



ORIGINAL

## Nursing Approaches to Autism Stigma, Bullying, and Inclusion, Alkharj- Saudi Arabia

### Enfoques de Enfermería sobre el Estigma del Autismo, el Acoso Escolar y la Inclusión, Alkharj - Arabia Saudita

Donia Elsaid Fathi Zaghamir<sup>1,2</sup>  , Ateya Megahed Ibrahim<sup>1,3</sup> 

<sup>1</sup>Assistant Professor, College of Nursing, Prince Sattam Bin Abdulaziz University, Alkharj 11942, Saudi Arabia.

<sup>2</sup>Lecturer, Pediatric Nursing Department, Faculty of Nursing, Port Said University, Egypt.

<sup>3</sup>Assistant Professor, Family and Community Health Nursing Department, Faculty of Nursing, Port Said University, Port Said 42526, Egypt.

Cite as: Fathi Zaghamir DE, Megahed Ibrahim A. Nursing Approaches to Autism Stigma, Bullying, and Inclusion, Alkharj- Saudi Arabia. Salud, Ciencia y Tecnología. 2025; 5:1173. <https://doi.org/10.56294/saludcyt20251173>

Submitted: 15-03-2024

Revised: 12-08-2024

Accepted: 03-12-2024

Published: 01-01-2025

Editor: Prof. Dr. William Castillo-González 

Corresponding author: Donia Elsaid Fathi Zaghamir 

#### ABSTRACT

**Introduction:** Autism spectrum disorder (ASD) presents challenges such as social stigma, bullying, and difficulties in fostering inclusive environments. Addressing these barriers requires exploring healthcare utilization, parental advocacy, and social experiences within a cultural context. The objective of this study was to explore and analyze the factors influencing understanding, stigma, and bullying towards individuals with autism, and to identify effective strategies for fostering inclusive environments.

**Method:** a cross-sectional study was conducted at King Khalid Hospital's outpatient clinic in Saudi Arabia. A total of 200 families were selected through convenience sampling. Data were collected using the Autism Quotient (AQ), Social Responsiveness Scale (SRS), Community Attitudes Toward Disability Scale (CATD), Bullying and Peer Relations Questionnaire, Cultural Competence Assessment Tool (CCAT), and Parent Advocacy Scale. Data analysis involved descriptive and inferential statistics to explore correlations.

**Results:** the sample consisted of 55 % females, with 80 % being Saudi nationals. Moderate autistic traits were noted (AQ mean score: 126,7), and significant social challenges were identified (SRS mean score: 159,1). Community attitudes were generally positive (CATD mean score: 94,2), but bullying was prevalent (mean score: 54,5). Cultural competence was moderate (CCAT mean score: 103,2), and parental advocacy was identified as a key factor in improving outcomes (Parent Advocacy Scale mean score: 116,2).

**Conclusion:** the study highlights the need for increased support, reduced bullying, and improved cultural competence to foster inclusive environments for individuals with autism. Parental advocacy emerged as critical for better outcomes.

**Keywords:** Autism; Stigma; Bullying; Parental Advocacy; Alkharj.

#### RESUMEN

**Introducción:** El trastorno del espectro autista (TEA) presenta desafíos como el estigma social, el acoso escolar y las dificultades para fomentar entornos inclusivos. Abordar estas barreras requiere explorar el uso de servicios de salud, la defensa parental y las experiencias sociales dentro de un contexto cultural. El objetivo de este estudio fue explorar y analizar los factores que influyen en la comprensión, el estigma y el acoso hacia las personas con autismo, y identificar estrategias efectivas para fomentar entornos inclusivos.

**Método:** se realizó un estudio transversal en la clínica ambulatoria del Hospital King Khalid en Arabia Saudita. Se seleccionaron 200 familias mediante muestreo por conveniencia. Los datos se recolectaron utilizando el Cuociente de Autismo (AQ), la Escala de Responsividad Social (SRS), la Escala de Actitudes de la Comunidad

hacia la Discapacidad (CATD), el Cuestionario de Acoso y Relaciones con los Compañeros, la Herramienta de Evaluación de Competencia Cultural (CCAT) y la Escala de Defensa Parental. El análisis de los datos incluyó estadísticas descriptivas e inferenciales para explorar correlaciones.

**Resultados:** La muestra consistió en un 55 % de mujeres, siendo el 80 % de ellas nacionales saudíes. Se observaron rasgos autistas moderados (puntaje medio AQ: 126,7), y se identificaron desafíos sociales significativos (puntaje medio SRS: 159,1). Las actitudes de la comunidad fueron generalmente positivas (puntaje medio CATD: 94,2), pero el acoso escolar era prevalente (puntaje medio: 54,5). La competencia cultural fue moderada (puntaje medio CCAT: 103,2), y la defensa parental se identificó como un factor clave para mejorar los resultados (puntaje medio en la Escala de Defensa Parental: 116,2).

**Conclusión:** el estudio destaca la necesidad de aumentar el apoyo, reducir el acoso escolar y mejorar la competencia cultural para fomentar entornos inclusivos para las personas con autismo. La defensa parental emergió como crucial para obtener mejores resultados.

**Palabras clave:** Autismo; Estigma; Acoso; Defensa Parental; Alkharj.

## INTRODUCTION

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition that affects millions of individuals worldwide, influencing their communication, behaviour, and social interactions. Despite increased awareness, many people with autism still face significant challenges, particularly in the form of social stigma and bullying. These issues not only hinder their ability to thrive but also contribute to broader societal problems of exclusion and misunderstanding.<sup>(1,2)</sup>

Social stigma surrounding autism often arises from misconceptions, a lack of knowledge, and fear of the unknown. Individuals with autism are frequently misunderstood and marginalized, leading to their isolation within communities. This stigma is exacerbated by stereotypes that paint a narrow and often inaccurate picture of what it means to live with autism. As a result, many people with ASD are denied opportunities for meaningful social engagement and are subjected to discrimination in various aspects of life, including education, employment, and healthcare.<sup>(3,4)</sup>

Bullying is another critical issue faced by individuals with autism. Studies have shown that children and adolescents with ASD are more likely to be bullied than their neurotypical peers. This bullying can take many forms, including physical aggression, verbal abuse, and social exclusion. The effects of bullying on individuals with autism can be profound, leading to increased anxiety, depression, and a decline in overall well-being. Moreover, the long-term impact of bullying can extend into adulthood, affecting the individual's ability to form relationships, secure employment, and participate fully in society.<sup>(5,6)</sup>

The intersection of social stigma and bullying creates a hostile environment that further marginalizes individuals with autism. This environment not only perpetuates negative stereotypes but also discourages open discussion and understanding of autism. The lack of understanding within communities often leads to a cycle of exclusion, where individuals with ASD are denied the support they need to succeed. To break this cycle, it is essential to address both the social stigma and the bullying that individuals with autism face.<sup>(7,8)</sup>

Fostering community understanding is a crucial step toward creating a more inclusive environment for individuals with autism. Education and awareness campaigns can play a vital role in dispelling myths about autism and promoting acceptance. These campaigns should aim to educate the public about the diverse ways in which autism can manifest and emphasize the strengths and abilities of individuals with ASD. By highlighting the contributions that individuals with autism can make to society, these efforts can help to reduce stigma and promote inclusion.<sup>(9,10)</sup>

In addition to public education, it is important to implement strategies that actively combat bullying and create safe spaces for individuals with autism. Schools, workplaces, and community organizations all have a role to play in creating environments where individuals with autism are respected and valued. Anti-bullying programs that specifically address the needs of individuals with ASD can help to reduce incidents of bullying and promote a culture of empathy and understanding.<sup>(11,12)</sup>

In conclusion, addressing social stigma, reducing bullying, and fostering community understanding are essential steps toward creating a culturally inclusive environment for individuals with autism. These efforts require a multifaceted approach that includes education, advocacy, research, and community involvement. By working together, we can break down the barriers that individuals with autism face and create a more inclusive society where everyone has the opportunity to thrive.

## Aim of the study

Aim of the study was to explore and analyze the factors influencing understanding, stigma, and bullying

towards individuals with autism, and to identify effective strategies for fostering inclusive environments.

## **METHOD**

### **Study Design**

A cross-sectional study was conducted.

### **Setting**

The study was conducted at the outpatient clinics, Al-Kharj-Saudi Arabia.

### **Sample Size and sampling technique**

The sample size for families seeking paediatric healthcare services for their children with autism was calculated using G\*Power software, with the following parameters: medium effect size (Cohen's  $d = 0,5$ ), significance level ( $\alpha$ ) of 0,05, and statistical power (1- $\beta$ ) of 0,80. This calculation determined that 200 participants were needed to achieve adequate statistical power for the study. Participants were recruited using a convenience sampling technique, which allowed for the inclusion of a diverse group of families accessing paediatric healthcare services.

### **Inclusion and Exclusion Criteria:**

The study included children under the age of 18 and their parents or legal guardians who sought medical assistance at the clinic. Inclusion criteria required that parents or guardians were willing to participate and provide informed consent for themselves and their children. Exclusion criteria were applied to individuals who faced communication barriers or exhibited severe cognitive impairments, as these factors could have hindered their active participation in the study.

### **Recruitment Process**

Participants were recruited from the outpatient clinic of King Khalid Hospital. The recruitment process involved informing potential participants about the study's objectives, procedures, and the voluntary nature of their participation. Eligible families who met the inclusion criteria and agreed to participate were then enrolled in the study. Informed consent was obtained from all participating parents or guardians, ensuring that they fully understood the study's purpose and their role in it.

### **Tools of data collection**

#### *Demographic data form*

A structured tool was used to collect participants' demographic data, including age, gender, ethnicity, education, employment, income, and residential area. This data helped profile the study population and explore links between socio-demographic factors and healthcare outcomes, supporting evidence-based policies to address healthcare disparities in Saudi Arabia.

### **Autism Quotient (AQ)**

The Autism Quotient (AQ) is a standardized tool designed to quantify the extent of autistic traits in individuals without a clinical diagnosis of autism. Developed by Baron-Cohen et al. 13, the AQ has been widely utilized in research settings to assess behaviours and preferences associated with autism spectrum conditions (ASC). The questionnaire comprises 50 items that cover various domains including social skills, attention switching, attention to detail, communication, and imagination. Its aim is to provide a comprehensive evaluation of autistic traits, enabling researchers to identify individuals with characteristics indicative of ASC. The validity and reliability of the AQ have been extensively studied, with promising results. Baron-Cohen et al 13 demonstrated the questionnaire's ability to distinguish between individuals with and without autism spectrum conditions, indicating its utility as a diagnostic screening tool. Moreover, the AQ has shown good internal consistency and test-retest reliability, further supporting its validity as a measure of autistic traits in diverse populations.

In terms of the scoring system, participants respond to each item using a four-point Likert scale, where 1 represents "definitely agree" and 4 represents "definitely disagree." Upon completion, scores are summed across all items, yielding a total mean score indicative of the individual's level of autistic traits. Higher scores on the AQ suggest a greater number of autistic traits, potentially warranting further assessment or intervention in clinical or research contexts.

### **Social Responsiveness Scale (SRS)**

The Social Responsiveness Scale (SRS) is a standardized tool developed by Constantino and Gruber 14 to assess the severity of social impairment and autistic traits in children and adolescents. Designed to provide insights into social awareness, cognition, communication, motivation, and mannerisms associated with autism spectrum

disorders (ASD), the SRS comprises 65 items that comprehensively evaluate social behaviours and interactions. Validity and reliability studies have demonstrated the SRS's effectiveness in identifying individuals with ASD, making it a valuable tool for clinicians, educators, and researchers. Its robust psychometric properties ensure accurate and consistent assessment of social impairments across diverse populations. The scoring system of the SRS involves participants rating each item on a four-point Likert scale, with response options ranging from "not true" to "almost always true." Total scores are calculated based on participants' responses, with higher scores indicating greater social impairment and a higher likelihood of autism spectrum disorders. Overall, the Social Responsiveness Scale (SRS) serves as a reliable and valid instrument for measuring social functioning and identifying individuals who may benefit from further evaluation and intervention for autism spectrum disorders. Its comprehensive assessment of social behaviours makes it an indispensable tool in clinical practice, research, and educational settings for understanding and addressing social challenges associated with ASD in children and adolescents.

### **Community Attitudes Toward Disability Scale (CATD)**

The Community Attitudes Toward Disability Scale (CATD) is a standardized instrument developed by Antonak and Livneh 15 to evaluate attitudes and perceptions toward individuals with disabilities within the community. Published in *Disability and Rehabilitation*, the CATD aims to provide insight into the level of social acceptance, interaction, and support available for individuals with disabilities. Comprising items that probe various aspects of attitudes and behaviours towards individuals with disabilities, the CATD encompasses dimensions such as social acceptance, interaction, and support. Through its comprehensive assessment, the scale offers a nuanced understanding of community attitudes and perceptions towards individuals with disabilities. Validity and reliability studies have consistently demonstrated the CATD's effectiveness in measuring community attitudes toward individuals with disabilities. Its psychometric properties ensure that the scale provides accurate and reliable assessments of attitudes across diverse populations and settings. The scoring system of the CATD involves participants rating each item on a Likert scale, with response options ranging from strongly disagree to strongly agree. Total scores are then calculated based on participants' responses, with higher scores indicative of more positive attitudes towards individuals with disabilities.

### **Bullying and Peer Relations Questionnaire**

The Bullying and Peer Relations Questionnaire, as outlined by Solberg and Olweus 16 in their publication in *Aggressive Behaviour*, serves as a comprehensive tool to evaluate bullying behaviours, victimization experiences, and peer relationships among children and adolescents. The questionnaire is designed to delve into various facets of bullying, including the frequency and types of bullying behaviours encountered, as well as the underlying social dynamics within peer groups. Its aim is to provide a nuanced understanding of the prevalence and nature of bullying within school environments, allowing researchers and educators to identify areas of concern and develop targeted interventions to address bullying effectively. Validity and reliability studies have indicated that the Bullying and Peer Relations Questionnaire exhibits robust psychometric properties, making it a reliable instrument for assessing bullying behaviours and victimization experiences among children and adolescents. Its ability to yield consistent and valid data ensures that researchers and practitioners can rely on its findings to inform interventions and policies aimed at promoting safer and more inclusive school environments. The scoring system of the questionnaire involves participants providing responses based on their experiences with bullying and peer relations. Scoring methods may vary depending on the specific items and scales used within the questionnaire, allowing for a flexible approach to data collection and analysis that accommodates the diverse experiences of participants.

### **Cultural Competence Assessment Tool (CCAT)**

The Cultural Competence Assessment Tool (CCAT), identified by Gozu et al. 17 in their systematic review published in *Teaching and Learning in Medicine*, serves as a valuable instrument for evaluating cultural competence and sensitivity within organizations and communities. Its aim is to provide a structured assessment of cultural competence, focusing on dimensions such as cultural knowledge, awareness, and responsiveness to diverse cultural backgrounds. By comprehensively evaluating these dimensions, the CCAT facilitates the identification of areas for improvement and the development of targeted interventions to enhance cultural competence within organizations and communities. Validity and reliability studies have demonstrated that the CCAT exhibits strong psychometric properties, indicating its effectiveness in evaluating cultural competence among health professionals and organizations. Its validity is supported by its ability to accurately assess cultural knowledge, awareness, and responsiveness, while its reliability ensures consistent results across different administrations. The scoring system of the CCAT involves participants providing responses based on predetermined criteria and scoring guidelines provided by the tool's developers. This structured approach allows for consistent and objective evaluation of cultural competence, enabling organizations and communities

to track progress over time and identify areas for further development. In summary, the Cultural Competence Assessment Tool (CCAT) represents a valuable resource for assessing and enhancing cultural competence and sensitivity within organizations and communities. Its comprehensive assessment of cultural knowledge, awareness, and responsiveness, coupled with its demonstrated validity and reliability, positions it as a key tool for promoting inclusivity, equity, and responsiveness to diverse cultural backgrounds in various settings.

### Parent Advocacy Scale

The Parent Advocacy Scale, developed and validated by Kucharczyk 18 serves as a robust tool for assessing parents' advocacy behaviours and involvement in advocating for their children with disabilities. Its aim is to provide a comprehensive assessment of parents' advocacy activities, empowerment, and collaboration with schools and community organizations. By covering various aspects of advocacy, the scale enables researchers and practitioners to gain insights into the extent and nature of parents' advocacy efforts on behalf of their children with disabilities. Validity and reliability studies have demonstrated that the Parent Advocacy Scale exhibits strong psychometric properties, indicating its effectiveness in accurately measuring parents' advocacy behaviours and involvement. Its validity is supported by its ability to assess different dimensions of advocacy, while its reliability ensures consistent results across different administrations. The scoring system of the Parent Advocacy Scale involves participants providing responses based on the frequency or extent of their advocacy behaviours. Scores are then calculated based on these responses, with higher scores indicating greater levels of advocacy involvement. This scoring system allows for a nuanced assessment of parents' advocacy efforts, facilitating comparisons across different individuals and groups.

### Validity and Reliability of the tools

The validity and reliability of the tools used in the study were thoroughly evaluated. Construct validity was confirmed for each tool by demonstrating their effectiveness in measuring the intended constructs. Pilot studies were conducted with 20 participants, representing approximately 10 % of the total sample size. This initial testing helped refine the tools and ensure their applicability for the main study. Following the pilot phase, these 20 participants were excluded from the final analysis to maintain the integrity of the data. Reliability was assessed through internal consistency and test-retest methods. The Autism Quotient (AQ) exhibited an internal consistency coefficient (Cronbach's alpha) of 0,88, while the Social Responsiveness Scale (SRS) showed a Cronbach's alpha of 0,91. Test-retest reliability was demonstrated with the AQ showing a correlation coefficient of 0,85 over a two-week interval and the SRS displaying a correlation of 0,89. These metrics affirmed that the tools provided stable and consistent measurements across time. Overall, the rigorous validation process, including pilot testing and comprehensive reliability assessments, ensured that the tools were both valid and reliable, contributing to the accuracy and dependability of the study's findings.

### Ethical considerations

The study adhered to the ethical principles outlined in the Declaration of Helsinki, ensuring the protection of participants' rights and well-being. It was approved by the Institutional Review Board (IRB) at Prince Sattam Bin Abdulaziz University, Saudi Arabia (Protocol No. SCBR-293-2024). Informed consent was obtained from all participants, ensuring they were fully informed about the study's purpose, procedures, and potential risks and benefits. Confidentiality was strictly maintained by anonymizing and securely storing data. The principles of beneficence and non-maleficence were followed, minimizing risks while ensuring that potential benefits outweighed harm. Participants' autonomy was respected, allowing withdrawal from the study at any time without consequences. The study also upheld justice, providing fair and equitable treatment to all participants.

### Statistical Analysis

Statistical analysis was conducted using SPSS version 26. Descriptive statistics, including numbers, percentages, means, and standard deviations (SD), were calculated to summarize the demographic and clinical characteristics of the participants. Pearson's correlation analysis was used to assess the relationship between the variables of interest, with significance set at  $p < 0,05$ .

## RESULTS

Table 1 presents the demographic data of the 200 participants. The age distribution is diverse, with the largest group (30 %) falling within the 30-39 age range. The 18-29 age group accounts for 25 % of the sample, while both the 40-49 and 50+ age groups represent 22,5 % each. Gender distribution reveals a slight female majority (55 %), with 45 % of participants being male. Regarding ethnicity, 80 % of participants are Saudi nationals, and 20 % are non-Saudi. In terms of education, 45 % of participants have a Bachelor's degree, followed by 35 % with a high school education, and 20 % with postgraduate qualifications. Employment status indicates that the majority (75 %) are employed, while 25 % are unemployed. Most participants (80 %) reside in urban areas, with 20 % living in rural settings.

| Table 1. Demographic Data of the participants (N = 200) |               |                |
|---------------------------------------------------------|---------------|----------------|
| Variable                                                | Frequency (n) | Percentage (%) |
| Age                                                     |               |                |
| 18-29                                                   | 50            | 25 %           |
| 30-39                                                   | 60            | 30 %           |
| 40-49                                                   | 45            | 22,5 %         |
| 50+                                                     | 45            | 22,5 %         |
| Gender                                                  |               |                |
| Male                                                    | 90            | 45 %           |
| Female                                                  | 110           | 55 %           |
| Ethnicity                                               |               |                |
| Saudi                                                   | 160           | 80 %           |
| Non-Saudi                                               | 40            | 20 %           |
| Education                                               |               |                |
| High School                                             | 70            | 35 %           |
| Bachelor's Degree                                       | 90            | 45 %           |
| Postgraduate                                            | 40            | 20 %           |
| Employment                                              |               |                |
| Employed                                                | 150           | 75 %           |
| Unemployed                                              | 50            | 25 %           |
| Residential Area                                        |               |                |
| Urban                                                   | 160           | 80 %           |
| Rural                                                   | 40            | 20 %           |

**Table 2. Autism Quotient Scores, Social Responsiveness Scale Scores regarding autism, and Community Attitudes Toward Disability (Scores (N = 200))**

| AQ Component         | Mean  | SD   |
|----------------------|-------|------|
| Social Skills        | 25,6  | 3,4  |
| Attention Switching  | 22,1  | 4,0  |
| Attention to Detail  | 28,9  | 3,8  |
| Communication        | 26,4  | 3,2  |
| Imagination          | 23,7  | 4,1  |
| Total AQ Score       | 126,7 | 12,3 |
| SRS Component        |       |      |
| Social Awareness     | 30,5  | 4,8  |
| Social Cognition     | 32,9  | 5,2  |
| Social Communication | 35,2  | 4,9  |
| Social Motivation    | 28,7  | 5,0  |
| Autistic Mannerisms  | 31,8  | 4,7  |
| Total SRS Score      | 159,1 | 15,4 |
| CATD Components      |       |      |
| Social Acceptance    | 32,4  | 5,1  |
| Interaction          | 31,7  | 4,9  |
| Support              | 30,1  | 5,3  |
| Total CATD Score     | 94,2  | 13,1 |

Table 2 displays the Autism Quotient (AQ) scores of the participants. The total AQ score has a mean of 126,7 (SD = 12,3), suggesting moderate levels of autistic traits in the sample. Among the subcomponents, “Attention to Detail” has the highest mean score (M = 28,9, SD = 3,8), followed by “Communication” (M = 26,4, SD = 3,2) and “Social Skills” (M = 25,6, SD = 3,4). The “Attention Switching” component shows a slightly lower mean (M = 22,1, SD = 4,0), indicating challenges with shifting attention, while “Imagination” has a mean of 23,7 (SD = 4,1). The total SRS score has a mean of 159,1 (SD = 15,4), indicating significant social difficulties. The highest mean score is observed in “Social Communication” (M = 35,2, SD = 4,9), followed by “Social Cognition” (M = 32,9, SD = 5,2). “Autistic Mannerisms” (M = 31,8, SD = 4,7) and “Social Awareness” (M = 30,5, SD = 4,8) also show considerable variability across participants. The “Social Motivation” component has the lowest mean score (M = 28,7, SD = 5,0). The total CATD score averages 94,2 (SD = 13,1), with the highest mean score found in “Social Acceptance” (M = 32,4, SD = 5,1), suggesting a relatively positive attitude toward individuals with disabilities, including autism. The “Interaction” component follows closely (M = 31,7, SD = 4,9), while the

“Support” component, with a mean score of 30,1 (SD = 5,3), suggests moderate levels of perceived support for individuals with disabilities.

**Table 3.** Bullying and Peer Relations Questionnaire Scores regarding autism, Cultural Competence Assessment Tool Scores regarding autism, and Parent Advocacy Scale Scores regarding autism (N = 200)

| Bullying and Peer Relations Component | Mean  | SD   |
|---------------------------------------|-------|------|
| Bullying Frequency                    | 15,8  | 2,9  |
| Victimization Experiences             | 18,3  | 3,1  |
| Peer Relationship Quality             | 20,4  | 3,7  |
| Total Score                           | 54,5  | 7,5  |
| CCAT Component                        |       |      |
| Cultural Knowledge                    | 35,1  | 6,2  |
| Cultural Awareness                    | 34,3  | 5,9  |
| Responsiveness                        | 33,8  | 6,0  |
| Total CCAT Score                      | 103,2 | 12,1 |
| Parent Advocacy Scale Component       |       |      |
| Advocacy Behaviours                   | 40,6  | 7,3  |
| Empowerment                           | 38,9  | 6,8  |
| Collaboration with Schools            | 36,7  | 7,1  |
| Total Score                           | 116,2 | 14,9 |

As shown in table 3, the Bullying and Peer Relations Questionnaire reveals important insights into the social experiences of individuals with autism. The mean total score is 54,5 (SD = 7,5). “Peer Relationship Quality” scores the highest (M = 20,4, SD = 3,7), indicating that some participants maintain positive peer relations despite challenges. However, “Victimization Experiences” (M = 18,3, SD = 3,1) shows elevated levels of victimization, highlighting the prevalence of bullying. “Bullying Frequency” (M = 15,8, SD = 2,9) provides further evidence of negative peer interactions for participants. The total CCAT score has a mean of 103,2 (SD = 12,1), suggesting a moderate level of cultural competence among participants in relation to autism. The highest mean score is in the “Cultural Knowledge” component (M = 35,1, SD = 6,2), followed by “Cultural Awareness” (M = 34,3, SD = 5,9) and “Responsiveness” (M = 33,8, SD = 6,0), reflecting participants’ understanding and responsiveness to cultural factors impacting autism care. “Advocacy Behaviours” has the highest mean score (M = 40,6, SD = 7,3), indicating that parents actively engage in advocacy for their children with autism. “Empowerment” (M = 38,9, SD = 6,8) and “Collaboration with Schools” (M = 36,7, SD = 7,1) also reflect significant involvement by parents in advocating for their children’s education and well-being.

**Table 4.** Correlation Matrix between Overall Scores of Tools (N = 200)

| Tool                      | AQ Total Score | SRS Total Score | CATD Total Score | Bullying & Peer Relations Total Score | CCAT Total Score | Parent Advocacy Total Score |
|---------------------------|----------------|-----------------|------------------|---------------------------------------|------------------|-----------------------------|
| AQ Total Score            | 1,00           | 0,45            | -0,25            | 0,32                                  | -0,12            | 0,20                        |
| SRS Total Score           | 0,45           | 1,00            | -0,30            | 0,50                                  | -0,18            | 0,25                        |
| CATD Total Score          | -0,25          | -0,30           | 1,00             | -0,15                                 | 0,60             | -0,10                       |
| Bullying & Peer Relations | 0,32           | 0,50            | -0,15            | 1,00                                  | -0,22            | 0,18                        |
| CCAT Total Score          | -0,12          | -0,18           | 0,60             | -0,22                                 | 1,00             | 0,15                        |
| Parent Advocacy Total     | 0,20           | 0,25            | -0,10            | 0,18                                  | 0,15             | 1,00                        |

Table 4 presents the correlation matrix between the total scores of various assessment tools. There is a moderate positive correlation between the AQ Total Score and SRS Total Score ( $r = 0,45$ ), indicating that higher autistic traits are associated with more social responsiveness challenges. Conversely, there is a negative correlation between the AQ Total Score and CATD Total Score ( $r = -0,25$ ), suggesting that individuals with higher autistic traits tend to have lower attitudes toward disability. A positive correlation exists between the SRS Total Score and Bullying & Peer Relations Total Score ( $r = 0,50$ ), indicating that individuals with more social challenges tend to experience higher levels of bullying. Additionally, the CCAT Total Score shows a strong positive correlation with CATD Total Score ( $r = 0,60$ ), reflecting that greater cultural competence is associated with more positive attitudes towards disability.

## DISCUSSION

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder characterized by persistent deficits in social communication and restricted, repetitive behaviours, interests, or activities.<sup>(19)</sup> ASD manifests in varying degrees of severity, impacting social interactions, communication skills, and behaviour patterns. The increasing prevalence of ASD globally, including in the Middle East, has drawn attention to the need for improved understanding, diagnosis, and support systems for individuals with ASD and their families.<sup>(20)</sup> This study aimed to explore the experiences, social responsiveness, attitudes, and advocacy behaviours associated with autism within a Saudi Arabian context.

The study sample consisted of a diverse age range, with the largest portion being between the ages of 30 and 39, and the majority of participants being female and Saudi nationals. The predominance of female participants reflects broader trends observed in autism research, as caregivers—who are more likely to engage in autism-related studies—are often mothers.<sup>(21)</sup> The high percentage of Saudi nationals is consistent with the regional focus of the study. Furthermore, most participants held a Bachelor's degree, underscoring the importance of education in awareness and engagement with autism-related topics.

The Autism Quotient (AQ) scores revealed moderate levels of autistic traits among the participants, with the "Attention to Detail" component showing the highest scores. This finding is consistent with previous research indicating that individuals with ASD often exhibit a heightened focus on details.<sup>(22)</sup> The relatively lower scores in "Attention Switching" reflect the well-documented challenges individuals with ASD face in shifting attention between tasks.<sup>(23)</sup> These findings highlight the nuanced cognitive profiles associated with ASD and reinforce the importance of tailored interventions that address specific deficits, such as attention shifting difficulties.<sup>(24)</sup>

The Social Responsiveness Scale (SRS) scores indicated significant social challenges, particularly in social communication and social cognition. This is in line with core ASD characteristics, which often involve deficits in recognizing and interpreting social cues. The high scores in "Social Communication" reflect ongoing difficulties individuals with ASD face in understanding and using verbal and non-verbal communication. These results emphasize the critical need for interventions that focus on improving communication skills, which are central to enhancing social functioning for individuals with ASD.<sup>(25,26)</sup>

The Community Attitudes Toward Disability (CATD) scores revealed generally positive attitudes toward disability, particularly in terms of social acceptance. The relatively high scores in this domain may be attributed to increased awareness and education about ASD in recent years, driven by national initiatives aimed at promoting inclusion for individuals with disabilities in Saudi Arabia. These findings are consistent with global trends showing a growing acceptance of individuals with disabilities, including autism, as public understanding and advocacy efforts expand.<sup>(27,28,29)</sup> However, the moderate scores in the "Support" component suggest that while acceptance is improving, there is still room for enhancing practical support for individuals with ASD.

The findings from the Bullying and Peer Relations Questionnaire underscore the complex social dynamics faced by individuals with ASD. Participants reported elevated levels of victimization and bullying, which align with numerous studies indicating that children and adolescents with ASD are at a significantly higher risk of being bullied than their neuro-typical peers. This could be due to the social and communication difficulties inherent in ASD, which make individuals more vulnerable to exclusion and bullying. Improving peer relations and implementing school-based anti-bullying programs that specifically address the needs of students with ASD could mitigate these challenges. This finding was matched with many research studies.<sup>(30,31,32)</sup>

The results from the Cultural Competence Assessment Tool (CCAT) suggest that participants exhibit moderate levels of cultural competence in relation to autism. Higher scores in "Cultural Knowledge" and "Cultural Awareness" reflect the participants' understanding of the cultural nuances that influence autism care and support. Cultural competence is crucial in healthcare, particularly when addressing the needs of individuals with ASD, who may experience autism differently across cultural contexts. These results align with the increasing emphasis on cultural competence in autism care, which highlights the importance of adapting interventions to fit the cultural values and practices of the community.<sup>(33,34,35)</sup>

The high scores in the Parent Advocacy Scale suggest that parents are actively engaged in advocating for their children with autism, particularly in the areas of empowerment and collaboration with schools. This finding is consistent with the literature, which indicates that parents of children with ASD often play a critical role in advocating for appropriate educational and healthcare services.<sup>(36,37,38)</sup> The strong advocacy behaviors reported by participants reflect the growing recognition of parents as key stakeholders in autism care and education, as well as the increasing availability of resources to support parent advocacy efforts.

The correlation matrix revealed significant relationships between the overall scores of various assessment tools. The positive correlation between the AQ and SRS scores aligns with previous research showing that higher levels of autistic traits are associated with more pronounced social challenges.<sup>(39,40)</sup> Additionally, the negative correlation between the AQ and CATD scores suggests that individuals with higher autistic traits tend to perceive lower societal acceptance and support for disabilities. This finding underscores the need for continued efforts to foster more inclusive attitudes and reduce stigma toward individuals with ASD. Furthermore, the positive

correlation between cultural competence and attitudes toward disability indicates that enhancing cultural awareness can contribute to more positive perceptions of disability, including autism.

## CONCLUSION

In summary, this study explores the factors influencing understanding, stigma, and bullying towards individuals with autism in Saudi Arabia. The findings reveal significant social challenges, with moderate autistic traits observed among the participants, and prevalent bullying despite generally positive community attitudes. The study highlights the need for interventions to address bullying, improve cultural competence, and foster more inclusive environments. Additionally, parental advocacy was identified as a crucial factor in improving outcomes for children with autism. These results underscore the importance of ongoing efforts to reduce stigma and enhance support systems for individuals with autism and their families.

## RECOMMENDATIONS

Based on the findings, it is recommended that future interventions focus on enhancing social communication skills and addressing attention difficulties specific to individuals with autism. Schools and community programs should implement comprehensive anti-bullying strategies tailored to the needs of students with ASD. Additionally, increasing cultural competence among healthcare and education professionals is crucial to providing more effective and culturally sensitive support. Finally, strengthening parent advocacy programs can empower families to better navigate and influence autism care and education systems.

## Study Limitations

This study has several limitations that should be acknowledged. First, the cross-sectional nature of the research limits the ability to infer causality from the observed correlations. Second, the sample was drawn from a specific geographic region in Saudi Arabia. Additionally, self-report measures, such as those used in the AQ, SRS, and CATD, may be subject to biases, including social desirability and inaccuracies in self-assessment. Future research should consider longitudinal designs and include diverse geographic and cultural samples to provide a more comprehensive understanding of autism-related issues.

## REFERENCES

1. Al-Salihy AA. Longitudinal trends and correlation between autism spectrum disorder prevalence and sperm quality parameters (2000-2024): A comprehensive statistical analysis. *Front Reprod Health*. 2024; 6:1438049. <https://doi.org/10.3389/frph.2024.1438049>.
2. Genovese A, Butler MG. The autism spectrum: behavioral, psychiatric and genetic associations. *Genes*. 2023;14(3):677. <https://doi.org/10.3390/genes14030677>.
3. Clarke EB, McCauley JB, Lutz A, Gotelli M, Sheinkopf SJ, Lord C. Understanding profound autism: implications for stigma and supports. *Front Psychiatry*. 2024; 15:1287096. <https://doi.org/10.3389/fpsy.2024.1287096>.
4. Turnock A, Langley K, Jones CRG. Understanding stigma in autism: A narrative review and theoretical model. *Autism in Adulthood: Challenges and Management*. 2022;4(1):76-91. <https://doi.org/10.1089/aut.2021.0005>.
5. Deniz E, Toseeb U. Sibling bullying and mental health in British and Turkish autistic children and adolescents: The role of social and emotional functioning. *Res Autism Spectr Disord*. 2024; 114:102392. <https://doi.org/10.1016/j.rasd.2024.102392>
6. Fujii K, Idriji K, Friedman CA, Byrnes K. Enhancing coping and resilience in bullied youth with autism spectrum disorder (ASD). In: *Understanding Autism*. 2025:423-444. Academic Press. <https://doi.org/10.1016/B978-0-443-27366-7.00022-5>
7. Crinion MPB. Understanding the experience of bullying of students with disabilities: A phenomenological study [dissertation]. The University of Nebraska-Lincoln; 2024.
8. Comeau B. Experiences of peer interaction amongst autistic LGBTQ+ youth in secondary institutions. 2024. <https://scholars.wlu.ca/etd/2607/>
9. Francis S. Understanding autism in Goa, India: A holistic exploration of psychosocial experiences, community engagement, and institutional support. 2024.

10. Panait S, Coman C. The effect of mass media on attitudes towards autism spectrum disorder. *Rev Universitara Sociologie*. 2023;251.
11. Salmivalli C, Laninga-Wijnen L, Malamut ST, Garandeau CF. Bullying prevention in adolescence: Solutions and new challenges from the past decade. *J Res Adolesc*. 2021;31(4):1023-1046. <https://doi.org/10.1111/jora.12688>.
12. Sainz V, Martín-Moya B. The importance of prevention programs to reduce bullying: A comparative study. *Front Psychol*. 2023; 13:1066358. <https://doi.org/10.3389/fpsyg.2022.1066358>.
13. Baron-Cohen S, Wheelwright S, Skinner R, Martin J, Clubley E. The Autism-Spectrum Quotient (AQ): Evidence from Asperger Syndrome/High-Functioning Autism, Males and Females, Scientists and Mathematicians. *J Autism Dev Disord*. 2001;31(1):5-17. <https://link.springer.com/article/10.1023/A:1005653411471>
14. Constantino JN, Gruber CP. The Social Responsiveness Scale Manual. Los Angeles, CA: Western Psychological Services; 2005. [https://link.springer.com/content/pdf/10.1007/978-3-319-91280-6\\_296.pdf](https://link.springer.com/content/pdf/10.1007/978-3-319-91280-6_296.pdf)
15. Antonak RF, Livneh H. Measurement of attitudes towards persons with disabilities. *Disabil Rehabil*. 2000;22(5):211-224. <https://doi.org/10.1080/096382800296782>
16. Solberg ME, Olweus D. Prevalence estimation of school bullying with the Olweus Bully/Victim Questionnaire. *Aggress Behav*. 2003;29(3):239-268. <https://doi.org/10.1002/ab.10047>
17. Gozu A, Beach MC, Price EG, Gary TL, Robinson KA, Palacio A, et al. Self-administered instruments to measure cultural competence of health professionals: A systematic review. *Teach Learn Med*. 2007;19(2):180-190. <https://doi.org/10.1080/10401330701333654>
18. Kucharczyk S. Parent advocacy scale: Development and validation of a scale measuring advocacy behaviors of parents of students with disabilities. *J Psychoeduc Assess*. 2013;31(6):596-608.
19. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Washington, DC: APA Publishing; 2013.
20. Hirota T, King BH. Autism spectrum disorder: A review. *JAMA*. 2023;329(2):157-168 <https://doi.org/10.1001/jama.2022.23661>
21. Dababnah S, Parish SL. "At a moment, you could collapse": Raising children with autism in the West Bank. *Child Youth Serv Rev*. 2013;35(10):1670-1678. <https://doi.org/10.1016/j.childyouth.2013.06.002>.
22. Rumball F, Parker R, Madigan AE, Happe F, Spain D. Elucidating the presentation and identification of PTSD in autistic adults: A modified Delphi study. *Adv Autism*. 2024;10(3):163-184. <https://www.emerald.com/insight/content/doi/10.1108/aia-08-2023-0053/full/html>
23. Heo M. Evaluating theoretical accounts of visuospatial orienting as a function of autistic traits. 2024. <https://doi.org/10.26182/cw1q-bs04>
24. Pugliese CE, Handsman R, You X, Anthony LG, Vaidya C, Kenworthy L. Probing heterogeneity to identify individualized treatment approaches in autism: Specific clusters of executive function challenges link to distinct co-occurring mental health problems. *Autism*. 2024;13623613241246091. <https://doi.org/10.1177/136236132412460>
25. Martinez S, Stoyanov K, Carcache L. Unraveling the spectrum: Overlap, distinctions, and nuances of ADHD and ASD in children. *Front Psychiatry*. 2024; 15:1387179. <https://doi.org/10.3389/fpsyg.2024.1387179>
26. Liu Y. Impact of separating feedback from switch cues on cognitive flexibility in children with developmental language disorder: Insights from the Wisconsin Card Sorting Test [thesis]. MGH Institute of Health Professions; 2024.
27. Wilson K, Dallman A. Strategies for promoting neurodiversity and autism acceptance in higher education.

J Divers High Educ. 2024. <https://doi.org/10.1037/dhe0000550>

28. Bent CA, Aulich A, Constantine C, Fidock E, Dwyer P, Green C, et al. Autistic and autism community perspectives on infant and family support in the first two years of life: Findings from a community consultation survey. *Autism*. 2024;13623613241262077. <https://doi.org/10.1177/13623613241262077>

29. Humphries ML. Unlocking insights: Benefits and challenges in parental advocacy for individuals with autism spectrum disorder [dissertation]. Southern Wesleyan University; 2024.

30. Sánchez Amate JJ, Luque de la Rosa A. The effect of autism spectrum disorder on family mental health: Challenges, emotional impact, and coping strategies. *Brain Sci*. 2024;14(11):1116. <https://doi.org/10.3390/brainsci14111116>

31. Rajapakse R. Understanding social cognitive deficits in children with autism spectrum disorders: Implications for clinical practice and educational and societal integration. SSRN 4882621; 2024. Rajapakse, Rakhitha, Understanding Social Cognitive Deficits in Children with Autism Spectrum Disorders: Implications for Clinical Practice and Educational and Societal Integration (February 07, 2024). Available at SSRN: <https://ssrn.com/abstract=4882621> or <http://dx.doi.org/10.2139/ssrn.4882621>

32. Eleusizova N. Social adaptation assistance for children with autism spectrum disorders in Kazakhstan. *Int J Dev Disabil*. 2024;1-9. <https://doi.org/10.1080/20473869.2024.2385596>

33. Rudrabhatla A, Hendrix N, Gillespie S, Ulven K, Jergel A, Greenfield E, et al. A mixed-methods examination of culturally responsive adaptation to an evidence-based parent-mediated intervention implemented for autistic children. *Adm Policy Ment Health Ment Health Serv Res*. 2024;1-19. <https://link.springer.com/article/10.1007/s10488-024-01343-9>

34. Terol AK, Meadan H, Gómez LR, Magaña S. Cultural adaptation of an intervention for caregivers of young autistic children: Community members' perspectives. *Fam Process*. 2024. <https://doi.org/10.1111/famp.12999>

35. Adebayo YO, Adesiyan RE, Amadi CS, Ipede O, Karakitie LO, Adebayo KT. Cross-cultural perspectives on mental health: Understanding variations and promoting cultural competence. *World J Adv Res Rev*. 2024;23(01):432-439. <https://doi.org/10.30574/ijrsra.2024.12.2.1370>

36. Patel M. Supporting families of children with developmental disabilities: Nursing strategies for advocacy and empowerment. 2024.

37. Levin LK, Machado-Gonzalez Y. Caring for the caregiver of those living with autism-spectrum disorders: Minimizing burden and optimizing well-being. In: *Understanding Autism*. Academic Press; 2025. p. 209-244. <https://doi.org/10.1016/B978-0-443-27366-7.00001-8>

38. Makris MP. Building bridges, empowering families: A leadership program for parents of children with autism spectrum disorder (ASD). 2024. <https://urn.fi/URN:NBN:fi:amk-2024103127090>

39. Brown CM, Newell V, Sahin E, Hedley D. Updated systematic review of suicide in autism: 2018-2024. *Curr Dev Disord Rep*. 2024;1-32. <https://link.springer.com/article/10.1007/s40474-024-00308-9>

40. Junttila M, Kielinen M, Jussila K, Joskitt L, Mäntymaa M, Ebeling H, et al. The traits of autism spectrum disorder and bullying victimization in an epidemiological population. *Eur Child Adolesc Psychiatry*. 2024;33(4):1067-1080. <https://link.springer.com/article/10.1007/s00787-023-02228-2>

## FINANCING

Funding by Prince Sattam bin Abdulaziz University through the project number (PSAU/ 2024/03/28224).

## ACKNOWLEDGMENT

The authors extend their appreciation to Prince Sattam bin Abdulaziz University.

## CONFLICT OF INTEREST

Authors declare that no conflicts of interest.

#### **AUTHORSHIP CONTRIBUTION**

*Conceptualization:* Donia Elsaid Fathi Zaghamir, Ateya Megahed Ibrahim .

*Data curation:* Donia Elsaid Fathi Zaghamir, Ateya Megahed Ibrahim.

*Formal analysis:* Donia Elsaid Fathi Zaghamir, Ateya Megahed Ibrahim.

*Research:* Donia Elsaid Fathi Zaghamir, Ateya Megahed Ibrahim.

*Methodology:* Donia Elsaid Fathi Zaghamir, Ateya Megahed Ibrahim.

*Project management:* Donia Elsaid Fathi Zaghamir, Ateya Megahed Ibrahim.

*Resources:* Donia Elsaid Fathi Zaghamir, Ateya Megahed Ibrahim.

*Software:* Donia Elsaid Fathi Zaghamir, Ateya Megahed Ibrahim.

*Supervision:* Donia Elsaid Fathi Zaghamir, Ateya Megahed Ibrahim.

*Validation:* Donia Elsaid Fathi Zaghamir, Ateya Megahed Ibrahim.

*Display:* Donia Elsaid Fathi Zaghamir, Ateya Megahed Ibrahim.

*Drafting - original draft:* Donia Elsaid Fathi Zaghamir, Ateya Megahed Ibrahim.