. (2023). The impact of teacher evaluation on professional development and student achievement. *Revista de Gestão Social e Ambiental*, *17*(7), e03484. https://doi.org/10.24857/rgsa.v17n7-022
23. Arbour, M., Walker, K., & Houston, J. (2023, June 26). Trauma-Informed Pedagogy: Instructional Strategies to Support Student Success. *Journal of Midwifery & Women's Health*, *69*(1), 25–32. https://doi.org/10.1111/jmwh.13539
24. Bailey, S. (2022, December 5). Teacher-Preparation Programs and Trauma-Informed Teaching Practices: Getting Students to CHILL. *Current Issues in Education*, *23*(3). https://doi.org/10.14507/cie.vol23.iss3.2057
25. Belknap, B., & Taymans, J. (2015, June 1). Risk and Resilience in Beginning Special Education Teachers. *The Journal of Special Education Apprenticeship*, *4*(1). https://doi.org/10.58729/2167-3454.1039

26. Berg, K. L., Acharya, K., Shiu, C. S., & Msall, M. E. (2017, September 1). Delayed Diagnosis and Treatment Among Children with Autism Who Experience Adversity. *Journal of Autism and Developmental Disorders*, *48*(1), 45–54. https://doi.org/10.1007/s10803-017-3294-y

27. Chudzik, M., Corr, C., & Fisher, K. W. (2023, April 17). Trauma-Informed Care: The Professional Development Needs of Early Childhood Special Education Teachers. *Journal of Early Intervention*, *46*(1), 113–129. https://doi.org/10.1177/10538151231164898

28. Chudzik, M., Corr, C., & Santos, R. M. (2023, December 30). ". . .We're Not Doing Enough:": Trauma-Informed Care in an Early Childhood Special Education Center. *Topics in Early Childhood Special Education*. https://doi.org/10.1177/02711214231219282

29. Corr, C., & Barton, E. E. (2018, October 12). Topics in Early Childhood Special Education Topical Issue on "Research to Practice in Maltreatment, Trauma, and Toxic Stress." *Topics in Early Childhood Special Education*, *38*(3), 132–133. https://doi.org/10.1177/0271121418795669

30. Darawsheh, S. R., Al-Darabah, I. T., Bedaiwy, A. A., Gmach, I., Alfandi, A. A. A., Elsharkasy, A. S., ... & Khasawneh, M. A. S. (2023). Emotional Intelligence for English Students with Learning Disabilities in Light of Some Variables. https://doi.org/10.18576/isl/120327

31. Darawsheh, S. R., Asha, I. K., AbuSaif, R., Alhejoj, A. F., & Khasawneh, M. A. (2023). An outline of the professional quality of teachers who teach children with special needs. *Journal of Education and e-Learning Research*, *10*(3), 358-363. https://doi.org/10.20448/jeelr.v10i3.4711

32. Davis, L., & Buchanan, R. (2020, June 17). Trauma-Informed Practices in Rural Education. *Theory & Practice in Rural Education*, *10*(1), 24–41. https://doi.org/10.3776/tpre.v10n1p24-41

33. Desai, A. (2023, February). Trauma-Informed Training for Veterans Treatment Court Professionals: Program Development and Initial Feedback. *Federal Practitioner*, *40*(2). https://doi.org/10.12788/fp.0358

34. Founds, S. D. (2023, October 6). Trauma-informed librarianship: an exploratory literature review of trauma-informed approaches in school, academic and public libraries. *Reference Services Review*. https://doi.org/10.1108/rsr-03-2023-0030

35. Hadhrami, A. S. A. L., Al-Amrat, M. R., Khasawneh, M. A. S., & Darawsheh, S. R. (2022). Approach to Improve Reading Skill of Students with Dyslexia. *Information Sciences Letters, 11(6)*, pp. 2333–2338. http://dx.doi.org/10.18576/isl/110639

36. Imad, M. (2021, March 25). Transcending Adversity: Trauma-Informed Educational Development. *To Improve the Academy*, *39*(3). https://doi.org/10.3998/tia.17063888.0039.301

37. Jarrah, H. Y., Bilal, D. A., Halim, M., Helali, M. M., AlAli, R. M., Alfandi, A. A., & Khasawneh, M. A. (2024). The impact of storytelling and narrative variables on skill acquisition in gamified learning. *International Journal of Data and Network Science*, *8*(2), 1161-1168. https://doi.org/10.5267/j.ijdns.2023.11.018

38. Johnson, T., Siegelman, N., & Arnon, I. (2020, July 31). Individual Differences in Learning Abilities Impact Structure Addition: Better Learners Create More Structured Languages. *Cognitive Science*, *44*(8). https://doi.org/10.1111/cogs.12877

39. Joiner, V. C., & Buttell, F. P. (2018, May 16). Investigating the usefulness of trauma-focused cognitive behavioral therapy in adolescent residential care. *Journal of Evidence-Informed Social Work*, *15*(4), 457–472. https://doi.org/10.1080/23761407.2018.1474155

40. Khasawneh, M. A. S. (2021). The Impact of Phonological Awareness in Improving Sequential Memory among Students with Learning Disabilities. *International Journal of Disability, Development, and Education*, 1-13. https://doi.org/10.1080/1034912X.2021.1995853

41. Khasawneh, M. A. S. (2021). The Level of Job Performance among Teachers of Learning Disabilities in the English Language During The COVID-19 Pandemic from Their Point of View. *International Journal of Contemporary Research and Review*, *12*(10),20449-20457. https://doi.org/http://ijcrr.info/index.php/ijcrr/article/view/924/947.

42. Khasawneh, M. A. S. (2021). The level of motivation among teachers of learning disabilities in the English language in light of the COVID-19 pandemic. *Social Science Learning Education Journal*, *6*(11), 642-651DOI: https://doi.org/10.15520/sslej.v6i11.2871

43. Khasawneh, M. A. S. (2021). Training program on developing reading skills in the english language among students with learning difficulties. *Revista EDUCARE-UPEL-IPB-Segunda Nueva Etapa 2.0*, *25*(1), 84-101. DOI: 10.46498/reduipb.v25i1.1466

44. Khasawneh, M. A. S. (2021a). An electronic Training Program on Developing the Written Expression Skills among a Sample of foreign language learners EFL who are at-risk for Learning disabilities during the emerging Covid-19. *Academy of Social Science Journal*, *7*(10), 1974-1982. DOI: HTTPS://DOI.ORG/10.15520/ASSJ.V7I10.2713

45. Khasawneh, M. A. S. (2021b). Attitudes of teachers of learning disabilities in English language towards the use of information technology in Irbid from their point of view. *Journal of Advances in Social Science and Humanities*, *7*(10), 1957-1966.DOI:10.15520/jassh.v7i10.661

46. Khasawneh, M. A. S. (2023). Factors Affecting the Improvement of Speaking Skills Among Jordanian EFL Learners. *Journal of Language Teaching and Research*, *14*(6), 1559-1568.

47. Khasawneh, M. A. S. (2023). Interpersonal Communication Model for Children with Special Needs. *Information Sciences Letters*, *12*(6), 2469-2474. https://doi.org/10.18576/isl/120623

48. Khasawneh, M. A. S., & Al-Rub, M. O. A. (2020). Development of Reading Comprehension Skills among the Students of Learning Disabilities. *Universal Journal of Educational Research*, *8*(11), 5335-5341. DOI: 10.13189/ujer.2020.081135

49. Khasawneh, N. A. S., & Khasawneh, M. A. S. (2022). Linguistic Needs of Non-Native Students of Arabic Language at Saudi Universities. *International Journal of Language Education*, *6*(3), 245-253.

50. Khasawneh, Y. J. A., Jarrah, H. Y., Alsarayreh, R. S., & Khasawneh, M. A. S. (2023). The Role of Cloud Computing in Improving the Performance of School Principals. *Eurasian Journal of Educational Research*, *107*(107), 110-125.

51. Khasawneh, M. (2020). The effect of the spread of the new COVID-19 on the psychological and social adaptation of families of Persons with Disabilities in the Kingdom of Saudi Arabia. *Health Psychology Report*, *9*(3), 264-275. https://doi.org/10.5114/hpr.2020.99003

52. Khasawneh, M. A. (2020). The extent of bullying against students with learning disabilities according to the age variable. *International Journal of Learning, Teaching and Educational Research*, *19*(6), 267-281. https://doi.org/10.26803/ijlter.19.6.16

53. Khasawneh, M. A. (2023). Digital inclusion: Analyzing social media accessibility features for students with visual impairments. *Studies in Media and Communication*, *12*(1), 71. https://doi.org/10.11114/smc.v12i1.65

54. Khasawneh, M. A. (2024). Beyond digital platforms: Gamified skill development in real-world scenarios and environmental variables. *International Journal of Data and Network Science*, *8*(1), 213-220. https://doi.org/10.5267/j.ijdns.2023.10.002.

55. Khasawneh, M. A. S. (2023). The use of video as media in distance learning for deaf students. *Contemporary Educational Technology*, *15*(2), ep418. https://doi.org/10.30935/cedtech/13012

56. Khasawneh, M. A., & Alkhawaldeh, M. A. (2020). The effectiveness of phonological awareness training in treating deficiencies in auditory processing among children with learning disabilities among elementary cycle students in Saudi Arabia. *International Journal of Language Education*. https://doi.org/10.26858/ijole.v4i3.14758

57. Khasawneh, M. A.S. (2023). Analysis of the application of pedagogical technology to the learning of children with ASD. *International Journal of Special Education (IJSE)*, *38*(1), 82-89. https://doi.org/10.52291/ijse.2023.38.8

58. Khasawneh, M. A.S. (2023). Mutual relationships: Saudi universities and the private sector for economic development. *Information Sciences Letters*, *12*(8), 2643-2652. https://doi.org/10.18576/isl/120818

59. Khasawneh, M. A.S., & Khasawneh, Y. J. (2023). Achieving assessment equity and fairness: Identifying and eliminating bias in assessment tools and practices. https://doi.org/10.20944/preprints202306.0730.v1

60. Khasawneh, M.A.S. (2023). Social attitude of children with special needs in the learning process. *Medical Archives*, *77*(2), 149. https://doi.org/10.5455/medarh.2023.77.149-153

61. Khasawneh, Y. J., & Khasawneh, M. A.S. (2023). Availability of voice-recognition devices to support visually impaired students in Saudi Arabian universities. *Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications*, *14*(3), 186-193. https://doi.org/10.58346/jowua.2023.i3.014

62. Khasawneh, Y. J., Alanazi, A. S., Almulla, A. A., & Khasawneh, M. A. (2024). Employing technology inside and outside the classroom by special education teachers in primary schools. *Humanities and Social Sciences Letters*, *12*(1), 1-9. https://doi.org/10.18488/73.v12i1.3591

63. Khasawneh, Y. J., Alsarayreh, R., Ajlouni, A. A., Eyadat, H. M., Ayasrah, M. N., & Khasawneh, M. A. (2023). An examination of teacher collaboration in professional learning communities and collaborative teaching practices. *Journal of Education and e-Learning Research*, *10*(3), 446-452. https://doi.org/10.20448/jeelr.v10i3.4841

64. Khasawneh, Y. J., Khasawneh, N., & Khasawneh, M. A. (2024). Exploring the long-term effects: Retention and transfer of skills in gamified learning environment. *International Journal of Data and Network Science*, *8*(1), 195-200. https://doi.org/10.5267/j.ijdns.2023.10.004

65. LaDuca, B. (2023). Trauma-Informed Learning Community (TLC) for Educational Professionals. *The Journal of Applied Instructional Design*. https://doi.org/10.59668/567.11197

66. Long, T., Aggar, C., & Grace, S. (2024, April). Trauma-informed care education for midwives: Does education improve attitudes towards trauma-informed care? *Midwifery*, *131*, 103950. https://doi.org/10.1016/j.midw.2024.103950

67. Nanda, H., Marwaha, S., & Nanda, G. (2018, July 16). Impact of Multiple Intelligence Based Intervention on Cognitive Abilities of Students. *European Journal of Behavioral Sciences*. https://doi.org/10.33422/ejbs.2018.07.66

68. Riggs, L., & Landrum, T. (2023, October 10). Trauma-Informed PBIS: How Educators Can Combine Evidence-Based Practices for Behavior Management With Trauma-Informed Care. *Beyond Behavior*, *32*(3), 152–161. https://doi.org/10.1177/10742956231201351

69. Salman, O. K., Khasawneh, Y. J., Alqudah, H., Alwaely, S. A., & Khasawneh, M. A. (2024). Tailoring gamification to individual learners: A study on personalization variables for skill enhancement. *International Journal of Data and Network Science*, *8*(2), 789-796. https://doi.org/10.5267/j.ijdns.2023.12.025
70. Shater, A., AlMahdawi, A. J., & Khasawneh, M. A. S. (2023). The Digital Learning of Disabled Students: Perceptions of Teachers in Public Schools. *Inf. Sci. Letters. Int. J*, *12*, 879-887.
71. Shater, A., Bani-Rshaid, A. M., Al-Fayoumi, M. M., Al-Shaar, A. S., Bukhamseen, A. M., & Khasawneh, M. A. (2023). Peer-mediated intervention through Snapchat: Enhancing social interactions among students with autism. *International Journal of Data and Network Science*, *7*(4), 2083-2088. https://doi.org/10.5267/j.ijdns.2023.10.101
72. Shawaqfeh, A. T., & Khasawneh, M. A. (2023). Incorporating corpus linguistics tools in the training and professional development of lecturers in translation studies. *Studies in Media and Communication*, *11*(7), 260. https://doi.org/10.11114/smc.v11i7.6379
73. Shawaqfeh, A. T., Jameel, A. S., Al-adwan, L. A., & Khasawneh, M. A. (2023). Interaction as a mechanism to enhance English language proficiency in the classroom. *Journal of Language Teaching and Research*, *15*(1), 229-234. https://doi.org/10.17507/jltr.1501.25
74. Skårbrevik, K. J. (2005, December). The quality of special education for students with special needs in ordinary classes. *European Journal of Special Needs Education*, *20*(4), 387–401. https://doi.org/10.1080/08856250500268601
75. Stinner, D., Hendrickson, S. B., & Vallier, H. A. (2022, October). Trauma System Support to Facilitate Recovery. *Journal of Orthopaedic Trauma*, *36*(5), S6–S9. https://doi.org/10.1097/bot.0000000000002446
76. Venet, A. S. (2019, February 14). Role-Clarity and Boundaries for Trauma-Informed Teachers. *Educational Considerations*, *44*(2). https://doi.org/10.4148/0146-9282.2175
77. Warfield, J. R. (2013). Supervising Culturally Informed Modified Trauma-Focused Cognitive Behavioral Therapy. *Journal of Cognitive Psychotherapy*, *27*(1), 51–60. https://doi.org/10.1891/0889-8391.27.1.51
78. Yaser, N. A. S., Samar, A. J., Firas, A. S. A. T., & Mohamad, M.A.S. (2022). USING SOCIAL MEDIA NETWORK BY SPECIAL EDUCATION TEACHERS. *International Journal of Cognitive Research in Science, Engineering and Education*, *10*(2), 39-50. DOI: 10.23947/2334-8496-2022-10-2-39-50
79. Zaghlool, Z. D., & Khasawneh, M. A. (2023). Aligning translation curricula with technological advancements; Insights from artificial intelligence researchers and language educators. *Studies in Media and Communication*, *12*(1), 58. https://doi.org/10.11114/smc.v12i1.6378