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Message from the Editor

I am very pleased to publish second issue in 2024. As an editor of Turkish International Journal of Special Education and Guidance & Counselling (TIJSEG) this issue is the success of the reviewers, editorial board and the researchers. In this respect, I would like to thank to all reviewers, researchers and the editorial board. The articles should be original, unpublished, and not in consideration for publication elsewhere at the time of submission to Turkish International Journal of Special Education and Guidance & Counselling (TIJSEG), For any suggestions and comments on TIJSEG, please do not hesitate to send mail. The countries of the authors contributed to this issue (in alphabetical order): China, Hungary, Indonesia, Nigeria, North Cyprus, and Türkiye.

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Editor in Chief

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DIGITAL LEARNING FOR AUTISM SPECTRUM DISORDER (ASD) STUDENTS: THE DIFFICULTIES PARENTS ENCOUNTER

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Abstract

This study aims to explore the problems parents face when introducing digital learning into the education of their children with autism spectrum disorder (ASD). The research niche addresses the intersection of digital learning platforms and the unique needs of ASD students, while specifically focussing on the issues reported by parents who are trying to take an active part in their children's studies. A total of 112 parents participated in this study, providing their opinions through a Google Form questionnaire. Data were analysed using SPSS 29 to identify key issues like accessing technology, understanding and using digital tools, supporting children's engagement and motivation, time management, and balancing other responsibilities. The key takeaways of the study reveal that parents face significant challenges while selecting appropriate tools, ensuring compatibility with their child's needs, and managing the appropriate screen time. In conclusion, these difficulties demand an ongoing effort throughout the design, training, and assistance provided for parents to incorporate digital learning into their children's education successfully. The key to this success seems to be for teachers, developers, and families to work together to maximise the chance for digital learning to become a breakthrough success for ASD students.

Keywords: Autism spectrum disorder, digital learning, parents, difficulties, parental challenges.

INTRODUCTION

Recent advances in technology have brought up significant changes to the educational process, including increased efficiency and student-specific adaptability. The use of tools and technology within adaptable digital learning environments provides a multitude of advantages for students who have autism spectrum disorder (ASD). The use of these technologies gives students the opportunity to have educational experiences that are flexible and individualised. It is also important to note that many ASD students often have difficulties in conventional classroom settings due to their social skills trouble, communication issues, and problems with sensitivity to certain stimulations. Digital platforms can improve issues related to learning by offering flexible courses in the form of videos. They also use graphic displays and interactive exercises instead of textbooks, which can overwhelm students. For example, ASD students are mostly visual learners and prefer to learn in environments that are coordinated with the provision of a timetable. Video modelling, picture cues or graphic organisers, and communication apps offer students clear and regular teaching and learning processes. Furthermore, digital platforms include intrinsic flexibility as a result of their adaptive nature, allowing students to choose their own learning pace. Consequently, students are liberated from the stress that arises from trying to keep up with other students. Therefore, the integration of digital learning has the potential to provide academic success for ASD students while meeting the students' needs for individual accommodations for learning.

Accordingly, while there may be certain benefits to using digital learning tools in the education of ASD students, implementing such technologies presents challenges for parents. Considering that parents are the primary carers for their children's education, it is their job to encourage and facilitate their children's participation in digital education at home. However, many parents with ASD children experience many challenges ranging from acquiring the right technologies to learning how to use these technologies. These challenges are worsened by the fact that ASD students need individualised

learning and need constant monitoring during the digital learning sessions. The one major issue is poor access to support and information given to parents on how to effectively apply technology that is developed for ASD students. Further, most parents often find themselves overwhelmed with the challenge of catering for their child's digital learning needs while at the same time managing other responsibilities like working and undertaking other chores. This ends up leaving a big gap on how ASD students can effectively capture the essence of the digital learning environment, as parental participation is crucial in such cases.

The main research question is to determine and understand the key difficulties that parents encounter when assisting their ASD children with digital learning. Specifically, the study will assess the effectiveness of current digital learning tools, explore parents' experiences and struggles in utilising these tools, and identify any gaps in resources or support that hinder successful implementation. Based on the study's objectives, the following key research questions are formulated:

1. What are the most common challenges parents face when supporting their ASD children in digital learning?
2. How effective are current digital learning tools in meeting the educational needs of ASD students?
3. What resources and support do parents need to better facilitate digital learning for their ASD children?

While the primary emphasis of this research is on parents, it also acknowledges the significance of teachers, schools, and even policymakers. The significance of this research for teachers is in its aim to comprehend the challenges encountered by parents, therefore enabling the development of a tailored and more efficient digital learning program for ASD students. From the perspective of the school, this research may assist in enhancing efforts to implement measures that support parents in addressing the difficulties associated with digital learning for ASD students. Policymakers may use the findings to guide the creation of policies and allocate resources that enhance the well-being of ASD students and their families. This will ensure that digital learning is accessible and efficient for everyone.

Literature Review

Overview of Autism Spectrum Disorder (ASD)

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder that involves the individual with ASD having difficulties in social communication, limited or restricted interest, and repetition in behaviour (American Psychiatric Association, 2013). Therefore, the diverse nature of ASD affects individuals from the aspect of talents and their behavior. According to Schwartz, Beamish, and McKay (2021), individuals with ASD often face challenges in social interaction such as problems in interpreting non-verbal signals, giving a rational response to a discussion and establishing relationships with peers. In the educational environment, social barriers may exist in the range of communication disorders that cause situations where ASD students are shunned by other friends and some are even bullied (Mamas, Daly, Cohen, & Jones, 2021). However, communication impairments can vary from non-verbal communication to proficient language abilities, but the use may be atypical (Sturrock et al., 202). ASD students often do repetitive actions and focus on something they are interested in, which makes this routine difficult for them to adapt to the social environment (Hirota & King, 2023). In addition, many ASD students sometimes have sensory sensitivities with the five senses—touch, hearing, taste, smell, and sight (Singh & Seo, 2022), and these sensitivities may affect their ability to concentrate (Balasco, Provenzano, & Bozzi, 2020). This also affects the academic achievement, social assimilation, and emotional state of ASD students. Rationally, to help the development of these ASD students, an educational approach that suits the uniqueness of an ASD student accompanied by the concept of teacher delivery and the use of clear and systematic visual tools is important (Jones, Hanley, & Riby, 2020). Skilled and experienced teachers play the main role in creating a conducive educational environment that can help optimise learning for ASD students. Nevertheless, the positive development of ASD students will not happen if only one teacher plays a

role. Parents and other professionals, such as therapists, are also advised to cooperate more strongly with their children's teachers to create a learning atmosphere that can help the development of ASD students.

Digital Learning in Special Education

The technology that has been used in the world education system has had a very positive impact on the development of special education needs. This is also not an exception for ASD students who also go through the digital education process, which gives them multiple benefits. Barua et al., (2022) conducted a study on the use of digital learning for ASD students and affirmed that educational applications, games, and interactive software are effective in meeting the educational needs of ASD students. In addition, research by Almurashi et al. (2022) has shown that the use of technology in the learning process of ASD students has a positive effect on improving communication skills, fostering social relationships, and improving cognitive abilities in ASD students. This can be proven by another study by Ruta-Sominka and Budzińska (2022) on how the use of communication software and visual tables found in tablets can help communication for non-verbal ASD students. The variety of digital devices and digital platforms allows parents to choose the best devices for their children and even be sensitive in choosing the appropriate digital platform for their children. The combination between the suitability of digital devices and digital platforms will definitely influence the interest of ASD students, which in turn can further improve the development process of these students. The development of technology in education is growing rapidly as virtual reality (VR) and augmented reality (AR) are increasingly used. The use of these two technologies in the ASD learning process helps as a simulator for an activity. For example, ASD students who have communication problems can practice conversations, greetings, and other social interactions and can improve their communication skills over time (Khoirunnisa et al., 2024). A study by Vairamani (2024) also shows that the use of VR and AR technology that simulates real life scenarios can help the learning process of special education students, including ASD students. In addition, digital platforms that have many different functions or activities and are user-friendly also help further in the digital learning process for ASD students. Font and text size customisation features in Microsoft Word or Google Sheets allow ASD students to modify text size, style, and spacing to suit their reading preferences. The facility to change the font size can help ASD students who have visual sensitivities or difficulties focussing on small text to change to an appropriate size to reduce eye strain and enhance focus. Therefore, prioritising convenience in digital devices and digital platforms is important to ensure the learning process of ASD students achieves its goals and there is a significant increase in learning outcomes (Roberts-Yates & Silvera-Tawil, 2019).

Parental Involvement in ASD Education

There are several dimensions of parental involvement that contribute to educational success. Epstein's (2018) framework identifies six types of involvement, including parenting, communicating, volunteering, learning at home, decision-making, and collaborating with the community. For ASD students, specific types of involvement are particularly significant. For example, communication between parents and teachers is crucial for sharing insights about the child's needs and progress. Studies by Aykut and Kahveci (2024) underline that consistent and open communication channels help in tailoring educational approaches that address the unique challenges faced by ASD students. Many previous researchers have conducted studies on how parental involvement in the context of digital learning becomes an important element in the educational development of ASD students (Dumaru, Hackler, Flood, & Al-Ameen, 2024; Skinner, Abbott, Taggart, & Hou, 2023; Rice & Ortis, 2021). Smith, Burdette, Cheatham, and Harvey (2016) have stated that in the digital learning process, parents play an important role as the main supporters in helping the education of their children with ASD.

According to Brito and Dias (2020), to meet their children’s needs, parental involvement is crucial in picking and choosing the materials on the digital learning platforms they are using. Moreover, to ensure that the learning platform used by ASD students is impactful, parents need to experience and

learn about the benefits and limitations of the platforms themselves. In addition, a study from Burrell a Borrego (2012) emphasises that active participation from parents in the intervention process can enhance the effectiveness of their children's education, leading to better communication and social skills as a result. Meanwhile, Hammer, Scheiter, & Stürmer, (2021) stated that tech-savvy parents may have a significant impact on their children's academic progress if they are taking part in their children's education. However, many parents are still overwhelmed and confused by the complexity of special education services and the lack of clear guidance on how to support their child effectively (Fitriani, Muslihat, & Tabroni, 2023). Undoubtedly, digital learning settings present various difficulties, including those related to the lasting engagement of the children and their vulnerability to sensory overload, which is disproportionally challenging for ASD students. Parents thus have an essential role in adapting the learning environment (Heyworth et al., 2021) and offering emotional support to their children, which is the key to overcoming the difficulties of the use of digital learning platforms (Yang, Wong, & Poon, 2024). This is further reinforced by research conducted by Chaidi and Drigas (2020), which shows that parental presence in their education significantly improves the performance and social skill development of ASD students.

METHOD

Research Design

This study collected quantitative data directly from parents of ASD students. This approach allows the parents to provide measurable information on their experiences with digital learning tools and highlight which challenges their children are facing most. The research is making efforts towards identifying the most pressing concerns and trends by statistically analysing replies, offering a clear and objective perspective for future direction in the development of ASD student education.

Data Collection

This study uses a quantitative approach in which questionnaires are distributed to collect data. A descriptive design was used to identify the difficulties faced by parents with autistic children in the issue of using digital learning in the learning process. A total of 112 parents throughout Malaysia were randomly selected as a study sample. Questionnaires in the form of Google Forms were distributed through social media such as WhatsApp and Facebook. Items in the form of a Likert scale are used to identify the sample's level of agreement with the statements provided. A total of 20 items related to the challenges faced by parents in the learning process of autistic children by using digital learning have been prepared. Respondents have answered the statements provided based on Multiple Choices for demographic information and the Likert scale, which is 1 = strongly disagree, 2 = disagree, 3 = natural, 4 = agree, and 5 = strongly agree for the difficulties faced. Data collected was analysed using SPSS version 29.

RESULTS

4.1. Demographic Information

Table 1. Parents demographic background.

Parents Demography Background (N=112)	Frequency (N)	Percentage (%)
Gender		
Male	38	34%
Female	74	66%
Age		
Below 30 years old	49	44%
31-40 years old	35	31%
41-50 years old	18	16%
51-60 years old	3	3%
Above 60 years old	7	6%

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Table 1 (Continued). Parents demographic background.

Parents Demography Background (N=112)	Frequency (N)	Percentage (%)
Education Level		
High School	63	56%
Diploma	12	11%
Bachelor's Degree	7	6%
Master's Degree	4	4%
Doctoral Degree (Ph.D., Ed.D., etc.)	26	23%
Location of Residency		
Urban	36	32%
Rural	76	68%
Job Sector		
Public Sector	62	55%
Private Sector	50	45%
Number of Child(ren)		
1	5	4%
2	10	9%
3	28	25%
4	20	18%
5	23	20%
6	15	13%
7	4	4%
8	3	3%
9	2	2%
10 and more	2	2%
Type of child(ren) school		
Government School	72	64%
Private School	32	29%
Other	8	7%

4.2 Difficulties Faced by Parents

Table 2 shows a study analysis of the difficulties faced by parents against the four main challenges, namely access to technology; understanding and using digital tools; supporting children's engagement and motivation; and time management and balancing other responsibilities.

Table 2. Difficulties encountered by parents.

No.	Difficulties	Mean
Access to technology		
1	I have reliable access to the necessary devices for my child's digital learning.	4.68
2	I have Internet connectivity at home that is sufficient to support my child's digital learning needs.	4.46
3	I am able to manage the cost of maintaining technology (e.g., devices, software) within my budget.	4.43
4	I am able to easily access and set up digital learning platforms required for my child's education.	4.23
5	I am able to find and access software that is suitable for my child's specific learning needs.	3.88

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Table 2 (Continued). Difficulties encountered by parents.

No.	Difficulties	Mean
Understanding and using digital tools		
1	I find it challenging to understand how to use the digital tools designed for my child's education.	4.30
2	I find it challenging to get sufficient technical support to help me understand and use the digital learning tools effectively.	4.86
3	The digital learning tools I use are user-friendly and easy to navigate.	3.94
4	I have limited access to adequate training and resources to help me learn how to use the digital tools for my child's education.	4.88
5	The digital tools I use are effective in supporting my child's learning needs and goals.	4.40
Supporting children's engagement and motivation		
1	I find it challenging to keep my child engaged with digital learning tools.	4.56
2	It is difficult for me to identify digital learning resources that effectively motivate my child.	4.79
3	I often struggle to balance screen time with other activities to maintain my child's interest in digital learning.	4.46
4	My child's unique needs make it hard for me to find digital learning tools that are both engaging and suitable.	4.62
5	I face difficulties in understanding how to use digital learning tools to enhance my child's motivation effectively.	4.52
Time management and balancing other responsibilities		
1	I find it challenging to allocate sufficient time for implementing digital learning activities for my autistic child due to other daily responsibilities.	4.81
2	Balancing my child's digital learning sessions with other family responsibilities is often stressful.	4.78
3	The time required to set up and manage digital learning tools for my autistic child interferes with my ability to complete other important tasks.	4.50
4	I often feel overwhelmed by the amount of time needed to integrate digital learning into my child's daily routine alongside my other commitments.	4.66
5	It's hard for me to keep track of my child's digital learning routine because I have to balance work and housework.	4.87

When examining the results for these four challenges, each difficulty will be properly described to provide a more comprehensive comprehension. First, as for difficulties regarding access to technology, a mean score of 4.68 indicates that most parents have reliable access to crucial equipment for their child's online education. Studies show that consistent access to technology enhances students' engagement and performance in school, especially in a blended or fully online learning environment (Chiu, 2021). Meanwhile, from the aspect of internet facilities at home, a mean 4.46 was collected, which indicates that, on average, respondents perceive their internet connection as more than sufficient for educational purposes. Stable internet connections are essential for accessing educational resources, participating in virtual classrooms, and engaging with interactive learning platforms (Cambini, Sabatino, & Zaccagni, 2024). The affordable technology budget implies that technology maintenance is financially feasible. A mean score of 4.43 suggests excellent agreement, indicating

parents can afford technology upkeep. Technology maintenance is becoming cheaper due to cost-effective solutions and competitive market dynamics. Open-source software and economical maintenance services help people and organisations control technology expenditures (Blind et al., 2021). Meanwhile, accessing and setting up digital learning has a mean of 4.23. Clearly, many parents find the process easy. The high ranking shows that parents are comfortable and competent with these digital tools. Parents who smoothly incorporate these technologies into their child's learning routine improve engagement and academic success (Wilke, Tricia van Rhijn, Squires, & Barton, 2024). However, parents struggle to find software that meets their child's learning demands and this can be seen from the mean record of 3.88. Parental overload from the variety of instructional software contributes to this issue and which software best meets individual learning needs might be difficult to determine (Briti & Dias, 2020).

The second difficulty is about the understanding of parents in the use of digital tools for their children. Parental comprehension of digital technologies for children is the next issue. Its mean of 4.30 implies that many parents find digital tools difficult to use, suggesting a gap between educational technology design and non-expert user friendliness. The complexity and variety of these technologies may overwhelm parents without technology or educational backgrounds (Auxier, Anderson, Perrin, & Turner, 2020). Meanwhile, a mean score of 4.86 on a scale measuring technical support for digital learning tools implies that help may be lacking. This score represents parents' dissatisfaction with technical support. Digital learning tools' integration and utilisation depend on good technical assistance. Alshammarı (2020) emphasises the need for technical support in enhancing digital learning environments by removing barriers to tool adoption and reducing disruptions during use. In order to effectively educate, it is essential that digital learning tools be designed to be easily usable and easy to navigate. However, the average score for user-friendly platforms is 3.94, indicating that although parents see these tools as accessible, there is still potential for improvement Kiourexidou, Kanavos, Klouvidaki, & Antonopoulos (2024) found that digital learning environment design greatly affects user experience and learning results. Easy-to-use tools boost user pleasure and engagement. Similarly, the question about the availability of sufficient training and resources to assist the child in using digital technologies scored a mean 4.88. This shows that although some parents may feel fairly supported in learning how to utilise digital technologies for their child's education, most parents may believe the training and resources supplied are insufficient. This may be due to imprecise instructions, inadequate tutorials, or resources that fail to provide the digital skills they need (Alshaboul et al., 2024). Furthermore, a significant average score of 4.40 shows that the average parent is confident that digital learning used is effective in supporting the development of their autistic children. This coincides with a study by Wahyuanto, Heriyanto, and Hastuti, (2024), who found that the correct use of technology can result in significant improvements in academic performance.

The third focus of difficulties is from the aspect of encouraging children's involvement and motivation, where for parents, keeping children interested with digital learning tools is a typical problem for parents in digital education. The mean of 4.10 shows that parents on average agree that they face the challenge of ensuring their children are engaged with the digital learning tools used in the learning process. This mean result also proves that ensuring children are engaged with digital learning tools is not an easy task for parents. This has also been proven from previous studies, which stated that there are several reasons why students are not so engaged with digital learning. Simelane-Mnisi (2023) asserted that the reason students do not show significant involvement in the use of digital learning is that there is little or no engaging material or interactive components in a digital learning platform. This is also agreed upon by Maryono and Lengkanawati (2022), stating that digital learning should have another layer of complexity that can meet different learning styles, especially for ASD students. Next, for the question about the challenge to identify digital learning resources that are effective in motivating their children, the answers from these parents have given a large mean amount of 4.79. This shows that identifying digital learning options that motivate children may be difficult for parents. For ASD students, they focus more on getting rewards, which in turn can motivate them to

continue studying. However, not all digital learning platforms have these features. There is no doubt that there are many platforms that provide the concept of giving rewards, but they have to be paid and often do not fulfil the learning for all ASD students. Studies have also shown that the concept of giving immediate feedback and giving rewards found in the digital learning platform helps in motivating ASD students (Wang & Xing, 2022). Besides, difficulties in encouraging children's involvement and motivation can also be seen from the aspect of balancing screen time with other activities to maintain their child's interest in digital learning, where a mean of 4.46 has been obtained. This shows that parents are faced with the challenge of dividing time between the use of digital technology and also activities that do not involve the use of technology for ASD students. It is important for parents to ensure that their children allocate a balanced amount of time between digital and offline activities to avoid screen addiction. The importance of this can be seen from a study conducted by Charan, Kalia, Khurana, and Narang (2024), which shows that the overall development of ASD children occurs through the process of physical play, social connection, and screen time. Similarly, challenges are also faced by parents in finding digital learning tools that are engaging and suitable for the uniqueness of their autistic children. The mean record of 4.62 shows that parents face this challenge because many digital technologies fail to meet ASD students' personalised materials, which could engage and prevent frustration (Aidonopoulou-Read, (2020). The last challenge under the aspect of encouraging children's involvement and motivation can also be seen when parents also state that they face issues related to understanding in using digital learning to motivate their children. The mean obtained is as much as 4.52, which shows that many parents involved in this study feel that they have less understanding of how to use digital learning. Understanding how to use digital learning definitely affects the motivation of students, especially ASD students. Understanding how to use digital learning tools is crucial for parents because these tools can significantly enhance their child's education, communication, and social development (Alharbi, Ibrahem, & Moussa, 2023).

The fourth and also the last difficulties that have been asked in the questionnaire involve difficulties from the aspect of time management and handling other responsibilities among parents. The first question under these difficulties is related to the challenge of allocating sufficient time between autistic children's digital learning and also towards other daily responsibilities. The results of the questionnaire show that a high mean score has been obtained, which is 4.81. This shows that parents are faced with the challenge of balancing time to teach their autistic children using digital learning and also time in managing other responsibilities such as helping other children in learning and providing sufficient needs for the comfort of all family members. According to Russell and McCloskey (2016), parents who are in a situation of balancing time for their autistic child's digital learning process and managing other responsibilities will cause them to neglect their own self-care. This will lead to stress, decreased mental health, and physical exhaustion. This can be seen with a mean of 4.78 was obtained when parents were asked questions about balancing digital learning sessions with other family responsibilities that put pressure on them. This pressure occurs when parents have to monitor their children's internet activities, repair technological damage, and ensure interesting educational materials that lead to the occurrence of techno-stress and burnout among parents (Bravo-Adasme, Cataldo, & Toledo, 2023). Apart from the aspect of balancing time to help autistic children's digital learning process and other responsibilities, parents also think that the time required to prepare and manage digital learning tools for autistic children also interferes with their ability to complete other important tasks. With a mean score of 4.50, reflecting a high level of agreement, this issue is evidently prevalent and concerning. According to Laurie et al. (2019), parents often feel pressured in handling and efforts to ensure that the digital learning devices used are suitable for the specific needs of their children. This definitely has a big impact on the lives of the parents, especially from the aspect of the amount of time allocated to focus on other family responsibilities and work commitments. This coincides with this study when parents also stated that they experience time constraints to integrate digital learning into their child's daily routine alongside their other commitments, which has made them feel overwhelmed. A mean of 4.66 indicates a high level of agreement with the statement, which suggests that parents generally feel that they are struggling to balance their various responsibilities. This is

often related to the increasing demands of digital learning for children, which can require substantial time and effort from parents. Studies have shown that parents often struggle to find a balance, as the demands of guiding their child's digital education can compete with work, household tasks, and other commitments (Livingstone & Byrne, 2018). Finally, the statement that maintaining a child's digital learning schedule is tough owing to job and home time constraints had a mean response of 4.87. According to a study by Knopik, Błaszczak, Maksymiuk, and Oszwa (2021), parents spent about three hours and 23 minutes a day on average supporting the remote education of their children. The shift to digital learning has exacerbated pressures, particularly for working parents who now face the dual challenge of ensuring their children stay on track academically while maintaining their professional responsibilities.

DISCUSSION, CONCLUSION, and SUGGESTIONS

The research focusses on an important question of what difficulties parents encounter when implementing digital tools in their ASD children's learning process. Studies have shown that parents face challenges in terms of technology accessibility, insufficient training, and lack of appropriate digital learning content for their children. Nevertheless, the study offers detailed perspectives that surpass previous research. Although prior studies highlight mostly general challenges, this study meanwhile highlights particular challenges that parents with ASD report, including challenges in technology, tool understanding and application, children's engagement and motivation, and time management alongside other tasks. There is a need for increasing awareness and offering assistance to parents in order to help them manage existing technologies more effectively and define the gaps in using technologies in their ASD children. Aligning with this study's findings, Buteau-Poulin et al. (2020) highlight that parents of ASD students often face difficulties with the usability of digital tools. Furthermore, the problem of insufficient or inadequate training for parents is also raised. This study also echoed a concern from research by Fernández-Batanero, Montenegro-Rueda, Fernández-Cerero, and García-Martínez (2022), which stated that insufficient professional development limits the effective use of digital resources. The other major difficulty is the focus on the psychological effect on the parents. This aspect resonates with the study Lee, Terol, Yoon, and Meadan (2024), who posit that parental support is essential but receives little attention.

Concisely, while the article's findings align with established research, it introduces new perspectives on parents with ASD-specific challenges. This broad approach stresses the need to develop special digital learning solutions for autistic children and, at the same time, supplying the families of these children with the proper care they need. Thus, some prescriptions can be derived from these findings for teachers, parents, and policymakers. Thus, teachers should ensure that ASD students have proper integration of digital tools in their learning needs as individuals. According to Alqudah and Khasawneh (2024), technology and learning accommodation in different sensory and learning ability-based environments would help in the improvement of learning engagement. While these tools can be helpful, training in how to use them is necessary for teachers to be able to effectively provide support to students. Therefore, government policymakers should ensure funding for the development of the digital teaching and learning resources for the effective use of the technology. Policies should also encourage technology effectiveness research and best practices exchange. Abusini et al. (2023) indicated that technology usage in educating children with disabilities should be standardised to make the process smoother and more uniform across schools. Policy should also subsidise program efficacy via digital tools and provide outlets for sharing success stories. Parents are engaged in learning and need technology knowledge and training (Soyoof et al., 2024). Clear communication between parents and instructors may help solve problems and adjust strategy.

This study has provided valuable information not only to parents but also provides an opportunity for teachers, schools, and the government to provide priority. The limitation of this study involves the focus of geography, where many parents in this study live in rural areas. This also affects the findings of the study because in some rural areas, reliable getting technological devices or managing these

tools may be scarce or difficult. The significant difference in location between parents who live in the city and outside the city also affects the use of digital learning tools by parents with ASD children. This is also stated by Schofield (2000) that variations in access to technology and educational resources can affect the generalisability of the findings. Besides, when responding to the questions given, parents' perception of digital learning may be influenced by personal experience or expectations. For example, the difference in the area where the parents live definitely affects the answers given by the parents based on their experience and expectations. This is a study limitation, as there will definitely be bias in every parent's experience and expectation. Stantcheva (2023) stated that the bias in providing information could lead to the distortion of data and limit the reliability of the study.

Based on the findings and several study limitations that have been stated, future studies are recommended to examine the effectiveness of parental training and support programs that specifically focus on digital learning for ASD students. Many parents may struggle with understanding how to use digital learning tools effectively, leading to frustration and suboptimal educational outcomes for their children. Studies might examine which training methods are best for parents, such as in-person seminars, online courses, or hybrid programs. Research could additionally investigate how peer networks or coaching may assist parents. overcome difficulties and remain motivated to embrace digital learning at home. Cross-cultural comparisons to determine how cultural and socioeconomic variables affect parents' digital learning challenges for ASD kids are another promising study path. Research might examine if parents in various nations confront similar or different issues and how cultural views towards technology and education affect them. Further study should examine how socioeconomic characteristics like money, education, and technology availability impact parents' digital learning. Policymakers and educators may focus solutions for underprivileged parents by recognising these discrepancies. Digital learning's long-term effects on ASD kids require longitudinal study, not short-term studies. Future research might evaluate how long-term usage of digital learning tools impacts academic achievement, social skills, and well-being. This study might also examine how parental participation maintains beneficial results. Longitudinal research would reveal which digital learning practices work best for ASD children. Future studies might include examining parents' urban or rural residences. This discrepancy also influences research conclusions.

Ethics and Conflict of Interest

The authors declare that the study has not unethical issues and that research and publication ethics have been considered carefully.

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THE RELATIONSHIP BETWEEN THE ATTITUDES TOWARDS SEX EDUCATION AND GENDER PERCEPTIONS OF PARENTS OF CHILDREN WITH SPECIAL NEEDS

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Abstract

This study aimed to examine the relationship between the attitudes towards sex education and gender perceptions among parents of children with special needs. A relational survey model using quantitative methods was used in this study. Participants of the study consisted of 191 parents of children with special needs attending schools affiliated with the Ministry of National Education and Culture of the TRNC in the academic year 2021-2022. Some participants were reached through visits to institutions where their children received education, while others were reached online via Google Forms. A personal information form, the Attitudes toward Sex Education Scale and the Gender Perception Scale were used for data collection. The research findings showed that the attitudes of parents of children with special needs towards sex education are positive and their levels of gender perception are positive and egalitarian. Significant differences were found between variables such as gender, marital status, educational status, monthly household income, receiving a training on sex education and parents' attitudes towards sex education. Regarding gender perceptions among parents of children with special needs, significant differences were found in terms of gender, marital status, educational status and monthly household income. However, no significant differences were found in terms of age, receiving a training on sex education, being around someone who has been sexually abused before and the parents' perspective on sex education. A positive and statistically significant relationship was found between the attitudes of parents of children with special needs towards sex education and their perceptions of gender.

Keywords: Sex education, attitudes towards sex education, gender perception, parents of children with special needs.

INTRODUCTION

The attitudes and gender perceptions among families of children with special needs towards sex education have become increasingly important in the context of evolving social norms and values. The determination of societal gender roles significantly influences children's sexual identity development and their integration into society (Bartin, Gür, & Nuri, 2021; Güneş, 2017). Therefore, research in this field has become a crucial focal point for families of children with special needs.

Sexual development encompasses all areas of an individual's development, beginning at birth and continuing throughout life (Yılmaz, 2015). The sexual development of an individual varies from culture to culture, based on upbringing and the sexual patterns learned from their environment.

Personal attitudes and behaviors acquired through individual experiences can directly impact sexual development throughout life (Çakmak & Çakmak, 2018; Ertekin & Bağlama, 2020). Appropriate delivery of sex education is crucial for the development of healthy sexual identity. Sex education aims to gain behaviors necessary for individuals to learn about the physical and sexual characteristics of both genders and to control their sexual impulses. Alternatively, sex education is designed to teach individuals how to behave in relationships concerning sexual matters with others. This education positively influences emotional development and plays a significant role in societal acceptance (Bulut, 2007; Bartin, Gür, & Nuri, 2021; Güneş, 2017). The goal of sex education is for individuals to learn about their responsibilities, make informed decisions and establish proper communication with their surroundings. Moreover, acquiring accurate information is essential for healthy sexual life. Another crucial aspect of sex education is to gain an understanding to children and adolescents about the potential dangers related to sexual matters and making them aware of these risks. Hence, sex education programs tailored to the appropriate age of individuals form an integral part of the content of sex education (Taşçı, 2010). Providing regular and accurate sex education contributes to healthy sexual development (Gürsoy & Gençalp, 2010). When examining the sexual development process in individual with special needs, it is essential to consider their cognitive and developmental characteristics rather than their chronological age (Artan, 2005). While sexual development follows the same sequence in every individual, individuals with special needs may progress more slowly in their sexual development than typically developing individuals and may lag behind their peers (Çerçi, 2013). As children spend most of their daily time at school and home, both parents and teachers should actively participate in every stage of sex education. It is believed that the proficiency of parents and teachers in sex education is crucial for providing accurate and reliable answers to children's questions (Durukan 2004; Değirmenci et al. 2021). Establishing healthy and safe communication with their children is of great importance for their sexual development and it also prevents them from seeking information from various sources out of curiosity (Kadıoğlu, 2005).

Families of children with special needs may exhibit differences in their attitudes toward their children's sex education. The special needs of children can influence the sensitivity and approaches of families to sex education. In particular, some families may approach sex education differently, considering the special needs and individual characteristics of their children, whereas others may resort to more traditional and conventional methods. In this context, understanding the impact of families' attitudes toward sex education on the development of their children's sexual identities and their awareness of sexuality-related issues is crucial. The content of sex education programs intended for individuals with special needs encompasses a broad range of topics including body parts and functions, gender knowledge/sexual identity, masturbation, menstruation, sexual relationships, dating, friendship, pregnancy, childbirth and contraception, sexually transmitted diseases, teaching social skills, different sexual orientations, privacy and sexual abuse or harassment (Ailey et al., 2003). Adequate education on these topics for children will not only prevent potential abuse or the spread of sexually transmitted diseases, but also positively influence the societal acceptance of individuals with special needs. While some families advocate for sex education to be provided by teachers at school, some teachers believe that such education would be healthier if delivered by parents (Değirmenci, Nuri, & Direktör, 2021). Experts on this field suggest that both families and schools should coordinate to provide this education in a collaborative manner (Çelik, 2013). An individual sex education program tailored to children with special needs will facilitate the setting of goals, achievement and delivery of successful sex education (Çakmak & Çakmak, 2018).

Social gender is a social construct that defines the behaviors, beliefs, values, expectations and images of women and men. Individuals live within the rules and values considered appropriate by the society. These societal values are transmitted from generation to generation and individuals learn behaviors considered as normal by living within these societal norms from birth (Şıvgın, 2015). Differences in the values attributed to girls and boys have also been observed in other societies worldwide. Societies differentiate between girls and boys based on gender roles and instilling different values.

Social gender perception has different roles for women and men; for instance, it characterizes women as passive and silent in the face of problems, accepting their spouse's wishes without questioning and taking care of all household chores and meals, while it describes men as active and aggressive individuals who cover the economic expenses of the household. Such perceptions create inequality between women and men (Yılmaz et al., 2009). Stereotypes are the main factors in the creation of inequality and discrimination between women and men. In many societies worldwide, men are described by stereotypes as individuals reflecting powerful characteristics, such as being strong, confident, fearless, independent and assertive, while women are stereotypically defined as individuals with weak characteristics, such as being weak, indecisive, fearful, dependent, submissive, emotional and fragile (Sakallı & Uğurlu, 2003). Stereotypes explain how women and men are perceived by the society according to behaviors that are accepted as normal. Stereotypes differ in values attributed to women and men in every society worldwide. Especially in early childhood, children tend to reflect on existing gender stereotypes in their play. This directly affects the choice of game and toy. While boys tend to prefer games/toys such as balls, vehicles, soldiers and wars, girls are more inclined toward games/toys such as dolls, household items and playing houses (Çakmak & Çakmak, 2018).

In order to understand gender roles in families of children with special needs, it is crucial for parents to comprehend the characteristics of the family structure and the societal expectations placed on mothers and fathers. When examining gender roles for mothers and fathers in families of children with special needs, it is observed that mothers play a significant role in meeting the child's physiological needs. Mothers inevitably face emotional, social, physical and economic challenges within their families, social environments and societies. Therefore, seeking support is important for mothers to cope with the challenges they encounter. Fathers are considered responsible for bearing the economic burden on the household. Fathers of children with special needs are observed to work longer hours to achieve the goal of meeting increasing economic expenses, resulting in spending less time with their families at home (Yıldırım Sarı, 2007).

Furthermore, mothers of children with special needs experience physical complaints, anxiety disorders, depression and other issues more prevalently than mothers of typically developing children. This situation is believed to be associated with stress experienced by the mothers of children with special needs. Additionally, it has been suggested that the influence of societal gender roles plays a role in the emotional, physical, economic and social difficulties faced by mothers of children with special needs (Sarısoy, 2000). Aykara (2015) evaluated the experiences of individuals with siblings with intellectual disabilities and concluded that societal gender roles are present in families of children with special needs, affecting the entire family, including siblings. Therefore, assessing gender roles in families of children with special needs and discussing the topic within the context of gender roles and perceptions is considered important. It is believed that developing social policies by the government is crucial for achieving gender equality in families of children with special needs (Serdarhan & Duyan, 2017).

Examining the relationship between the attitudes of families of children with special needs towards sex education and their gender perceptions can provide valuable insights for special education experts, psychologists and social work professionals. In addition, this research holds critical importance in increasing awareness among families regarding sex education and in contributing to the healthy development of children's sexual identities. The findings of this research may facilitate a more effective design of education and guidance programs in this field by clarifying the connections between the attitudes towards sex education and gender perceptions of families of children with special needs. Moreover, it can contribute to shaping the general societal perceptions of sex education. Thus, positive changes in societal gender perceptions may positively impact the healthy sexual development of children and gender relationships in the society. In this context, the aim of this study is to examine the relationship between attitudes towards sex education and gender perceptions of parents of children with special needs. It is expected that this study will contribute to the field of special education. In line with this aim, the following sub-aims were also addressed in this study:

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1. What are the attitudes towards sex education and the levels of gender perception among parents of children with special needs?

2. Do the attitudes of parents of children with special needs toward sex education and their gender perceptions differ significantly based on variables such as age, gender, marital status, educational status, monthly household income, receiving a training on sex education, being around someone who has been sexually abused before and parents' perspective on sex education?

3. Is there a relationship between the attitudes of parents of children with special needs towards sex education and their gender perceptions?

METHOD

Research Model

A relational survey model was used in this study, which examined the relationship between the attitudes of parents of children with special needs towards sex education and their gender perceptions. Studies conducted by applying correlation tests to determine the association between multiple variables and obtain information on cause and effect are called relational survey models (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, & Demirel, 2014).

Study Group

The study group consisted of 191 parents of children with special needs in special education schools affiliated with the Ministry of National Education and Culture of the Turkish Republic of Northern Cyprus (TRNC) in 2021–2022 academic year. Some of the parents were reached at the institutions where their children receive education and some were reached online electronically through Google Forms. The distribution of parents of children with special needs according to demographic characteristics such as age, gender, marital status, educational status, and monthly household income was examined by frequency analysis and descriptive statistics were given regarding the Attitudes toward Sex Education Scale and Gender Perception Scale scores. The distribution of the participants in the study group according to their demographic characteristics is given in Table 1.

Table 1. Demographic characteristics of parents of children with special needs.

Variable	Group	Frequency	Percent (%)
Age	20-29 years	47	24.61
	30-39 years	78	40.84
	40-49 years	48	25.13
	50 years and above	18	9.42
Gender	Male	55	28.80
	Female	136	71.20
Marital Status	Single	47	24.61
	Married	144	75.39
Educational status	Primary school	22	11.52
	Middle school	35	18.32
	High school	60	31.41
	University degree	56	29.32
	Postgraduate degree	18	9.42
Monthly household income	Low income	48	25.13
	Moderate income	126	65.97
	High income	17	8.90
Total		171	100

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When Table 1 is examined, it is seen that 24.61% of the participants in the study are in the age range of 20-29, 40.84% are in the age range of 30-39, 25.13% are in the age range of 40-49 and 9.42% are 50 years and older. Furthermore, 28.80% of the participants are female, 71.20% are male; 24.61% are single and 75.39% are married. Regarding educational status, 11.52% of the participants are primary school graduate, 18.32% of them are middle school graduate, 31.41% are high school graduate, 29.32% have a university degree and 9.42% have postgraduate degrees. In terms of monthly household income, 25.13% of the participants reported that they have low income, 65.97% have moderate income and 8.90% have high income.

Table 2. Sex Education received by parents with special needs children, incidence of sexual abuse in the family and parents' perspectives on sex education.

Variable	Group	Frequency	Percent (%)
Receiving a training on sex education	Yes	45	23,56
	No	146	76,44
Being around someone who has been sexually abused before	Yes	42	21,99
	No	149	78,01
Parents' perspective on sex education	Positive	152	79,58
	Negative	39	20,42

According to Table 2, it was found that 23.56% of the participants received training on sex education, while 76.44% did not. Additionally, 21.99% reported that they know someone who has been sexually abused before in their environment, while 78.01% of them reported that there is no one who has been sexually abused before in their environment. Moreover, 79.85% of the participants indicated that they have a positive perspective regarding sex education, whereas 20.42% expressed a negative perspective on sex education.

Data Collection Tools

Demographic Information Form

Demographic Information Form was prepared by the researchers and aimed to obtain information about variables such as age, gender, marital status, educational status, monthly household income, receiving a training on sex education, being around someone who has been sexually abused before and their perspective on sex education among parents of children with special needs.

Attitude towards Sex Education Scale

The Attitude towards Sex Education Scale was developed by Ceylan, Artan and Adıbatmaz (2020). The scale consists of 39 items distributed across four factors. The first factor (Avoidance) includes 8 items, the second factor (Belief in its necessity) comprises 8 items, the third factor (Professional support and respect for differences) consists of 12 items and the fourth factor (Parental role) involves 11 items. The minimum score that can be obtained from the scale is 39, while the maximum score is 156. A high score on the scale indicates a positive attitude toward sex education for the participants. It is considered important that all questions containing negative judgments about the first factor, avoidance, are located at the end of the scale to enable participants to respond more attentively. The internal consistency coefficient of the scale was found to be 0.90. According to the research data, the results obtained from the scale were deemed valid and moderate significant relationships were identified among the sub-dimensions.

Gender Perception Scale

Gender Perception Scale was developed by Altınova and Duyan (2013) and is used to measure individuals' gender perceptions. The scale includes 25 items and is a 5-point Likert type scale consisting of one dimension (I completely agree 5, I agree 4, I am undecided 3, I disagree 2, I completely disagree 1). 10 of the items were designed as positive, while 15 of the items were reverse-scored as negative. The range of scores that can be obtained from the scale varies between 25-125 and higher scores indicate higher gender perceptions of individuals. The Cronbach Alpha value of the

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scale was found to be .87 and it was stated to be highly reliable. In this study, the Cronbach Alpha value was found to be .907.

Data Collection

The data collection process involved the application of the "Demographic Information Form", "Attitude toward Sex Education Scale" and "Gender Perception Scale," which were shaped through validity and reliability studies. The data were collected from parents of children with special needs in schools under the Ministry of National Education in the TRNC. Some participants were reached through visits to the institutions where their children receive education, while others were accessed online via Google Forms. An application was made to the XXXXXXX Scientific Research and Publication Ethics Committee to carry out the research and it was found ethically appropriate with the decision of the research committee on January 17, 2022, EKK21-22/08/008.

Data Analysis

The collected data from the parents were analyzed using the SPSS 26.0 for Windows package program. Cronbach's Alpha Test was applied to the responses provided by parents of children with special needs for the "Attitude towards Sex Education Scale" and "Gender Perception Scale". The alpha coefficient was found to be 0.939 for the "Attitude toward Sex Education Scale" and 0.934 for the "Gender Perception Scale". The scores of parents of children with special needs on the "Attitude toward Sex Education Scale" and "Gender Perception Scale" were examined using the Kolmogorov-Smirnov test. Findings related to the normal distribution of the scores indicated that the scores did not exhibit a normal distribution. The distribution of parents of children with special needs based on demographic characteristics was analyzed through frequency analysis and descriptive statistics were provided for the scores on the "Attitude toward Sex Education Scale" and "Gender Perception Scale". The scores of parents of children with special needs on the "Attitude toward Sex Education Scale" and "Gender Perception Scale" were further examined using the Kolmogorov-Smirnov test and the findings are presented in Table 3.

Table 3. Normality tests of attitudes towards sex education scale and gender perception scale scores.

	Statistics	**Std.Dev.**	***p***
Professional Support and Respect for Differences	.839	191	.000
Parental Role	.932	191	.000
Belief in its Necessity	.862	191	.000
Avoidance	.929	191	.000
Attitude toward Sex Education Scale	.972	191	.001
Gender Perception Scale	.923	191	.000

The findings regarding the normal distribution of scores on the "Attitude toward Sex Education Scale" and "Gender Perception Scale" for individuals included in the scope of the research as presented in Table 3. Results showed that the scores do not follow a normal distribution. Non-parametric hypothesis tests were utilized to compare the scores on the "Attitude toward Sex Education Scale" and "Gender Perception Scale" based on the demographic characteristics of parents of children with special needs. Specifically, the Mann-Whitney U test was applied for the comparison of scores based on participants' gender, marital status, receiving a training on sex education, being around someone who has been sexually abused before and the parents' perspective on sex education. For the comparison of scores based on age, educational status and monthly household income, the Kruskal-Wallis H test was employed. In addition, the Spearman test was used to examine the correlation between the scores of the "Attitude toward Sex Education Scale" and "Gender Perception Scale" among parents of children with special needs.

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RESULTS

Results on the Attitudes of Parents of Children with Special Needs towards Sex Education

In Table 4, the Attitude Scale toward Sex Education scores of parents of children with special needs included in the research are given.

Table 4. Attitude scale toward sex education scores of parents of children with special needs.

	n	Mean	Std.Dev.	Min	Max
Professional Support and Respect for Differences	191	28.12	4.12	12	32
Parental Role	191	25.96	4.69	12	32
Belief in its Necessity	191	41.88	5.97	22	48
Avoidance	191	29.89	10.10	11	44
Attitude toward Sex Education Scale	191	125.84	18.95	67	156

When Table 4 is examined, it is observed that the participants received an average score of 28.12±4.12 points in the "Professional Support and Respect for Differences" subscale of the "Attitude toward Sex Education Scale", with a minimum of 12 and a maximum of 32 points. In the "Parental Role" subscale, parents obtained an average score of 25.96±4.69 points, ranging from a minimum of 12 to a maximum of 32 points. For the "Belief in its Necessity" subscale, parents achieved an average score of 41.88±5.97 points, with a minimum of 22 and a maximum of 48 points. In the "Avoidance" subscale, they scored an average of 29.89±10.10 points, with a minimum of 11 and a maximum of 44 points. The overall average score for the "Attitude toward Sex Education Scale" was 125.84±18.95 points, with a range from a minimum of 67 to a maximum of 156 points. Upon examining the general averages of parents on the sex education attitude scale, it can be concluded that their attitudes towards sex education are positive.

Results on Parents' Attitudes toward Sex Education According to Age

Table 5 compares the scores of the "Attitude toward Sex Education Scale" according to the ages of parents of children with special needs in the research using the Kruskal-Wallis test.

Table 5. Comparison of attitude toward sex education scale scores according to the age of parents of children with special needs.

	Age	n	Mean	Std.Dev.	M	SA	X^2	p
Professional Support and Respect for Differences	20-29 age	47	28.96	3.22	30.00	105.19	3.636	.304
	30-39 age	78	28.31	4.12	29.00	98.65		
	40-49 age	48	27.25	4.47	29.00	85.32		
	50 age and above	18	27.39	4.97	28.00	88.97		
Parental Role	20-29 age	47	27.09	3.72	28.00	107.57	4.114	.249
	30-39 age	78	25.53	4.38	26.50	88.33		
	40-49 age	48	25.48	5.52	26.50	93.86		
	50 age and above	18	26.17	5.72	28.50	104.72		
Belief in its Necessity	20-29 age	47	42.40	4.96	43.00	96.33	3.966	.265
	30-39 age	78	41.06	6.22	42.00	87.51		
	40-49 age	48	42.42	6.42	43.00	105.80		
	50 age and above	18	42.61	6.13	45.00	105.81		
Avoidance	20-29 age	47	29.30	10.85	29.00	93.03	.620	.892
	30-39 age	78	29.90	9.91	31.00	95.75		
	40-49 age	48	30.75	9.70	32.50	100.90		
	50 age and above	18	29.11	10.66	31.00	91.78		

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Table 5 (Continued). Comparison of attitude toward sex education scale scores according to the age of parents of children with special needs.

	Age	n	Mean	Std.Dev.	M	SA	X^2	p
Attitude toward Sex Education Scale	20-29 age	47	127.74	18.28	130.00	100.40	.455	.929
	30-39 age	78	124.79	18.31	125.50	93.56		
	40-49 age	48	125.90	19.96	126.00	95.53		
	50 age and above	18	125.28	21.83	126.00	96.33		

When Table 5 is examined, it was determined that there was no statistically significant difference (p>.05) in the general scores of the "Attitude toward Sex Education Scale" and the sub-dimensions of the scale, including professional support and respect for differences, parental role, belief in its necessity and avoidance, according to the age group of the participants in the research. Participants in the age groups of 20-29, 30-39, 40-49 and 50 years and above had similar calculated scores for professional support and respect for differences, parental role, belief in necessity and avoidance, as well as Attitude toward Sex Education Scale.

Results on Parents' Attitudes toward Sex Education According to Gender

The scores of the "Attitude toward Sex Education Scale" according to the gender of the participants were compared using the Mann-Whitney U test and shown in Table 6.

Table 6. Comparison of attitude toward sex education scale scores according to the gender of parents of children with special needs.

	Gender	n	Mean	Std.Dev.	M	SA	Z	p
Professional Support and Respect for Differences	Male	55	27.35	4.05	28.00	82.25	-2.210	.027*
	Female	136	28.43	4.12	30.00	101.56		
Parental Role	Male	55	25.84	4.57	27.00	93.71	-.366	.715
	Female	136	26.01	4.76	27.00	96.93		
Belief in its Necessity	Male	55	41.71	5.14	42.00	90.81	-.830	.406
	Female	136	41.95	6.29	44.00	98.10		
Avoidance	Male	55	26.95	10.81	25.00	80.24	-2.508	.012*
	Female	136	31.08	9.59	32.50	102.38		
Attitude toward Sex Education Scale	Male	55	121.84	18.51	121.00	82.98	-2.070	.038*
	Female	136	127.46	18.96	130.00	101.26		

*p<.05

When Table 6 is examined, it is seen that there was a statistically significant difference (p<.05) in the general scores of the "Attitude toward Sex Education Scale" and the sub-dimensions of the scale, including professional support and respect for differences and avoidance according to the gender of the participants. Female participants obtained statistically significantly higher scores in professional support and respect for differences, avoidance and the general "Attitude toward Sex Education Scale" compared to male participants. However, there was no statistically significant difference (p>.05) in the scores of the sub-dimensions including parental role and belief in its necessity of the "Attitude toward Sex Education Scale" based on the participants' gender. Although the scores for the parental role and belief in its necessity were higher for male participants compared to female participants, this score difference due to gender was not statistically significant.

Results on Parents' Attitudes toward Sex Education According to Marital Status

Table 7 shows the scores of the "Attitude toward Sex Education Scale" according to the marital status of the participants analyzed with Mann-Whitney U test.

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Table 7. Comparison of attitude toward sex education scale scores according to the marital status of parents of children with special needs.

	Marital Status	n	Mean	Std.Dev.	M	SA	Z	p
Professional Support and Respect for Differences	Single	47	29.15	3.54	30.00	110.24	-2.056	.040*
	Married	144	27.78	4.25	29.00	91.35		
Parental Role	Single	47	27.45	3.54	28.00	111.94	-2.285	.022*
	Married	144	25.47	4.93	27.00	90.80		
Belief in its Necessity	Single	47	43.55	4.02	45.00	107.36	-1.633	.103
	Married	144	41.33	6.40	42.00	92.29		
Avoidance	Single	47	30.06	11.54	34.00	97.15	-.164	.870
	Married	144	29.83	9.63	31.00	95.63		
Attitude toward Sex Education Scale	Single	47	130.21	17.97	137.00	107.61	-1.658	.097
	Married	144	124.42	19.11	125.00	92.21		

*p<.05

According to Table 7, it is seen that there was a statistically significant difference (p<.05) in the scores of the sub-dimensions of the "Attitude toward Sex Education Scale", including professional support and respect for differences and parental role, based on the marital status of the participants. Participants who were single had statistically significantly higher scores in professional support and respect for differences, as well as parental role, compared to participants who were married. There was no statistically significant difference (p>.05) in the scores of the general "Attitude toward Sex Education Scale" and the sub-dimensions, belief in its necessity and avoidance, according to the marital status of the participants. Scores for belief in necessity, avoidance, and the general Attitude towards Sex Education Scale were similar for married and single participants.

Results on Parents' Attitudes toward Sex Education According to Educational Status

Scores of the Attitudes toward Sex Education Scale according to the educational status of the parents were compared using the Kruskal-Wallis test and the results are shown in Table 8.

Table 8. Comparison of attitude toward sex education scale scores according to the educational status of parents of children with special needs.

	Educational Status	n	Mean	Std.Dev.	M	SA	X^2	p	Difference
Professional Support and Respect for Differences	(1)Primary school	22	27.14	5.27	29.00	88.82	22.252	.000*	1-5
	(2)Middle school	35	26.29	5.24	28.00	76.91			2-5
	(3)High school	60	27.88	3.74	29.00	87.60			3-5
	(4)University degree	56	28.96	2.96	30.00	103.64			
	(5)Postgraduate degree	18	31.00	2.06	32.00	146.11			
Parental Role	(1)Primary school	22	26.18	5.45	28.00	102.66	10.374	.035*	1-5
	(2)Middle school	35	24.00	5.44	25.00	75.11			2-5
	(3)High school	60	25.88	4.61	27.00	95.74			3-5
	(4)University degree	56	26.34	3.92	27.00	97.40			
	(5)Postgraduate degree	18	28.56	3.36	29.00	124.97			
Belief in its Necessity	(1)Primary school	22	42,05	7.54	44,00	106.64	19.753	.001*	1-5
	(2)Middle school	35	39.71	7.36	42.00	80.80			2-5
	(3)High school	60	41.02	5.68	41.00	83.65			3-5
	(4)University degree	56	42.68	4.61	43.00	99.55			
	(5)Postgraduate degree	18	46.28	2.08	47.00	142.67			

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Table 8 (Continued). Comparison of attitude toward sex education scale scores according to the educational status of parents of children with special needs.

	Educational Status	n	Mean	Std.Dev.	M	SA	X^2	p	Difference
Avoidance	(1)Primary school	22	30.45	8.80	33.00	97.61	16.285	.003*	1-5
	(2)Middle school	35	29.80	9.36	29.00	96.10			2-5
	(3)High school	60	26.47	10.15	24.50	77.48			3-5
	(4)University degree	56	31.29	9.92	34.00	102.84			3-4
	(5)Postgraduate degree	18	36.44	10.07	41.00	134.31			
Attitude toward Sex Education Scale	(1)Primary school	22	125.82	22.03	132.50	100.91	23.724	.000*	1-5
	(2)Middle school	35	119.80	21.98	119.00	80.81			2-5
	(3)High school	60	121.25	16.94	118.00	80.06			3-5
	(4)University degree	56	129.27	15.80	132.00	104.68			
	(5)Postgraduate degree	18	142.28	13.11	148.00	145.67			

*p<.05

When the results on Table 8 are examined, it can be seen that there was a statistically significant difference (p<.05) in the general scores of the Attitude toward Sex Education Scale and the sub-dimensions of the scale including professional support and respect for differences, parental role, belief in its necessity and avoidance according to the educational status of the parents of children with special needs. Results showed that participants with postgraduate degree had statistically significantly higher scores in overall scale and its sub-dimensions compared to participants with primary school, middle school and high school degrees. Results also revealed that university graduates had statistically significantly higher scores on avoidance sub-dimension of Attitude toward Sex Education Scale compared to participants with middle school degree.

Results on Parents' Attitudes toward Sex Education According to Monthly Household Income

In Table 9, Kruskal-Wallis test results on the scores of the Attitudes toward Sex Education Scale according to the monthly household income of the participants are provided.

Table 9. Comparison of attitude toward sex education scale scores according to the monthly household income of parents of children with special needs.

	Income Level	n	Mean	Std.Dev.	M	SA	X^2	p	Difference
Professional Support and Respect for Differences	(1)Low income	48	26.79	4.21	28.00	74.23	17.914	.000*	1-3
	(2)Moderate income	126	28.31	4.06	29.00	98.63			
	(3)High income	17	30.41	3.08	32.00	138.00			
Parental Role	(1)Low income	48	25.27	4.73	26.00	87.51	3.525	.172	
	(2)Moderate income	126	26.02	4.65	27.00	96.46			
	(3)High income	17	27.47	4.80	28.00	116.59			
Belief in its Necessity	(1)Low income	48	40.56	6.66	42.00	85.71	4.795	.091	
	(2)Moderate income	126	42.08	5.76	43.00	96.76			
	(3)High income	17	44.12	4.83	46.00	119.41			
Avoidance	(1)Low income	48	26.44	9.45	23.50	76.86	8.547	.014*	1-3
	(2)Moderate income	126	30.83	9.97	33.00	100.86			
	(3)High income	17	32.71	11.08	37.00	114.03			
Attitude toward Sex Education Scale	(1)Low income	48	119.06	19.67	117.00	76.82	10.261	.006*	1-3
	(2)Moderate income	126	127.23	18.14	130.00	99.73			
	(3)High income	17	134.71	17.93	134.00	122.50			

*p<.05

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According to the results shown in Table 9, it can be seen that there was a statistically significant difference (p<.05) in the general scores of the Attitude toward Sex Education Scale and the sub-dimensions of the scale including professional support and respect for differences, parental role, belief in its necessity and avoidance according to the monthly household income of the parents of children with special needs. Participants with higher monthly household incomes had statistically significantly higher scores in overall scale and its sub-dimensions compared to participants with lower monthly household incomes. In addition, no significant difference was observed between the sub-dimensions including parental role and belief in its necessity of the Attitude toward Sex Education Scale according to the parents' monthly household income.

Results on Parents' Attitudes toward Sex Education According to Status on Receiving a Training on Sex Education

In Table 10, the scores of the Attitude toward Sex Education Scale according to the participants' status of receiving a training on sex education were compared using the Mann-Whitney U test.

Table 10. Comparison of attitude toward sex education scale scores according to the status on receiving a training on sex education of parents of children with special needs.

	Received a Training	n	Mean	Std.Dev.	M	SA	Z	p
Professional Support and Respect for Differences	Yes	45	29.40	2.91	30.00	112.23	-2.277	.023*
	No	146	27.72	4.36	29.00	91.00		
Parental Role	Yes	45	27.29	3.39	27.00	107.96	-1.666	.096
	No	146	25.55	4.97	27.00	92.32		
Belief in its Necessity	Yes	45	43.11	4.21	43.00	103.50	-1.047	.295
	No	146	41.50	6.38	42.00	93.69		
Avoidance	Yes	45	31.11	10.42	33.00	102.67	-.926	.354
	No	146	29.51	10.01	31.00	93.95		
Attitude toward Sex Education Scale	Yes	45	130.91	16.55	132.00	109.67	-1.897	.058
	No	146	124.28	19.42	123.50	91.79		

*p<.05

When Table 10 is examined, it is seen that there was a statistically significant difference (p<.05) between the scores of the professional support and respect for differences sub-dimension of the Attitude toward Sex Education Scale and parents' status on whether they received a training on sex education before. It was found that the scores of participants who received a training on sex education were statistically significantly higher than the scores of participants who did not receive such training in terms of professional support and respect for differences sub-dimension. There was no significant difference (p>.05) in the scores of the sub-dimensions, namely parental role, belief in its necessity, avoidance and overall scores of the Attitude toward Sex Education Scale based on whether the participants received a training on sex education or not.

Results on Parents' Attitudes toward Sex Education According to Status on Being Around Someone Who Has Been Sexually Abused Before

Table 11 shows Mann-Whitney U test results on the scores of the Attitude toward Sex Education Scale based on the presence of individuals who have experienced sexual abuse in their close environment among the parents.

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Table 11. Comparison of attitude toward sex education scale scores according to the status on being around someone who has been sexually abused before.

	Being Around Someone	n	Mean	Std.Dev.	M	SA	Z	p
Professional Support and Respect for Differences	Yes	42	29.21	2.76	30.00	107.73	-1.573	.116
	No	149	27.81	4.39	29.00	92.69		
Parental Role	Yes	42	27.02	3.97	27.50	107.02	-1.469	.142
	No	149	25.66	4.85	27.00	92.89		
Belief in its Necessity	Yes	42	42.67	4.25	42.00	97.44	-.192	.847
	No	149	41.66	6.37	43.00	95.59		
Avoidance	Yes	42	30.60	12.19	36.50	101.21	-.693	.488
	No	149	29.69	9.47	31.00	94.53		
Attitude toward Sex Education Scale	Yes	42	129.,50	19.50	133.50	105.86	-1.309	.191
	No	149	124.81	18.74	125.00	93.22		

*p<.05

According to Table 11, there is no statistically significant difference (p>.05) in the general scores of the Attitude toward Sex Education Scale and its sub-dimensions based on whether parents have someone who have experienced sexual abuse in their close environment. Although parents' score on the overall scale and its sub-dimensions were high, no significant difference was observed.

Results on Parents' Attitudes toward Sex Education According to Parents' Perspective on Sex Education

Table 12 shows Mann-Whitney U test results on the scores of the Attitude toward Sex Education Scale based on the parents' perspective on sex education.

Table 12. Comparison of attitude toward sex education scale scores according to parents' perspective on sex education.

	Parents' Perspective on Sex Education	n	Mean	Std.Dev.	M	SA	Z	p
Professional Support and Respect for Differences	Positive	152	28.91	3.27	30.00	104.54	-4.261	.000*
	Negative	39	25.03	5.50	26.00	62.71		
Parental Role	Positive	152	26.67	4.17	27.00	103.21	-3.572	.000*
	Negative	39	23.18	5.59	23.00	67.90		
Belief in its Necessity	Positive	152	42.74	5.08	44.00	102.26	-3.108	.002*
	Negative	39	38.54	7.83	40.00	71.60		
Avoidance	Positive	152	30.26	10.32	32.00	98.05	-1.012	.311
	Negative	39	28.46	9.19	29.00	88.01		
Attitude toward Sex Education Scale	Positive	152	128.57	17.40	129.00	102.96	-3.436	.001*
	Negative	39	115.21	21.14	117.00	68.87		

*p<.05

According to the results, there is a statistically significant difference (p<.05) between the overall scores of the Attitude toward Sex Education Scale and its sub-dimensions namely professional support and respect for differences, parental role, belief in its necessity and the parents' perspective on sex education. Parents who reported a positive perspective on sex education were found to have statistically significantly higher scores in overall scale and professional support and respect for differences, parental role, belief in necessity sub-dimensions compared to parents who reported a negative perspective on sex education. It was found that there is no statistically significant difference (p>.05) in the avoidance scores of the Attitude toward Sex Education Scale based on the parents' perspective on sex education.

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Results on Gender Perceptions Among Parents of Children with Special Needs

Table 13 presents the scores of the parents of children with special needs on Gender Perception Scale.

Table 13. Scores of the gender perception scale of parents of children with special needs.

	n	Mean	Std.Dev.	Min	Max
Gender Perception Scale	191	94.23	21.56	50	125

According to Table 13, it is seen that the average score obtained from the Gender Perception Scale by the participants in the research is 94.23±21.56 points, with a minimum of 50 points and a maximum of 125 points. Average scores obtained from the Gender Perception Scale revealed that parents' gender perceptions are high.

Results on Parents' Gender Perceptions According to Demographic Characteristics of Parents of Children with Special Needs

In Table 14, comparison of the scores of the Gender Perception Scale based on the demographic characteristics of the participants are provided. Mann-Whitney U and Kruskal-Wallis tests were used to compare their gender perceptions and demographic characteristics.

Table 14. Comparison of gender perception scale scores according to parents' demographic characteristics.

	N	Mean	Std.Dev.	M	SA	Z / X^2	p	Difference
Age								
20-29 years	47	97.15	23.84	105.00	105.32	7.783	.051	
30-39 years	78	93.55	19.85	95.50	92.82			
40-49 years	48	96.83	19.76	99.50	103.33			
50 years and above	18	82.56	24.54	73.50	65.89			
Gender								
Male	136	96.88	20.81	102.00	102.99	-2.747	.006*	
Female	55	87.67	22.15	84.00	78.73			
Marital Status								
Single	47	101.77	22.94	113.00	117.35	-3.050	.002*	
Married	144	91.76	20.58	91.50	89.03			
Education Status								
(1)Primary school	22	88.32	20.06	91.00	78.43	19.257	.001*	1-5
(2)Middle school	35	87.51	20.24	82.00	80.60			2-5
(3)High school	60	90.10	21.78	85.50	85.76			3-5
(4)University degree	56	100.89	20.01	106.50	111.97			1-4
(5)Postgraduate degree	18	107.50	20.13	115.00	131.86			2-4
Monthly Household Income								
(1)Low income	48	80.90	19.34	76,00	62.36	24,219	.000*	1-2
(2)Moderate income	126	98.14	20.57	103,00	106.12			1-3
(3)High income	17	102.82	19.54	110,00	115.94			

*p<.05

When Table 14 is examined, it is seen that there is no statistically significant difference in the scores of the parents on Gender Perception Scale based on their age groups (p>.05). Results showed that there is a statistically significant difference between the scores of the Gender Perception Scale based on the parents' gender (p<.05). In other words, female participants got significantly higher scores on the Gender Perception Scale compared to male participants. There is also a statistically significant difference in the scores of the Gender Perception Scale based on the marital status of the participants (p<.05). Single participants have significantly higher scores on the Gender Perception Scale compared

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to married participants. According to the results on participants' educational levels, there is a statistically significant difference in the scores of the Gender Perception Scale (p<.05). Participants with postgraduate degrees have significantly higher scores on the Gender Perception Scale compared to participants with primary school, middle school and high school degrees, while participants with university degrees have significantly higher scores compared to participants with elementary and middle school degrees. It was also found that there is a statistically significant difference in the scores of the Gender Perception Scale based on the participants' monthly household incomes (p<.05). Participants with higher monthly household incomes have significantly higher scores on the Gender Perception Scale compared to participants with moderate and low monthly household incomes.

Results on Parents' Gender Perceptions According to Status on Receiving a Training on Sex Education, Being Around Someone Who Has Been Sexually Abused Before and Parents' Perspective on Sex Education

In Table 15, the scores of the Gender Perception Scale are compared based on the participants' sex education, the presence of individuals who have experienced sexual abuse in the family, and the family's perspective on sex education using the Mann-Whitney U and Kruskal-Wallis tests.

Table 15. Comparison of gender perception scale scores according to status on receiving a training on sex education, being around someone who has been sexually abused before and parents' perspective on sex education.

	n	Mean	Std.Dev.	M	SA	Z / X^2	p
Received a Training							
Yes	45	97.69	21.11	103.00	103.93	-1.101	.271
No	146	93.16	21.65	93.00	93.55		
Being Around Someone							
Yes	42	98.12	22.97	109.50	105.40	-1.249	.212
No	149	93.13	21.09	93.00	93.35		
Parents' Perspective on Sex Education							
Positive	152	95.20	21.29	100.50	98.44	-1.203	.229
Negative	39	90.41	22.44	83.00	86.50		

*p<.05

Table 15 shows the results on the comparison of Gender Perception Scale scores according to status on receiving a training on sex education, being around someone who has been sexually abused before and parents' perspective on sex education. According to the results, it was determined that there is no statistically significant difference between the scores of the Gender Perception Scale based on the participants' status of receiving sex education (p>.05). There is also no statistically significant difference between the scores of the Gender Perception Scale based on whether there is someone who has been sexually abused before (p>.05). In other words, gender perceptions of parents are similar regardless of having someone around who has been sexually abused before. Similarly, there is no statistically significant difference in the scores of the Gender Perception Scale based on the participants' perspective on sex education (p>.05). The scores on the Gender Perception Scale are similar for participants who reported a positive and negative perspective on sex education.

Correlations Between Attitudes Toward Sex Education Scale Scores and Gender Perception Scale Scores Among Parents of Children with Special Needs

In Table 16, correlation results between the scores of the Attitude Toward Sex Education Scale and the Gender Perception Scale of parents of children with special needs are provided.

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Table 16. Correlations between attitude toward sex education scale scores and gender perception scale scores of parents of children with special needs.

		Professional Support and Respect for Differences	Parental Role	Belief in its Necessity	Avoidance	Attitude toward Sex Education Scale	Gender Perception Scale
Professional Support and Respect for Differences	r	1	.611	.627	.383	.738	.351
	p	.	.000*	.000*	.000*	.000*	.000*
	N						
Parental Role	r		1	.657	.217	.675	.123
	p		.	.000*	0,003	.000*	.091
	N						
Belief in its Necessity	r			1	.438	.816	.350
	p			.	.000*	.000*	.000*
	N						
Avoidance	r				1	.786	.456
	p				.	.000*	.000*
	N						
Attitude toward Sex Education Scale	r					1	.461
	p					.	.000*
	N						
Gender Perception Scale	r						1
	p						.
	N						

*p<.05

According to Table 16, it was determined that there is a positive and statistically significant correlation (p<.05) between the general scores of the Attitude Toward Sex Education Scale and its sub-dimensions, namely professional support and respect for differences, parental role, belief in its necessity, avoidance and the general scores of the Gender Perception Scale. As the scores obtained from Attitude toward Sex Education Scale and its sub-dimensions increase, the scores on the Gender Perception Scale also increase positively and significantly.

DISCUSSION, CONCLUSION, and SUGGESTIONS

Discussion on the Parents' Attitude toward Sex Education and Demographic Variables

The present study aimed to examine the relationship between the attitudes towards sex education and gender perceptions among parents of children with special needs. Results of the study showed that parents of children with special needs have a positive attitude towards sex education. Parents of children with special needs may seek expert support to teach their children certain skills later than their peers and it is thought that parents who receive expert support can understand the importance of sex education within the scope of special education earlier. Akdemir (2019) investigated the attitudes of teachers providing education to individuals diagnosed with intellectual disabilities toward sex education and found that teachers exhibited positive attitudes toward sex education. Ceylan and Çetin (2015) aimed to examine the views of parents on sex education for children aged 3-6 years and found that all parents expressed that sex education is necessary. Similar positive attitudes were also observed in the study conducted by Tuzcuoğlu (2013), which examined the difficulties parents faced in terms of sex education. The majority of parents stated that they believed sex education was necessary. Parents may argue that sex education requires a special approach considering the special needs, physical and mental disabilities of their children. Therefore, it is considered essential for sex education to collaborate with teachers and specialists to understand their children's learning styles and needs. Some parents, however, may believe that sex education should be provided in a standard manner despite their children's special needs. They may even believe that their children should receive the

same education as children with typical development. Conversely, some parents may oppose providing sex education to their children. For various reasons, some may not want their children to have early knowledge on these matters, either due to religious or cultural reasons or simply not considering it appropriate for their children. In summary, the attitudes of families of children with special needs toward sex education can be different based on various reasons. However, it should be emphasized that sex education is important for the health and safety of children and should be planned in a way that suits the needs of the children.

It was determined that there is no statistically significant difference in the general scores of the Attitude toward Sex Education Scale and its sub-dimensions according to the ages of the parents of children with special needs participated in the study. Children with special needs might need more support in certain skills compared to typically developing children and parents seek more research and expert support to find solutions to this situation. Therefore, it is considered that every parent with a child with special needs is aware of the necessity of sex education for their children. In a study by Akdemir (2019), which examined the connection between the attitudes of teachers of children with intellectual disabilities towards sex education and ethical considerations, it was determined that the age variable did not create a significant difference. However, a different result was observed in the study conducted by Yavuz, Tekcan and Vural Batık (2013), which investigated the attitudes of special education teachers towards sex education. In this study, it was stated that younger teachers had higher attitude scores compared to older teachers.

Results showed that female participants scored higher than male participants regarding Attitude toward Sex Education Scale. This result is considered to be influenced by societal expectations placed on women. Given that society expects women to be responsible for childcare, maintaining the household and meeting the needs of the family, it is believed that women may be more sensitive to sex education and in need of professional support. Shin, Lee, and Min (2019) conducted a study with 360 families of children with special needs at elementary school age and found that mothers had higher scores in sexual knowledge and sexual attitude compared to fathers, although this difference was not statistically significant. Additionally, Xiong et al. (2020) investigated the views of 30 pre-service teachers who graduated from a national pre-service teacher education program in China and figured out that male teachers perceived their knowledge of sex education as sufficient, while female teachers felt inadequate and expressed a need for training in this area. The higher scores in the role of parents for female participants are thought to be related to their acceptance of societal roles attributed to them, which may contribute to passing on these roles to future generations and shaping societal norms. Tuğut and Gölbaşı (2019) examined the attitudes of parents towards sex education and found that parents' attitudes were similar regardless of gender. Similarly, Eroğlu and Gölbaşı (2005) carried out a study to examine the importance of parents in the sex education process and determined that parents considered themselves sufficiently knowledgeable about sex education regardless of gender. Similar findings were also reported in a study by Nagpal and Fernandes (2015) that aimed to determine parents' attitudes toward sex education.

Participants who were single had statistically significantly higher scores in professional support and respect for differences, as well as parental role, compared to participants who were married. This can be interpreted in the context of traditional marital roles and responsibilities being less pronounced among unmarried participants. Şahin and Özbey (2007) concluded that fathers' involvement in the process is as crucial as mothers' involvement for children's intellectual development, academic success and acquiring a healthy gender role. In contemporary times, it is considered important for both parents to participate in family education programs, even if they are not married, emphasizing the significance of shared involvement in parenting.

Results showed that participants with postgraduate degree had statistically significantly higher scores in overall scale and its sub-dimensions compared to participants with primary school, middle school and high school degrees. Results also revealed that university graduates had statistically significantly

higher scores on avoidance sub-dimension of Attitude toward Sex Education Scale compared to participants with middle school degree. According to these results, it is presumed that the attitudes toward sex education among parents of children with special needs become more positive and egalitarian as their educational level increases. Similarly, Çerçi (2013) found in a study on the knowledge and attitudes of parents of children with intellectually disability towards the sexual development and education of their children that the attitudes of parents varied according to their educational levels indicating higher-educated parents having more knowledge. Eliküçük (2011) also found that knowledge and thoughts of parents of 6-year-old children attending preschool education institutions about their children's sexual development and education that parents with higher educational levels had higher levels of knowledge. However, Çankırı (2018) examined the influence of parental educational levels on the child's sexual identity acquisition and found that the educational level of parents did not have a significant influence.

When the overall results on monthly household income are examined, it is seen that participants with higher monthly household incomes had statistically significantly higher scores in overall scale and its sub-dimensions compared to participants with lower monthly household incomes. According to these results, it is found that as income levels increase, families may have more opportunities to receive additional education and expert support, leading to more positive attitudes toward sex education. There are different research findings in the literature. In a study on the knowledge and attitudes of parents with preschool children regarding sexual development and sex education, İşler and Gürşimşek (2018) found that as income levels increased, parents not only exhibited higher levels of knowledge but also demonstrated more positive attitudes. Similarly, Çerçi (2013) arrived at a comparable conclusion in a study focusing on the knowledge and attitudes of parents of children with intellectual disability towards the sexual development and education of their children. The study revealed differences in the knowledge levels of parents of children with intellectual disability based on their monthly income status.

It was found that the scores of participants who received a training on sex education were statistically significantly higher than the scores of participants who did not receive such training in terms of professional support and respect for differences sub-dimension. There was no significant difference ($p>.05$) in the scores of the sub-dimensions, namely parental role, belief in its necessity, avoidance and overall scores of the Attitude toward Sex Education Scale based on whether the participants received a training on sex education or not. These results suggest that previous training in sex education for parents of children with special needs positively influences their attitudes in this regard. Sex education is a lifelong process, and providing individuals with sex education from an early age has a significant impact not only on their knowledge about sexuality but also on developing healthy sexual attitudes. Similar findings were reported by İşler and Gürşimşek (2018) in their study on the knowledge and attitudes of parents with preschool children regarding sexual development and sex education.

Results showed that there is no statistically significant difference ($p>0.05$) in the general scores of the Attitude toward Sex Education Scale and its sub-dimensions based on whether parents have someone who have experienced sexual abuse in their close environment. Akdemir (2019) explored the relationship between the attitudes of teachers providing education to individuals diagnosed with intellectual disabilities and their ethical stances regarding sex education. The study revealed a significant shift in attitudes toward sex education based on whether individuals in their environment had experienced sexual abuse. Yaşar, Şenol, and Akyol (2015) conducted a study to investigate the perceptions of pre-service preschool teachers regarding child abuse. According to this research, pre-service teachers who had individuals in their environment with experiences of sexual abuse exhibited more positive attitudes (Diken & Sucuoğlu, 1999; Pala, 2008). This outcome can be attributed to their heightened awareness stemming from prior knowledge about sexual abuse and the cultivation of empathy resulting from the presence of individuals who have experienced sexual abuse in their environment.

There exists a statistically significant difference in the sub-dimensions of the Attitude toward Sex Education Scale, including professional support and respect for differences, parental role, belief in its necessity, avoidance scores and general scores, based on the parents' perspective on sex education. Participants from families with a positive perspective on sex education demonstrated significantly higher scores in professional support and respect for differences, parental role, belief in necessity, avoidance, and general scores of the Attitude toward Sex Education Scale compared to participants from families with a negative perspective. However, there was no statistically significant difference in the avoidance scores of participants based on their perspective on sex education. The avoidance scores of participants with positive and negative perspectives on sex education within their families were similar. According to these results, parents of children with special needs who hold a positive perspective on sex education exhibit higher attitude scores towards sex education. Positive attitudes are believed to foster positive behaviors, increase interest and enhance skills in the task at hand. Similar findings can be observed in the literature; Kakavoulis (2001) identified diverse opinions on the necessity of sex education in a survey study conducted with parents about family and sex education. Kır (2013) emphasizes in his research that sex education for individuals requiring special education is essential. Gürbüz (2018) reached findings indicating that children with special needs and their parents require sex education in their study.

Discussion on Gender Perception of Parents of Children with Special Needs and Demographic Variables

Average scores obtained from the Gender Perception Scale revealed that families' gender perceptions are high. This suggests that the gender perceptions of parents of children with special needs are positive, indicating an egalitarian perspective. Reviewing the literature reveals similar findings. In her study involving a participant group of 324 women, Çökelez (2023) found that working women exhibited higher gender perceptions compared to non-working women. Similarly, Özkan (2019) determined in his research on the relationship between gender perceptions and athlete self-efficacy among female football players studying at the university that, despite variations related to age and region of residence, female university football players generally held egalitarian gender perceptions.

The results of the present study showed that there is no statistically significant difference in the Gender Perception Scale scores of parents of children with special needs according to age groups. In other words, participants aged 20-29, 30-39, 40-49 and 50 and above have similar Gender Perception Scale scores. This finding suggests that parents of children with special needs should engage in further research to facilitate their children's independence and seek expert opinions. Expert opinions are believed to promote egalitarian attitudes. However, when examining the literature, contrasting results emerge. Aksu's (2021) study revealed that participants aged 18-25 exhibited higher average scores on the Gender Perception Scale compared to other age groups. Conversely, Kurşun (2016) arrived at a different conclusion, observing that younger employees in Samsun demonstrated more positive attitudes than their older counterparts. This discrepancy might be attributed to the younger generation's greater receptivity to innovation and lower levels of burnout compared to older individuals.

A statistically significant difference exists in the Gender Perception Scale scores among parents of children with special needs based on gender. Female participants scored significantly higher on the Gender Perception Scale compared to their male counterparts, indicating that female participants hold more egalitarian gender perceptions. It is posited that women tend to develop these attitudes to combat societal discrimination against women and challenge perceptions of them as weak or vulnerable individuals. Examining relevant literature reveals varying findings. Öngen and Aytaç (2013) discovered in their study that university students exhibited more egalitarian attitudes and accepted gender roles compared to men, though the study groups differed. Özpulat (2017) observed differences in gender perceptions among nursing students, with girls demonstrating more egalitarian views. Similarly, Çökelez (2023) found positive and egalitarian gender perceptions among women in her study with 324 literate volunteers. Özpulat (2016) observed gender-based variations in gender

perceptions among nursing students, with female students exhibiting more egalitarian attitudes. Conversely, Çetinkaya (2013), in a study on university students' inclinations towards violence, found that girls displayed more egalitarian gender perceptions. However, contrasting conclusions exist in the literature, such as Önder et al.'s (2013) study, which found that male students in the Health Management department of a university held more egalitarian attitudes towards gender perceptions compared to their female counterparts.

A statistically significant difference exists in the Gender Perception Scale scores among parents of children with special needs based on their marital status. Single participants scored significantly higher on the Gender Perception Scale compared to their married counterparts. This finding suggests that married parents, who typically shoulder more responsibilities, may have lower levels of empathy compared to unmarried parents. Examining relevant literature, Çifçi's (2018) study with individuals residing in Mardin revealed that married women exhibited more egalitarian gender perceptions compared to unmarried women, despite differences in study groups.

There is a statistically significant difference in the Gender Perception Scale scores among parents of children with special needs based on their educational levels. Participants with postgraduate degrees scored significantly higher than those with primary school, middle school and high school degrees. Similarly, participants with university degrees scored significantly higher than those with primary school and middle school degrees. These findings suggest a positive correlation between parents' educational levels and their gender perceptions, indicating more egalitarian attitudes as educational attainment increases. Examining relevant literature, Gökçay and Akça (2020) found in their study with 350 women attending the Kafkas University Obstetrics and Gynecology Clinic that higher education levels were associated with more egalitarian gender perceptions. Similarly, Savaş (2018) concluded in his nationwide study in Turkey that as education levels rose, perceptions of gender equality also increased.

A statistically significant difference exists in the Gender Perception Scale scores among parents of children with special needs based on their monthly household income. Participants with higher monthly household incomes scored significantly higher than those with moderate and low incomes. It is hypothesized that parents with higher incomes possess greater awareness of gender equality, likely due to increased participation in social environments facilitated by their financial resources. Examining relevant literature, Kaya and Uysal (2015) found similar results in their research on the relationship between religious views and Gender Role Perceptions, where individuals with lower monthly incomes exhibited lower levels of acceptance toward gender roles compared to those with higher incomes. Additionally, Altuntaş and Altınova (2015) aimed to explore the association between socioeconomic status and gender perceptions in their study involving 511 parents from Ankara. They observed that as individuals' financial statuses improved, their gender perceptions tended to become more egalitarian.

There is no statistically significant difference in the Gender Perception Scale scores among parents of children with special needs based on their sex education status. The scores of participants who received sex education and those who did not are similar. This result suggests a lack of impact of sex education on gender perceptions, potentially due to consistently high scores across both groups. Examining the literature, Bayyiğit (2021) found in a study involving 235 special education teachers that in-service training did not influence teachers' gender perceptions. However, conflicting findings exist. May (1980) discovered in his study that special education teachers who underwent pre-service training applied their training in their professional lives. Similarly, Saracaloğlu, Karasakaloğlu and Gencel (2010) found in their research on the self-efficacy levels of Turkish language teachers that education significantly influenced self-efficacy.

There is no statistically significant difference in the Gender Perception Scale scores among parents of children with special needs based on the presence of individuals who have experienced sexual abuse in their environment. The scores of participants with a family member who has experienced sexual

abuse and those without such experience are similar. It is observed that parents of children with special needs often engage more actively in areas such as their children's health and education, which may contribute to more egalitarian gender perceptions. While similar findings were not found in the reviewed literature, there are studies with differing conclusions. For instance, Akdemir (2019) discovered in his study that trainers providing education to students with intellectual disabilities displayed significant changes in their attitudes toward sex education based on the presence of someone around them who has experienced sexual abuse.

There is no statistically significant difference in the Gender Perception Scale scores among parents of children with special needs based on their attitude toward sex education. The scores of participants with a positive attitude toward sex education and those with a negative attitude are similar. Parents of children with special needs often demonstrate positive attitudes toward sex education, likely influenced by the delayed independence of their children in various skills compared to their peers. This positive attitude is believed to contribute to more egalitarian gender perceptions. Although no supporting findings were discovered in the reviewed literature, Bakır, Vural and Demir (2019) found a different result in their study involving 564 university students. They found that girls exhibited higher levels of positive attitudes toward sex education and more egalitarian gender perceptions compared to boys. This suggests that individuals with positive attitudes toward sex education may also hold positive and egalitarian gender perceptions.

There is no statistically significant difference in the Gender Perception Scale scores among parents of children with special needs based on their attitude toward sex education. The scores of participants with a positive attitude toward sex education and those with a negative attitude are similar. Parents of children with special needs often demonstrate more positive attitudes toward sex education, likely influenced by the delayed independence of their children in various skills compared to their peers. This positive attitude is believed to contribute to more egalitarian gender perceptions. Although no other findings supporting this perspective were found in the reviewed literature, a different result was obtained by Bakır, Vural and Demir (2019) in a study with a sample of 564 university students. They found that girls exhibited higher levels of positive attitudes toward sex education and more egalitarian gender perceptions compared to boys. This suggests that individuals with a positive attitude toward sex education may also hold positive and egalitarian gender perceptions.

A positive and statistically significant correlation exists between the overall scores of the Attitude Toward Sex Education Scale and its sub-dimensions (professional support and respect for differences, belief in necessity, and avoidance) with the overall scores of the Gender Perception Scale for parents of children with special needs. As participants' scores on professional support and respect for differences, belief in necessity, and avoidance increase, their overall scores on the Attitude Toward Sex Education Scale also increase positively and significantly correlate with the overall scores on the Gender Perception Scale. This finding suggests that positive attitudes are associated with the development of positive perceptions. Similar findings were observed in the study conducted by Bakır, Vural and Demir (2019) on the attitudes toward sex education and gender perceptions of university students. They found that girls exhibited higher attitudes toward sex education compared to boys and had more egalitarian gender perceptions. Therefore, it is concluded that higher overall scores on the Attitude Toward Sex Education Scale significantly enhance the overall scores on the Gender Perception Scale in a positive direction.

Based on the findings obtained from this research, some recommendations have been made for further research and applications. It is recommended to conduct informative and awareness-raising activities on sex education to improve the attitudes of families with children with special needs towards sex education and to prevent potential sexual diseases and abuse. Sex education courses should be added to the curriculum of special education, preschool, primary, and secondary schools to become part of education policy and practices. Making sex education courses mandatory in departments such as Special Education Teaching, Classroom Teaching and Preschool Teaching in universities can also be

suggested. Awareness about sex education from early childhood can be increased through appropriate cartoons, visual books, and similar awareness-raising activities. Providing parents with education on gender equality can support the upbringing of their children with egalitarian attitudes from a young age. Visual materials promoting awareness of gender equality can be prepared and disseminated to the public through various mass media channels. The attitudes and gender perceptions of families with children diagnosed with different disability groups towards sex education can be examined. A deeper investigation using qualitative methods can be conducted to identify the difficulties experienced by families regarding sex education.

Ethics and Conflict of Interest

This study was conducted according to ethical and research standards. All participants participated to study were volunteers. Information about study subject, aim and researchers were given to the participants. As the authors of this study, we declare that we collected data in accordance with ethical rules during the research process and acted in accordance with all ethical rules. We also declare that there is no conflict among the authors.

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EMOTIONAL RESTORATIVE INTERVENTION ON SPOUSE ABUSE PERPETUATIONS IN IJEBU DIVISION OF OGUN STATE

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Abstract

The study therefore examined the implications of emotional restorative intervention ERI on spouse abuse perpetuation SAP in Ijebu Division of Ogun State. Descriptive survey research design was used. A total of 100 spouses were purposively selected for this study. A standardized instrument modified, titled Scream, Insult, Threat, and Hurt SITH and a self-structured instrument were given to the respondents. The reliability was .85 and .93. The data gleaned were analyzed using frequency percentage and mean score to answer research questions while t-test was used to test the hypothesis at .05. The result shows that the perpetuators emotional intelligence status of the before and after the intervention ranges from 1.37 (S.D.=.49) to 3.55 (S.D.=.50) and 1.71 (S.D.=1.01) to 3.67 (S.D.=1.12) respectively. The mean range for the SAP is 3.05 (S.D.=.46) to 3.55 (S.D.= .86). Emotional Restorative Intervention ($t=63.97$, $p<.05$) is statistically significant, this implies that the Emotional Restorative treatment intervened the Emotional Intelligence, socio-emotional abilities and the situation management. It was recommended that elders in the religion settings, health workers and social workers should be exposed to the Emotional Restorative Education technicality detail with routine application of mental hygiene.

Keywords: Abuse, spouse abuse, perpetuators, intervention, emotional restorative intervention.

INTRODUCTION

Violent behaviour at home has various dimension, among its dimension is spouse abuse. This is the violation of spouse right to safety irrespective of the gender, age, and family background. Its perpetuation route is either husband against wife or wife against husband. It involves the recurring used of vicious or scheming behaviour by spouse against other (Lauren, 2015). The initial perpetuators of spouse abuse are the spouse have experienced and acknowledged violence at home while growing. The experienced impaired their emotional intelligence and their matrimonial harmony (Baker-Tingey, 2020; Kosonogov *et al.*, 2019, Michels & Schulze, 2021).

Spouse abuse is also known as intimate partner violence. It is any behaviourial pattern used by one partner to get or retain power and control over another intimate partner. It is usually corporal, emotional,

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psychosomatic, sexual, financial and spiritual in nature (Dhani & Priyam, 2021, MacCann *et at.*, 2020). It occurs regardless of age, socioeconomic status, race, ethnicity, religion, and sexual orientation. This abuse has severe and long-lasting effects on victims, while emotional trauma of perpetuator influences its magnitude. It is important for both victims and the perpetuator of spouse abuse to seek help and support from friends, family, counselors, and social workers *(*Mullen *et al.*, 2018; Oguntayo, 2016; Oguntayo et al., 2018, Olatunji, 2020*)*. This type of violence occurs regardless of the categories of spouse. Spouse can be recognized by law, through marriage, civil union, long-term cohabitation and commitment, and marriage after the termination of a previous marriage (Rey *et al.*, 2018; Walker *et al.*, 2022; Whitener, 2020).

Emotional restoration is a systematic process of healing, recovering, and replenishing emotional well-being after experiencing distress, trauma, or negative emotions. It involves recognizing and processing complicated emotions, nurturing oneself, and implementing strategies to promote emotional resilience and inner peace. The key strategies involved in emotional restoration include Self-awareness, Self-compassion, Emotional expression, Coping strategies, Seeking professional help, Forgiveness and acceptance, and Meaning-making: Finding meaning and purpose in difficult experiences can facilitate emotional restoration and growth. Reflecting on lessons learned, personal strengths developed, or opportunities for growth can help reframe negative experiences in a more positive light and foster a sense of resilience and optimism (Domestic Sexual and Violence Response Team, 2020; Kosonogov *et al.*, 2019*;* Lim, 2020*)*. Emotional restoration is a process that requires patience, self-compassion, and commitment to self-care. By actively engaging in practices that promote emotional healing and resilience, individuals can gradually restore their emotional well-being and cultivate a greater sense of inner peace and fulfillment

It has been observed that many spouses are not enjoying their marriage, many shown maturity in dealing with marital relationships but mentally insensitive to partners emotions brings about their poor marital relationship; leading to strife, maiming and killing of spouse, spouse arranged kidnapping *(*MacCann *et al.*, 2020; Michels & Schulze, 2021; Mullen *et al.*, 2018*)*. The rate at which spouse separate is alarming, this increase the number of single parent family. As, several spouse are not well adjusted and unstable in their marriages. Therefore, this study examined the implication of emotional restorative intervention on the perpetuation of spouse abuse in Ijebu region of Ogun State, Nigeria.

Literature Review

The link between spouse abuse and emotional intelligence of perpetrators is a complex and multifaceted issue. Emotional intelligence of any spouse is the ability to know, distinguish, and handle individual's emotions, as well as the ability to recognize, understand, and influence the emotions of another (Walker *et al.*, 2021). It encompasses empathy, self-awareness, self-regulation, and social skills (MacCann *et al.*, 2020). Experts suggest that those with low emotional intelligence may be more likely to engage in abusive behaviours towards their partners for several reasons like Lack of empathy, Poor communication skills, Difficulty managing emotions, and Entitlement and control (van der Linden *et al.*, 2017). Low emotional intelligence in spouse is associated with a sense of entitlement and a desire for control over others. The perpetrators use abusive tactics to exert power and control over their partners, believing that they are entitled to dominate and manipulate them (Domestic Sexual and Violence Response Team, 2020; Pappas, 2020; Popoola, 2017).

Socio-emotional abilities of the perpetrators also contribute to this abuse. The socio-emotional abilities encompass a range of skills related to identifying and handling emotions, empathizing with spouse, and forming healthy relationships (Rey *et al.*, 2018). Experts suggest that spouse who engages in abuse often exhibit deficits in these socio-emotional abilities and this contributes to their abusive behavior (Whitener,

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2020). The socio-emotional abilities that intersect with spouse abuse include Empathy deficits, Emotion regulation difficulties, Communication deficits, Low self-esteem and insecurity, and Difficulty forming healthy attachments (Walker *et al.*, 2022). However, Low emotional intelligence, and Socio-emotional abilities are not the only determinant of this abuse. The factors like upbringing, exposure to violence, substance abuse, cultural influences, societal norms and attitudes towards gender roles also play important roles in shaping abusive behaviour of spouse (Domestic Sexual and Violence Response Team 2020, Pappas, 2020; Popoola, 2017; Oguntayo *et al.*, 2018).

Addressing spousal abuse and managing situations involving perpetrators require a multifaceted approach involving legal, psychological, and social interventions (van der Linden *et al.*, 2017). Some of the strategies for situation management include Safety First, Legal Intervention, Therapeutic Interventions, Accountability, Education and Awareness. While other strategies also include Community Support, Cultural Sensitivity, and Empowerment of Victims, Prevention Programs, and Collaborative Approach. It is therefore important to note that managing situations involving perpetrators of spousal abuse requires a coordinated effort from various stakeholders such as government agencies, non-profit organizations, healthcare professionals, and the broader community (Walker *et al.*, 2021).

Among the cases of spouse abuse reported, it is less clear that either husband or wife can engage in it. Though, cultural values hinder males from reporting it, instead they prefer to conceal it. Therefore, records on spouse abuse loud the statistics in favour of wife while some husbands die in silence (Kusanthan *et al.*, 2016). Globally, one in three wife experienced abuse, but less is said about husband (Hawcroft *et al.*, 2019). Evidence collected from diverse cultural settings, at regional level, indicates a wide deviation in prevalence rates from one country to another. The disparity is from 15% to 71% and mostly within the range of 29% and 62%. United Republic of Tanzania (56%), Bangladesh (62%), Peru (69%) and Ethiopia (71%) (Olatunji, 2020; Pappas, 2020; *Petrides, 2015;* Popoola *et al.*, 2017; *Rey et al., 2018*).

The reviews conducted in 2015 that used Zimbabwe's national demographic and health survey (DHS) indicate 43.1% (Iman'Ishimwe *et al.*, 2020). In Mozambique recent reviews that used Mozambique DHS data showed 29% prevalence rate (Cools & Kotsadam, 2017). In variance, Zambia is 48%, and 20% were identified in Malawi (Domestic Sexual and Violence Response Team 2020; Pappas, 2020). In West Africa; prevalence rates in Nigeria is 31% Nigeria, Sierra Leone 29%; Mali 27%, and Ghana 19% were observed. In contrast, Cote d'Ivoire had 53.6% of women residing in urban settlements experienced spouse abuse (Popoola, 2017; Shuman *et al.*, 2016; Issahaku, 2017).

Studies have found out that 15 to 30% of violent spouses have personality disorders (UN Women, 2020; UNFPA, 2020). A study carried out in Iran showed that neuroticism predicted spousal abuse (United Nation Nigeria, 2020; van der Linden *et al.*, 2017*;* World Health Organisation, 2020). Neuroticism is associated with unfriendliness, intolerance and low confidence. For example, individuals with low neuroticism keep unruffled with high emotional firmness while those with high neuroticism are more hasty and hostile (Walker *et al.*, 2021; Walker *et al.*, 2022*;* Whitener, 2020).

The study primarily intervened spouse abuse perpetuation through emotional restorative education in Ijebu-Igbo division of Ogun State Nigeria. It has specifically determined the categories and status of spouse abuse perpetuation cum implication of the intervention on the classified spouse.

Research Questions

1. What are the categories of spouse abuse perpetuations in Ijebu Division of Ogun State, Nigeria?
2. What is the status of the participants before and after the treatment with the package in Ijebu Division of Ogun State, Nigeria?

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3. Will the intervention on spouse abuse perpetuation be significant among the classified spouse in Ogun State?

Hypotheses

The following hypotheses formulated guided the conduct of this study.

i There will be no significant difference between the pre-test and post-test of the participants after treating them with the Emotional Restorative Education package in Ijebu Division of Ogun State, Nigeria.

ii. There will be no correlation between the treatment, emotional intelligence, socio-emotional abilities and situation management of spouse abuse perpetuators in Ijebu Division of Ogun State, Nigeria.

METHOD

Research Design

This study was a quasi-experimental research in which the participants were pretested and treated with the restorative package. The design for this study was single grouped before-after Design. This design involves one group. The group was pre-tested, treated with the package and the same group was post-tested. The population of this study comprised all adults who were violence perpetuators at home in Ijebu-igbo Ogun State. Their violent ability made them appropriate target for this study. The sample size for this study comprised 100 participants drawn through religious centres to agreed training centre. The sample was chosen through Multi-stage sampling procedure. Simple random sampling technique of Fish bowl method was first used to select one (1) town from five in the study location, thus, Oke-Sopin was selected for the study.

Instrumentation

The research made use of three instruments. These instruments were self-developed. Instrument 1 was titled Scream, Insult, Threat, and Hurt (SITH). This was used to determine the spouse that perpetuates violence at home. The second instrument titled *Spouse Emotional Intelligent Questionnaire* was used *to measure the Emotional Intelligent* of the participants before and after the treatment. The reliability of both instruments was carried out via tests retest in which ten (10) of each instrument were administered to people outside the study location, and was re-administered after 2 weeks. The data gleaned were analyzed with Pearson Product Moment Correlation Coefficient which yielded 0.87 and 0.96 respectively. The third instrument was Emotional Restorative Education package; this was used to treat the participants. Its content was sourced from psychological materials with focus on emotional intelligence.

Participants Inclusion/Treatment Process

To identify those that perpetuate violence at home among the spouse, the researcher administered the instrument 1 on a significant proportion of the adult population. It was on the basis of the scores, agreement on time for the training, training centres and interest of the participants that the researcher purposively drew a total of 50 participants out of those that scored 10 and above from each male and female to make 100 participants used at their consent in this study.

The identified perpetuators were treated with Emotional Restorative Education Packaged. The packaged was a self developed Intervention package. The participants were not assigned to groups instead they constitute a group used for the study. The participants were pretested the second instrument; *t*hen, treated with the package. The researcher maintain three (3) sessions with the group: two (2) sessions were used for group discussion while one (1) session was used for consultation especially for those that requested for counseling, each session lasted for 45 to 60 minutes per week for twelve (12) weeks.

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Method of Data Collection and Analysis

After the treatment the participants were post-tested with the same instrument used to pre test them. The statistical method that was used in analyzing the research questions in this study was a descriptive statistics while inferential statistics was used to assess acceptability of the hypotheses formulated at 0.05 level of significance.

RESULTS and DISCUSSION

The participants were perpetuators of spouse abuse. This was affirm through their SITH score. Any score ≥ 10 indicates perpetuation of abuse while the score of the participant were ≥ 10. Their average age was 30.5 while their average year of marriage was 15 years.

Research Questions 1: What are the categories of spouse abuse perpetuations in Ogun State?

Table 1: Mean Score Analysis of the categories of spouse abuse perpetuations.

Violence Perpetuations Categories/Levels	Mean	Std.Dev.	REMARK
Negligible	3.05	. 46	Sig.
Low	3.30	. 78	Sig.
Moderate	3.50	. 76	Sig.
High	3.55	. 86	Sig.
Substantially High	3.55	. 86	Sig.

The result in Table 1 shows the categories of spouse abuse perpetuations mean score with a mean criterion score of 3.00. The mean scores range is 3.05 (S.D.=.46) to 3.55 (S.D.=.86). This implies that the categories of spouse abuse perpetuation are significant in Ogun State. Though, the categories have varied magnitude. The categories range from negligible to substantially high in the study location.

The finding that the categories of spouse abuse perpetuation are significant in the study location is in line with the submission of Whitener (2020); Kosonogov *et al.* (2019) that violence perpetuation at home ranges from negligible to substantially high. This is an indication to confirm the assertion of Dhani & Priyam (2021) no home is totally free from violence but the violence can either be noticeable or non noticeable. The perpetuators may not notice a violence episode or acknowledge an act of violence due to the effect of challenging circumstances on their emotional intelligence which impact their violence perpetuation (Durlofsky, 2015). This aligns with the findings of MacCann *et al.* (2020), opinion that challenging circumstances experienced can result in leading psychologically tumultuous lives individuals. This consequently makes individual either perpetuator or perpetuator of violence (Argyle, 2017). This is supported with the observation of Kosonogov et al. (2019) that poor EI of the perpetuators is the hallmark of their unhealthy living because it posts noticeable implications on their social wellbeing. It is also in line with Dhani & Priyam (2021) and Walker *et al.* (2021) assertion that this makes violence perpetuator to live an undefined psychological life which causes them to be ire constantly and incessantly live negative mood. The level of emotional impairment determining the magnitude of violence perpetuated which ranges from negligible to moderately, while the most impaired individual always perpetuate high and substantially high violence.

Research Questions 2: What is the status of the participants before and after the treatment with the package?

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Table 2. Mean Score Analysis of the status of the participants before and after the treatment.

		Before		After	
		Mean	**Std.Dev.**	**Mean**	**Std.Dev.**
EI Status	Substantially Low	3.45**	1.15	1.71	1.01
	Low	1.37	.49	1.71	.45
	Moderate	1.50	.50	3.50**	.50
	Substantially High	1.39	1.12	3.67**	1.12
Socio-emotional Ability	Substantially Low	3.50**	1.11	1.35	.40
	Low	1.71	.49	1.71	1.10
	Moderate	1.71	.50	3.50**	.49
	Substantially High	1.39	1.12	3.55**	.50
Situation Management	Substantially Low	3.50**	.49	1.71	1.12
	Low	1.71	.50	1.71	.45
	Moderate	1.71	1.12	3.50**	1.11
	Substantially High	1.39	.49	3.50**	.49

The result in Table 2 indicates the mean score of the emotional intelligence, socio-emotional ability and situation management status of the participants before and after the treatment with a mean score of 3.00 as the criterion score. The range of mean scores before the treatment is 1.37 (S.D.=.49) to 3.55 (S.D.=.50). Thus the status of the participants before the treatment, for Emotional Intelligence, substantially low is significant, low, moderate and substantially high are not significant. For socio-emotional ability and situation management, substantially low is also significant, while low, moderate and substantially high are not significant. This implies that before the treatment, the Emotional Intelligence, socio-emotional ability and situation management status of the participants were substantially low. Thus inform their active perpetuation of violence at home.

After the treatment, the mean scores indicate that Emotional Intelligence, socio-emotional ability and situation management are moderately and substantially high significant. This implies that Emotional Intelligence, socio-emotional ability and situation management status of the participants were moderately and substantially high after the treatment. Thus, the treatment reduces the act of violence perpetuation of the participants in the study location.

The finding that Emotional Intelligence, socio-emotional ability and situation management, are substantially low before the treatment is in line with the observation of MacCann *et al.* (2020) that spouse with low socio-emotional ability struggle to manage their emotions effectively, this lead to heightened levels of frustration, anger, or aggression in individual as opined by Michels & Schulze (2021). This is also in line with the assertion of Mullen *et al.*, (2018) that such spouses lack empathy and have difficulty understanding the feelings and perspectives of their partners. This is also in support of the finding of Relojo *et al.* (2015), that the difficulties in understanding feelings of spouse prone such partner to disregard the well-being of others. This enhances their tendency to display violent behaviour.

The outcome that Emotional Intelligence, socio-emotional ability and situation management, are substantially high after the treatment is supported with the submission of Michels & Schulze (2021) that access to right information on emotional, socio-emotional ability and situation management change individual status and also reduce violence perpetuation. The emotional intelligence status significantly impacted by the treatment agrees with MacCann *et al.* (2020); that emotional Restorative Education has strong impact on Emotional intelligence, this is also in line with the Mullen *et al.* (2018) that EI can be enhanced through training and education. When it is enhanced through education, it fosters awareness,

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control, motivation, expression, empathy and skills for healthy living (Walker *et al.*, 2021; Whitener, 2020).

Research Questions 3: Will the intervention on spouse abuse perpetuation be significant among the classified spouse in Ogun State?

Table 3. Mean score analysis of the status of the participants before and after the treatment.

Classified spouse	Mean	Std.Dev.	Remarks
Stay at home spouse	3.85	1.74	Sig.
Working spouse	3.86	1.41	Sig.

The result in Table 3 shows the intervention mean score among the classified spouse against a mean criterion of 3.00. The mean scores before the treatment ranges from 3.25 (S.D.=1.20) to 3.86 (S.D.=1.41). Thus the intervention on spouse abuse perpetuation is significant among the classified spouse in the study location.

The finding that the intervention is significant among the classified spouse is in line with the observation of Walker *et al.* (2021) and Whitener (2020) that education influences all categories of partners' behaviour. This is also in line with the observation of Baker-Tingey (2020) that both working and stay at home spouses are prone to spouse abuse irrespective of their location. Either working or stay at home spouses are prone to melting abuse due to their low emotional intelligence which defile their socio-emotional and situation management ability, as established by MacCann *et al.* (2020) and Michels & Schulze (2021).

Hypothesis 1: There will be no significant difference between the pre-test and post-test of the participants after treating them with the Emotional Restorative Education package in Ogun State.

Table 4: T-test Report of Pre-test and post-test Difference of the participants after the treatment

Gender	N	Mean	Std.Dev.	Df	t value	Sig. of t
Pre-test	100	14.95	1.40	49	63.970	.000*
Post-test	100	36.85	1.10			

*p<.05

Table 4 shows the result of the paired-samples t-test of difference between the pre-test and post-test of the participants after the treatment. The result indicates a significant outcome (t=63.970, p<.05). This outcome implies that there is significant difference between the pre and post-test scores of the participants. The table also indicates that the mean post-test score 36.82 (S.D.=1.10) recorded is not just higher than the mean pre-test score 14.95 (S.D.=1.40) recorded by the participants after the treatment, the difference between the mean scores is statistically significant. Thus, the null hypothesis of no significant difference between the pre-test and post-test of the participants after treating them with the Emotional Restorative Education package in the study location was rejected.

The outcome in table 4 revealed a significant difference in the pre and post test of the participants after the treatment. This implies that Emotional Restorative Education package has effect on the participants who are violence perpetuators at home, and the effect was attributed to the twelve (12) weeks treatment given to them. This result established that the treatment had restored the participants' emotional intelligence, socio-emotional ability and situation management which in turn have positive implication on their violence free living (Argyle, 2017). Also, the study was in line with the findings of Walker *et al.* (2021) *and* Whitener (2020) who established that Emotional Restorative programme should be floated in the community in order to enhance socio-emotional and situation management ability of people in other to foster violence free live. While series of intervention programmes had been used to tame the dimensions

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of family violence as well as boosting the healthy living of the perpetuators, this study compositely used Emotional Restorative Education and has established its potency on the criterion behaviour of the participants (Dhani & Priyam, 2021).

Hypothesis 4: There will be no correlation between the treatment, emotional intelligence, socio-emotional abilities and situation management strategies of family violence perpetuators in Ogun State

Table 5. Correlation between the treatment, emotional intelligence, socio-emotional abilities and situation management.

	Emotional Intelligence	Socio-emotional Abilities	Situation Management	Treatment
Emotional intelligence	1			
Socio-Emotional Abilities	.717	1		
Situation Management	.896	.774	1	
Treatment	.940	.787	.896	1

Table 5 shows the relationship between the treatment, emotional intelligence, socio-emotional abilities and situation management of the participants. There is a statistical relationship between the treatment and the variables under studied ($r=.940$, $p<.001$). The relationship is positive, indicating that the variables increase alongside with the treatment, that is the more the treatment, the more its affect the variables.

The finding is that the more the treatment, the more its affect the emotional intelligence, socio-emotional abilities and situation management of the participants in the study location. This is in line with Walker *et al*. (2021) submission that emotional restorative education help violence perpetuators to learn and refine their socio-emotional ability which aids their ability to live healthy and violence free life. According to Walker *et al*. (2022), the participants use the ability instill in them through the treatment to control, convey certain feelings, as well as to recognize unsuitable emotions. Thus, participants can also handle and facilitate response to violence more efficiently by using their socio-emotional abilities such as empathy and consideration, this in turn influence healthy relationships as well as living (van der Linden *et al.*, 2017).

CONCLUSION and SUGGESTIONS

This study intervened spouse abuse perpetuation through emotional restorative education in Ijebu division of Ogun State, Nigeria. It was found out that the emotional intelligence, socio-emotional abilities and situation management of the participant were low before the treatment indicating that this influence their violent behaviour, but the parameters were moderately and substantially high after the treatment. That is, the treatment high and substantially affect the emotional intelligence, socio-emotional ability and situation management status of the participants. Thus, the treatment reduced spouse abuse perpetuation of the participants in the study location. Spouse abuse was perpetuated negligibly, moderately, and substantially high in the study location. The categories of spouse abuse perpetuation were significant in Ijebu division of Ogun State. The treatment affect the spouse abuse perpetuation significantly among the working and stay at home spouse with effect on their socio-emotional abilities

Based on the findings the following suggestions were made:

1. Active teaching of family life education integrated with Emotional Restorative Education will ameliorate the impaired emotional intelligence contending with the healthy living of adults who perpetuate violence at home.

2. Teaching of family life education integrated with Emotional Restorative Education and family violence perpetuation management coupled with psychology first aid should be intensified in both public and private schools.
3. Elders in the religion settings, health workers and social workers should be trained on Emotional Restorative Education technicality with routine application of mental hygiene while the health and social workers should be included in this training.
4. Emotional Restorative Education integrated in spouse abuse perpetuation management coupled with mental hygiene should be part of the activities of the media unit of governments at the state and local government level. The unit should come up with jingles and campaign that could foster emotional intelligence which will in turn boost healthy living of spouse who experience violence at home
5. Government should vigorously float Emotional Restorative programme at all levels to rehabilitate spouse abuse perpetuators while individuals and nongovernmental organization should partner with the government to incapacitate emotional intelligence implications on healthy living of spouses.
6. Routine Emotional Restorative Education should be plan and constantly carried out by government with the support of individuals and nongovernmental organization through media.
7. Emotional Restorative Education should not be limited to the school at all levels of education but should be extended to household through mass media house to house process and community involvement.
8. There are also shelters and resources available to assist victims in leaving abusive relationships and rebuilding their lives in a safe environment. Additionally, it's crucial for society to address the root causes of domestic violence through education, prevention programs, and legal interventions.

Ethics and Conflict of Interest

All ethical rules were observed at each stage of the research. The author declares that he acted in accordance with ethical rules in all processes of the research. The authors declare that they do not have any conflict of interest with other persons, institutions or organizations.

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EXAMINING THE STUDIES ON SCIENCE EDUCATION IN GIFTED/TALENTED INDIVIDUALS IN THE LAST 5 YEARS

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Abstract

Modern times are characterized by a daily rate of new scientific and technological advances. People who can stay up to date with developing advancements and even incorporate them into daily life are needed. This will only work if the appropriate groups and instructional strategies are used. Gifted and exceptionally talented individuals hold a significant position in society and are vital groups in special education because they frequently require customized instruction. By emphasizing the relationship between science education and special education and considering the methodologies, data collection tools, findings, and other noteworthy aspects of recent research in the field, the current study seeks to evaluate the importance of integrating these two domains. This study was carried out as a review of the literature. In this context, 45 articles with the keywords "Gifted/Special Talent", "Science", "Gifted/Talented Students", and "Science" in the literature between January 2019 and May 2024 were examined within the scope of the study. During the selection of the studies, current databases such as Google Scholar, Dergipark, Core, DOAJ, and Web of Science were used. While examining the studies, the "Article Review Form" created by the researchers was used. As a result of the examinations, it was determined that there were more Turkish publications and that there was an equal tendency in terms of the method used. While the scanning and phenomenology research design was preferred more, t-test and content analysis were mostly used as data analysis methods. Depending on the method, it was determined that scales and interviews were preferred as data collection tools. It was determined that a small sample size was tried to be preferred in sample selection, and in addition, studies were conducted for various purposes and results were obtained.

Keywords: Gifted individuals, science education, special education, document review.

INTRODUCTION

Today, education systems are developing various approaches to support student profiles that develop in different directions, and especially gifted individuals. Considering the significance of gifted individuals for societies, science education is becoming increasingly important in the education of these individuals. Special education is a customized educational approach designed to meet the special needs of students and maximize their potential (Genç, 2016). Otherwise, science education has an important place in special education as it is a discipline that aims to develop scientific thinking, problem-solving, and discovery skills (MEB, 2018).

The relationship between special education and science education is important in terms of discovering, developing and directing the scientific abilities of gifted or superior students. While science education is one of the areas where gifted/specially talented students are most successful, science education programs developed for them can also provide an ideal ground for revealing their potential (VanTassel-Baska, 2021). Applications aimed at gifted/specially talented individuals can

meet the individual needs of these students and enable them to achieve greater success in science education (Camcı Erdoğan, 2014). This article focuses on the relationship between special education and science education, emphasizing the role of gifted or specially talented individuals in science education. In addition, the findings and suggestions of existing research in this field are also discussed, and an in-depth evaluation is aimed at presenting the importance of the integration of special education and science education.

One of the biggest goals of today's education system is to ensure that each student receives an education that is appropriate for their unique needs and abilities. In this context, the relationship between fields such as special education and science education is becoming increasingly important. Special education is a discipline that aims to adapt teaching strategies and methods in cases where students exhibit differences in their learning processes. Moreover, the aim of science education is to assist students get an effective understanding of nature and the environment as well as to help them develop scientific thinking abilities. The relationship between science education and special education for gifted and talented students will be discussed in this article, along with the implications for the future of the educational system. In particular, we will focus on how this relationship creates synergy and how it encourages students' scientific curiosity. This analysis will help educators and policymakers understand what strategies they can follow to maximize the potential of each student (Hançer, Şensoy, & Yıldırım, 2003). Importance of the study, approaching the studies on science education of gifted/specially talented students from a holistic perspective and contributing to researchers who want to work in this field and who have been working in recent years. In addition, this research can provide information about which areas are highlighted in science education of gifted/specially talented students and how much importance is given to which topics. The purpose of this study is to examine the relationship between science education and gifted/specially talented kids, with a particular emphasis on the function that science education plays in the education of these individuals. In addition, it is planned to present an in-depth evaluation of the importance of the integration of science education of gifted/specially talented students by considering the purpose, method, findings, and results of existing research in this field. This study aims to provide a general perspective on the article studies on science education of gifted/specially talented students. The study aims to examine the articles in the literature on science education of gifted/specially talented students in terms of various variables and present them comparatively. Accordingly, the questions that follow are being made in order to get an answer:

Article studies on science education of gifted/talented students in local and foreign literature,

1. How is the distribution by year?
2. How is the distribution of studies by publication language?
3. How is the distribution by research methods?
4. How is the distribution by research designs?
5. How is the distribution by data analysis methods?
6. How is the distribution by data collection tools?
7. How is the distribution by sample group?
8. How is the distribution by results of studies?
9. How is the distribution by purposes of studies?

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METHOD

The document review strategy, one of the qualitative research methodologies, was employed since the fundamental questions the study attempts to answer are predicated on the interpretation of qualitative data discovered by looking through the papers (Bowen, 2009). The study highlights the connection between science education and special education. It also discusses the methodology, data collection methods, key findings, and other pertinent aspects of recent research in the field. Finally, an assessment of the significance of gifted and talented students and the integration of science education is given. The data were included in the evaluation's scope, and the document review methodology was chosen.

Data Collection and Analysis Process

Selecting target documents: While conducting the analyses, 45 articles with the keywords ***"Gifted/Specially Talented", "Science", "Gifted/Talented Students", "Science" between January 2019 and May 2024*** were examined within the aim of the research. In the stages of selecting target documents, Google Scholar, Dergipark, Core, DOAJ, Web of Science databases were first used. Later, as a result of the initial reviews, 47 articles were included in the review according to the keywords and selection criteria, while as a result of detailed reviews, two articles were excluded from the review due to the fact that they did not meet the review criteria by the experts and went beyond the purpose of the study, and 45 articles were included in the review.

Developing categories: The researchers' "Article Review Form" was the tool used to evaluate the studies. You may find the paper review form in Appendix 1. The study's data were divided into categories based on the following: the study's year, publishing language, methodology, pattern, data collection instruments, data analysis techniques, sample size, findings, and goals. The researcher established new categories and reviewed studies that were based on the document analysis method in order to determine these categories.

Determining the unit of analysis: In selecting the studies, consideration was given to the terms "Science," "Gifted/Talented Students," and "Gifted/Specially Talented" in relation to the sample group.

Digitalization: The articles in the literature on the teaching of science to gifted/specially talented students were digitized and their frequency and percentage estimates were done.

RESULTS

This part presents and interprets the results in tabular form as percentages and frequencies based on the study questions.

The first question of the research was answered by "What is the distribution of articles on science education of gifted/specially talented students in domestic and foreign literature by year?" The findings regarding the distribution of articles by year according to the document analysis are shown in Table 1 and Figure 1.

Table 1. Studies frequency by year.

Year	F	%
2020	14	31,12
2021	13	28,88
2022	6	13,33
2023	11	24,44
2024	1	2,23
Total	45	100

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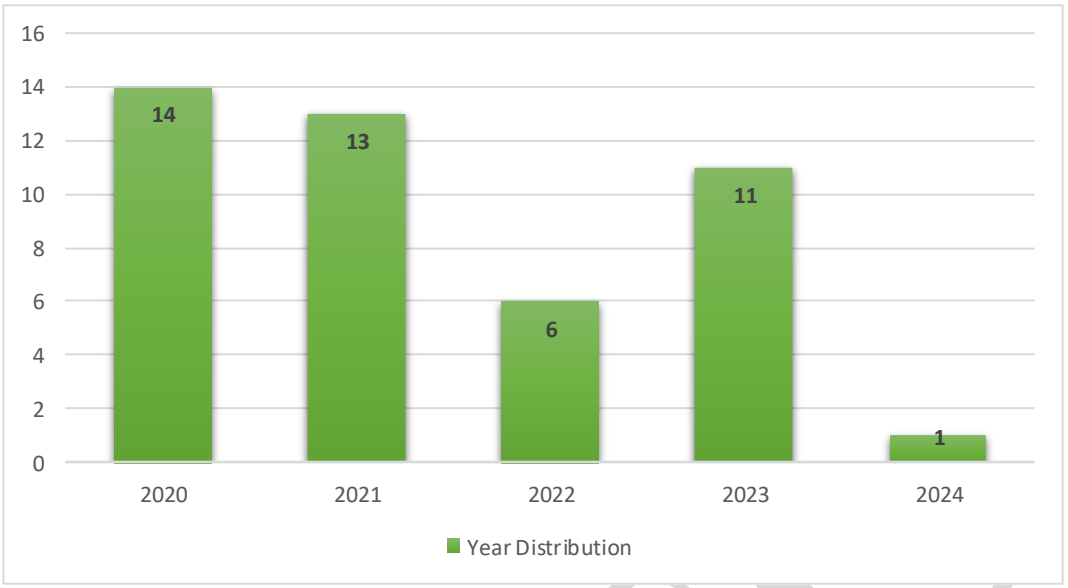

Figure 1. Distribution of studies by year.

Looking at Table 1 and Figure 1, we can see that the most studies in this field were done in 2020, with a rate of 31.12%. This is the most in the last 5 years. This rate is followed by 2021 with 28.88%, 2023 with 24.44%, 2022 with 13.33% and 2024 with 2.23%. Although there is a study in 2024, the most important part here is that the 2024 data covers the studies up to May. Put simply, this data is derived from the study conducted over a period of 5 months.

The second question of the research was answered by "What is the distribution of articles on science education of gifted/specially talented students in domestic and foreign literature according to the language of publication?" The findings regarding the distribution of articles according to the language of publication according to the document analysis are shown in Figure 2.

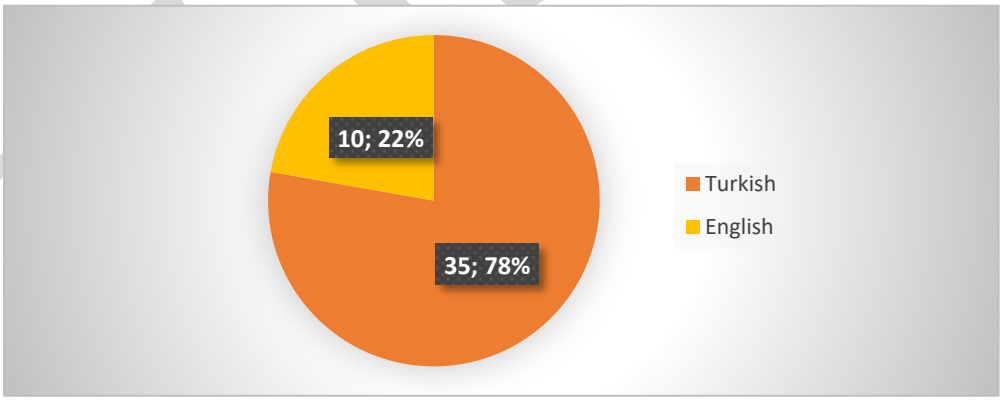

Figure 2. Distribution of studies according to publication language

When Figure 2 is examined, the publication language of 35 (78%) of the 45 articles in this field is Turkish, while the publication language of 10 studies (22%) is English.

"What is the distribution of articles on science education of gifted/specially talented students in domestic and foreign literature according to research methods?" was the response given to the third research question. Figure 3 displays the results of document analysis regarding the distribution of articles based on chosen research methods.

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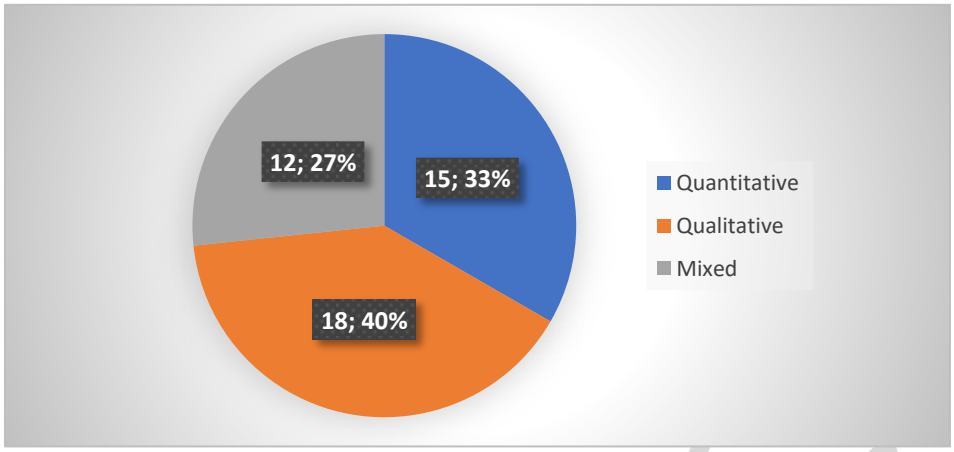

Figure 3. Distribution of studies by research method

When the distribution of methods used within the scope of the studies is examined in Figure 3, it was determined that Qualitative method was preferred at 40%, Quantitative method at 33% and Mixed research methods at 27%.

The fourth question of the research was answered by "What is the distribution of articles on science education of gifted/specially talented students in domestic and foreign literature according to research designs?" The findings regarding the distribution of articles according to research designs preferred according to the document analysis are shown in Table 2.

Table 2. Distribution of studies according to research design.

Research Method	Research Design	F
Quantitative	Screening Model	8
	Experimental Design	5
	Action Research	1
	Survey Design	1
Qualitative	Phenomenology	7
	Case Study	5
	Content Analysis	2
	Compilation	1
	Document Review	1
	Systematic Functional Multimodal Discourse Analysis	1
	Unspecified	1
Mixed	Sequential Explanatory Design	3
	Embodied Experimental Design	2
	Action Research	1
	Nested Mixed Design	1
	Parallel Mixed Design	1
	Concurrent Embedded Research	1
	Unspecified	3

The studies' research designs are examined in Table 2. The exams revealed that several designs were employed, but generally speaking, the research design used for the study's scope was not mentioned in the technique section of four studies. When the designs used within the scope of the selected methods are examined in detail, the study designs are explained in order of use. In the quantitative research

method, scanning model, experimental design, action research and survey design were preferred. In the qualitative research method, phenomenology, case study, content analysis, compilation, document review and systematic functional multimodal discourse analysis designs were used. In mixed research methods, sequential explanatory design, embedded experimental design, action research, nested mixed design, parallel mixed design and simultaneous embedded research designs were preferred.
The fifth question of the research was answered by "What is the distribution of articles on science education of gifted/specially talented students in domestic and foreign literature according to data analysis methods?" The findings regarding the distribution of articles according to the data analysis methods preferred according to the document analysis are shown in Table 3.

Table 3. Distribution of studies according to data analysis methods.

Data Analysis Methods	F
T-Test	16
ANOVA	9
Mann Whitney U	2
Kruskal Wallis	2
Wilcoxon Signed Rank Test	5
Content Analysis	18
Descriptive Analysis	3
Deductive Analysis	2
Coding/Category/Theme	4
Matrix	1
Inductive	1
Data Analysis For Phenomenological Studies	1
Pre-Test-Post-Test Analysis	1
Eye Movement Study Analysis	1
Sf-Mda Approach Analysis	1
Unspecified	1

The description of methods used to analyze the data collected throughout the investigations is displayed in Table 3. It was found that the most often employed tests were the t-test and content analysis. In addition to this, it was found that various data analysis techniques were favored based on the data and the data collection instruments used in the investigations.

"What is the distribution of articles on science education of gifted/specially talented students in domestic and foreign literature according to data collection tools?" was the sixth study question that was examined. Table 4 displays the results of the document analysis on the distribution of articles based on the desired data collecting tools.

Table 4. Distribution of studies according to data collection tools.

Data Collection Tools	F
Scale	16
Semi-Structured Interview	14
Test	9
Observation	5
Form	5
Survey	4
Document	4
Inventory	4
Other	4

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Table 5 (Continued). Distribution of studies according to data collection tools.

Data Collection Tools	F
Diary	3
Interview	2
Notebook/Drawing	2
List	1
Open-Ended Sentence Completion	1

Analysis of the distribution of data collection instruments used in the research reveals that certain studies employed multiple data collection instruments in Table 4. It was found that, overall, about fifteen different data collecting instruments were employed for the purposes of the research. It is apparent that semi-structured interviews and scales are the most often utilized data collection instruments. It was also found that several instruments for gathering data, including surveys, questionnaires, tests, observations, and papers, were employed.

The seventh question of the research was answered by "What is the distribution of articles on science education of gifted/specially talented students in domestic and foreign literature according to the sample group?" The findings regarding the distribution of preferred sample groups according to various categories in the articles conducted according to the document analysis are shown in Table 5 and Table 6.

Table 6. Distribution of studies according to sample density.

Sample Density	F
0-50 Individuals	23
51-100 Individuals	8
101-150 Individuals	5
151-200 Individuals	1
201 and above	4

The sample distributions for the experiments will be shown in Table 5 and Table 6. Upon examining Table 5, it becomes apparent that the research' ideal samples often consist of individuals aged 0-50. 45 articles were reviewed; 23 work with 0–50 samples, 8 with 51–100 samples, 5 with 101–150 samples, 4 with 201 and above samples, and 1 with 151-200 samples. Four investigations looked over the documents. These studies contain 17, 65, 72, and 79 documents, in that order.

Table 7. Distribution of studies according to sample diversity.

Sample Diversity	F
Student	36
Parent	2
Teachers	6
Teacher Candidate	2
Other (Staff)	1

Sample diversity is displayed in Table 6. It was found that the majority of the research involved students, and very few involved parents, instructors, teacher candidates, or other staff members. It was found that certain studies made use of a diverse sample.

"What is the distribution of articles on science education of gifted/specially talented students in domestic and foreign literature according to their results?" was the eighth research question that needed to be answered. Table 7 displays the conclusions of the outcomes of the articles that were completed in accordance with the document analysis.

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Table 8. Results obtained from the studies.

Publication Code	Results
M1	According to the study's findings, eighth-graders scored the highest on attitude. Following a gender analysis, it was discovered that female students outperformed male students in terms of attitude.
M2	It was finding that brilliant and gifted children showed a strong interest in science courses. The level of fatherhood was shown to significantly differ based on the gender variable.
M3	The study's findings revealed that engaging in extracurricular STEM activities considerably improved the entrepreneurial abilities and attitudes of gifted and exceptionally gifted adolescents toward STEM.
M4	The study's findings demonstrated that the participants' understanding of gifted and talented students was lacking.
M5	With the use of the data collecting tool, gifted students generated 34 different metaphorical perceptions for the concept of "science," 37 for the concept of "scientist," 38 for the concept of "science teacher," and 48 for the concept of science itself.
M6	Based on the collected data, it was concluded that biology-related courses were the most straightforward for the students, while physics-related subjects presented the most challenge. Furthermore, research has shown that students prefer hands-on activities and the use of visually appealing materials when learning and teaching.
M7	The results have been separated into positive and negative categories, and the teacher's essential module and process-related points were noted in each category. Additionally, recommendations were made for potential future uses of these kinds of resources.
M8	The results showed that a significant number of teacher candidates said the trainings aided in their professional and personal development.
M9	The study's findings demonstrated that gifted children had a significant difference in scientific literacy, with modest average scores for the SL, NS, and STS sub-dimensions for both groups.
M10	The study's findings demonstrated that LARO classes were effective in assisting students in learning the foundations of the scientific method.
M11	According to the study's findings, science teachers can teach science students in elementary school science classes scientific and engineering methods as well as water literacy by utilizing the experiential learning framework.
M12	It was observed that the students came up with 78 distinct answer phrases pertaining to the idea of a scientist, and that they most frequently connected the terms "smart" and "patient" with the concept of a scientist.
M13	This compilation study suggests that the STEAM integrated learning paradigm supports students' ability to think creatively by fostering complex mental connections between disciplines. These individuals are gifted and intelligent.
M14	The study's conclusions indicate that limited numbers of students were included in the samples and that qualitative methods were generally preferred in postgraduate research on scientific education for gifted children. It is clear that teacher perspectives and STEM education applications are the most often explored study themes in master's theses.
M15	When studies on talented children in science education were examined in Turkey between 2018 and 2021, a majority of the studies concentrated on STEM, environmental education, problem-based learning, project-based learning, and the creation and assessment of modules and activities. The results of the sample/study group of research indicate that most secondary school students are investigated. Most of the publications that were released claimed to have enhanced skill development.
M16	It has been found that STEM education strengthened students' professional ideas, STEM applications had a good impact, and STEM applications helped students learn more about the career they intended to pursue.
M17	The findings showed improvements in the motivation, self-assurance, and attitudes of students for science classes in the classroom.

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Table 9 (Continued). Results obtained from the studies.

Publication Code	Results
M18	According to the study's findings, there has been an apparent increase in interest in STEM education among gifted educators, especially in the discipline of science. The number of papers that have been published has increased in accordance with this.
M19	The study's findings showed that seventh-graders' attitude scores were somewhat higher than those of fifth- and sixth-graders on average. After a gender analysis, it was shown that female students scored better on attitude than male students.
M20	The scientific epistemological views of talented students who study science more often have improved.
M21	The study found that gifted students conceptualize science as information derived from experience, life, and science. It was determined that gifted students wanted to use desire to use projects, observations, fieldwork, and experiments to understand science.
M22	The astronomical learning outcomes and excitement of the experimental group pupils were enhanced by AR-supported astronomy instructional activities. The technological, cognitive, and emotive elements of augmented reality applications received positive feedback from talented students as well.
M23	The findings demonstrate that coding instruction enhances students capacity for analytical thought.
M24	The research group's post-test results on the scientific creativity scale show a substantial difference from the pre-test results. After analyzing the impact of the STEM-based activity on cognitive achievement, it was found that there were notable differences in gifted/talented students.
M25	The study's conclusions showed that the gifted students who participated in the research were able to use the LEGO® Education® BricQ Motion Essential Set to brush up on their knowledge and skills for the twenty-first century and that they also developed positive perceptions of the educational set.
M26	The study finding show them, it was found that the talented kids' STEM capabilities, attitudes toward STEM, and problem-solving abilities were significantly enhanced by STEM applications.
M27	Based on the findings, differentiated science education applications were found to enhance pre-service teachers' beliefs about the efficacy of science teaching, as well as their competencies in learning science, academic self-efficacy, and beliefs about engaging in science-related activities outside of the classroom.
M28	It was shown that talented students outperformed non-gifted students in creative problem-solving abilities due to differences in thinking, general knowledge and skills, and general average. The average scores for the gifted students' environmental sub-dimension and overall scores showed a substantial difference in favor of the girls.
M29	Upon examining talented students' ideas regarding energy and energy sources, it becomes evident that there are conceptual and meaning gaps and inaccuracies in their mental models.
M30	The result was to the observation that male students are more motivated to study STEM than female pupils. It was shown that gifted pupils are more motivated to study STEM subjects than students in religiously affiliated schools. The findings also showed a direct correlation between parents' educational attainment and STEM enthusiasm.
M31	The study's findings showed that students' proficiency in scientific processes had significantly increased; however, these gains were mostly concentrated in the basic and causal SPS, with little progress seen in experimental processes.
M32	The results demonstrated that both gifted and non-gifted students possessed strong science self-regulation abilities.
M33	The study finding showed students' conceptual knowledge and scientific process skills rose significantly in both groups. It was determined that students in the virtual laboratory who were gifted outperformed those in the physical applied laboratory.
M34	The study's findings demonstrated that, in addition to conducting process observations, teachers considered students' cognitive, affective, and social characteristics when identifying them as gifted.

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Table 10 (Continued). Results obtained from the studies.

Publication Code	Results
M35	The SS-US and SS-US-UN versions were the most popular ones for the study finding. In this level-level interaction, the unseen levels were crucial in making meaning of the occurrences, while the SS level was crucial in providing an explanation by concentrating on certain phenomena. Students were able to explain scientific topics like what happened and why with causal explanations, especially when all three levels formed a meaningful relationship.
M36	The comparison analysis revealed that students placed greater value on doing and trying, parents placed more value on learning-related features, and teachers placed more value on thinking-related aspects. The findings demonstrated that "conducting experiments, asking questions, thinking logically to solve difficult problems, and sharing ideas" were all seen by the three groups as critical components of scientific creativity.
M37	The results showed that graph reading was difficult for physics students in all three groups.
M38	The study's findings indicate that the STEAM project activities balanced the creative expressions of science, art, and craft. There was a substantial emphasis on the development of cognitive skills, with an emphasis on knowledge, mental flexibility, associative thinking, and associative thinking.
M39	The findings demonstrated that multimodal representations in their most basic versions were taught by teachers. There were very few sophisticated multimodal representations.
M40	The study's qualitative and quantitative results demonstrated how gifted students' collaborative work and problem-solving abilities were enhanced by the problem-based differentiated science education module.
M41	Within the parameters of the study, it was found that talented students' creative thinking, problem-solving abilities, and attitudes were significantly impacted by the practices differentiated in accordance with the Grid Model.
M42	As a result of the transactions made, students' scientific inventiveness could grow because of the STEM-based educational design. It was discovered that during the procedure, the experimental group utilized more engineering abilities and scientific process skills than the control group, and they also shown more improvement.
M43	This research one primary gifted classroom to determine what norms were established and how they developed in the process of creating student-generated drawings. These findings indicate that, in order to facilitate student-generated drawings, educators must take into account at least two factors: how to assist students in developing and visualizing ideas as they work through the drawing process. The findings showed that in order for teaching techniques to be effective, students must be exposed to the fundamental concepts of each strategy through a variety of media, and students' actual behaviors that embody the concepts must also be observed.
M44	The gifted/talented students came up with 31 distinct metaphors for the idea of "BİLSEM" and 30 distinct metaphors for the idea of "School." However, based on the students' perceptions, it was determined that the settings at BİLSEM and the school did not constitute a whole; that is, BİLSEM was distinguished by its entirely positive metaphors, while the school was mentioned with both positive and negative metaphors.
M45	The results of the study, students thought that the realistic learning environment helped them recall the content better, and the local rural knowledge model increased their interest in STEM subjects.

In Table 7, each of the research findings is discussed individually. The collected data are listed below when the general examination of the study results is done. These;

- It's been found that educators, parents, and other caregivers don't know enough about gifted and talented kids.
- Based on the characteristics analyzed, pupils' attitude scores rise as their grade level rises.
- It has been determined that when gender is taken into account, female students have higher attitude ratings than male students.
- After receiving science instruction, talented children exhibit a positive shift in their views toward the epistemology of science.

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• Students benefit from instructional strategies that include technology.
• It has been found that talented kids' STEM skills, attitudes toward STEM, enthusiasm, creativity, and problem-solving abilities are significantly enhanced by STEM applications.

The ninth question of the research was answered by "What is the distribution of articles on science education of gifted/specially talented students in domestic and foreign literature according to their purposes?" The findings regarding the distribution of articles according to the purpose of the document analysis are shown in Table 8.

Table 11. Distribution of studies according to objectives.

Purpose	Special Purpose
Affective Domain	Attitude Towards Environmental Knowledge
	Interest Towards Science
	Attitudes Towards Stem
	Motivation Towards Science
	Stem Epistemological Belief
	Attitudes Towards Science
	Scientific Epistemological Belief
	Augmented Reality Attitude
	Belief On Differentiate Education
	Competence On Differentiate Education
	Stem Motivation
	Attitudes
Cognitive Domain	Entrepreneurship
	Status Of Bilsem Teachers Regarding Knowing Their Students
	Metaphors Detection Of Concepts
	View Of Science
	Application Evaluation
	Conceptual Perceptions Within The Scope Of The Module
	Scientific Literacy
	Effect Of Use Of Laro
	Scientific Process Skills
	Water Literacy
	Image And Characteristics Of Scientist
	Steam Creativity
	General Status Of Thesis, Article, Graduate Studies
	Stem Choice Of A Profession
	Status Of Studies Within The Scope Of Stem
	Success Of Augmented Reality Application
	Augmented Reality Application Opinion
	Coding Analytical Thinking
	Stem Scientific Creativity
	Stem Cognitive Achievement
	Lego Set 21st Century Skills
	Stem Problem Solving
	Lego Set Applications Opinion
	Mental Model
	Creative Problem Solving
	Science Self-Regulation Skills
	Laboratory (Real+Virtual) Conceptual Knowledge
	Creating Scientific Explanations
	Scientific Creativity
	Graph Reading
	Collaborative Working
	Associating Representations With Indicators
	Stem Effect
	Drawing/Creating
	Metaphors

In Table 8, the aims of the studies are examined by creating themes and categories. In this context, the aims of the studies are divided into two by experts as affective and cognitive areas, which are the areas they basically examine and seek answers to. Later, the aims of the studies are divided into themes and categorized according to two main areas. In general, it has been determined that the studies are carried out with very different aims, but they are shaped on areas such as STEM, technology-supported education, creativity, attitude, motivation, belief and competence. Furthermore, it has been ascertained that the research is conducted with several objectives, including water literacy, visual aid learning, and information clarification.

DISCUSSION, CONCLUSION, and SUGGESTIONS

The study's objective was to present an assessment of the value of integrating science and special education by highlighting the connections between the two subjects and by going over the methodology, data collection methods, conclusions, and other significant aspects of the amount of current research in the area. Within the parameters of the research, 45 publications containing the keywords "Gifted/Special Talent", "Science", "Gifted/Talented Students", and "Science" published between January 2019 and May 2024 were analyzed using the document review technique. Google Academic, Dergipark, Core, DOAJ, and Web of Science databases were employed in the study selection process. The researchers' "Article Review Form" was employed to analyze the studies. Following the studies, it was found that the number of Turkish publications was higher and that the approach utilized was generally equivalent. The t-test and content analysis were the most often utilized data analysis techniques, even though the scanning and phenomenology research designs were chosen. It was found that the best data gathering instruments were scales and interviews, depending on the methodology. Studies are carried out for a variety of reasons and outcomes are produced; it has been shown that a small sample size is preferable in sample selection.

Yalçınkaya (2023) searched for to offer an overview of postgraduate research on scientific education for gifted and talented carried out in Turkey. The study's findings indicate that postgraduate research on the science education of gifted and talented people has favored qualitative methodologies, and inevitably, only a small number of students have been included in the samples. The most often researched themes in master's theses are those that include revealing instructor viewpoints and STEM teaching practices. Following examination more closely, the results of this survey, which looks at the overall state of postgraduate and current studies, are comparable. Stated differently, research on the integration of gifted/specially talented education and science education is typically undertaken with students and at a low sample density in articles or postgraduate publications. These studies are qualitative in design. Furthermore, it is evident that STEM is given a lot of importance.

The students and a limited sample size are typically observed in research on the scientific education of gifted/specially talented the students. There aren't many studies that involve parents in the study. Small sample groups and student-based studies stand out when the current studies in the literature are evaluated (Güngören, Uyanık, Erdoğan, & Demirhan, 2016; Kırnık & Susam, 2018; Yalçınkaya, 2023). The limited enrollment at BİLSEMs and various issues with parental authorization might be the primary causes of this predicament. The chosen research approach is an additional important factor. Because the type of approach used determines the study strategy, data collecting instruments, and data analysis techniques. Research indicates that qualitative research techniques make up the majority of the methodology used in this sector (Kara, 2020; Özenç & Özenç, 2013; Yalçınkaya, 2023). This study demonstrates that the qualitative research approach is in this direction, and as a consequence, the pattern, data collecting instrument, and analysis are in line with the literature. It might be argued that the qualitative approach has gained prominence, particularly in recent research projects.

Suggestions

Based on the study's results, more in-depth research involving kids in this subject as well as parents, staff, teacher candidates, and other stakeholders is required. It's also advised to conduct the study using a variety of different data collection technologies. Last but not least, the study's findings have shown that there are gaps in the integration of bright and exceptionally talented people with science education. Currently, raising people's awareness and improving the quality of education are crucial. The study's data is intended to serve as a roadmap for future research projects and other scholars.

Ethics and Conflict of Interest

This study was presented as an oral presentation at the UBAK 4th National Scientific Research Congress. The authors declare that the work is written with due consideration of ethical standards. The authors declare that they have no competing interests.

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Appendix 1.

ARTICLE REVIEW FORM

ARTICLE NAME:	
YEAR:	
AUTHOR/S:	
PUBLICATION JOURNAL/LOCATION:	
PURPOSE OF THE STUDY:	
RESEARCH METHOD	( ) QUALITATIVE ( ) QUANTITATIVE ( ) MIXED ( ) UNSPECIFIED
RESEARCH DESIGN:	
DATA COLLECTION TOOLS:	
SAMPLE/STUDY GROUP:	
DATA ANALYSIS METHODS:	
RESULTS 1. 2. 3.	

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INVESTIGATION OF THE PSYCHOLOGICAL CONDITIONS OF INDIVIDUALS AFFECTED BY THE EARTHQUAKE CENTERED IN KAHRAMANMARAŞ

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Abstract

This study aims to examine the psychological conditions of individuals affected by the earthquake centered in Kahramanmaraş on February 6, 2023, which also impacted 11 other provinces. The research adopts a quantitative research design with relational screening model and includes 181 voluntary participants, comprising 93 individuals affected by the earthquake and 88 individuals who were not affected (control group). Data collection involved researcher-designed questionnaires and the Beck Depression Inventory (BDI), both of which were distributed to participants via Google Forms. The data were analyzed using SPSS 28.00. The results of the analyses indicated that the average BDI scores of the individuals affected by the earthquake were higher compared to those in the control group. However, no statistically significant differences were found between BDI scores and demographic variables such as gender, age groups, and economic status within the earthquake-affected group. Additionally, the analyses revealed no statistically significant association between the experience of the earthquake (including factors such as type of residence, location during the earthquake, building collapse, damage to the house, being trapped under debris, loss of relatives, and current place of residence) and depression levels.

Keywords: Earthquake, Kahramanmaraş earthquake, psychological condition.

INTRODUCTION

The Kahramanmaraş-centered earthquake on February 6, 2023, was one of the deadliest in Turkey's history, severely affecting 11 provinces. The seismic sequence included two large earthquakes, one with a magnitude of 7.7 and another of 7.6, occurring about nine hours apart. The disaster impacted an estimated 14 million people across Turkey and Syria, leaving approximately 1.5 million people homeless. (AFAD & AA, 2023; Euronews, 2023). The affected area spanned around 350,000 square kilometers, comparable to the size of Germany.

In Turkey, official reports confirmed 53.537 deaths and 107.213 injured, while in Syria, estimates ranged between 5.951 and 8.476 deaths, with around 14.500 injuries. The overall death toll across both countries is estimated between 59.488 and 62.013 (AFAD & AA, 2023; Euronews, 2023).

The earthquakes caused immense structural damage over 400,000 buildings (AFAD & AA, 2023). Over 214.000 buildings were destroyed or severely damaged across the affected provinces. Thousands of additional buildings were moderately or lightly damaged, contributing to widespread displacement and homelessness (Euronews, 2023).

The estimated economic damage in Turkey reached approximately $148.8 billion, equivalent to around 9% of the nation's GDP. Syria also sustained significant damage, estimated at $14.8 billion (Euronews, 2023).

The psychological effects of the Kahramanmaraş-centered earthquakes on February 6, 2023, have been extensively studied, revealing deep and widespread impacts on mental health across the affected regions. Several studies have highlighted the key psychological consequences, including increased levels of anxiety, depression, and trauma-related disorders such as Post-Traumatic Stress Disorder (PTSD).

Depression, Anxiety, and Stress: Research conducted with survivors using standardized scales like the Depression, Anxiety, and Stress Scale (DASS-21) showed that psychological distress was significant, with many participants reporting symptoms of anxiety and depression. The persistent uncertainty and stress caused by the aftermath of the earthquakes led to heightened levels of distress, which in turn affected the mental well-being of individuals (Kartol et al., 2023).

Trauma and PTSD: Another critical outcome was the prevalence of PTSD symptoms. Survivors exhibited high levels of traumatic stress, with many showing signs of hypervigilance, flashbacks, and avoidance behaviors. This is consistent with findings from other earthquake-related disasters where psychological trauma becomes a long-term mental health issue (Kıymış & Fakioglu, 2024).

Doomscrolling and Future Anxiety: Research has also pointed to behavioral changes, such as increased doomscrolling (the compulsive consumption of negative news) and anxiety about the future. Survivors engaged in excessive consumption of distressing news, which exacerbated feelings of hopelessness and fear about their future (Kartol et al., 2023).

Resilience and Recovery: Studies focusing on resilience have shown mixed outcomes. While some survivors demonstrated resilience and an ability to recover, others struggled significantly. Recovery efforts and the provision of mental health services have been crucial in supporting the psychological recovery of survivors, especially those most vulnerable to the long-term effects of trauma (Çınaroğlu et al., 2024).

Overall, the psychological toll of the February 6 earthquakes has been immense, with a need for ongoing mental health support and interventions to address both immediate and long-term mental health consequences.

The current study

Earthquakes are significant events among natural disasters, particularly due to their potential to cause traumatic effects. Beyond the physical damage they inflict, such disasters can leave profound psychological impacts on individuals. During or after an earthquake, people may feel that their lives are at risk, experience fear of losing loved ones, or face the loss of their homes and belongings. These circumstances can trigger emotional responses such as insecurity, fear, anxiety, sadness, and helplessness. The psychological effects of earthquakes may evolve over time, potentially leading to long-term health problems such as chronic stress, sleep disturbances, or post-traumatic stress disorder (PTSD).

Investigating how symptoms of depression vary based on demographic characteristics and earthquake experiences is crucial for understanding the levels of depression across different groups. To date, no study has been identified that analyzes the impact of demographic factors, exposure levels, housing damage, and personal experiences during and after the earthquake on depression levels following the 06/02/2023 earthquake, which was centered in Kahramanmaraş and affected 11 provinces. In a country like Türkiye, which is prone to earthquakes, comparing depression levels using a control group after such a devastating event can provide valuable insights. This study is expected to serve as a resource for mental health professionals, social workers, and policymakers, aiding the development of preventive and protective measures before earthquakes and therapeutic interventions after them to safeguard citizens' psychological well-being.

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The purpose of this study is to examine the psychological state of individuals who experienced the earthquake centered in Kahramanmaraş on 06/02/2023, affecting 11 provinces. The sub-objectives of the study are as follows:

1. What are the depression scores of individuals who experienced the earthquake compared to those who did not?

2. Is there a statistically significant difference in depression levels based on the demographic characteristics (gender, age, and economic status) of individuals who experienced the earthquake?

3. Is there a statistically significant relationship between the characteristics influencing earthquake experiences (e.g., type of residence, location during the earthquake, building collapse, impact on the house, being trapped under debris, loss of loved ones, and current place of residence) and depression levels among those who experienced the earthquake?

METHOD

In this research, the relational scanning method, one of the general scanning methods, was used. In studies that adopt the relational screening model, a situation or event is explained as it is, and the relationship and impact of the variables that cause this situation and their degrees are determined (Büyüköztürk et al., 2014). As the sampling method, simple random sampling method was used through a survey created in Google Forms and distributed through social media and communication networks.

Participants

A total of 181 participants took part in the study, consisting of 93 individuals who experienced the earthquake and 88 individuals in the control group who did not. For the 93 participants who experienced the earthquake, the gender distribution shows that 52.7% were female (49 individuals), while 47.3% were male (44 individuals). In terms of age groups, the largest group (54.8%, 51 individuals) was between the ages of 18-25. The remaining participants were distributed as follows: 18.3% (17 individuals) aged 26-35, 15.1% (14 individuals) aged 36-45, 10.8% (10 individuals) aged 46-55, and 1.1% (1 individual) aged 56 and above. Participants were categorized into three groups based on their economic status: 34.4% (32 individuals) reported low economic status, 62.4% (58 individuals) reported medium economic status, and 3.2% (3 individuals) reported good economic status.

For the 88 participants in the control group, 70.5% were female (62 individuals) and 29.5% were male (26 individuals). In terms of age distribution, the largest group (47.7%, 42 individuals) was also in the 18-25 age range. Other age groups included: 21.6% (19 individuals) aged 26-35, 12.5% (11 individuals) aged 36-45, 13.6% (12 individuals) aged 46-55, and 4.5% (4 individuals) aged 56 and above. Regarding economic status, 5.7% (5 individuals) reported low economic status, 73.9% (65 individuals) reported medium economic status, and 20.5% (18 individuals) reported good economic status.

Data Collection Tools

Demographic information form

To assess earthquake experiences, demographic information was limited to gender, age, and economic status. Additionally, the study included questions exploring factors that could potentially influence both earthquake experiences and depression. These factors included: the type of residence, location during the earthquake, building collapse, impact on the home, experience of being trapped under debris, loss of loved ones in the earthquake, and the participant's place of residence at the time of the study.

Beck Depression Inventory (BDI)

The Beck Depression Inventory (BDI) was utilized in this study. The BDI is designed to measure the physical, emotional, and cognitive symptoms of depression. This self-assessment tool consists of 21

symptom categories, through which participants evaluate themselves. Based on their responses, participants can score up to 63 points, with the total score indicating the severity of depression. The BDI was developed by Beck et al. in 1961, and its Turkish adaptation, including validity and reliability studies, was conducted by Hisli (1988), yielding a Cronbach's Alpha coefficient of .80. In the current study, the Cronbach's Alpha value was found to be .89, indicating high internal consistency.

Procedure and analyses

The data collection process began with the distribution of the Google Forms link to potential participants. This method was chosen to facilitate easy access and online participation, especially since many participants had relocated to different cities after the earthquake. The online format allowed for a more efficient and faster data collection process. Announcements about the study were made on various social media platforms, and the survey link was shared within relevant groups.

Several challenges were encountered during the data collection process. Although the study initially started with approximately 300 participants, the sample size was reduced to 181 due to missing data and inconsistencies in responses within the control group. Efforts were made to reach participants from diverse demographic backgrounds to ensure variety. However, it was observed that women and young adults showed greater interest and participation in the study.

The study data were analyzed using SPSS 28.00 software. Initially, a normality test was conducted. The results indicated that the data followed a normal distribution, as evidenced by the following observations: Skewness and kurtosis values were within acceptable limits. The mean, median, and mode values were very close to each other. The histogram showed an approximately symmetrical shape with data clustered around the mean. In the Q-Q plot, the points were aligned closely along the diagonal line. The box plot showed the median (represented by the central line) positioned near the middle of the box, with both whiskers of similar length. Additionally, no outliers were identified that could distort normality. Based on these findings, it was determined that the data followed a normal distribution, and therefore, parametric tests were applied in the analysis.

The personal information form utilized in this study was developed by the researchers. Necessary permissions for the Turkish adaptation of the Beck Depression Inventory employed in the study were obtained from the author. Ethical approval for the study was sought and granted by the Scientific Research and Publication Ethics Committee (BAYEK) of European University of Lefke, under decision number BAYEK026.02, dated 24.05.2023.

RESULTS and DISCUSSION

In all analyses conducted, no statistically significant differences were observed between depression levels and the variables (p>.05); therefore, the discussion section follows directly after the findings.

Table 1. Information regarding ındividuals' earthquake experience on February 6, 2023, Kahramanmaraş earthquake.

		n	%
Housing Status	My own house	48	51.6
	Rental	45	48.4
Location during the earthquake	At home	89	95.7
	Outside	2	2.2
	In a motor vehicle	2	2.2
Building collapse	No	58	62.4
	Yes	35	37.6
Condition of the house	Undamaged	8	8.6
	Moderately damaged	16	17.2
	Severely damaged	36	38.7
	Collapsed	18	19.4
	Slightly damaged	15	16.1

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Table 1 (Continued). Information regarding ındividuals' earthquake experience on February 6, 2023, Kahramanmaraş earthquake.

		n	%
Being trapped under rubble	No	85	91.4
	Yes	8	8.6
Loss of loved ones in the earthquake	No	13	14.0
	Yes	80	86.0
Current place of residence	Staying at a relative's house	18	19.4
	Moved to a new house	62	66.7
	Staying in a tent	13	14.0
	Total	93	100.0

The majority of participants (95.7%) were at home during the earthquake. However, 37.6% experienced building collapse. Of these individuals, 38.7% are currently residing in severely damaged homes, while 8.6% were trapped under debris. A significant proportion (86.0%) reported the loss of loved ones in the earthquake. At the time of the study, 66.7% of participants had relocated to new housing, while 14.0% were residing in tents. These findings underscore the severity and impact of the earthquake, highlighting the presence of substantial social and economic challenges in the aftermath.

Table 2. Distribution of mean and standard deviation scores of the beck depression inventory.

	n	Min.	Max.	Mean	Std.Dev.
Individuals With Earthquake Experience	93	4.00	49.00	20.59	10.35
Individuals Without Earthquake Experience	88	1.00	43.00	14.07	8.97

The distribution of mean and standard deviation scores on the Beck Depression Inventory varies between those who experienced the earthquake and those who did not (control group). For individuals who experienced the earthquake, scale scores ranged from a minimum of 4 to a maximum of 49, with a mean score of 20.59 and a standard deviation of 10.35. In contrast, scores for those who did not experience the earthquake ranged from 1 to 43, with a mean score of 14.07 and a standard deviation of 8.97. These findings suggest that individuals who experienced the earthquake generally exhibit higher depression scores, while not having experienced the earthquake is associated with overall lower depression scores.

Indeed, a study by Armenian et al. (2002) found that students exposed to more dangerous or challenging conditions due to the earthquake exhibited elevated symptom levels 10 days post-earthquake. Similarly, students who repeatedly expressed more negative thoughts about the earthquake within the initial 10 days were more likely to show high levels of depressive and stress-related symptoms seven weeks later. These findings suggest that exposure to traumatic events can have both short- and long-term impacts on individuals' psychological well-being. The study by Başoğlu et al. (2004) further demonstrates the enduring psychological effects of catastrophic earthquakes, as such natural disasters can result in traumatic experiences that may lead to lasting effects on psychological health. Long-term psychological impacts may include conditions such as post-traumatic stress disorder (PTSD), depression, and anxiety. Catastrophic events can adversely affect individuals' emotional and mental health, significantly impacting quality of life over extended periods. Studies conducted following major earthquakes like the Marmara Earthquake underscore that those affected often exhibit considerably higher levels of depression and anxiety. Consistent with these findings, individuals who did not experience the earthquake generally report lower depression scores (Aksoy & Kabasakal, 2023; Çoban et al., 2017).

In their study assessing the L'Aquila earthquake, Bianchini et al. (2017) reported elevated levels of depression and anxiety among individuals affected by the disaster. The research highlights the prevalence of mental health issues following the earthquake and emphasizes the significant role of social support mechanisms in mitigating these effects. This underscores the critical need for mental

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health support and interventions in the aftermath of earthquakes, both to address immediate effects and to manage long-term impacts (Çınaroğlu et al., 2024).

Table 3. Comparison of gender and beck depression inventory scores among individuals affected by the Kahramanmaraş earthquake.

	n	Mean	Std.Dev.	F	p
Female	49	21.16	9.45	1.854	0.177
Male	44	19.95	11.34		

p<.05

The analysis revealed no statistically significant difference between male and female participants' scores on the Beck Depression Inventory (p>.05). The mean BDI score for females was 21.16, with a standard deviation of 9.45, while for males, the mean score was 19.95, with a standard deviation of 11.34. The t-value was calculated as 1.854, with a p-value of .177. This result suggests that gender does not have a significant effect on depression levels.

In this study, no significant difference was found between BDI scores and gender. However, some previous studies in the literature report different findings on this issue. Research conducted by Anwar et al. (2011) and Cerdá et al. (2013) suggests that gender may influence depression levels following natural disasters. Several prior studies have indicated that women may be more vulnerable to mental health disorders post-disaster. For instance, Mondragón et al. (2019) suggest that women may be at a higher risk of depression following an earthquake. Similarly, Çınaroğlu et al. (2024) found that women had higher BAI scores than men. Conversely, a study by Chen et al. (2020) reported that post-disaster, men exhibited higher levels of suicide ideation related to depression than women. Additionally, men's sociocultural gender roles may influence their depressive responses to disasters. Some studies in the literature indicate that gender differences may shape depressive responses (Yehuda et al., 2015). While women may develop negative thoughts more readily after traumatic experiences, making them more susceptible to depression, men may temporarily distance themselves from depressive emotions through emotional suppression mechanisms (Christiansen & Hansen, 2015). This finding suggests that men may adopt different strategies than women in internalizing and expressing emotional responses. Therefore, the way gender influences depressive responses is complex and multifaceted. The interaction between sociocultural and biological factors may impact individuals' coping mechanisms and their processes for managing depression in the wake of disasters.

Table 4. Comparison of age and beck depression inventory scores among individuals affected by the Kahramanmaraş earthquake.

Age	n	Mean	Std.Dev.	F	p
18-25	51	20.00	10.67		
26-35	17	23.17	11.47		
36-45	14	22.07	8.90	.972	.427
46-55	10	16.30	8.20		
56 +	1	29.00			

*p<.05

The analysis indicated no statistically significant difference in Beck Depression Inventory scores across different age groups (p>.05). The mean BDI scores by age group were as follows: 20.00 for ages 18-25, 23.17 for ages 26-35, 22.07 for ages 36-45, 16.30 for ages 46-55, and 29.00 for ages 56 and above. The corresponding standard deviations were 10.67, 11.47, 8.90, and 8.20, respectively. The F-value was calculated as .972, with a p-value of .427. These results suggest that age groups do not have a significant impact on depression levels.

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In this study, no significant difference was found between BDI scores and age. However, variation in age levels may have diverse effects on individuals' perception of depression severity and their capacity to cope with it. Given the diverse findings in the literature, further research is needed to better understand the relationship between age and depression. For instance, Cénat and Derivois (2014) reported that symptoms of depression varied across age groups, with older individuals exhibiting more depressive symptoms than other age groups. Conversely, some studies suggest that individuals aged 18 to 24 have a higher likelihood of experiencing post-disaster depression (Ağar, 2020; Liu et al., 2021). These varying findings may result from methodological or cultural differences.

Table 5. Comparison of economic status and beck depression inventory scores among individuals affected by the Kahramanmaraş earthquake.

	n	Mean	Std.Dev.	F	p
Low	32	23.28	10.73		
Medium	58	19.60	10.01	2.732	.070
Good	3	11.00	1.73		

*p<.05

The analysis revealed no statistically significant difference in participants' Beck Depression Inventory (BDI) scores based on their economic status (p>.05). The mean BDI score was 23.28 for those with low economic status, 19.60 for those with moderate economic status, and 11.00 for those with high economic status. The standard deviations were 10.73, 10.01, and 1.73, respectively. The F-value was calculated as 2.732, with a p-value of .070. These findings indicate that economic status does not have a significant effect on depression levels.

In a study conducted by Koçer and Koçak (2024), a significant difference was identified between participants' economic status and earthquake trauma. According to the results of the Post-Hoc (Scheffe) analysis, participants with higher economic status were found to be less affected by earthquake trauma compared to those with moderate or low economic status. Similarly, the findings in the study by Çınaroğlu et al. (2024) also favored individuals with higher economic status. These findings suggest that economic status may significantly influence responses to traumatic events as well as depression. Additionally, studies by Bozkurt (2004) and Sümer (2008) have highlighted the relationship between economic status and depression. These studies propose that socioeconomic status can impact individuals' psychological health, with particularly notable effects on depression.

Table 6. Comparison of the beck depression inventory based on earthquake-related characteristics among individuals affected by the Kahramanmaraş earthquake.

		n	Mean	Std.Dev.	F	p
Type of Residence	My Own House	48	19.66	10.04	.628	.430
	Rental	45	21.57	10.69		
Location During the Earthquake	Evde	89	20.60	10.46	.261	.771
	Outside	2	16.50	6.36		
	In a Motor Vehicle	2	24.00	11.31		
Building Collapse Status	No	58	20.46	10.10	.002	.968
	Yes	35	20.80	10.88		
Condition of the House	Undamaged	8	18.25	10.15	1.187	.322
	Moderately Damaged	16	16.56	8.25		
	Severely Damaged	36	21.94	10.07		
	Collapsed	18	20.05	11.88		
	Slightly Damaged	15	23.53	10.86		
Being Trapped Under Rubble	No	85	20.41	9.82	2.232	.139
	Yes	8	22.50	15.68		

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Table 6 (Continued). Comparison of the beck depression inventory based on earthquake-related characteristics among individuals affected by the Kahramanmaraş earthquake.

		n	Mean	Std.Dev.	F	p
Loss of Loved Ones in the Earthquake	No	13	20.30	10.20	.002	.965
	Yes	80	20.63	10.43		
Current Place of Residence	Staying at a Relative's House	18	23.50	11.27	.880	.418
	Moved to a New House	62	19.92	10.32		
	Staying in a Tent	13	19.76	9.12		

*p<.05

The mean depression score for individuals living in their own homes was 19.66, with a standard deviation of 10.04. For those living in rented housing, the mean depression score was 21.57, with a standard deviation of 10.69. No significant difference was found in depression scores based on the type of residence (F=.628, p=.430).

Numerous studies have compared depression scores between homeowners and renters. Findings generally suggest a positive relationship between homeownership and mental health, indicating that homeownership may reduce depression levels. One study examined the relationship between homeownership, depression, and life satisfaction in China, concluding that homeownership is positively associated with life satisfaction and negatively associated with depression, particularly among individuals in rural areas (Seo et al., 2022). Research by Zielenbach (2003) in the United States also found that homeownership could serve as a more cost-effective housing option for low-income households in the long term, with beneficial effects on psychological well-being. Although no significant difference in depression scores was found between homeowners and renters, homeownership offers long-term economic and psychological advantages. These findings suggest that, despite the similarity in depression scores between homeowners and renters during the Kahramanmaraş earthquake, homeownership may positively impact overall psychological well-being.

The mean depression score for individuals who were at home during the earthquake was 20.60, with a standard deviation of 10.46. No significant difference was observed in depression scores based on the location during the earthquake (F=.261, p=.771).

Several studies have examined the lack of a significant difference in depression scores between those who were indoors and those who were outdoors or in a vehicle during an earthquake. Research by Sagud et al. (2023) explored the psychological effects of being indoors or outdoors during an earthquake, finding no significant impact of location on depression scores. These findings suggest that individuals may experience similar levels of depression regardless of their location during an earthquake. In a related study, Aslam (2010) assessed the impact of physical surroundings on stress and depression following traumatic events like earthquakes. Their research also found no notable difference in depression scores between those who stayed indoors and those who were outside. This outcome suggests that post-traumatic stress is influenced more by the event itself and the individual's coping mechanisms than by the physical setting at the time. Such studies indicate that although various factors shape individuals' psychological states after major traumas, location at the moment of the event does not appear to be a significant factor among them.

The mean depression score for individuals who experienced a building collapse was 20.80, with a standard deviation of 10.88. No significant difference was found in depression scores related to the experience of building collapse (F=.002, p=.968). For those reporting severe damage to their homes, the mean depression score was 21.94, with a standard deviation of 10.10; however, no significant difference was observed in depression scores based on the degree of home damage (F=1.187, p=.322). The mean depression score for individuals trapped under debris was 22.50, with a standard deviation of 15.68, yet no significant difference was noted in depression scores based on this experience either (F=2.232, p=.139).

Numerous studies have demonstrated an increase in depressive symptoms among individuals exposed to natural disasters. Factors such as home loss, property loss, or physical injuries have been highlighted as having adverse effects on psychological health (Pennington et al., 2018; Tang et al., 2014; Ginexi et al., 2000). Research by Galea et al. (2005) and Kıymış & Fakioglu (2024) found that PTSD symptoms are commonly observed following disasters, with these symptoms emerging as long-term consequences of sustained stress, fear, and uncertainty. Bonanno et al. (2010) reported that while some individuals display resilience post-disaster, others may face more challenging recovery processes.

The mean depression score for individuals who lost loved ones was 20.63, with a standard deviation of 10.43. Analysis showed no significant difference in depression scores based on loss of close ones (F=.002, p=.965). For those residing in tents, the mean depression score was 19.76, with a standard deviation of 9.12, and similarly, no significant difference was found in depression scores by type of accommodation (F=.880, p=.418). In conclusion, no statistically significant differences were identified in Beck Depression Inventory scores across the earthquake-related variables examined in this analysis, suggesting that the impact of the earthquake experience on depression levels does not vary according to these characteristics.

In the study by Taşçı and Özsoy (2021), it was noted that while depression and anxiety levels did not increase among earthquake survivors, trauma and dissociation scores were elevated. This finding can be interpreted as evidence that individuals exposed to earthquakes and similar traumatic events may experience various dimensions of psychological impact. In a study by Gao et al. (2019), it was found that, even 37 years post-earthquake, the likelihood of experiencing depression was nearly three times higher for those who lost loved ones during the event compared to those who did not experience the earthquake, and 1.69 times higher for those who did not lose loved ones.

CONCLUSION and SUGGESTIONS

Based on the analyses conducted, a significant difference was observed in Beck Depression Inventory (BDI) scores between individuals who experienced the earthquake and those who did not (control group). The mean BDI score for individuals who experienced the earthquake was calculated as 20.59, while the control group's mean score was 14.07. According to the results, no statistically significant difference was found in BDI scores regarding gender, age groups, or economic status. These findings suggest that gender, age, and economic status are not decisive factors in levels of depression. Furthermore, no statistically significant difference was detected between earthquake experience and levels of depression based on housing type, location, or degree of exposure. These findings indicate that the manner in which the earthquake was experienced or the extent of damage incurred does not have a notable impact on individuals' depression scores. For instance, no significant difference in depression scores was observed between those whose homes were damaged and those whose were not, or between those trapped under debris and those who were not. Similarly, there was no observed difference in depression scores between individuals who were at home, outside, or in a vehicle during the earthquake. According to the statistical analyses, these research findings provide significant insights for understanding post-earthquake depression and developing support programs. As this study is limited by the scale used and the participant sample, future research could be conducted with alternative measures and broader participant groups.

Based on the study, the following recommendations have been developed:

- Considering Turkey's location within an earthquake zone, courses on "Social Work in Disasters" offered in the curricula of social work departments at universities could be restructured from elective to compulsory.

- Social workers should plan and implement in-service training programs within their institutions to better support earthquake survivors.

- Social workers, in fulfilling their role as "community spokesperson," should prepare macro-level educational initiatives to inform the public about pre-earthquake precautions and procedures during and after an earthquake. These initiatives should be disseminated through written, visual, and social media channels.

- Social workers should be prepared to participate in interdisciplinary efforts while providing psychosocial support to earthquake survivors in affected regions.

Ethics and Conflict of Interest

The authors have acted in accordance with ethical rules at all stages of the research, and there is no conflict of interest among the authors.

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EDUCATION OF GIFTED AND TALENTED CHILDREN IN ETHIOPIA: A LITERATURE REVIEW

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Abstract

The main purpose of this article is to examine the education of gifted and talented children in Ethiopia by reviewing related international and national policy documents, strategies, guidelines, reports, and research outputs. The paper has provided information concerning the legal and policy intentions, educational provisions, educational challenges, and suggested strategies to improve the gifted and talented education in the country. Accordingly, regarding the legal and policy contexts, there are relevant and related articles and statements in legal and policy frameworks, strategies, and implementation guidelines to accommodate gifted and talented students, and appreciable attempts were made to communicate those documents to the respective stakeholders. However, in terms of its implementation, considerable gaps have been observed at different levels. The major challenges and issues that need reconsideration include gifted students' identification and assessment, the rigidity of the curriculum, teachers' pedagogical skills, employing enrichment and acceleration approaches, utilization of assistive technological devices, and stakeholders' collaboration. Consequently, a paper forwarded general suggestions and scholarly recommended school-wide strategies and teacher-related strategies for supporting and improving the education of gifted and talented students in inclusive schooling.

Keywords: Gifted student, educational provision, educational challenge, inclusive education, literature review

Introduction

From an international perspective, many gifted and talented individuals have helped to change the world and are often seen as the hope of the future (Plucker & Callahan, 2014). These individuals are found across all social groups irrespective of culture, ethnicity, socioeconomic status, and physical and cognitive learning differences **(**Kearney, Bevan-Brown, Haworth, & Riley, 2008). For instance, Australia identifies the top 10% of its students as belonging to this category (Center for Education Statistics and Evaluation, 2019); in China, the percentage of gifted and talented students is estimated to be between 1% and 3% of the total population of students (Ibata-Arens, 2012); while the target number of gifted students in South Korea is 3%, figures continue to exceed this target (Cho & Suh, 2016); Singapore identifies the top 1% of its national student population as academically gifted (Ibata-Arens, 2012); in the United States the percentage of students receiving gifted education services vary substantially across the country, in eight states, 11% or more gifted and talented students were identified to receive such services (Plucker, Glynn, Healey, & Dettmer, 2018). In Germany, where there is significant academic and political resistance to the very notion of giftedness because of its elitist connotation, the state of Hamburg is considered to have the highest percentage of gifted students, with 0.07% (Tourón & Freeman, 2017). In Spain during the 2015-2016 academic year, the Ministry of Education estimated that 0.27% of the total student population was identified as gifted (Sastre-Riba, Perez-Sanchez, & Villaverde, 2018). This implies that countries' policy approaches to

gifted and talented education, as well as cultural and national differences in the definition, play a crucial role in relaying information about the number of gifted and talented students. Also, the significant variations in legal definition and identification of giftedness prevent the development of international data systems. Nonetheless, several authors consider that a relative convergence of theoretical conceptualization and practices is increasingly observable (Touron & Freeman, 2017) which, to a certain extent, could allow for international comparison.

Regarding the societal conceptualization of gifted and talented children, there are subject of great controversy within the academic literature. Kaufman and Sternberg (2008) mentioned that various social understandings of giftedness influence the way the term is used, but it can be used broadly to refer to individuals who demonstrate high ability across a wide range of learning areas or narrowly to refer to high ability in specific learning domains**.** Different groups understand giftedness in different ways based on explicit (researched) or implicit (personal) understandings of the term (Miller, 2008). Recent understandings about giftedness are based on a foundational set of theories. Researchers at the beginning of the twentieth century focused on domain-general, IQ models of intelligence that considered giftedness in terms of a number calculated by performance on a general ability test (Binet & Simon, 1916). Later theorists highlighted the different ways in which individuals could be gifted – these are known as domain-specific models (Thurstone, 1938). Systems theorists focused on the interaction between different psychological variables in the expression of giftedness, such as wisdom, intelligence, creativity, and learning behaviors (Renzulli, 2005). More recently, researchers have embraced a developmental model of giftedness that considers the effects of environmental influences on the advancement of gifts into talents (Sternberg, 2005). Contemporary gifted research is particularly interested in the influence of environmental factors in the development of a gifted student's gifted traits. It is believed that the learning environment has been found to play an important role in supporting students' gifted behaviors (Gagne, 2013).

When it comes to gifted and talented education, it is among pertinent issues for countries of the world in the current global era of knowledge economy. In order to be competent in this global era of knowledge economy, there is concern among countries of the world with issues of academic giftedness, behavior, and high academic performance of students. Existing literature suggests that gifted and talented students have special psychological and learning needs. Research supports the importance of gifted and talented students often requiring a faster pace and greater depth or complexity in their curriculum, along with the opportunity to choose the way they show what they learn and have opportunities to understand the ways ideas are connected at a higher level of thinking (Kanevsky, 2002). They require a differentiated, adaptive curriculum embedded within an optimal learning environment to maintain their learning motivation and to reach their potential (Chan, 2001; Cheung & Hui, 2011; Graffam, 2006; Hertberg-Davis, 2009; Mills, 2003; Sisk, 2009; Tomlinson, Brighton, Hertberg, Callahan, Moon, Brimijoin, & Reynolds, 2003). To Mwaura and Wanyera (2002) a learner who is gifted and talented usually does much better than learners of the same age group and hence requires services or activities not ordinarily provided for the ordinary learner. Regular schools are the most suitable place to instruct gifted and talented students to avoid segregation or parallel systems, applying strategies that greatly promote the abilities of people with high abilities by adapting those used for each student (Barrera, Durán, González, & Reina, 2008). With this regard, the Salamanca Declaration on Special Needs Education stated that every child has a fundamental right to education. Talented and gifted children must be given an opportunity to achieve and maintain an acceptable level of learning (UNESCO, 1994).

In Ethiopia, gifted and talented students are considered intellectually advanced, creative, different in specific subjects or leadership skills, or those who show different skills in painting, sculpture, music, dance, sports, etc (MoE, 2022). The country's Education and Training Policy on special needs education promises to identify gifted and talented children early and provide them with special programs that will increase the development of special gifts and talents (MoE, 1994; Oriedo, 2003). Therefore, this review paper intends to examine the education of gifted and talented students in

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Ethiopia by reviewing the legal and policy contexts, the educational provisions, the educational challenges, and strategies to improve the education of gifted and talented students in general classrooms. For this purpose, it was made an intensive review of different international and national legal documents and an attempt to highlight some empirical results conducted by different scholars. These reviewed national documents include the Federal Democratic Republic of Ethiopia Constitution, Education and Training Policy, Education Sector Development Programmes, Master Plan for Special Needs/Inclusive Education in Ethiopia, Special Needs/Inclusive Education Strategy, and different implementation guidelines.

Legal and Policy Contexts on the Education of Gifted and Talented

Over the years, the government of Ethiopia has committed to making education accessible to all citizens. In alignment with the rest of the world, Ethiopia has already accepted and signed the UN Convention on the Rights of the Child (1989), its African version, the African Charter on the Rights and Welfare of the Child (1999), and other several international declarations and conventions that protect and promote the survival, development, and education of children. The country also showed further commitment by enshrining these conventions in different national laws, including the Constitution. Some articles and statements of the Constitution, Proclamations, Education and Training Policy, Programs, National Plans, Strategies, and Guidelines promote inclusive education. For instance, the 1995 Constitution of the country boldly mentioned that all international agreements ratified by the country are an integral part of the law of the land. It also upholds the rights of citizens to equal access to publicly funded services and the support that shall be given to accommodate their needs, and national standards and basic policy criteria for education shall be established and implemented (Federal Democratic Republic of Ethiopia, 1995).

As an instrument for enacting the Constitution, the Ethiopian Education and Training Policy (MoE, 1994) underscores the implementation and development of inclusive education by promoting the "education for all" agenda. The general objectives of the policy affirmed the provision of quality basic education and training to all citizens without discrimination, recognition of the rights of nations/nationalities to learn in their language, and special support to disadvantaged groups. More specifically, one of the policy objectives stipulates that all learners, including gifted and talented students, learn according to their full potential and needs (MoE,1994). To this end, the government has developed a strategy, incorporated it into the ongoing sector development programs, and extended it to regional and local action plans. For instance, the 2012 Special Needs/Inclusive Education Strategy was designed to build an inclusive education system that would provide quality, relevant, and equitable education and training to all children, youth, and adults with special needs and ultimately enable them to fully participate in the socio-economic development of the country. Towards this end, the strategy was directed to create awareness among school managers and teachers about the need to provide support to all groups of learners, creating identification procedures, developing support systems, and availing appropriate materials and equipment (MoE, 2012a). Therefore, the country's Constitution, Education and Training Policy, and strategies serve as a cornerstone legal and policy framework for the educational rights of all citizens, including the gifted and talented.

Moreover, to achieve this national agenda, the MoE has designed a goal to ensure access to inclusive quality education for children and students with special educational needs. Targets have been set for the participation rate of children with special educational needs in primary education. By the end of Education Sector Development Programme VI (2020/21– 2024/25), the participation rate will increase from 11% to 32.6% (MoE, 2021). Besides, due consideration has been given to the expansion of educational opportunities for all learners, including the gifted and talented in the education system through implementing the Master Plan for Special Needs/Inclusive Education in Ethiopia (2016 – 2025) that aimed at strengthening the structures and environment enabling inclusive education (MoE, 2017a). In line with this, the Education Development Roadmap of the country has stipulated its concern of delivering quality education that meets the diverse learning needs of all children, youth, and adults through applying flexible curriculum and differentiated instruction (MoE, 2018). The very

recently revised Education and Training Policy of the country also emphasized the education of gifted and talented students in the statement, "A curriculum that accommodates students with special gifts and talents, disabilities, and other special learning needs will be prepared and implemented accordingly" (MoE,2023).

In general, all the aforementioned legal and policy movements to address the educational needs of all students have created motivation among educational stakeholders, policymakers, professionals, community-based rehabilitation workers, and non-governmental organizations (Tirusew, 2005). Also, these legal and policy frameworks are very critical and guarantee to create equal access of education for all, expand education equitably, teach and support all children including gifted and talented, and build an inclusive education system in Ethiopia.

Educational Provisions for Gifted and Talented

In fact, inclusive education demands that general education teachers become innovative, creative, flexible, ready to accept diversified learners, learn from the learners, and capable of initiating active learning. Regarding teachers' training and preparation, the Ministry of Education mentioned that to accommodate the educational needs of all students, including the gifted and talented, teachers will be prepared with ability, diligence, and professional interest. To realize this, the teacher education and training institutions will emphasize the basic knowledge of the professional code of ethics, methodology, and practical training to address diversity. The policy also said that the teachers' training for special needs education would be provided in teacher training programs (MoE, 1994). In addition, all of the Education Sector Development Programmes listed the issue of teachers' preparation under their priority activities, and they made clear that the preparation system should be increased to provide adequate numbers of qualified teachers to address the needs of the learners. The 2012 MoE Special Needs/Inclusive Education Strategy also confirmed that all teachers will be prepared or equipped with appropriate attitudes, values, and skills to teach diverse populations, including those learners with special needs (MoE, 2012a).

With this regard, when reviewing the pedagogical courses at the university level, in both pre-and in-service training programs for first-degree teaching programs, general teachers are taking related courses in the Post Graduate Diploma in Teaching (PGDT) program. For instance, a course specifically addressing the education of gifted and talented students is Introduction to Inclusive Education (PGDT 424). In particular, the third chapter of this course, under the topic "Education of the gifted and talented children in inclusive schooling," clearly focused on the meaning of gifted and talented children, developmental characteristics, educational program, identification and assessment, individualized educational plan, and curriculum modification to accommodate their learning preference (MoE, 2014). Additionally, according to the course modules reviewed in Teacher Education Colleges, of several pedagogical courses offered for teacher trainees in the Diploma program, Inclusive Education in Primary Schools (SNIE 202) is a major course that includes the education of gifted and talented students. In this course, the ninth chapter specifically focused on teaching gifted and talented children with its sub-topics - definition of gifted and talented children, identification and assessment of giftedness, developmental characteristics of gifted and talented children, and psycho-educational support and provisions (educational considerations) of gifted and talented children (MoE, 2013).

Specific to gifted and talented students' educational practices, the MoE reported that there are two approaches have been employed to provide support for students who are gifted and talented; (1) providing educational materials and activities that go beyond the normal classroom activities to accelerate the level of learning, and (2) teaching the students that can be given activities found in subsequent lessons. Instruction that uses both acceleration and enrichment should be provided for teaching gifted and talented students. Teachers can use approaches like inquiry, creativity, solving problems, and making strong connections across the curriculum(MoE, 2017b). In addition, the MoE (2012b) in the national guideline for curriculum differentiation and the individual educational

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program emphasized that when teachers teach gifted and talented students in general classrooms, the core issues taken into consideration include integrating multiple disciplines in areas or themes of study; encouraging choice through extended study activities, taking concepts in general education units and extending them by conducting in-depth studies of one or more topics of interest; providing advanced reading materials; accelerating the curriculum (through early admission to school, grade skipping, early college admission); compressing the curriculum; using mentorship or apprenticeship programs and providing enrichment activities (MoE, 2012b).

Educational Challenges of Gifted and Talented

According to MoE, in formulating the education policy, even though attempts were made to make sure that all children, youngsters, and adults acquire the competencies, skills, values, and attitudes enabling them to participate fully in the social, economic and political development of Ethiopia, however, a wider gap remains to address the needs and interests of every learner (MoE, 2010). More specifically, when evaluating the practices of gifted and talented students' education, it seems that an issue that has long been neglected due to extreme demands on the educational system. In supporting this, the analysis section of the ten-year Master Plan for Special Needs/Inclusive Education stated that in the country, inclusive education particularly refers to education for children and youth with disabilities, omitting learners with temporary learning difficulties and specially gifted and skilled children (MoE, 2017a).

Concerning challenges due to teachers' training and professional development, the MoE analysis mentioned the insufficiency of course training offered at the college level and a lack of continuous professional development training at the school level. The report also mentioned the current general teachers' pedagogical skill gaps in effectively teaching all children and teachers are not adequately prepared to identify and support the needs of learners with special educational needs including gifted and talented (MoE, 2017a). In most cases, general teachers who are teaching in regular schools find it difficult to accommodate gifted and other needy learners as a result of inadequate knowledge, skills, and preparation. As a result of this, gifted and talented learners sit in classrooms bored and frustrated, they are left out and are not really benefiting from an equal educational opportunity as their peers, and their full potential is not considered (MoE 2005). In supporting this, a study conducted by Idle (2019) in the Jig-Jiga city administration reflected that in the model secondary school, some gifted and talented students manifest negative experiences like depression, fear, community relationship problems, misunderstanding, lack of appetite, aloneness, and sadness (Idle, 2019).

On the other hand, when seeing the challenges related to the school system, most of the schools are not sufficiently equipped with teaching-learning materials, stationery, equipment, assistive devices, and teaching aids that suit the needs of all learners and gifted in particular (MoE, 2012a). According to the MoE analysis documents and local researchers' reports, the implementation of gifted and talented education has been deterred by several variables. Of these factors, the rigidity of the curriculum is frequently mentioned by educators, and this indicates the curriculum is not leaving flexibility for local adaptations for teachers to experiment and try out new approaches, and it has become very challenging for schools and teachers to welcome and to accommodate all learners according to their learning potential and pace of learning (MoE, 2017b; Dagnew, 2013; Dano, 2018). In addition, other researchers (Alemihun, Mulat, Kassahun, Gebeyehu, and Meseret, 2012) also reported that low level of awareness towards giftedness and lack of comprehensive identification and support strategies were the major recognized problems in the practices of identification and support systems of gifted and talented students.

Furthermore, according to the MoE evaluation analysis of the 2012 Special Needs/Inclusive Education Strategy, one of the identified weaknesses of the content of the strategy was the lack of identification tools and support for students with learning difficulties and gifted and talented students (MoE, 2022). Whereas, in the evaluation of the implementation of strategy, one of the identified weaknesses was the contents of the curriculum, teaching methods, learning-teaching materials, and

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method of assessment are not adapted to people with special educational needs to learn and achieve according to their needs and potentials (MoE, 2022).

Strategies to Improve the Education of Gifted and Talented Students

To prepare gifted and talented students to become lifelong learners who are productive and responsible citizens making significant, valuable, and creative contributions to society, will require a supportive environment and experiences to develop their unique potential. They will need intellectual and creative stimulation to help them develop their abilities in their academic or performance areas of giftedness and talents, and they will need support and guidance to develop healthy and realistic self-understandings. In this regard, to address the educational needs of gifted and talented students, existing literature stresses the need for compacting and enrichment programs, tutored learning, accelerating education, and additional or extracurricular assignments, within the zone of students' autonomous decision-making in gifted programs, to challenge and motivate them for learning in school (Bentley, 2001; Eyre, 2002; Hoogeveen, Van Hell, & Verhoeven, 2011; Renzulli & Reis, 2000; VanTassel-Baska, 2006; VanTassel-Baska, Feng, Brown, Bracken, Stambaugh, French, & Bai, 2008; Vialle & Quigley, 2002).

In addition, according to some researchers (Graffam, 2006; Kanevsky, 2011; Little, 2012; Philips & Lindsay, 2006), teachers of gifted students should differentiate to students' cognitive level and time to learn, provide opportunities for greater complexity and depth in the organization of content, and promote choice and independence in students' learning. Another local study reported that promoting awareness of teachers, principals, and supervisors through training and developing clear criteria for identification and support strategies of gifted and talented students in primary schools are essential to cater to the potential and performance of these learners (Alemihun, et al., 2012). Furthermore, this section deals with the specific strategies related to school-wide strategies and teacher-based strategies for supporting gifted and talented students' education.

School-wide strategies for supporting gifted and talented students

According to different scholars, several strategies can be used in schools to appropriately provide for gifted and talented learners. These include:

(1) d***evelop shared school-wide understandings of the terms 'gifted' and 'talented':*** an evidence-based school definition is necessary to inform the development of school processes and procedures for identifying and creating programs for gifted students (Renzulli & D'Souza, 2014). These shared understandings will also be useful in supporting the transition of students from one school to another;

(2) ***use multiple methods of assessment to identify giftedness:*** taking into account personal factors such as motivation, creativity, wisdom, resilience, and initiative as well as environmental factors such as the number of extra-curricular opportunities the student has received (Kaufman & Sternberg, 2008). Multiple methods of assessment might include portfolios of learning/performance, demonstration of academic capabilities on standardized tests and in competitions, specialist reports, extra-curricular activities, and nomination by parents, caregivers, and teachers. Triangulating the student's levels of academic, socio-emotional, and cognitive ability and readiness can also provide a fuller picture of their abilities and needs and help in developing appropriate opportunities;

(3) ***give careful consideration to the kinds of specialist programs that are offered:*** no two gifted students are exactly alike with respect to their educational needs: they vary in personality, learning traits, interests, and abilities across a wide variety of learning domains (Riley, Bevan-Brown, Bicknell, Carroll-Lind, & Kearney, 2004). As the regular curriculum is unlikely to appropriately cater to the unique needs of each gifted student, teachers need to be able to differentiate programs and methods of delivery. Offering a single program will be insufficient to provide for the diverse array of gifted students' learning requirements. Rather, variety needs to be offered within any proposed gifted program, including opportunities for learning advanced content, enrichment of the curriculum in domains of interest, enrolment in competitions and for mentorships, opportunities for developing

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leadership and cultural abilities, and so on. Gifted students also benefit from learning from like-minded peers, so they must have opportunities to interact with other gifted students (Kulik, & Kulik, 1992). This helps to ensure they are stimulated and challenged; and

(4) ***provides teachers with opportunities for professional learning and development:*** in the field of gifted education. Gifted students have particular socio-emotional and cognitive requirements alongside their academic needs, and studies have shown that they benefit most from instruction by teachers with specialist training in the field of gifted education (Croft, 2003). Targeting this professional learning and development provision at teachers with a particular interest in gifted education will help to encourage the development of gifted-specialist capability in schools, and developing a gifted and talented 'team' that integrates teacher expertise with school leadership will help ensure that programs are effective and sustainable over time.

Teacher strategies for supporting gifted and talented students

According to Azzam (2016), while not all teachers have access to specialist training, there are several teaching strategies that can be incorporated into classroom practice to provide help for gifted and talented learners. These include:

(1) ***pre-assess prior knowledge:*** this is a useful strategy for all students as it can help make student misconceptions about a topic obvious. For gifted students, it provides an opportunity to examine and demonstrate what they know and what they might need to learn. Curriculum provision can then be focused on areas of learning that are new to the student, and activities can be included that encourage depth and complexity in exploring the topic;

(2) ***offer the most difficult first:*** this strategy involves offering the five most difficult problems associated with a task first to high-ability students. Those students who demonstrate mastery by solving the problems correctly get to move ahead onto a more challenging learning task or objective. This helps to eliminate mindless repetition that often frustrates gifted learners;

(3) ***explore student interests****:* gifted students typically are highly engaged with their learning in areas of interest, so exploring these areas of individual interest can help with provision. Different tools can be used to examine an individual's interests across a variety of subject areas;

(4) ***differentiate tasks and activities*** by offering a variety of opportunities to investigate content, employ different processes of learning, and design various forms of learning products. Choice boards are an easy way to stimulate thinking about content, process, or product design. Under teacher supervision, students decide what, why, and how they present their learning. Teacher guidance is essential to help ensure agreed-upon learning objectives are met. Inquiry-based learning also provides teachers with a way of differentiating classroom provision. By using different formats of inquiry-based learning such as structured, guided and open inquiry, gifted students develop not only content knowledge but also skills in investigating problems and justifying an adopted position;

(5) ***allow and encourage gifted students to work together:*** research has shown that gifted students benefit from and enjoy time spent learning with gifted peers (National Association for Gifted Children, 2011). When given time to work with other gifted students, gifted individuals are challenged to develop and refine their ideas through feedback from the group. This helps them to grow intellectually, cognitively, and socio-emotionally as they learn that others might be as if not more capable than they are in specific fields of learning. These experiences are beneficial to an individual's development but should be balanced by more heterogeneous grouping with non-gifted peers in the regular classroom; and

(6) ***encourage students to take responsible risks:*** gifted students can be hindered by perfectionist tendencies that result in them not taking on challenges, but it is important to encourage them to attempt new activities such as tackling a project in a learning area they haven't explored before, entering a competition, or developing their creative side or leadership skills. Even if they don't

succeed, they probably will have learned something interesting about themselves! Such experiences can help in the development of persistence and resilience in the face of future challenges.

Conclusion

So far, internationally and nationally declared legal and policy views and widely explored research findings commonly describe the right to education and equal access to public services in inclusive settings. In Ethiopia, there are clear and relevant legal and policy frameworks, development programs, strategies, and implementation guidelines that help to address the education of students with special needs, including gifted and talented. Concerning implementation, the responsible education sectors are hierarchically working and making an effort to raise the stakeholders' awareness of the policy and guidelines, providing educational materials, creating an inclusive school environment, and offering training for teachers and school administrators. This attempt implies the government's great interest and commitment to restructuring the education system to refine and address the educational needs of gifted and talented students and other disadvantaged groups. However, even though there exist well-articulated and relevant legal and policy frameworks that promote the provision of education for these students and some attempt was made, there are considerable gaps in terms of practices and obtaining the required blessings of their gifts and talents. Surprisingly, in most schools, let alone the provision of educational provisions, gifted and talented students are not properly identified and known. As reported in the MoE report, the familiar educational approaches to accommodate the gifted and talented, like enrichment and acceleration are not well communicated and implemented. In addition, several social, economic, and practical barriers appeared to limit the effective realization of the country's policy frameworks concerning gifted and talented students' education. Of these barriers, issues that need to be reconsidered include the identification and assessment of gifted and talented students, the rigidity of the curriculum, insufficient teaching-learning materials and assistive devices, implementation of special educational programs, teachers' pedagogical skill gaps, shortage of teachers, and collaboratively working with different stakeholders. Finally, the paper forwarded scholarly suggested school-wide strategies and teacher-based strategies for supporting and improving the education of gifted and talented students.

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Ethics

All requisite research ethics guidelines were meticulously followed during the study's execution.

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THE VIEWS OF ADMINISTRATIVE STAFF REGARDING ETHICAL ISSUES AND RECOMMENDATIONS FOR SOLUTIONS IN UNIVERSITIES

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Abstract

In the Middle Ages, when universities did not gain their current meaning, they did not refer to a physical area (building etc.) but to a community. Today, universities are expressed as institutions where various stakeholders (students, administrative and academic staff) come together and academic and administrative work/transactions are carried out mostly. These stakeholders are expected to act in accordance with ethical principles in all their behaviors and relationships (Çakırel, 2009). However, various ethical problems can be encountered in universities. The purpose of this research is to reveal the perspectives of administrative staff in universities on ethics, the ethical problems they encounter while doing their jobs heir opinions on the solution suggestions and to develop suggestions based on the findings obtained. The study is a qualitative research with a phenomenological pattern. The study group consists of 9 administrative staff working at Çanakkale Onsekiz Mart University in 2024. For the purpose of data collection, the interview form consisting of standardized open-ended questions was subjected to descriptive and content analysis using the deductive method. According to the findings, it was determined that the most common behaviors experienced by university stakeholders such as indiscipline, fraud, irresponsibility, carelessness and disrespect lead to ethical problems. In order to eliminate ethical problems, it was suggested that all university stakeholders adopt ethical values, avoid unethical behaviors, develop the institution of punishment and reward, frequently direct the personnel to compulsory ethics courses, informative seminars and workshops covering ethical problems-developments and innovations, and thus create ethical awareness in the personnel and include courses on ethics in the curriculum even for students, and take the necessary steps to establish ethical principles in universities and comply with these principles.

Keywords: University, administrative staff, ethics, ethical problem, ethical violation.

INTRODUCTION

When we talk about ethics in general, they are the rules that separate the bad from the good, the wrong from the right (Bassey & Owan, 2019). These rules include various aspects such as helping others, respecting and loving others, etc (Walia, 2022). Social changes constantly confront people with ethical problems (Aydın, 2001).

Although the words morality and ethics are related to each other, they are actually from each other (Çobanoğlu, 2013). Ethics is defined as focusing on the basis of behaviors in a moral sense and analyzing which behavior is good and morally appropriate; which behavior is bad and immoral (Kahraman, 2023). When we talk about ethics in general, we refer to the rules that separate the bad from the good and the wrong from the right. Organizations that guide something (place, profession, etc.), things that should be done and things that should not be done... In short, these are the rules that must be followed (Bassey & Owan, 2019). Morality is the value judgments that individuals call

"right" or "good" or "wrong" or "bad" in their relationships with each other (Aktan, 2009). These rules include various aspects such as helping others, respecting and loving others, etc. Environmental and cultural values are among the various forms of economic, social, political, religious, aesthetic, health, spiritual, cognitive moral values. Knowledge of these values enables individuals to help with moral values. In addition to the welfare of the nation, it helps to progress as an ethical and moral individual (Walia, 2022).

Professional ethics are the standards of behavior that an individual should care about in order to adopt a profession (Mahdavinoor et al., 2021). Social changes constantly confront individuals with ethical problems. Ethical elements have an important effect in determining the good-bad distinction in individual behavior according to universal criteria, in the education of individuals and in the organization of the education system (Aydın, 2001). The effects of social changes on morality and ethics, and the research of types of morality on nations have led to the emergence of moral sociology (Yüce, 2010).

Universities are science fields that carry out quality education and training processes (Ataman, 2018). While these institutions fulfill their education and training functions, they also pursue a goal or ethical effort such as directing people to what is good/right (Boyacı, Erdem, Güven, Tezci, Çermik, Alkan, İçen, Börü, Şimşek, Ulutaş, Uygun, Talu, & Kırat, 2022). Universities, the number of which is increasing day by day, have great benefits for the environment in social and economic terms. In the places where they are opened, social life is revitalized, changes occur in architectural structures and new working areas are formed (Demir, 2023). In this context, universities are in intense interaction with their internal stakeholders (academic and administrative staff and students) as well as their external stakeholders (Gerçek et al., 2011).

Academic and administrative staff, who are internal stakeholders of the university, have their own duties and fulfill these duties. Academic staff mostly carry out education and teaching duties, and administrative staff carry out the administrative work and transactions of the university. Although they do not have academic duties, administrative staff have a very important place in the proper performance of university affairs (Höbel, 2013). Since universities bring together many parties, many sources of problems come together in parallel (Boyacı et al., 2022). Universities, which employ a wide range of employees, including academic and administrative staff, not only experience their own problems, but also have additional problems to those faced by administrative staff working in other institutions, since they are public legal entities with academic autonomy and a special budget (Höbel, 2013). A significant portion of these constitute ethical problems, and the ethical problems faced by administrative staff are among the issues that should be particularly emphasized.

If these rules are not implemented, it is possible to encounter various problems (Demir, 2023). Some employees who encounter unethical practices in their workplaces intervene because they are disturbed by their conscience. Some employees prefer to remain silent because they do not want to jeopardize their careers and jobs (Çiğdem, 2013). In this case, ethical problems grow exponentially.

While performing their duties, university employees are in contact with many people inside and outside the office, like a bridge (Tahtasakal, 2003). The unethical attitudes of employees in this sector, whose potential to act unethically is unlimited; corruption, unproductive behavior, bribery, abusive management and nepotism, nepotism, revenge, intimidationpressure-intimidation (mobbing), sexual harassment, abuse of duty and authority, selfishness, violence, deception, aggression and gossip (Aydın et al., 2022).

The term exploitation, which can be described as counterproductive behavior, is expressed in the normal, morally charged sense of exploiting or wasting an individual in a way that is not morally right and wrong for the exploited individual in the first place (Arneson, 1992). Similarly, mobbing is when one or a group of people psychologically/spiritually disturb another or a group of people and is a harassment problem in work relationships (René Pedroza Floresl, 2020). Another unethical behavior,

corruption, occurs when public officials approve bribes and reward the bribe giver at the expense of others (Società Italiana degli Economisti, 2020). A rich system consisting of many separate principles connected by complex interactions is defined as corruption. (Cuadrado & Alvarez Arce, 2005). Introducing ethical rules in universities, like all institutions, and explaining to public employees the sanctions that will result from not implementing these rules will be effective in preventing corruption (Şirin, 2006). Discrimination/favoritism or nepotism are called prejudiced behaviors and partial equality should be provided to minimize these behaviors. For example, in order to provide employment opportunities for people with disabilities, organisations are obliged by law to employ people with disabilities within a certain quota. this obligation aims to reduce institutional discrimination against people with disabilities. In order to eliminate one of the unproductive behaviors, flattery/flattery, it is important to prioritize competencies in the evaluation of employees and to put them into practice consistently (Aydın, 1998).

Employees must act in accordance with ethical rules. In this context, it is very important to establish ethical principles, which will be created according to ideal values and put into practice, along with legal regulations in our country (Aydın, 1998). In this sense, the ethical principles prepared by the Council of Higher Education include all kinds of scientific research and studies, scientific research and development projects supported and/or carried out by scientific activities and research ethics issues related to these projects, publication ethics problems related to all kinds of publications and ethical violations in biomedical research and ecological studies. It consists of headings. Actions against the ethics of scientific research and publication include plagiarism, forgery, distortion, republication, slicing, unfair authorship, and other types of ethical violations. In the context of ensuring work efficiency, Scientific Research and Publication Ethics Committees should be established in Universities and these committees should pay attention to ethical violations. At the same time, they should examine allegations of ethical violations, eliminate possible unethical actions in academic-research and publication ethics, and organize educational activities in cooperation with relevant units or institutions/organizations (YOK, 2024).

Purpose of the Research

The aim of this research is to reveal the views of administrative staff in universities on ethics, the ethical problems they face and the solutions they offer. In addition, the aim is to develop recommendations based on the findings obtained.

METHOD

Details regarding the research model, participants, data collection instruments, data collection, and data analysis are provided in this section. The necessary ethics committee permission for the research has been obtained (Educational Sciences Institute Research and Publication Ethics Committee, 03.06.2024 and decision numbered 08/38).

Research Model

A descriptive phenomenological design was used in this study to reveal what individuals gain from their experiences (Creswell and Creswell 2018). The effort to conceptualize and make sense of experiences, events in the world, perceptions, concepts, and trends is defined as a phenomenological design (Yıldırım & Şimşek, 2021).

Working Group

The study group in this research consists of nine administrative staff members who are employed in 2024 at Çanakkale Onsekiz Mart University. The working group consists of people who want to participate in the study based on accessibility and volunteering. The working group was determined using a purposive sampling technique. This technique involves the deliberate selection of participants for research on a phenomenon.

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Table 1. Participants' characteristics.

Participant	Gender	Service Year	Cadre/Position	Unit
G1	Male	15	Officer	Fine Arts Faculty
G2	Female	12	4/D Contracted	Health Culture and Sports Department
G3	Female	18	Officer	Information Processing Department
G4	Female	25	Officer	Protection Security Branch Directorate
G5	Male	10	4/D Contracted	Protection Security Branch Directorate
G6	Female	25	4/D Contracted	Protection Security Branch Directorate
G7	Male	12	Officer	Library Department
G8	Female	12	Officer	Library Department
G9	Female	11	Officer	Library Department

As seen in Table 1, 6 of the administrative staff participating in the study are female and 3 are male. 1 administrative staff has 15 years of service, 3 administrative staff have 12 years of service, 1 administrative staff have 18 years of service, 2 administrative staff have 25 years of service, 1 administrative staff have 10 years of service, and 1 administrative staff have 11 years of service. 6 administrative staff are civil servants and 3 administrative staff are on the 4/D contract (support staff) staff. 1 administrative staff works at the Faculty of Fine Arts, 1 administrative staff works at the Department of Health, Culture and Sports, 1 administrative staff works at the Department of Information Technology, 3 administrative staff works at the Department of Protection and Security, and 3 administrative staff works at the Department of Library and Documentation.

Data Collection Tool

A semi-structured interview form (the primary data collection method in qualitative research) was used in the study (Creswell, 2015). While aiming to describe the research process in qualitative research, data collection techniques such as observation, document review and interview are used (Yıldırım and Şimşek, 2013). The preparation of the form questions was carried out by examining the literature on ethics in detail. In line with the information obtained from the literature, six open-ended questions were created for administrative personnel and probing questions were added in order to obtain in-depth information about these questions. The interview form consisting of the prepared questions was presented to the opinion of one (1) faculty member who is an expert in the field of educational sciences, one faculty member who is an expert in qualitative research and three (3) expert academicians, one (1) in ethics education. The questions were finalized in line with the feedback from the experts. The semi-structured interview form consists of 2 parts. The first part is a demographic information form containing the following questions. It is about the personal information of the interviewed participants and includes:

Information unit about the gender of the participants, years of service, staff/duty and working hours. There are 6 interview questions in the second part. The interview questions are given below;

1. What should be the basic ethical principles in universities? Why?
2. What should be the ethical responsibilities in universities? Why? Why do you care more about this issue? According to you, which ethical behaviours managers should exhibit?
3. What should be the rules of ethical conduct in universities? What kind of ethical behavior should university staff exhibit? Where to start?
4. What are the ethical problems experienced in universities? What do you think about ethical problems? Can you tell us a few examples from your life about this issue?
5. Wat are the ethical violations experienced in universities? Have you had any problems with this?

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6. What are your solution suggestions for preventing ethical problems in universities? Do you have anything else to say?

The questions were presented in an open-ended manner.

Before the interview, the participants were informed about the purpose of the research. It was explained that the participants would take part in the study without giving their real names. Afterwards, a pilot application was carried out with one person each as a civil servant (administrative staff) and a contracted personnel (4D personnel). Since it was seen that there was no problem in understanding the questions during the pilot application, no changes were made to the questions. The study group in this study was determined by the purposeful sampling method of personnel who carry out administrative work and operations in the university area. Descriptive and content analysis were performed on the data obtained from the participants.

Data Analysis

The interviews were conducted on a voluntary basis at a date, time and place deemed appropriate by the participants, and coding and analysis were carried out with the same impartiality for the sake of transparency and reliability for the practitioners. Themes for the purpose and conceptual framework of the research were determined before descriptive and content analysis. The data subjected to descriptive and content analysis using the deductive method are summarized and interpreted in the context of the themes created beforehand, taking into account the research or sub-questions. Phenomenological research aimed at revealing experience, data analysis and meanings aims to create themes that can define the phenomenon and conceptualize the data (Yıldırım & Şimşek, 2021).

In order to determine the ethical problems and solution suggestions of administrative personnel in universities, a framework for data analysis was made up as a result of the literature review. Within the scope of the research, themes were prepared by the researcher to identify the ethical problems faced by administrative staff at universities and to suggest solutions to these problems. A literature review was conducted for the themes. The prepared themes were examined by three field experts within the scope of the validity study.

Descriptive and content analysis methods were used in the analysis of the data, and the analyses were carried out by creating categories explaining the views of the participants in the two-month period specified for the analysis. The resulting data were read as a whole many times by the researcher. After this stage, the texts were interpreted by the researcher, the data were defined and classified. The themes of the categories created after the classification were determined. After the final shape of the categories and themes was given as a result of the examination and comparisons made, frequency tables for the data were created. In the analysis, 6 main themes and 40 categories were obtained within the scope of 6 main questions. The ethical problems experienced in universities were determined by examining and interpreting these obtained data. The opinions of the administrative staff were included under these themes with direct quotes. The problems determined for the themes and categories that emerged after the analysis and the solution suggestions for these problems are stated in the findings and conclusion sections.

Validity and Reliability Studies Consistency, credibility, confirmability and transferability concepts are used in qualitative research to ensure reliability and validity (Yıldırım & Şimşek, 2016). Open-ended questions created to collect data for the credibility of the research were presented to the suggestions and opinions of experts in the field and corrections were made according to the feedback received. Following the development of the data collection tool, the opinions of three (3) academicians who are experts in their fields were consulted until the analysis of the data. Participant confirmations were also received regarding the answers. Direct quotes were included regarding the statements of the participants in the context of the categories that emerged as a result of the data analysis and for the transferability of the research. The participants' answers regarding the themes formed after the interviews were coded as G1, G2 and presented with frequencies. In order to ensure

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the consistency of the research, the codes that emerged as a result of the separate coding of the data by the researchers were compared and after agreement was reached, consistency was ensured with the findings given in their final form. In order to carry out the pilot application, interview questions were asked to one contracted and one officer personnel. After we were satisfied that the questions were understood correctly, the main application started. All data for the confirmation of the research are stored from the beginning to the end of the research and kept for review when necessary.

RESULTS

In this section, the findings regarding the research results are given. As a result of the analysis of the data obtained from the interviews with civil servants and contracted personnel to determine the ethical problems experienced in universities, six themes were determined: ethical principle, ethical responsibility, ethical code of conduct, ethical problem, ethical violation and suggestions. Education/training and student focus on the ethical principle theme, responsibility and working hours, regulation of authority and responsibilities according to human conditions, respect/love for the individual and the job, merit-justice-equality-impartiality, distance/level of relationships and professional ethics, honesty/ Nine categories were obtained: accuracy, trust/reliability and accuracy of science, sensitivity, self-criticism and protection, fulfilling obligations and feeling of belonging to the institution, not abusing trust and protecting the benefit of the institution. Duties/responsibilities related to the theme of ethical responsibility should be done as they should be, the superior should care about merit-justice-respect and equality, scientific research-publication analysis ethics should be taken into consideration, and there are nine principles such as respect, justice, distribution of duties, responsibility, equality, not damaging corporate identity-reputation. category has been determined. Depending on the theme of ethical conduct, friendliness - using a polite language and not being negative, honesty - accuracy - accountability - diligence and justice, working hours should be taken into account, respect and distance, not pursuing personal interests and paying attention to corruption, equality and justice in general and the superior's duty. Ten categories were obtained: observing equality and justice, responsibility and duty performance, efficiency and work/problem solving, academic freedom-autonomy, and fundamental rights. Five categories were determined based on the ethical problem theme: behavioral problems, lack of sanctions, measurement and evaluation, technical problems (administrative problems), and communication problems. Two categories related to the theme of ethical violation were obtained: healthy communication-behavior violation and general ethics and professional ethics. Depending on the theme of suggestions, nine categories are: control and supervision, sanction and punishment-reward system, training, equal opportunity, detectionnotification and rapid solution of unethical problems, the supervisor being an ethical role model, technical and managerial regulation, merit, corporate culture. has been determined. Themes and categories and findings related to these themes and categories are given below, with direct quotes.

Table 2. Participants' themes and categories regarding ethical principles.

	Theme: Ethical Principle
Categories	Being focused on education/training and students
	Responsibilities and working hours - arranging authority and responsibilities according to human conditions
	Respect/love for the individual and the job
	Emphasizing merit-justice-equality-impartiality
	Emphasizing distance/level of relationships and professional ethics
	Paying attention to honesty/truthfulness-trust/reliability and ensuring that science is in line with reality
	Being sensitive, self-criticizing and attaching importance to protection
	Fulfilling obligations and feeling a sense of belonging to the institution
	Not abusing trust and looking out for the benefit of the institution

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Table 3. Ethica Administrative staff opinions on the theme of ethical principles.

Theme	Category	Code	*f*
Ethical Principles	Focus on education/training and students (1)	Focusing on education/training and students (G1).	1
	Responsibility and working hours-authority and responsibilities should be organized according to human conditions (4)	Using duties, authorities and responsibilities in a humane manner (G1).	4
	Respect/love for individuals and work (6) Emphasizing merit-justice-equalityimpartiality(7)	Caring about and implementing the area of responsibility (G4). Paying attention to responsibility (G5) Giving responsibility to the staff within ethical limits, arranging working hours according to human conditions (G9).	13
	Emphasizing distance/level of relationships and professional ethics (3) Honesty/truthfulness, trust/reliability should be taken into consideration and science should be in line with reality(4)	Being people who love their jobs and respect their jobs (G1). Paying attention to respect (It will ensure fewer problems). (G2). Having respectful relationships (G3). Respecting human dignity and labor (G5). Respecting labor (G6). Paying attention to respect (G9). Paying attention to equality (It will ensure fewer problems)(G2). Paying attention to equality among the staff(G2).	7
	Being sensitive, self-criticizing and protecting should be taken into consideration (1) Focus on education/training and students (1) Responsibility and working hours-authority and responsibilities should be organized according to human conditions (4)	Distributing responsibilities fairly among the staff (G3). Paying attention to justice, impartiality and merit (G4).	6
	Respect/love for individuals and work (6)	Honesty and accuracy are valued. Science must be factua (G4). Honesty, trust, reliability, attention to accuracy (G5). Reliability, accuracy, honesty are important (G6). Giving importance to honesty (G9)	6
	Emphasizing merit-justice-equalityimpartiality Being sensitive, making self-criticism and giving importance to protection (1)	Self-criticism, protection, sensitivity (G5).	1
	Instead of obligations introduction and establishment feeling of belonging to introduction and establishment feeling of belonging to(2)	Obligations to students, colleagues and the institution must be fulfilled (G4) Feeling belonging to the institution (G9).	2
	Not abusing trust, making decisions for the benefit of the organisation (1)	Not abusing trust, making decisions for the benefit of the organisation (G9).	1

As seen in Table 3, the participating administrative staff expressed their opinions in the categories of education/training and student-focused, responsibility and working hours, arranging authority and responsibilities according to human conditions, respecting/liking individuals and work, merit, justice, equality, impartiality, distance/level of relationships and professional ethics, honesty/truthfulness, trust/reliability and science should be in accordance with the truth, sensitivity, self-criticism and protection, fulfilling obligations and feeling belonging to the institution, not abusing trust and looking out for the benefit of the institution. It is seen that the category of merit, justice, equality, impartiality stands out in terms of frequency. Some of the opinions of the participating administrative staff regarding the theme of "ethical principle" are given below.

G2: Respect and distance. Fewer problems are experienced.

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G4: Merit should be ensured in academic and administrative staff. Politics should not come to the fore. There should be no discrimination among administrative staff.

G8: Merit is the most important ethical rule. Giving people the positions they deserve motivates them to work.

Table 4. Participants' themes and categories regarding ethical responsibilities.

	Theme: Ethical Responsibility
Categories	Performing duties/responsibilities as required
	The superior cares about merit, justice, respect and equality
	Paying attention to respect
	Paying attention to justice
	Distributing tasks
	Paying attention to responsibility
	Paying attention to equality
	Not harming corporate identity and reputation

Table 5. Administrative staff opinions on the theme of ethical responsibility Ethical Responsibility.

Theme	**Category**	**Code**	***f***
Ethical Responsibility	Performing duties/responsibilities as required (5)	Fulfilling duties and responsibilities as they should be (G1). Fulfilling duties and responsibilities of the personnel and being aware of this (G4). Undertaking personal and professional responsibility for all kinds of scientific and academic behavior activities, fulfilling duties with the necessary quality and results (G5). Fulfilling duties with the necessary quality and responsibility (G6). (Feeling responsible for the university and the work we do, etc. (G8).	5
	The superior values merit, justice, respect and equality (7)	Managers should not act according to individuals, they should be fair (G1). Equality in discipline should be ensured and the rules should be valid for everyone (G2). Equality, justice and respect should be given importance. (I give importance to these rules. Because superior-subordinate relationships are at the forefront in the university. If everyone pays attention to these rules, no one can hurt each other (G3). Equal compliance with the rules. The administrator treating the staff equally, Equal distribution of responsibilities. Giving importance to merit (G4). (There are many ethical principles in universities. There are many ethical principles for administrators, such as treating all academic staff and students equally for administrative staff.) One of the most important ones is treating staff equally and respectfully (G8). Respecting people and the work done and giving importance to treating them equally (G8). Universities giving importance to providing equal opportunities to staff in an ethical context (G9).	7
	Scientific research, publication analysis ethics (1)	Care should be taken to ensure that scientific research and publication-analysis ethics are the most important issue. (Scientific studies conducted at the university are the most important problem of universities, which are research institutions) (G7).	1
	Distribution of tasks (1)	Distribution of tasks (G4).	1
	Corporate identity, not harming reputation (2)	Not to damage the institutional identity and reputation of the university (G5). To take care not to damage the institutional identity and reputation of the university (G6).	2

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As seen in Table 5, in the theme of ethical responsibility, administrative personnel expressed their opinions in the categories of; Duties/responsibilities should be carried out as they should be and these duties/responsibilities should be fulfilled, the superior should value meritjustice-respect and equality, scientific research-publication analysis ethics should be valued, task distribution should be made, institutional identity, and not damaging the reputation. It is seen that the category of the superior should value merit-justice-respect and equality stands out in terms of frequency. Some of the opinions of the participating administrative personnel regarding the theme of "ethical responsibility" are given below.

G3: I think equality-justice-respect are the most important ethical rules. I care about these rules. Because subordinate-superior relations are at the forefront in the university. If everyone pays attention to these rules, no one can hurt each other.

G7: Scientific research and publication-analysis ethics should be the most important issue. Scientific studies conducted at the university are the most important problem of universities, which are research institutions and

G9: Universities should provide equal opportunities to personnel in terms of ethics. For example, the opportunity for promotion should be provided to personnel who meet the necessary qualifications for promotion.

This should happen with the success of the staff. This increases the motivation of the staff and enables them to work more efficiently. Managers should also support the staff at this point. Success increases as it is appreciated. İn this context, merit-based appointments can be made in the work order created. This will solve one of the most common problems in the university.

Table 6. Themes and categories of the participants regarding the code of ethical conduct.

	Theme: Code of Ethical Conduct
Categories	Being friendly, using polite language and not being negative.
	Giving importance to honesty, integrity, accountability, diligence and justice
	Consideration of working hours
	Paying attention to respect and distance
	Not pursuing personal interests and paying attention to corruption
	General consideration of equality and justice and the supervisor's observance of equality and justice
	Responsibility and performance of duty Being efficient and a problem solver
	Academic freedom, paying attention to autonomy
	Paying attention to fundamental rights

As seen in Table 7, administrative and contract personnel expressed their opinions in the categories of being friendly- using polite language and not being negative, respect and distance, not pursuing personal interests and being careful about corruption, equality and justice in general and the supervisor's observance of equality and justice, responsibility and performance of duty, efficiency and work/problem solving, academic freedom-autonomy and fundamental rights in the theme of ethical conduct. It is seen that the categories of being friendly- using polite language and not being negative, respect and distance, equality and justice in general and the supervisor's observance of equality and justice stand out in terms of frequency. Some of the opinions of the participating administrative personnel regarding the theme of "ethical conduct rule" are given below.

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Table 7. Administrative staff opinions on the theme of ethical code of conduct.

Theme	Category	Code	*f*
Ethical, Code of Conduct	Being friendly, using polite language and not being negative (3)	The staff should be friendly (G1). Negative behaviors and thoughts should be avoided (G4). A polite language should be used. The university staff should also comply with all the rules I mentioned. (Because this is necessary for a healthy work environment and for things to go smoothly) (G8).	3
	Emphasizing honesty, integrity, accountability, diligence and justice (2)	Honesty, integrity, diligence, caring about justice, etc. (G4). (Honesty is very important. Personnel should be honest with their superiors and colleagues while fulfilling their duties and responsibilities. This is very important for the health of mutual business relationships) (G9).	2
	Emphasizing working hours (1)	Giving importance to working hours (G1).	1
	Paying attention to respect and distance (4)	As long as there are ethical moral rules, there should also be ethical business ethics Giving importance to interpersonal respect and distance (G2). Superiors and officers showing respect to each other (G3). Being respectful. University personnel also complying with all the rules I mentioned. (Because this is necessary for a healthy work environment and for things to progress properly) (G8). Giving importance to respect for superiors. University personnel showing respect to their superiors in an ethical context and performing their duties in this context. (This is important for the health of the institutional culture). Personnel showing respect for their jobs in an ethical context. In this case, it is very important for the development of a healthy corporate culture. Respect should be at the forefront in the behavior of the staff towards their colleagues (G9).	4
	Avoid personal gain and beware of corruption (2)	Paying attention to corruption-related issues in working conditions (G7). Not reflecting personal interests on work, etc. University staff should also comply with all the rules mentioned. (Because this is necessary for a healthy work environment and for the proper progress of work) (G8).	*2*
	The importance of equality and justice in general and the superior's observance of equality and justice (3)	The superiors should observe equality and justice (G3). Everyone should be treated equally regardless of gender, language, religion, or race (G7). Everyone should be treated equally. University staff should also abide by all the rules I mentioned. (Because this is necessary for a healthy work environment and for things to go smoothly) (G8).	*3*
	Responsibilityand performance of duties (2)	Fulfillment of responsibilities of civil servants (G3). Fulfillment of assigned duties (G4).	*2*
	Being productive and problem-solving (2)	The staff should be problem solvers, not problem tellers (G1) They should prioritize efficiency while performing their duties (G7)	*2*
	Academic freedom, caring about autonomy (1)	Emphasizing academic freedom and autonomy, academic integrity, responsibility and accountability (G5)	*1*
	Giving importance to fundamental rights (2)	Protection and strengthening of fundamental rights (G5) Protection and strengthening of fundamental rights (G6)	*2*

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G7: Using polite language, treating everyone equally, not reflecting personal interests on work, etc. University personnel should also comply with all the rules I mentioned. Because this is necessary for a healthy work environment and for the correct progress of work.

G8: Respect for the supervisor is important. University personnel should respect their supervisors in an ethical context and perform their duties in this context. In an ethical context, staff should respect their work. Respect should be at the forefront of staff's behavior towards their colleagues. In this case, it is very important for the development of a healthy corporate culture.

Table 8. Participants' themes and categories regarding ethical issues.

	Theme: Ethical Issue
Categories	Having behavioral problems
	Emphasis on measurement and evaluation
	Technical problems (Administrative problems)
	Communication problem

Table 9. Administrative staff opinions on the ethical problem theme**.**

Theme	**Category**	**Code**	***f***
Ethical İssue	Problems with behavior (12)	The staff not complying with working hours and using all the opportunities provided by the law to the fullest without thinking about the disruption of work. For example, too many class cancellations and the failure of the superiors to follow up on this (G1).	12
		(I did not experience any problems) (G2).	
		Academicians, especially in universities, seeing themselves as superior.	
		They do not respect the civil servants and try to oppress them and apply mobbing. Many academicians are seen shouting at the civil servants (G3).	
		Indiscipline, carelessness, negligence, forgery (G5). Indiscipline, irresponsibility, forgery (G6).	
		Many problems. People putting aside ethical principles and acting in accordance with their own interests. (I do not react to such actions or such people anymore. There are many things I have experienced but I do not want to give information about this) (G8).	
		The staff not complying with the principles of honesty towards their colleagues and superiors (G9).	
		No respect for duty. (In the unethical behaviors we observe, we first try to talk to our staff member, and if we do not get an answer, we report the situation to the superior) (G9).	
		The fact that merit is not taken into consideration creates unrest among the staff	
		(G4). The fact that situations that may lead to plagiarism in research are not sufficiently taken into account, and that duties and responsibilities are not treated with merit (G7).	
		Assignments that are not in line with merit are a problem (G9).	
		(In the early years of my profession, when the library started providing service 24/7, there was a period when I was given responsibilities outside of ethical boundaries as a staff member, and my working hours were very irregular due to shifts. Again, in the early years of my profession, I was unfairly warned by my superior, who is no longer here, in an unethical way) (G9).	

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	Lack of sanctios (1)	The staff does not comply with working hours and uses all the opportunities provided by the law without thinking about the disruption to work. For example, too many class cancellations and the failure of the supervisors to follow up on this (G1).	*1*
	Emphasis on measurement and evaluation (3)	Not considering merit also creates unrest among staff (G4). Not taking into account situations that may lead to plagiarism in research, not acting with merit in duties and responsibilities (G7).	*3*
		Assignments that are not in line with merit are problematic (G9).	
	Having technical problems (Administrative problems) (5)	There are inequalities in the distribution of tasks. Of course, the given task is done properly. But sometimes there is unrest when not treated equally (G4).	*5*
		(In the early years of my profession, when the library started providing service 24/7, there was a period when I was given responsibilities outside of ethical boundaries as astaff member and my working hours were very irregular due to shifts. Again, in the early years of my profession, I was unfairly warned by my boss, who is no longer here, in an unethical way) (G9).	
		Not considering merit also creates unrest among the staff (G4).	
		Not taking into account situations that may lead to plagiarism in research, not acting competently in duties and responsibilities (G7).	
		Assignments that are not in line with merit are problematic (G9).	
	Having communication problems (2)	In universities, especially academics see themselves as superior.	*2*
		They try to oppress and mob civil servants by not respecting them.	
		Many academics are seen shouting and yelling at civil servants (G3).	
		(In the early years of my profession, when the library started to provide service 24/7, there was a period when I was given responsibilities outside ethical boundaries as a staff member and my working hours were very irregular due to shifts. Again, in the early years of my profession, I was unfairly warned by my boss who is not here now in an unethical way)(G9).	

As seen in Table 9, in the ethical problem theme, administrative staff have expressed their opinions in the categories of behavioral problems, lack of sanctions, measurement and evaluation, technical problems (administrative problems) and communication problems. It is seen that the behavioral problems category stands out in terms of frequency. Some of the participant administrative staff opinions regarding the "Ethical Problem" theme are given below.

G3: Academicians in universities, in particular, see themselves as superior. They try to oppress and mob civil servants by not showing respect to them. I have seen many academics yelling at civil servants. G4: Inequalities in the distribution of tasks… Of course, doing the given task properly… But sometimes when you are not treated equally, you get restless.

G8: There are many problems. People put aside ethical principles and act in accordance with their own interests. I do not react to such actions or such people anymore. There are many things I have experienced, but I do not want to give information about this.

Table 10. Participants' themes and categories regarding ethical violations.

	Theme: Ethical Violation
Categories	Lack of healthy communication - violation of behavior
	General lack of attention to ethics and professional ethics

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Table 11. Administrative staff opinions on the theme of ethical violation.

Theme	Category	Code	*f*
Ethical Violation	Lack of healthy communication-violation of behavior (10)	(I did not encounter any violations, I did not have any problems) (G1) Many academics and administrative officers were seen swearing. A very disrespectful way of conducting relationships. An education like university These are very saddening events in the institution (G2) Discrimination among staff (G6). Many different types of violations of the code of conduct occur (G7). Employees not complying with the principles of honesty towards their colleagues and superiors (G9). Failure to respect duty. (In the unethical behaviors we observe, we first try to talk to our employee friend, and if we do not get an answer, we report the situation to the superior) Employees not complying with the principles of honesty towards their colleagues and superiors (G9). Not considering merit also creates unrest among the staff (G4). Situations that may lead to plagiarism in research are not taken into consideration sufficiently, and duties and responsibilities are not treated with merit (G7). The problem of assignments that are not in line with merit (G9). (In the early years of my profession, when the library first started providing 24/7 service, there was a period when I was given responsibilities outside ethical boundaries as a staff member and my working hours were very irregular due to shifts. Again, in the early years of my profession, I was unfairly warned by my supervisor, who is not here now, in a way that would be unethical) (G9).	10
	Lack of attention to ethics and professional ethics in general (11)	Managers not acting in accordance with the principles of equality, merit, and impartiality. Employees not treating their colleagues with respect. Incorrect distribution of tasks (G3). Neglect and abuse of duty due to personal interests (G4). Abuse and neglect of duty for personal interests (G5). Conducting poor quality studies in scientific research (G6). Many different types of violations in terms of general ethical principles and professional ethics. (I have experienced problems with professional ethics) (G7). Employees not complying with the principles of honesty towards their colleagues and superiors (G9). Lack of respect for duty. (In the unethical behaviors we see, we first try to talk to our staff member, if we do not get an answer, we report the situation to the superior) (G9). Disregard for merit among the staff causing unrest (G4). Situations that may lead to plagiarism in research are not taken into consideration sufficiently, and duties and responsibilities are not treated with merit (G7). Assignments that are not in line with merit are problematic (G9). (In the early years of my profession, when the library first started providing service 24/7, there was a period when I was given responsibilities outside ethical boundaries as a staff member, and my working hours were very irregular due to shifts. Again, in the early years of my profession, I was unfairly warned by my supervisor, who is not here now, in an unethical manner) (G9).	*11*

As seen in Table 11, in the ethical violation theme, administrative personnel have expressed their opinions in the categories of healthy communication-behavior violation, ethics in general and professional ethics. It is seen that healthy communication-behavior violation and ethics in general and professional ethics categories stand out in terms of frequency. Some of the participant administrative personnel opinions regarding the theme of "Ethical Violation" are given below.

G2: I have seen many academics and administrative managers swearing. Relations are conducted very disrespectfully.

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This is very upsetting in an educational institution such as a university.

G3: Administrators not acting in accordance with the principle of equality, merit and impartiality… Personnel not treating their colleagues with respect… Improper distribution of tasks…

G7: There are many different types of violations in terms of rules of conduct, general ethical principles and professional ethics.

Table 12. Themes and categories of participants' suggestions.

	Theme: Suggestions
Categories	Having control and supervision
	Implementing a sanction and punishment-reward system
	Providing training
	Ensuring equality of opportunity
	Detection, reporting and rapid resolution of unethical issues
	The supervisor being an ethical role model
	Making technical and administrative arrangements
	Giving importance to merit
	Creating a corporate culture

Table 13. Opinions of administrative staff on the theme of pleminary recommendations.

Theme	**Category**	**Code**	***f***
Suggestions	Presence of control and supervision (2)	Increasing the control system. For example, monitoring lessons and working hours (G1). Emphasizing the importance of frequently reviewing employee-supervisor relationships (G9).	2
	Implementation of a sanction and punishment-reward system (1)	Developing the institution of punishment and reward to prevent ethical problems. Punishing a superior who swears. Punishing personnel who do not fulfill their responsibilities, whether academic or administrative personnel. No other situation is possible (G3).	1
	Provision of training (3)	Providing more training on ethical rules of conduct (G2). In order to prevent ethical problems, various trainings should be provided for academic, administrative staff and students when they start the institution. If we start from the concept of lifelong learning, ethical principles actually start from the family, so it is thought that it is a little late for students or staff who come to the university (G8). Emphasizing staff training (G9).	3
	Provision of equal opportunities (1)	Application of the principle of equality (G4).	1
	Detection, reporting and rapid resolution of unethical problems (3)	Identifying and reporting unethical problems (G5). If there is a problem detected, warning should be given and reporting to the necessary superior (G6). Any ethical problem should be resolved quickly and permanently (G9).	3
	Provision of the supervisor as an ethical role model (1)	In order for all sub-divisions to behave ethically, first of all, the administrations must behave ethically and set an example for everyone (G8).	1
	Provision of technical and administrative arrangements (1)	Causes poor quality publications, such as academic incentives removal of practices, appointments based on knowledge and merit based on managers' top-down not appointed (G7)	1
	Giving importance to merit (1)	Application of merit-neutrality (G4).	1
	Creating corporate culture (1)	Taking steps to improve corporate culture (G9).	1

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As seen in Table 13, in the theme of suggestions, administrative personnel have expressed their opinions in the categories of Control and inspection, sanction and punishment-reward system, education, equal opportunities, detection-reporting and rapid solution of unethical problems, the superior being an ethical role model, technical and administrative regulations, merit and institutional culture. It is seen that the categories of education and detection-reporting and rapid solution of unethical problems stand out in terms of frequency. Some of the opinions of the participating administrative personnel regarding the theme of "Suggestions" are given below.

G3: In order to prevent ethical problems, the institution of punishment and reward should be developed. A superior who swears should be punished. Personnel who do not fulfill their responsibilities, whether academic or administrative personnel, should be punished. It is not possible in any other way.

G8: In order to prevent ethical problems, various trainings should be provided first for academic, administrative personnel and students when they start the institution. If we start from the concept of lifelong learning, ethical principles should actually start from the family, so I think it is a little late for students or personnel who come to the university. In order for all sub-divisions to behave ethically, first of all, managements should behave ethically and be an example to everyone.

G7: To eliminate practices that cause poor quality publications, such as academic incentives, assignments should be based on knowledge and merit, and managers should not be appointed from the top down

DISCUSSION, CONCLUSIONS, and SUGGESTIONS

In the literature, studies have been conducted on various topics such as non-compliance with rules regarding ethical issues, disclosure of confidential information, use of university resources/facilities, profit relationship with suppliers, competition with the university, etc. (Gerçek et al., 2011; Aydın et al., 2022; Aydın, 1998). In this study, administrative staff opinions regarding ethical issues experienced in universities and solution suggestions were examined.

A great many positive and negative opinions were reported in the research in the context of ethics. When we analyze the general problems experienced in the university regarding ethics, it is seen that the most frequently mentioned problems are stated as "behavioral problems". This is followed by technical problems/administrative problems, measurement and evaluation, lack of sanctions and communication problems, respectively. In the light of this data, it can be evaluated that there are serious problems regarding ethics in the university within the scope of the research. These data are consistent with the data in the studies of Gerçek et al. (2011), Aydın (2022) and Aydın (1998).

Given the issues Aydın (2001) raised years ago, including bigotry, abuse, neglect, and favoritism, it is likely that these problems still exist. It is also possible to view this problem as a matter of negligence or indifference These results have also been expressed by (Arneson, 1992). This shows that behavioral problems have been experienced not only in Turkey but also worldwide since the past. The fact that the university is not sufficiently institutionalized in every respect causes ethical elements, like other elements, not to be implemented properly.

Although the issue of ethics is important for universities, the negative opinion on this issue is both very high and behavioural problems are experienced at the highest level today. It has been an issue that has been expressed from the beginning that there are serious behavioural problems in universities in terms of ethics (Aydın, 1998; Gerçek et al., 2011). The research result that there are behavioural problems remains as an unresolved problem despite the long years that have passed. Between the research of Gerçek et al. (2011), Aydın (2022) and Aydın (1998) and this research, René Pedroza Flores1 (2020) and Società Italiana degli Economisti (2020) have also conducted research on ethics, all three of which have drawn attention to behavioral problems. As a result of comparing the research result with these studies, it has been seen that the problem still continues and therefore triggers other

problems. When the data is examined, it will be understood that behavioral problems are also shown as the main reason why ethics as a system cannot be fully established on an institutional basis. Although these findings were made long ago by Gerçek et al. (2011) and Aydın (1998), it is seen that this situation has not been seriously resolved yet. The opinions are also expressed by the parties with at least ten (10) years of 4/D contracts and eleven (11) years of civil servants.

The findings that unproductive behaviors lead to ethical problems in the studies conducted by Aydın et al. (2022), Arneson (1992), René Pedroza Flores1 (2020) and Aydın (1998) are consistent with the results of this research. As a result of the data obtained in the research, the following results were reached: In the university, the most problems are experienced in the category of behavioral problems in the ethical context. Suggestions were also expressed more in this area. The most important problems are indiscipline, fraud, irresponsibility, carelessness and disrespect. The most frequently expressed suggestion was that merit and impartiality should be implemented.

The ethical principles that the participants emphasized the most are merit, justice, equality, impartiality and respect/love for the individual and the job. These principles are also expressed by experienced/senior personnel at the university. In addition, education/trainingstudent-focused, responsibility and working hours-arrangement of authority and responsibilities according to human conditions, distance/level of relationships-professional ethics, honesty/truthfulness-trust/reliability and science being in accordance with the truth, sensitivity-self-criticism-protection, It has been concluded that the principles mentioned by the participants in the context of ethical principles are fulfilling their obligations-feeling of belonging to the institution, fulfilling their obligations and feeling of belonging to the institution, not abusing trust and looking out for the benefit of the institution, etc. Participants have also made various suggestions in this context. It has been concluded that the personnel mostly stated that the principles of merit, equality, justice, impartiality and respect should be ensured. In addition, other suggestions made by the participants are education/trainingstudent-focused, arranging duties-authority-responsibility-working hours according to human conditions, honesty-truthfulness-trust-reliability, science being in accordance with the truth, self-criticism-protection-sensitivity, fulfilling obligations to students-colleagues-institution, feeling of belonging to the institution, not abusing trust and making decisions for the benefit of the institution. This is a remarkable result in the context that ethical principles are of vital value for the individual and the institution.

In the research, it was determined that the university administrative staff had the idea that in order for all subordinates to behave ethically, management should first act ethically and set an example for everyone. At the same time, in the context of the ethical responsibility theme, it was concluded that supervisors should bear a responsibility such as caring about merit, justice, respect and equality. In addition, performing the duties/responsibilities as they should be, valuing scientific research-publication analysis ethics, distributing tasks and not harming the institutional identity-reputation were among the responsibilities mentioned by the participants in the context of ethical responsibility. It was concluded that they stated that in order to solve these problems, scientific research-publication-analysis ethics should be accepted as the most important issue, the staff should fulfill their duties and responsibilities, and care should be taken not to damage the corporate identity-reputation of the university. This is a remarkable result in terms of what should be cared about in the context of ethical responsibility.

The most important ethical rules in universities are respect-distance, smiling-using a polite language-not being negative, equality-justice in general and especially the superior's observance of equality-justice. In addition, honesty-truthfulness-accountability-diligencejustice, impartiality, caring about working hours, not pursuing personal interests-paying attention to corruption, responsibility-performance of duties, efficiency and work/problem solving, academic freedom-autonomy and protection and strengthening of fundamental rights were the rules mentioned by the participants in the context of the ethical code of conduct. It was concluded that they stated that the personnel control system should be increased in the context of the ethical code of conduct; for example, following up on

courses-following up on work hours and frequently reviewing the relations of the personnel with each other and their superiors. This is an important result in terms of a healthy work environment and the correct progress of the work.

Behavioral problems are one of the most important ethical problems expressed by the participants, including experienced/senior personnel. The most highlighted problems:

- ✓ Indiscipline, fraud, irresponsibility, carelessness and disrespect,
- ✓ Staff not complying with working hours,
- ✓ Using all the opportunities provided by the law to the fullest, without thinking that there will be a problem,
- ✓ Workload, for example too many classes being canceled and superiors not following up,
- ✓ Academics at universities consider themselves superior, do not respect civil servants and try to put pressure and mobbing on them,
- ✓ Personnel put aside ethical principles and act in their own interests,

The problems that the participants mentioned regarding inequalities are ethical problems.

Results like not considering merit and inciting dissatisfaction among the employees, as well as failing to consider circumstances that could lead to plagiarism in research and task distribution, have also emerged. Participants have also made various suggestions in this context. The implementation of merit-impartiality, detection and reporting of unethical problems- warning if there is a detected problem- reporting to the necessary superior, solving any ethical problem quickly-permanently and implementing the principle of equality. These results are important in terms of the health of mutual business relations and the development of a healthy corporate culture.

The ethical violations that the participants emphasize the most are generally ethicalprofessional ethics violations and healthy communication-behavior violations. The violations that the participants mentioned were; managers not acting in accordance with the principles of equality-merit-impartiality, Staff treating their collegues disrespectfully improper distribution of tasks, neglecting-misusing tasks due to personal interests, conducting poor quality studies in scientific research staff members' disregard for the values of integrity toward superiors and coworkers, and not respecting their duties. In addition, the conduct of relationships very disrespectfully due to the swearing of many academics and administrative superiors, discrimination among staff, many different types of violations in terms of rules of conduct, staff not complying with the principles of honesty towards their colleagues and superiors, not respecting their duties, individuals being charged with responsibilities outside ethical boundaries, etc. were obtained. The violations that the participants mentioned were concluded. It was concluded that in case of unethical behavior, talking to the personnel and reporting the situation to the superior if no response is received, applying the principle of equality, removing practices that cause poor quality publications such as academic incentives, making assignments based on knowledge and merit, not appointing managers from the top down. The institution of punishment and reward should be developed to prevent ethical problems.

The suggestions that the participants emphasized the most were education and detectionreporting and rapid resolution of unethical problems. At the same time, the sanctionpunishment-reward system and equality of opportunity should be ensured through controlsupervision, the supervisor should be an ethical role model, technical and managerial regulation should be provided, merit should be ensured and corporate culture should be created, etc., etc., it was concluded that the participants mentioned in the context of suggestions. Participants also made various opinions supporting these categories:

- ✓ Increasing the control system in the context of tracking lessons and overtime,
- ✓ Frequently reviewing staff-supervisor relations,

- ✓ Developing the institution of punishment and reward to prevent ethical problems, for example, punishing a superior who swears,
- ✓ First of all, providing various trainings for academic, administrative staff and students when they start the institution,
- ✓ Punishing personnel (academics or administrative) who do not fulfill their responsibilities,
- ✓ Detecting and reporting unethical problems, solving any ethical problem quickly and permanently,
- ✓ In order for all subordinates to behave ethically, first of all, management must act ethically and set an example for everyone,
- ✓ Removal of practices that cause poor quality publications, such as academic incentives,
- ✓ Implementation of the principle of equality and impartiality,
- ✓ Appointments are made based on knowledge and merit, and managers are not appointed topdown,
- ✓ Taking steps to improve the corporate culture.

Suggestions for Practitioners:
This study was prepared by examining the literature on the subject in detail.

Any ethical problem should be solved quickly and permanently. Problems should be detected and reported, if there is a problem, the relevant person should be warned and reported to the necessary superior. The relationships of the personnel with each other and with their superiors should be reviewed frequently and control processes should be applied this regard. The control system should be increased in the context of monitoring lessons and working hours. In order to solve these problems, all university stakeholders should adopt ethical values and avoid unethical behaviors. In order for all subordinates to behave ethically, superiors/managements should act fairly, impartially, respectfully, give importance to knowledge and merit and be an example to everyone. When this is the case, a healthy institutional culture can be contributed to.

Professional ethics is an important ethical field of study in terms of the qualities that university stakeholders have. Failure of managers to act in accordance with the principles of equality-merit-impartiality, failure of personnel to treat their colleagues with respect, failure to properly distribute tasks, neglect-abuse of duties due to personal interests, conducting poor-quality studies in scientific research, failure of personnel to comply with the principles of honesty towards their colleagues and superiors, and failure to respect duty are actions that fall outside the context of professional ethics principles. In order to prevent such ethical problems, penalties and rewards should be developed.

In higher education institutions, all personnel (academic, administrative, contracted, etc.) should be frequently directed to compulsory ethics courses, information seminars and workshops covering ethical problems, developments and innovations, and thus ethical awareness should be created in the personnel. Even for students, courses on ethics should be included in the curriculum.

Recommendations for Researchers:
Opinions of personnel who did not respond positively to the research for various reasons should be investigated.

The factors affecting managers‟ thoughts and behaviors regarding not paying attention to ethical behavior, not caring about ethical behavior, or not using it effectively should be investigated.

The reasons why ethical problems are still experienced despite being expressed by superiors should be investigated.

The opinions of users and employees regarding ethical problems should be mutually investigated, and the reasons for the differences should be determined.

Ethics and Conflict of Interest

Ethical procedures in conducting the study were adhered to by the researchers and they declare that no conflict of interest exists. Details regarding the research model, participants, data collection instruments, data collection, and data analysis are provided in this section. The necessary ethics committee permission for the research has been obtained (Educational Sciences Institute Research and Publication Ethics Committee, 03.06.2024 and decision numbered 08/38).

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POTRAYAL OF SHADOW TEACHER'S COMPETENCIES IN INDONESIA

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Abstract

The importance of shadow teachers' competence is crucial for implementing inclusive education. Previous research has mainly focused on qualitative studies, and there is a need for more information about the competencies of shadow teachers, especially in stress management, emotional regulation, and positive discipline. This study aimed to gain an understanding of stress management, emotional regulation, and positive discipline among shadow teachers and to determine if these competencies vary based on the educational level they teach. The study used a comparative descriptive quantitative approach and involved 163 shadow teachers. Data analysis was conducted using descriptive statistics and ANOVA. The results revealed that 53% of shadow teachers have low stress management abilities, 34% use suppression strategies to regulate emotions, and 40% have low competence in positive discipline. The study found no differences in stress management and emotional regulation among shadow teachers. However, significant differences were found in the application of positive discipline based on the educational level taught by shadow teachers.

Keywords: Emotion regulation, stress management, positive discipline.

INTRODUCTION

The inclusive school is not functioning as it should. In general, shadow teachers should possess four key competencies to effectively address the various issues and challenges associated with inclusive education: pedagogical, personal, professional, and social competencies (Zakia, 2015). These competencies can assist shadow teachers in managing work-related challenges.

The challenges encountered in the field of inclusive education classes include a lack of shadow teachers, insufficient competence among shadow teachers in understanding the needs of students with special needs and managing learning activities, inadequate school facilities and preparedness, and a lack of support, leading to an overwhelming workload for shadow teachers that can impact the teaching and learning process (Tarnoto, 2016). The work of shadow teachers can be highly stressful due to legal mandates, administrative factors, competence in handling students with special needs, personal factors, and additional responsibilities such as communication with other teachers and parents (Hester, Bridges, & Rollins, 2020). The workload can have adverse effects on the physical and psychological health of shadow teachers, which may influence their decision to leave the profession (Hester, Bridges, & Rollins, 2020). Previous research also revealed that teachers in inclusive schools experienced physical and psychological exhaustion due to the diverse needs of students (Leguminosa, Nashori, & Rachmati, 2017; Septianisa & Caninsti, 2018).

In order to effectively handle different types of stress, shadow teachers require specific strategies for stress management. Research shows that as stress levels increase, the productivity and job

satisfaction of shadow teachers decrease (Bui, Zackula, & Ablah, 2022). If teachers are unable to effectively cope with stress, it can lead to a decline in their work performance, ultimately affecting the quality of services provided to students with special needs (Anggreany & Matahari, 2022). Stress management involves making changes in behavior and thinking to handle internal and external stressors (Folkman & Moskowitz, 2004). Various stress management techniques have been proven to improve an individual's psychological well-being and lead to better behavioral adjustments in stressful situations (Smith, Saklofske, Keefer, & Tremblay, 2015; Wu, et al., 2020). Therefore, shadow teachers need to develop self-management skills, particularly in stress management, to effectively handle the various stressors they encounter and maintain good psychological well-being.

Apart from stress management, another important aspect of shadow teachers' self-management in their profession is their ability to regulate emotions. Poor emotional regulation can contribute to higher levels of burnout among shadow teachers (Mulyani, et al., 2021). It has also been found that emotional regulation abilities can predict symptoms of anxiety and depression, which can impact the mental health of shadow teachers (Merida-Lopez, Extremera, & Rey, 2017). Inadequate emotional regulation, such as suppressing emotions, can increase stress levels (Jeon & Ardeleanu, 2020).

The severity and characteristics of students with special needs pose challenges for shadow teachers. This has the potential to affect classroom interactions, particularly in forming relationships between teachers and peers, and in impacting the social relationships felt by regular students towards students with special needs. Poor social relations between regular students and students with special needs can lead to disobedient behavior, aggression, and bullying carried out by regular students towards students with special needs, or vice versa (Breeman, et al., 2015). This situation disrupts the classroom, affects the classroom climate, and is associated with behavior that violates norms in children (Carrell & Mark, 2010; Breeman et al., 2015). One contributing factor is students' difficulties in adapting to teachers' teaching methods and poor interactions between teachers and students (Kalb & Loeber, 2003). Therefore, teachers must have pedagogical competence that focuses on reducing students' disobedient behavior and implementing classroom management through positive discipline to improve student welfare (Stamatis & Chatzinikola, 2022).

Competence in positive discipline can reduce the discomfort felt by students with special needs in the classroom (Wang & Kuo, 2018). Positive discipline is a process that involves fostering a positive and supportive relationship between the teacher and students in order to guide and discipline them. The ultimate goal of positive discipline is not to achieve short-term effects through punishment, but rather to use positive methods to help students develop positive behavior and self-discipline in the long term (Stamatis & Chatzinikola, 2022). While previous research has largely focused on the application of positive discipline by parents or positive parenting patterns (Nelsen, Foster, & Raphael, 2011; Dyches, Smith, Korth, Roper, & Mandleco, 2013), there has been relatively little discussion about the application of positive discipline by teachers.

The education system in Indonesia focuses on different aspects and standards for each level of education. The legislation no. 4 of 2022 concerning national education standards reflects this by aligning educational focus and standards with students' developmental tasks. At the playgroup/kindergarten level, the main focus is on optimizing children's overall and integrative development (Kementerian Pendidikan dan Kebudayaan Republik Indonesia, 2014). In elementary school, the focus is on literacy and numerical competence, while in secondary education, it's on preparing students for independent living (Kementerian Hukum dan Hak Asasi Manusia, 2022). There are differences in teacher competence at each level of education, and previous research has found significant differences in teachers' readiness to run programs in inclusive schools based on students' educational levels. (Triviño-Amigo, et al., 2023). Significant differences were found regarding community participation between teachers teaching at the early school level and teachers at primary and secondary schools. (Triviño-Amigo, et al., 2023).

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The Indonesian government program through the Directorate of Secondary Education and Special Education Teacher Development has attempted to increase the competency of shadow teachers through technical guidance. However, this program does not include increasing competencies in positive discipline, stress management, and emotional regulation (Direktorat Pembinaan Guru Pendidikan Menengah dan Pendidikan Khusus, 2020), there is a need for further research on stress management, emotional regulation, and positive discipline in shadow teacher in inclusion classes. The research questions that will be raised in this study are:

1. How's stress management, emotional regulation, and positive discipline on shadow teachers?
2. Are there differences in stress management, emotional regulation, and positive discipline in special assistant teachers based on the educational level of the students being taught?

METHOD

The research was conducted using comparative quantitative education. In a comparative research design, the researcher measures the variable that is the main focus in two or different groups but does not manipulate the variable. Inferential and descriptive testing can be used to see whether there are differences between groups (Baker, 2017). Data collection was carried out through accidental sampling using the Google Form.

There were 163 respondents involved in the research. All respondents are shadow teachers at certain educational levels. Each respondent had a different length of service, with the highest length of service being 25 years and the lowest being 6 months. Based on recent educational background, 87% of respondents had a Bachelor's degree, 8% had a Master's degree, and the remaining 5% had a high school education.

Table 1. Distribution of respondents based on the level of education taught.

Work Unit	Number of respondents
Kindergarten	42
Elementary school	67
Middle school/equivalent	42
High school/equivalent	12

There are three scales used. The first scale focuses on stress management, namely the stress management scale, which has a reliability of 0.75 and 10 items. The second scale focuses on emotional regulation with a reliability value of 0.73 with 12 items, namely the emotion regulation questionnaire. The scale used to measure positive discipline is the positive discipline scale (Zuković & Stojadinović, 2021) with a reliability of 0.75 and totaling ten items. All scales have reliability above 0.7, so it can be concluded that the measuring instruments used are reliable. The data obtained was then analyzed descriptively to determine the description of the three variables. ANOVA was used to determine the differences in the three variables based on the level of education taught by each respondent.

RESULT

Descriptive Study

The data analysis results reveal that 53% of the total respondents have low stress management abilities. There is a need for further quantitative research to describe the stress management experienced by shadow teachers, especially in larger populations.

Table 2. level of stress management based on the level of education taught.

Work Unit	Category	Frequency	Percentage
Kindergarten	High	16	39%
	Low	26	61%

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Work Unit	Category	Frequency	Percentage
Elementary school	High	34	51%
	Low	33	49%
Middle school/equivalent	High	22	52%
	Low	20	48%
High school/equivalent	High	5	42%
	Low	7	58%

Based on Table 2, it is observed that shadow teachers at the kindergarten level experience the most frequent low-stress management, followed by high school/equivalent level teachers. Conversely, the lowest frequency of low-stress management is found among junior high school/equivalent and elementary school teachers. This research indicates that kindergarten and high school/equivalent level teachers generally have lower stress management compared to elementary and junior high school/equivalent level teachers.

Table 3. Emotional regulation strategies based on the level of education taught.

Work unit	Strategy	Frequency	Percentage
Kindergarten	Reappraisal	25	59%
	Suppression	17	40%
SD	Reappraisal	48	72%
	Suppression	19	28%
Middle school /equivalent	Reappraisal	26	62%
	Suppression	16	38%
High school/equivalent	Reappraisal	8	67%
	Suppression	4	33%

As shown in Table 3, it is known that many respondents still use emotional regulation with a suppression approach. Of the respondents, 34% used a suppression approach when experiencing stressors. Shadow teachers who use suppression strategies do not mean they do not use reappraisal strategies, but in general, they tend to use suppression strategies more often than reappraisal strategies when encountering emotional situations. It is known that 40% of shadow teachers exhibit low positive discipline, meaning they have not fully implemented positive discipline in the classroom.

Table 4. Application of positive discipline based on the level of education being taught.

Work Unit	Positive Discipline	Frequency	Percentage
Kindergarten	High	32	76%
	Low	10	24%
Elementary school	High	38	57%
	Low	29	43%
Middle school/equivalent	High	22	53%
	Low	20	47%
High school/equivalent	High	6	50%
	Low	6	50%

Comparative study

ANOVA testing was carried out to find out whether there were significant differences in stress management, emotional regulation, and the positive discipline of shadow teachers based on the level of education taught. Anova testing was carried out because this study used four groups: shadow teachers at the kindergarten level, shadow teachers at the elementary school level, shadow teachers at the middle school/equivalent level, and shadow teachers at the high school/equivalent level. The ANOVA test results can be seen in Table 5.

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Table 5. Anova result

Competencies	F value	p-value	Conclusion
Stress management	0,635	0,594	Not significant
Emotion regulation (*reappraisal)*	1,639	0,182	Not significant
Emotion regulation (*suppression)*	0,521	0,669	Not significant
Positive discipline	5,041	0,002	Significant

Based on the test results, it is known that there are no significant differences in stress management and emotional regulation, as well as both reappraisal and suppression strategies in shadow teachers based on the level of education taught. However, significant differences were found regarding positive discipline competencies among shadow teachers. It can be seen in Table 5 that a significant p-value was found related to positive discipline ($p<.05$). Further post hoc tests were carried out to identify at which level there were significant differences in the application of positive discipline.

Table 6. Post-hoc test

		Mean Difference	P	Tukey
Kindergarten	Elementary school	2.021	2.664	.042
	(SMP/sederajat)	2.595	3.086	.013
	(High school/equivalent)	4.012	3.180	.009
Elementary school	(Middle school/equivalent)	.575	.758	.873
	(High school/equivalent)	1.991	1.648	.355
High school/equivalent	(Middle school/sederajat)	-1.417	-1.123	.676

The study found significant positive differences in discipline between shadow teachers at different education levels. Significant positive differences in discipline were found between shadow teachers from kindergarten level and shadow teachers from elementary school level ($p=.042$; $p<.05$), shadow teachers from kindergarten level and shadow teachers from middle school/equivalent level ($p=.013$; $p<.05$) and shadow teachers from kindergarten level with shadow teachers from high school/equivalent level ($p=.009$; $p<.05$).

DISCUSSION, CONCLUSION, and SUGGESTIONS

Individuals with low stress management abilities face challenges in recognizing, analyzing, selecting strategies, and taking steps to cope with stress (Lazarus & Folkman, 1999). Previous research has mainly focused on qualitative studies or literature reviews when investigating sources of stress and stress management in shadow teachers (Rahayu, 2017; Kurnia & Yoselisa, 2023; Anastasia & Tobing, 2019; Qiftiyah & Calista, 2021). Higher stress levels make it more challenging to manage the source of stress. Previous research has shown that being a kindergarten teacher can be somewhat stressful, especially when working with students from disadvantaged socio-economic backgrounds, high-risk students, and those with behavioral problems (Zhai, Raver, & Li-Grining, 2011). When kindergarten teachers experience increased stress due to student behavior problems, it can have a negative impact on the emotional climate in the classroom. For instance, a kindergarten teacher assigned to a class with many students experiencing behavioral problems is likely to experience higher levels of stress and may struggle to effectively manage the class (Friedman-Krasuss, Raver, Neuspiel, & Kinsel, 2014). Some particularly stressful situations for kindergarten teachers during the teaching process include meal sessions, student arrival, pick-up sessions involving communication with parents, and free play sessions (Koçyiğit & Sezer, 2024).

The same thing happens to teachers at the high school or equivalent level. Previous research found that high school or equivalent teachers have high stress levels. One of the factors thought to play a significant role in the high stress level of shadow teachers in high school or equivalent is unstable economic conditions and a lack of learning facilities (Nwimo & Onwunaka, 2015). In implementing inclusive education in Indonesia, problems related to facilities and infrastructure still need to be solved. The available facilities and infrastructure are still far from adequate, even though they are a

crucial factor in inclusive education (Dewi, 2022; Okyere, Amedahe, & Edjah, 2002; Mukti, Arnyana, & Dantes, 2023)

Stress can potentially harm the condition of shadow teachers, both physically, mentally, emotionally, and physiologically (Williams & Poel, 2006; Cancio, et al., 2018). Shadow teachers who experience stress are reported to be more likely to resign from their profession (Wong , Ruble, McGrew, & Yu, 2017). On the one hand, stressors cannot be eliminated from the teaching environment, so shadow teachers need to learn strategies and techniques to manage stressors that arise and maintain professionalism as educators (Waltz, 2016). Individuals who fail to respond to stress effectively will show mental problems as well as behavioral problems such as higher alcohol consumption and smoking behavior.

The finding about mostly using suppression as emotion regulation is quite unfortunate. Previous research found that the reappraisal strategy has a better impact on psychological well-being and a positive effect than the suppression strategy (Kelley, Glazer, Pornpattananangkul, & Nusslock, 2019). Previous studies also found that reappraisal strategies were associated with a more positive impact pattern, while the suppression strategy was associated with more negative impacts (Gross & John, 2003). Not only does it have an impact on the individual's condition, the use of suppression strategies also has an impact on the individual's relationship with their environment. Not only does it impact the individual's condition, but the use of suppression strategies also impacts the individual's relationship with their environment. Previous research found that the use of suppression strategies was related to low social support, low closeness to others, and low social satisfaction (Srivastava, Tamir, McGonihal, John, & Gross, 2009).

The research findings indicate that kindergarten teachers tend to use suppression strategies to manage stress, with shadow teachers at the kindergarten level exhibiting the highest rate of such strategies. Kindergarten teachers often suppress their negative emotions and emphasize positive emotions to engage students, which can lead to emotional exhaustion (Naring, Briet, & Brouwers, 2006). Kindergarten teachers were also found to often only express emotions that were expected to appear such as happiness and calm, but often suppressed the emotions that were felt It was also found that kindergarten teachers tend to express only expected emotions, such as happiness and calm, while suppressing their true feelings (Krone, 2000). Previous studies recommend that kindergarten teachers need to find ways to enhance positive emotions while effectively managing their negative emotions (Zhang, Cui, Wang, Mu, & Wang, 2022).

In contrast to stress management and emotional regulation findings, the highest level of application of positive discipline was found at the kindergarten level. The data collection results show that 76% of shadow teachers at the kindergarten level are highly involved in implementing positive discipline in the classroom. Previous research found that although it was done differently, several kindergartens had implemented the principles of positive discipline (Chen & Hu, 2022). Teachers can apply positive discipline starting from lesson planning and implementation using habituation and exemplary methods and a contextual and scientific approach (Gunartati & Kurniawan, 2021). On the one hand, applying discipline with low involvement is often found at the high school/equivalent level.

This is quite unfortunate, considering that positive discipline helps students succeed, supports student development, and provides information about what they should learn (Thakur, 2017). Research also indicates that positive discipline is feasible for students of all ages (Gandzel, 2022). The application of positive discipline in the classroom is one of the factors that influences the emergence of positive behavior from students and vice versa (Bazar & Baluyos, 2023). Conversely, punitive approaches to students have been found to negatively impact literacy skills, especially in early childhood (DedeYildirim & Roopnarine, 2019).

Specifically, shadow teachers at the kindergarten level showed more positive discipline compared to those at elementary, middle school/equivalent, and high school/equivalent levels. Apart from these

levels, there were no differences in positive discipline at other levels of education. This suggests that kindergarten teachers are more likely to use a positive discipline approach. Previous research found that teachers at kindergarten level more often use non-punitive measures such as emphasizing applicable rules, supporting students to be more responsible. Previous research also supports this, indicating that kindergarten teachers often use non-punitive measures and emphasize applicable rules while supporting students to be more responsible (Beazidou, Botsoglou, & Andreou, 2013). Additionally, previous research has shown that most teaching practices in kindergartens exhibit good classroom quality characterized by feedback, a positive classroom climate, and proactive classroom management from teachers (Lee & Bierman, 2016).

It is essential to establish a self-development program specifically designed for shadow teachers, considering the various skills they require. Research indicates that stress management, positive discipline, and emotional regulation are the primary areas for self-improvement among shadow teachers. While stress management and emotional regulation are beneficial for shadow teachers across all educational levels, self-development in positive discipline is especially recommended for shadow teachers working in elementary, middle school, and high school settings.

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Ethics and Conflict of Interest
The author of the study acted in accordance with ethical rules in all processes of the research. The authors declare that they do not have any conflict of interest with other persons, institutions or organizations.

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RELATIONSHIP BETWEEN STUDENTS' ABILITY TO ACHIEVE DESIGN TASKS AND CREATIVE THINKING SKILLS

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Abstract

Creative thinking provides students to solve complex problems, through searching for new learning ways in educational activities. This study aimed to reveal higher education students' creative thinking potentials with educational activities. The participant students were involved in achieving design tasks which were the course subject as closed-ended and open-ended task activities. Regarding the results, it was found a relationship significantly between students' creative thinking and open-ended task scores. The regression analysis showed that open-ended task activity encourages students' creative thinking skills positively. The present result indicated that the open-ended task design activity play a considerable role to reveal the students' creative thinking skills. By this way, this study concluded that open-ended task design activities concerning the curriculum might encourage and support students' creative thinking potentials in higher education and suggested to implement students the open-ended tasks in the education.

Keywords: Creative education, creative process, art practice, creative thinking.

INTRODUCTION

The creative thinking skill allows students to solve non-routine problems different disciplines like science, art, and culture with including economy. Munroe (2015) stated that non-routine problem is to challenge individuals cognitive development. Ramalingam, Anderson, Duckworth, Scoular and Heard (2020) clarified that creative thinking produces new ideas differently by making unconventional connections to arrive a given purpose. Based on scholars, Moselya, Wrighta, and Wrigleyb (2018) stated that creative thinking in higher education provides students in different disciplines to solve complex problems. The non-routine problem as open-ended problem requires divergent thinking. However, closed-ended problem solving as routine problem requires convergent thinking (Runco, 2014). Cropley (2001) described that *convergent thinking* motivations on a correct answer. Conversely, *divergent thinking* relates to multiple answers to an open-ended problem. Ward and Kolomyts (2010) stated that divergent thinking predicts creativity efficiently. Also, Reiter-Palmon, Fortman, and Barbot (2019) stated that a divergent thinking task accomplishment score might indicate the creative potential of individual to predict creative thinking. As Primus and Sonnenburg (2018) claimed, open-ended task designs influence individuals' creative performance. In this way, numerous scholars have agreed that divergent thinking correlates more with open-ended problems (e.g., Cropley, 2001, Plucker, Qian, & Wang, 2011, Runco, 2014). Many scholars suggested further study conducted activities such as the open-ended and closed-ended tasks to determine which process promotes creativity more (Clinton & Hokanson, 2012; Tomasi, Schuff, & Turetken, 2018). From this perspective, this study's main aim is to determine to what extent higher education students' creative thinking skills are involved in achieving the task designs. Thus, this study invented educational activities as the closed-ended and open-ended task designs concerned the visual arts education course subject in the higher education level. Therefore, the question of this study was determined such: What is the relationship between students' ability to achieve the open-ended/closed-ended task designs and their creative skills.

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The task activities as closed-ended and open-ended design tasks

According to Torrance and Myers (1970), the open-ended term in many disciplines means a great diversity of responses, by contrast, the closed-ended word usually means that it is about convergent thinking that is correct answer not include a surprise. Therefore, instructions of an open-ended task support the individual's thoughts regarding diversity. In contrast, the closed-ended task instructions would focus only on one answer or solving of the problem as a known model as what the output should be as product (Isbell & Raines, 2003). Isbell and Raines (2003) gave a checklist for the open-ended task activities as follows:

- *Ask the participants to select a task design, as they want*.

-*Provide the materials for the participants to make a design*.

- *Control the process of creation of yield regarding the structure or form,* and

- *Allow them to complete their design by using these materials.*

According to Urban (1995), an open-ended task activity can be challenge to prompt the creative potential of the participants. This challenge is an open-ended problem (e.g., Runco, 2014). Such instructions may lead to producing multiple answers with the inclusion of solving ways for the participants. For example, completing a figure or a composition unknown previously as an open-ended design problem can induce a challenge for the individual. In this way, Clinton and Hokanson (2012) claimed that these open-ended problems require creativity more than closed-ended ones. Runco and Jaeger (2012) stated that individuals do creative works under a degree of limitations. Guilford and Hoepfner (1971) also stated that divergent thinking tasks should be limited in activity output and activity time. The participants performed in both the closed-ended and open-ended task designs within the limitation of the task output and the time.

METHOD

The participants of this study were pre-school education students (N=33, 18-23 years old, M_{age}=19.58, females 86%) in their fifth semesters (as autumn 2015) pursued in the their education department. They were in different classes as intact groups. The participants were in different classes selected randomly. The students participated in current closed-ended and open-ended task designs as a part of their lesson which was the visual arts coursework. The TTCT was implemented volunteer students as based on related education department permission.

Instruments

This study used incomplete figures as a sub-battery of the Torrance Tests of Creative Thinking (TTCT) Figural Form figural form which analyzes creative thinking and subscales as fluency, originality, elaboration of the abstractness of titles (Titles), resistance to premature closure (Closure), and creative strengths (Strengths). This sub-battery requires the individual to complete given figures as a response in the simplest way within 10 minutes (Torrance, 1966). The Turkish version of the TTCT's reliability (and validity) analysis was performed by Aslan (2001) as collecting data in a wide range of samples (N = 922).

Task activities and general conditions

Current closed-ended task activity: The author handed out a sheet of paper divided by lines into 70 squares (3x3 cm^2) to each participant for producing an output (Fig. 1).

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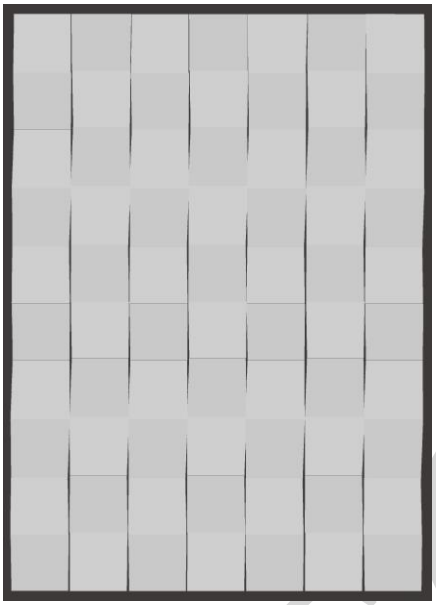

Figure 1. The initial stage of both task activities as closed-ended and open-ended tasks

The author showed a completed output model to all students at the beginning of the activity (Fig 2).

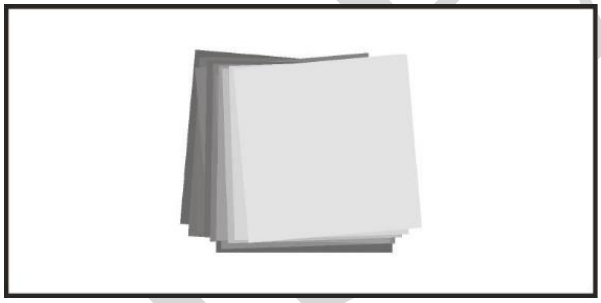

Figure 2. The distinct final stage of the closed-ended task activity

The students completed their outputs during the task, considering the model output in a limited time (40 min.). However, they were free regarding finding and using ways of producing the outcome by the delivered paper by cutting or folding and pasting without losing any part in the task process. Additionally, author gave the instructions during the closed-ended task design as follows:

- Make a design with the provided paper as a similar model as I show to you!

- You are free to find or use any method to produce it.

- You should make your design using the given paper as a whole by folding and cutting it.

- You must show me for scoring as soon as you finish your design!

The author emphasized that participants should make their outputs 2D designs by cutting and folding the given paper without losing any piece. At the end of the activity, all participants completed the same 2D artwork at different times.

Current open-ended task activity: The author handed out a sheet of the same size paper as the closed-ended activity to participants in the open-ended activity (see Fig. 1). However, the open-ended activity had different traits from the closed-ended one regarding the instructions and output. Author did not show a model output as a completed design to the participant students at the beginning of this activity. However, he asked participants to complete the task activity under the given instructions as follows:

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- Let's suppose to make a 3D design with the provided paper!
- How do you make a 3D design with the delivered paper?
- You are free to produce your work as you want in terms of both method and output.
- Shortly, make a 3D design as you imagine!
- You must show me for scoring as soon as you finish your design!

The author reminded the participants to design as they want as 3D output by the given paper (Fig. 1). The participants were free to create construction by the delivered paper by cutting or folding, and pasting without losing any part (Fig. 3).

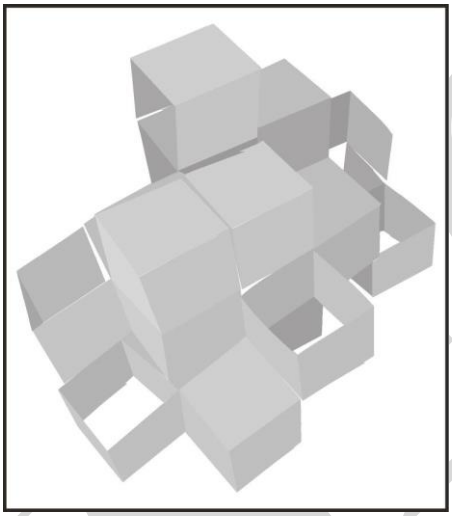

Figure 3. A sample of the open-ended task output.

Consequently, author established a flexible learning environment for the participant students in both tasks. The core qualifications of these tasks designs are presented in Table 1.

Table 1. Qualifications of closed-ended and open-ended tasks designs.

Qualifications	Closed-ended Task Design	Open-ended Task Design
Thinking style	Convergent	Divergent
Learning method Activity	Teacher-centered	Student-centered
Instruction	Conventional	Unconventional
Processes	Limited output model	Unlimited output model
Solution	Single / Similar	Multiple / Various
Output	Known model	Unknown model

Author limited both tasks within 40 minutes and did not make any intervention of the outputs, however, gave each design score by determining the completed time of the production with a stopwatch (minute with second).

General conditions of the Process: The participant students had no background in such design outputs before pursuing this visual arts lesson. In the related curriculum of the visual arts lesson, two dimensional (2D) and three dimensional (3D) designs come as lesson subjects, respectively. The author planned 2D design activity primarily dealt with a task, and then 3D design applied as the other task. The thinking styles in such activities are more crucial than activity output types (Moran, Milgram, Sawyers & Fu, 1983). Therefore, task outputs' dimensionalities as 2D or 3D have not

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critical role in revealing the individuals' creative thinking potential (Tegano & Moran, 1989). Thus, the author planned current 2D and 3D tasks about themes and instructions as mentioned above.

The author administered the TTCT, closed-ended, and open-ended task activities for internal consistency in this study. He applied the TTCT to participant students within a day. A week later, he implemented the closed-ended task after the open-ended task consecutively to the same students in a day. There were just ten minutes between two activity tasks, as duration. The process of all activities are presented in Fig. 4.

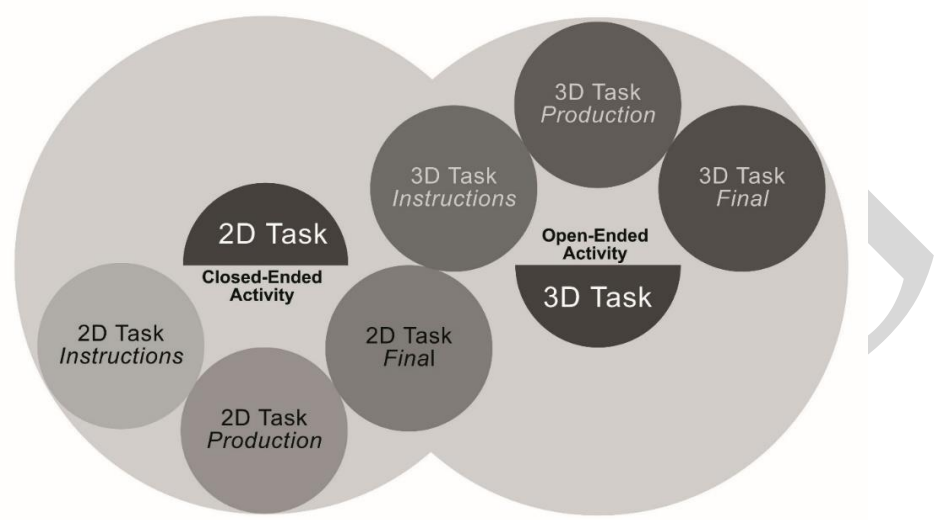

Figure 4. Closed-Ended (2D) and Open-Ended (3D) Task Processes

Snapshot scoring: Author used snapshot scoring assessment method in this study. The generation of ideas in a design task is a kind of metric uses in the assessment (Kim, Lee, Park & Jeong, 2009). The snapshot scoring in terms of subjective ratings with receiving a single holistic rating uses as a quick and straightforward approach to the assessment of the task outputs. In this method, the rater observes the response and gives a single holistic rating to the set as an output (Silvia, Martin & Nusbaum, 2009, 81). The snapshot scoring as a unidimensional view of something at a particular time is a new scoring approach mainly used in task activities. Therefore, as Forthmann et al. (2019, 4) emphasized, the unidimensionality of ratings in the snapshot scoring was a specific method. Thus, author assessed the activity output when the participant completed it during the activity. In this assessment, he agreed with the participant, as concurring mutually on whether the production was ready for the scoring according to the determined rules of the related activity to fit into the corresponding task target.

Assessment: There is a consensus among scholars about human visual perception. This perception system clarifies that the human eye recognizes anything in the space efficiently, whether it is a three-dimensional form or a two-dimensional one. The human look determines any represented 3D design under some properties, which are three sides such as *p*, *q*, *r* (Iyer, Jayanti, Lou, Kalyanaraman, & Ramani, 2005). The assessment procedure was essential for task activity outputs. Therefore, if the activity output had three sides as 3D design volumetrically without losing any part of the given paper, the author assessed it for scoring. If necessary, participants used clear tape to attach the square parts of the paper to construct their productions in the open-ended task. In the closed-ended activity, author assessed the outputs according to the 2D design properties. Accordingly, 2D work had to possess the same form as the shown model at the beginning of the activity. Each participant worked with the given paper and made this paper as a flat square through folded (or cut) it on top of another. Here, this design was ready for scoring as the 2D and 3D design forms of the outputs are presented in Fig. 5 and Fig. 6.

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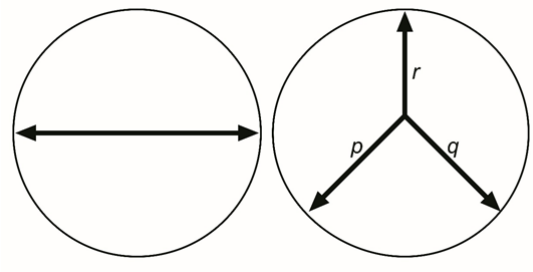

Figure 5. The drawing presentation of the 2D and 3D design respectively in the space hypothetically.

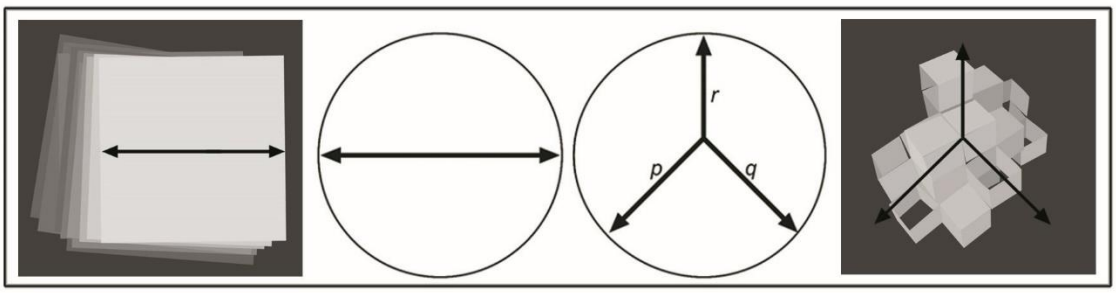

Figure 6. The exhibition of the 2D and 3D drawing presentations on the sample outputs of the closed and open-ended task activities.

In this way, the author scored closed-ended and open-ended design activity outputs as 2D and 3D design separately. When a participant believed to complete her/his design, s/he showed it to the author for the assessment. Accordingly, if the participant completed the task output following the task's instruction, each response as output was rated time-stamped by author. According to numerous scholars, the task process must be under production and activity time (Baer, 1996; Guilford & Hoepfner, 1971; Runco & Jaeger, 2012).

The account regarding assessment: If a participant student completed the output under the activity's goal, the author determined the time referred to the beginning of the task as the elapsed time. When a participant could not complete the output under the output goal, then s/he was invited to participate in the activity again. Due to each task limited by 40 minutes, the completion time was an essential indicator for the score. For the account regarding assessment, the score was the completion time (14 minutes) subtracted from the 40-minute activity time. The remaining figure (26) was the score of this output practically. According to this scoring procedure, if a participant finished the activity output in 23 minutes (40-23= 17), s/he got 17 points. Accordingly, a participant received 28 points when s/he finished the activity output in 12 minutes (40-12= 28). The author used a clock to determine the output's right completion time for the assessment. The last completed output in the activity was a bad performance. Thus, the participant as a design owner took the worst score (the lowest score).

Data Analysis

The parametric statistical techniques were used in this study as distributed normally of the data. Accordingly, the Pearson Correlation Coefficient analysis and Simple Linear Regression analysis techniques analysed the data. The *r* letter symbolizes the correlation, which can take a value of between "0" and "1" (*'Pearson' Correlation ...*, 2018). The Simple Linear Regression Analysis allows recognizing this relationship by assigning two variables as the dependent variable (predictor) and an independent variable (response) (*Lesson 1: Simple Linear Reg...*, 2018).

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RESULTS

Regarding the descriptive statistics and correlations are presented in the table 2 and Table 3 as follows:

Table 2. Descriptive statistics.

	N	Mean	Std. Devitation	Minumum	Maximum
TTCT		5.3152	1.71612	1.80	10.00
2D Closed - Ended Activity	33	18.1212	8.97830	1.00	33.00
3D Open - Ended		17.3030	9.34239	1.00	33.00

Table 3. Correlations between creative thinking and closed-ended / open-ended task activities.

		Closed - Ended Task Activity	Open - Ended Task Activity
	N	***r***	***r***
TTCT	33	.05	.36*
Fluency		.04	.20
Originality		.08	.31
Titles		-.08	.33
Elaboration		.16	.01
Closure		-.05	.20
Strengths		.03	.10

**Correlation is significant at the.05 level (p<.05)*

The Pearson Correlation Coefficient analysis determined a significant correlation between the creative thinking and open-ended task scores of students. However, there was not any significant correlation between the creative thinking and the closed-ended task ones. Additionally, there was no significant correlation between the participants' open-ended task accomplishment and creative thinking subscale scores neither (Table 3).

This statistical evidence allows to conclude that there can be a significant linear relationship between two variables (*Hypothesis Test for...*, 2018). Thus, author used a simple linear regression analysis technique to determine whether the participants' open-ended task scores predicted their creative thinking skills (Table 4).

Table 4. The simple linear regression analysis.

Variable	B	SE	*β*	*t*	Sig.
Constant	4.18	.60		6.92	.000
Open - Ended Activity	.07	.03	.36	2.13	.041*

**Correlation coefficient (r^2) is significant at the .05 level (p<.05).*

The regression analysis showed that the open-ended task scores of the participants significantly predicted their creative thinking skills (r= .36, r^2= .13, F (1, 31) = 4.54, p< .05). This result indicated that the open-ended task activity explains 13% of the creative thinking skill variance. In other words, open-ended task score may originate from creative thinking potential at the level of 13% that is, the open-ended task achievement predicts participant's creative thinking skills at 13%.

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DISCUSSION, CONCLUSION, and SUGGESTIONS

This study revealed that open-ended task design activity is a significant indicator to promote students' creative thinking potential more than the closed-ended task one with supporting the previous study findings (Tomasi et al., 2018; Baer, 1996; Rostan, 1997; Chan & Chan, 2007). Tomasi et al. (2018) stated that the participant had no ready schema in an open-ended task activity cognitively. This situation indicates that participants have to think of all possibilities in the open-ended task to complete activity output under time pressure, which leads diversity of thinking. In this way, the open-ended task activity might allow participants to try new ways to solve the design problem by avoiding referring to a ready problem-solving method. By this way, the participants had to find a new schema in the cognitive process. Such a learning environment lead them to discover new ways of thinking by stifling habitual thinking. Patil and Athavankar (2022, p.81) stated that design strategy based on tradition and habit can be a weak method to solve form generation problem creatively. Therefore, Crilly (2015) stated that creative design includes rejection of previously accepted ideas for progression. This situation provides an infinitive thinking source for open-ended activity participants to be *open to new experiences* leading to creative thinking. Doubtless, a challenge was to think out of the habitual ways of consideration for the participants in the open-ended activity. By this way, as Liu, Zhang and de Bont (2022, 334) stated, design is a kind of the result involved novel combinations. Krafft and Berk (1998) reported that the open-ended activity participants showed significant fantasy development more than the participants in the closed-ended activity ones. Suppose fantasy originates from the non-habitual ways of thinking as imaging. In that case, it may expect that the participants experience new ways within open-ended task activity through non-habitual ways of thinking. Tomasi et al. (2018) clarified that to be open new experiences can encourage creativity. Also, numerous scholars (Guiford & Hoepfner, 1971; Runco, 2014; Torrance & Myers, 1970) stated that open structures provide a learning climate for divergent thinking, which leads to creative thinking. Therefore, an open-ended design activity is a significant indicator in acting individuals' creative thinking skills.

In this study, the participants' creative thinking abilities as the *originality* and the *fluency* correlated to a lesser degree in both activities as open-ended and closed-ended tasks. As one of the possible reasons for this result, the time constraint imposed may be on the activities. Numerous scholars stated that time limitation in a creative work could be a significant factor in *originality* (Runco & Jaeger, 2012) and *fluency* (Guilford & Hoepfner, 1971). As supported by this situation, many studies reported that time pressure might enhance productivity (Tsai, Cheng, & Lo, 2018, 57). According to scholars, time pressure also positively affects innovation (Andrews & Farris, 1972) and divergent thinking task accomplishment (Forthmann, Lips, Szardenings, Scharfen & Holling, 2018). Therefore, present activity time as 40 minutes' constraint imposed as a limitation on the current activities might be too long to reveal the creative thinking subscales of the participants in the activities.

Regarding the limitations and implications, the limitation of this study might be the restriction time, which was forty minutes to complete each activity. Despite this limitation, the present research was the first study in the literature to determine students' creative thinking in open-ended and closed-ended task activities at the higher education level by connecting a course subject based on the curriculum. Thus, the implication of this study is to develop new activities in education to promote students' creative thinking skills. The other implication was the restriction time used in the open-ended task design, which could reveal participants' creative thinking subscale skills. Amabile et al. (2002) stated that too few study findings on the effect of time pressure on creativity regarding the appropriate response to an open-ended task. The time limit may be less than forty minutes to encourage students' creative thinking skills.

This study indicated that the open-ended task activity might encourage the students' creative thinking skills within a learning environment. In the open-ended task design, students would be open to new experiences by avoiding habitual thinking patterns when encountering a non-routine problem. This

situation may reveal the creative thinking potential of students leading to creative thinking. As Runco (2016) stated, implementing specific creative performance tasks is perhaps the best way to discover creative thinking potential. Because, the open-ended tasks give an opportunity the individuals compose his thought in a spontaneous way to develop the new (Runco, 2014). The other aspect of the present study is related to the restriction time used as a limitation. Amabile et al. (2002, 14) found a positive relationship between time pressure and intrinsic motivation. The current result indicated that the time constraint imposed on the activities could be an essential variable to promote the creative thinking subscales, especially *originality* and *fluency*. Therefore, the activity time should limit less than 40 minutes in the higher education level for future research. Due to the creativity plays a vital role in education, numerous scholars (Basadur, Runco, & Vega, 2000; Cropley, 2001; Murdock, 2003; Scott, Leritz, & Mumford, 2004) suggested that inventing education settings to include more variations and exercises for educational disciplines. This study indicated that integrating the course subjects into open-ended task designs promoted students' creative thinking skills meaningfully.

Ethics and Conflict of Interest

I declare and confirm that I have acted in accordance with ethical rules throughout the entire research. No potential conflict of interest was reported by the author.

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