





## Cultural Considerations in the Assessment and Intervention for Autism Disorder

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### ABSTRACT

**Objective:** This systematic review examines cultural considerations in the assessment and intervention of Autism Spectrum Disorder (ASD).

**Methods and Materials:** To conduct a comprehensive literature search, several electronic databases were utilized including PubMed, PsycINFO, Scopus, and Google Scholar. The search was limited to articles published in English from January 2005 to 2023. Keywords and phrases used in the search included "autism spectrum disorder", "cultural considerations", "cultural differences", "assessment", "intervention", "cross-cultural", and "ASD diagnosis". Boolean operators (AND, OR) were used to refine the search. Additional studies were identified by hand-searching reference lists of included articles and relevant review articles.

**Findings:** It highlights the influence of cultural factors on ASD diagnosis and the variability in assessment practices across different cultures. The review emphasizes the need for culturally adapted intervention strategies and the importance of cultural competence among professionals.

**Conclusion:** It concludes with recommendations for future research, practice enhancements, and policy implications, advocating for inclusive, culturally sensitive approaches in ASD services to ensure equitable care for diverse populations.

**Keywords:** Culture, Assessment, Intervention, Autism Disorder.

## 1 Introduction

Autism Spectrum Disorder (ASD) is a complex neurodevelopmental condition characterized by challenges in social interaction, communication, and restricted, repetitive behaviors (Elder, 2008). The prevalence of ASD has been increasing, and it is now recognized as a

major public health concern (Elder, 2008). The etiology of ASD is multifactorial, involving genetic and environmental factors (Wu et al., 2020). Recent research has also highlighted the potential role of the gut microbiome in the pathogenesis of ASD (David et al., 2021). Furthermore, studies have shown that there may be a genetic predisposition to ASD, with evidence of heritability and

complex inheritance patterns (Bai et al., 2019; Reiner et al., 2015).

Cultural considerations play a crucial role in the assessment and intervention for individuals with ASD. Cultural factors can significantly influence the recognition and interpretation of ASD symptoms, as well as the acceptance of interventions and treatments within different communities. Moreover, cultural beliefs and practices may impact the help-seeking behaviors of families and the utilization of available support services for individuals with ASD (Yu et al., 2020). Understanding cultural variations in the presentation of ASD and the perceptions of the disorder is essential for providing culturally sensitive and effective assessment and intervention strategies (Ye, 2022; Yu et al., 2020).

The objectives of this systematic review are to:

1. Investigate the influence of cultural factors on the recognition, interpretation, and acceptance of ASD within different communities.
2. Evaluate the impact of cultural considerations on the assessment and diagnosis of ASD.
3. Analyze the effectiveness of culturally sensitive interventions and treatments for individuals with ASD.
4. Identify gaps in the current literature and provide recommendations for future research and practice in the assessment and intervention for ASD, considering cultural diversity.

## 2 Methods and Materials

### 2.1 Search Strategy

To conduct a comprehensive literature search, several electronic databases were utilized including PubMed, PsycINFO, Scopus, and Google Scholar. The search was limited to articles published in English from January 2005 to 2023. Keywords and phrases used in the search included "autism spectrum disorder", "cultural considerations", "cultural differences", "assessment", "intervention", "cross-cultural", and "ASD diagnosis". Boolean operators (AND, OR) were used to refine the search. Additional studies were identified by hand-searching reference lists of included articles and relevant review articles.

### 2.2 Inclusion and Exclusion Criteria

Studies were included if they met the following criteria: (1) focused on cultural considerations in the assessment or intervention of autism spectrum disorder, (2) included empirical data, and (3) published in peer-reviewed journals. Excluded were studies that: (1) did not specifically address cultural aspects, (2) were case studies, editorials, or commentaries, and (3) were published in languages other than English.

### 2.3 Study Selection

The initial search results were screened based on titles and abstracts to identify potentially relevant articles. Full

texts of these articles were then retrieved and assessed for eligibility. Two reviewers independently conducted the screening and selection process, with disagreements resolved through discussion or consultation with a third reviewer.

### 2.4 Data Extraction

For each included study, data was extracted using a standardized form. Extracted information included author(s), year of publication, study location, study design, sample size, cultural context, methods of ASD assessment or intervention, and key findings related to cultural considerations.

### 2.5 Quality Assessment

The quality of each included study was assessed using the Critical Appraisal Skills Programme (CASP) checklist. This assessment evaluated each study's methodological rigor and validity of findings. Studies were not excluded based on quality assessment, but the quality was considered in the synthesis of findings.

### 2.6 Data Synthesis

Due to the expected heterogeneity in study designs and outcomes, a narrative synthesis approach was planned. The synthesis focused on identifying common themes and patterns across studies related to cultural considerations in ASD assessment and intervention. The findings were grouped under thematic categories, and a thematic analysis was conducted to explore the influence of culture on the assessment and intervention of autism spectrum disorder.

## 3 Literature Review

### 3.1 Cultural Variability in ASD Diagnosis

The diagnosis of ASD is influenced by cultural factors, which significantly impact the recognition, interpretation, and acceptance of ASD within different communities. Cultural beliefs, practices, and perceptions play a crucial role in shaping the diagnostic process and subsequent interventions for individuals with ASD. The present literature review aims to explore the multifaceted influence of cultural variability on the diagnosis of ASD, considering the implications for screening, recognition, and acceptance of the disorder within diverse cultural contexts. The process of ASD diagnosis reflects an odyssey that includes systematic barriers influencing the timing of ASD diagnosis, such as navigating diagnosis and connecting to services (Lappé et al., 2018).

Cultural factors have been shown to influence the recognition and interpretation of ASD symptoms, leading to variations in the diagnostic process across different communities (Ratto et al., 2016). The parenting perceptions and diagnostic experiences of mothers from diverse cultural backgrounds have been found to impact the screening and diagnosis of ASD, highlighting the need to consider cultural implications in the diagnostic process (Ratto et al., 2016).

Furthermore, the disclosure of an ASD diagnosis and meeting the individual needs of individuals with ASD are important considerations, particularly in higher education settings, where cultural diversity may influence the understanding and acceptance of ASD (Cai & Richdale, 2015).

The impact of cultural variability on ASD diagnosis extends beyond individual experiences to encompass global disparities in ASD diagnoses across countries with different income levels (Matos et al., 2022). Variations in the time of first concerns and the diagnostic process for ASD have been observed in low-, middle-, and high-income countries, emphasizing the need to address cultural differences in the recognition and diagnosis of ASD on a global scale (Matos et al., 2022). Moreover, sex differences in the age of ASD diagnosis have been reported, with preliminary evidence suggesting disparities in the timing of ASD diagnosis based on gender within specific cultural contexts (Bonney et al., 2021).

Cultural biases and disparities have also been identified as influential factors in the diagnosis of ASD, with studies highlighting the impact of cultural beliefs on clinicians' diagnostic practices (Miyasaka et al., 2018). The tension between specialized ASD knowledge and culturally-influenced stigma around disability has been identified as a significant theme in the ASD experience within Latino communities, emphasizing the need to address cultural disparities in the recognition and acceptance of ASD (Moreira & Angell, 2020). Communication barriers related to cultural variables significantly influence the acceptability of therapeutic interventions for individuals with ASD and their families (Attygalle, 2023). Additionally, the disparity of maternal childcare pressure and quality of life between children diagnosed with ASD and developmental delay in specific cultural contexts has underscored the influence of cultural factors on the diagnostic process and subsequent caregiving experiences (Lung et al., 2020).

## 3.2 Cultural Approaches to the Assessment of ASD

### 3.2.1 Cross-Cultural Validation of ASD Symptoms

The assessment of ASD across different cultures requires the validation of ASD symptoms and assessment tools to account for cultural variations in the expression and interpretation of symptoms (Cheon et al., 2016). This is particularly pertinent in understanding the increasing prevalence of ASD and integrating research findings across various ethnic and racial groups and cultures (Cheon et al., 2016). The validation of assessment tools in diverse cultural contexts is essential for ensuring accurate and culturally sensitive diagnosis of ASD.

### 3.2.2 Influence of Cultural Factors on Diagnosis

Cultural effects on the diagnosis of ASD have been highlighted, emphasizing the need to understand how

cultural factors may influence the diagnostic process (Ratto et al., 2016). The recognition and interpretation of ASD symptoms are influenced by cultural beliefs and practices, necessitating culturally informed assessment practices to ensure accurate diagnosis and intervention for individuals from diverse cultural backgrounds (Ratto et al., 2016).

### 3.2.3 Impact of Urbanicity on ASD Diagnosis

Cultural influences related to the family's place of residence have been suggested to affect ASD prevalence, with increased community awareness about signs and symptoms of ASD in geographic areas with high ASD prevalence, emphasizing the role of community awareness and cultural context in the recognition and understanding of ASD. The association between urbanicity and the risk of ASD underscores the need to consider environmental and cultural factors in the assessment of ASD. Urbanicity has been found to be a contributing factor to the risk of ASD, highlighting the importance of contextual and cultural considerations in the assessment and diagnosis of ASD (Lauritsen et al., 2013).

### 3.2.4 Cultural Formulation in Diagnostic Assessment

Recent developments in diagnostic assessment, such as the inclusion of the Cultural Formulation Interview (CFI) in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), emphasize the importance of exploring cultural views and beliefs to facilitate comprehensive assessment and access to quality healthcare for ethnically and culturally diverse populations (Engstrand et al., 2018). The incorporation of cultural formulation into diagnostic assessment tools reflects the recognition of the influence of cultural factors on the assessment of ASD.

### 3.2.5 Parental Explanatory Models in Culturally Diverse Families

The parental explanatory models of ASD in culturally diverse families have been found to influence help-seeking behaviors and access to support systems, highlighting the need to consider cultural contexts in the assessment and diagnosis of ASD (Zakirova-Engstrand et al., 2020). Understanding parental beliefs and ideas about ASD at a multicultural level is crucial for predicting justification and reasoning from different cultural perspectives (Samadi, 2020). The burden of care, consequences, and hurdles faced by families with a child with ASD affect family relationships and social life, highlighting the need for comprehensive support and understanding within the community (Shattawi et al., 2020).

### 3.2.6 Cultural Examination of Assessment and Treatment

A cultural examination of assessment and treatment practices for ASD is essential for designing effective approaches for culturally diverse children with ASD and their families. As cultural factors are more thoroughly understood and researched, more effective assessment and

treatment practices can be developed to address the diverse needs of individuals with ASD from different cultural backgrounds (Bush & D'Angelo, 2018).

### 3.2.7 Community Advocacy and Stigmatization Reduction

Parents who have received an ASD diagnosis for their children become proactive in reducing stigmatization of ASD and advocating for ASD diagnosis to other parents, reflecting the role of community advocacy and awareness in shaping the understanding and acceptance of ASD (Russell & Norwich, 2012).

### 3.2.8 Cultural Perceptions and Treatment Choices

Families' knowledge and cultural perceptions of ASD, as well as beliefs about its etiology and prognosis, significantly influence parents' recognition of the first signs of autism in their children and their help-seeking and treatment decisions, highlighting the need to consider cultural beliefs and experiences in the management of ASD (Zakirova-Engstrand et al., 2020).

### 3.3 Cultural Bias in Standardized ASD Assessment Tools

The assessment of ASD using standardized tools is essential for accurate diagnosis and intervention. However, the cultural bias present in these tools can impact the recognition and assessment of ASD across diverse cultural contexts. The following literature review explores the challenges and implications of cultural bias in standardized ASD assessment tools, highlighting the need for culturally sensitive and validated assessment instruments.

#### 3.3.1 Influence of Cultural Perceptions on Assessment

Cultural perceptions of ASD and beliefs about its etiology and prognosis can influence the assessment and recognition of ASD symptoms. The impact of cultural beliefs and experiences on the recognition of the first signs of autism in children and their help-seeking and treatment decisions underscores the need to consider cultural factors in the assessment process (Trevisan et al., 2020).

#### 3.3.2 Challenges in Cross-Cultural Assessment

The challenges of cross-cultural assessment of ASD include the lack of standardized measures to classify ASD symptoms and the absence of culturally sensitive assessment tools. The absence of culturally sensitive assessment tools poses a challenge in accurately assessing and diagnosing ASD across diverse cultural contexts, emphasizing the need for culturally sensitive and validated assessment measures (Asghari et al., 2021).

#### 3.3.3 Standardization and Cultural Sensitivity

The standardization of ASD assessment tools across different cultural and linguistic groups is essential to ensure their cultural sensitivity and applicability. The absence of standardized instruments adapted, validated, and standardized for specific cultural and linguistic groups poses a challenge in the accurate assessment of ASD, highlighting

the need for culturally sensitive and validated assessment tools (Bölte et al., 2018).

#### 3.3.4 Bias in Assessment Tools

Assessment bias in standardized ASD assessment tools has been identified as a common weakness in studies, emphasizing the need for culturally sensitive and unbiased assessment instruments. The presence of assessment bias can impact the accuracy and reliability of ASD assessment, underscoring the importance of addressing bias in assessment tools (Yu et al., 2020).

#### 3.3.5 Precision Medicine and Personalized Approaches

Contemporary advances in ASD treatment emphasize a personalized or precision approach, mirroring the advancements made in cardiovascular health and cancer therapy. Such approaches aim to tailor interventions to the specific needs and characteristics of individuals with ASD, reflecting a shift towards individualized and targeted treatment strategies (Baum et al., 2015).

#### 3.3.6 Augmented Treatment Strategies

Contemporary treatment approaches for ASD include the augmentation of traditional Cognitive Behavioral Therapy (CBT) strategies with social skills training and parent management techniques. This combined approach addresses broader deficits that may contribute to or exacerbate anxiety in individuals with ASD, reflecting the integration of traditional and contemporary therapeutic techniques (Postorino et al., 2017).

#### 3.3.7 Psychosocial Approaches and Individualized Treatments

The available evidence in ASD treatment is primarily limited to psychosocial approaches, emphasizing the need for individualized and specific treatments that take into account the psychopathological problems of individuals with ASD. This highlights the shift towards tailored and individualized interventions to address the diverse psychosocial needs of individuals with ASD (DeFilippis, 2018).

#### 3.3.8 Framework for Clinicians and Clinical Judgment

Contemporary guidelines provide a framework for clinicians in the treatment of anxiety in youth with ASD, while also emphasizing the importance of clinical judgment in making decisions about individual patients. This reflects a balance between evidence-based guidelines and the individualized needs of individuals with ASD (Vasa et al., 2016).

#### 3.3.9 Socio-Communicative and Emotional Profile

Contemporary research has speculated that the socio-communicative and emotional profile of ASD may hinder traditional therapeutic approaches, emphasizing the need for innovative and tailored interventions to address the unique needs of individuals with ASD (Kinnaird et al., 2017).

#### 3.3.10 Early Assistance and Individualized Treatments



The most effective approach to ASD treatment is early assistance for children, allowing for the initiation of corrective measures during diagnosis. This underscores the importance of early intervention and individualized treatments to address the specific needs of children with ASD (Busch et al., 2019).

### 3.3.11 Structured and Systematic Instructional Approach

Contemporary research suggests that individuals with ASD generally respond positively to a highly structured and systematic instructional approach, emphasizing the importance of tailored and individualized educational interventions for individuals with ASD (Silva et al., 2023).

## 3.4 Cultural Adaptations of Evidence-Based Interventions

The cultural adaptation of evidence-based interventions for ASD is essential to ensure the effectiveness and relevance of treatments across diverse cultural contexts. The following literature review explores the importance of cultural adaptations in ASD interventions, drawing from a range of studies that highlight the need for culturally sensitive and tailored approaches to address the unique needs of individuals with ASD and their families.

### 3.4.1 Addressing Cultural Barriers to Access

Cultural adaptations of interventions are crucial to address the barriers faced by historically underserved families in accessing ASD-related services. Few interventions have been designed to meet the specific cultural needs of underserved families, emphasizing the need for culturally adapted interventions to improve access and engagement (Dababnah et al., 2022).

### 3.4.2 Cultural Adaptation of Outreach Materials

Studies have emphasized the importance of cultural adaptation and translation of outreach materials to improve ASD diagnosis, assessment, and interventions. This highlights the need for culturally sensitive and tailored resources to support families and professionals in understanding and addressing the needs of individuals with ASD (Grinker et al., 2015).

### 3.4.3 Cross-Cultural Content Validity

The cultural adaptation process of assessment tools and intervention approaches is essential to ensure the cross-cultural content validity of interventions. This process highlights the impact of cultural and contextual dimensions on ASD interventions, emphasizing the need for culturally sensitive and validated interventions (Bejnö et al., 2019).

### 3.4.4 Incorporating Diverse Perspectives

The development of evidence-based interventions for individuals with ASD should incorporate diverse perspectives and experiences to ensure that interventions are culturally and linguistically appropriate. This underscores the importance of considering diverse cultural backgrounds

in the design and development of ASD interventions (Alibakhshi, 2023).

### 3.4.5 Cultural Adaptation Checklist

The use of a Cultural Adaptation Checklist (CAC) has been proposed as a quality indicator for the cultural adaptation of interventions. This checklist provides a framework for ensuring that interventions are culturally sensitive and relevant to the needs of individuals with ASD from diverse cultural backgrounds (Lee et al., 2022).

### 3.4.6 Sociocultural Perspective on Autism Intervention

A sociocultural perspective on autism intervention emphasizes the importance of educating therapists and clients about evidence-based literature findings and guiding intervention practices. This approach highlights the need for therapists to be culturally informed and to tailor interventions to the specific cultural beliefs and practices of their clients (Fong & Lee, 2017).

### 3.4.7 Impact of Culture on Autism Diagnosis and Treatment

The impact of culture on autism diagnosis and treatment underscores the need for therapeutic interventions, applications of technology, and strategies for responsive family-centered care and advocacy that are culturally adapted. This highlights the importance of considering cultural factors in the development of ASD interventions (Ennis-Cole et al., 2013).

### 3.4.8 Early Intervention and Cultural Sensitivity

Cultural adaptations of early intervention programs for autism are critical for the dissemination of evidence-based treatments. These adaptations ensure that interventions are culturally sensitive and responsive to the needs of children with ASD from diverse cultural backgrounds (Silva et al., 2023).

## 3.5 Training and Education of Professionals in Cultural Competency

The training and education of professionals in cultural competency are essential for providing effective and inclusive care for individuals with ASD. The following literature review explores the significance of cultural competency training in the context of ASD interventions, drawing from a range of studies that emphasize the need for comprehensive and culturally sensitive training for healthcare and education professionals.

### 3.5.1 Importance of Cultural Competency Training

Cultural competency training is crucial for healthcare professionals to effectively address the diverse needs of individuals with ASD. The lack of conceptual clarity in the context of educating health professionals underscores the need for standardized and comprehensive cultural competency training programs (Fleckman et al., 2015).

### 3.5.2 Receptivity to Cultural Competency Training

Healthcare professionals' receptivity to cultural competency training is essential for improving cultural competence in the care of individuals with ASD. However, the insufficiency of cultural competence training in certain regions, such as Hong Kong, highlights the need for enhanced training initiatives (Lai et al., 2023).

### 3.5.3 Formation of Professional Competence

The formation of professional competences, particularly in the field of healthcare and education, requires a focus on cultural competency to ensure that professionals are equipped to provide inclusive and culturally sensitive care and education (Komilova et al., 2022).

### 3.5.4 Promoting Cultural Competence in Education

The emphasis on promoting cultural competence education in athletic training and educational settings reflects the recognition of the importance of cultural sensitivity in providing effective care and support for individuals with ASD (Kochanek, 2020).

### 3.5.5 Integrative Potential of Educational Resources

The integrative potential of educational resources in modern educational settings highlights the need for continuous professional training, particularly in the context of cultural competence, to provide inclusive and effective support for individuals with ASD (Markova et al., 2021).

### 3.5.6 Formation of Professional-Pedagogical Culture

The formation of professional-pedagogical culture in the context of physical education and sports specialties emphasizes the importance of cultural competence in providing inclusive and effective educational experiences for individuals with ASD (Kalynychenko et al., 2021).

### 3.5.7 Self-Educational Competence of Cadets

The level of self-educational competence of cadets in higher educational institutions reflects the need for comprehensive training programs that encompass cultural competence to ensure that future professionals are equipped to provide inclusive care for individuals with ASD (Okhrimenko et al., 2022).

### 3.5.8 Cultural Competency Education in Pharmacy Curricula

The integration of cultural competency education in pharmacy curricula is essential for compliance with accreditation standards and for improving health professionals' skillsets to provide inclusive care for individuals with ASD (Patel et al., 2020).

## 3.6 Policy and Legal Frameworks Influencing ASD Services in Different Cultures

The provision of services for individuals with ASD is influenced by policy and legal frameworks that vary across different cultures and regions. The following literature review explores the impact of policy and legal frameworks on the delivery of ASD services, drawing from a range of studies that highlight the complexities and variations in

service provision influenced by cultural, legal, and policy factors. Cultural boundaries significantly influence the way families perceive, adopt, and utilize treatment strategies for ASD. The impact of cultural frameworks on child development may shape the provision and utilization of ASD services within different cultural contexts (Welterlin & LaRue, 2007). Preliminary evidence suggests that socioeconomic status and geographical region influence access to applied behavior analysis and other interventions for individuals with ASD. The interplay between cultural and ethnic diversity and service delivery systems mediates access to ASD services, highlighting the influence of policy and legal frameworks on service provision (Tincani et al., 2009).

## 3.7 Stigma and Cultural Attitudes towards Autism Spectrum Disorder

The attitudes and perceptions of society towards Autism Spectrum Disorder (ASD) vary across different cultures and have a significant impact on the care and support available to individuals with ASD. The following literature review explores the influence of stigma and cultural attitudes on the understanding and acceptance of ASD, drawing from a range of studies that highlight the complexities and variations in attitudes towards ASD across different societies.

### 3.7.1 Attitudes of Educators and Caregivers

Studies have shown that attitudes towards ASD and awareness of treatment options among educators and caregivers vary across different cultures. Positive attitudes and increased awareness are essential for creating supportive environments for individuals with ASD (Gómez-Marí et al., 2022; Jia et al., 2011).

### 3.7.2 Inclusive Education and Stigmatization

Attitudes towards inclusive education for individuals with ASD are influenced by cultural beliefs and societal perceptions. Stigmatization rooted in negative attitudes or prejudice towards individuals with ASD can hinder the successful implementation of inclusive education practices (Yokota & Tanaka, 2022).

### 3.7.3 Societal Attitudes and Stigmatization

Research has indicated that societal attitudes towards ASD can impact stigmatization and prejudice towards individuals with ASD. Understanding and addressing negative societal attitudes are crucial for reducing stigma and promoting acceptance and support for individuals with ASD (Gemegah et al., 2020).

### 3.7.4 Cultural Competence and Stigmatization

Cultural competence and knowledge about ASD can influence stigmatizing attitudes towards individuals with ASD. Training and education aimed at improving cultural competence and understanding of ASD can help reduce stigma and promote inclusive practices (Hof et al., 2020).

### 3.7.5 Parental Attitudes and Cultural Perceptions

Parental attitudes towards genetic testing for ASD and cultural perceptions of ASD vary across different cultural contexts. Understanding parental attitudes and cultural beliefs is essential for providing culturally sensitive care and support for individuals with ASD (Li et al., 2022).

### 3.7.6 *Impact of Cultural Context on Attitudes*

The cultural context can significantly impact attitudes towards ASD and influence decision-making processes, such as vaccination decisions and abortion choices. Understanding the influence of cultural attitudes is essential for providing appropriate support and interventions for individuals with ASD (Chen et al., 2020; Thorsteinsson et al., 2020).

### 3.7.7 *Knowledge and Awareness of ASD*

Attitudes towards ASD are influenced by knowledge and awareness of the condition. Improving knowledge and awareness through education and training can help reduce stigma and promote positive attitudes towards individuals with ASD (Zhang et al., 2018).

## 3.8 *Case Studies of Multicultural Approaches to ASD*

The implementation of multicultural approaches to Autism Spectrum Disorder (ASD) involves understanding and addressing the diverse needs of individuals with ASD within different cultural contexts. The following literature review explores case studies that illustrate the application of multicultural approaches to ASD, drawing from a range of studies that highlight the complexities and variations in providing culturally sensitive care and support for individuals with ASD.

### 3.8.1 *Multicultural Counseling Competence and Case Conceptualization*

Studies have examined the relationship between self-reported multicultural counseling competence and demonstrated multicultural counseling competence, particularly in the context of multicultural case conceptualization ability. These case studies provide insights into the development and application of culturally competent counseling practices for individuals with ASD (Constantine, 2001; Constantine & Gushue, 2003; Constantine & Ladany, 2000).

### 3.8.2 *Multicultural Education and Inclusive Practices*

Case studies have explored the role of multicultural education in promoting inclusive practices for individuals with ASD. These studies provide examples of how multicultural education can contribute to creating supportive and inclusive environments for individuals with ASD from diverse cultural backgrounds (Derwin et al., 2012).

### 3.8.3 *Cultural Sensitivity in Genetic Discovery and Counseling*

Advances in genetic discovery and implications for counseling of patients and families with ASD have been examined within multicultural contexts. These case studies

illustrate the importance of cultural sensitivity in genetic counseling and the implications for individuals with ASD from diverse cultural backgrounds (Shen et al., 2014).

### 3.8.4 *Multicultural Approaches to Social and Educational Interventions*

Case studies have highlighted the application of multicultural approaches to social and educational interventions for individuals with ASD. These studies provide examples of how cultural diversity and inclusivity are integrated into interventions to address the unique needs of individuals with ASD (Lee & McKee, 2023).

### 3.8.5 *Multicultural Attitudes and Competence in Counseling*

Case studies have explored the relationship between multicultural attitudes and competence in counseling practices, particularly in the context of providing support for individuals with ASD. These studies offer insights into the development of culturally competent counseling practices for individuals with ASD from diverse cultural backgrounds (Constantine & Gushue, 2003).

### 3.8.6 *Multiculturalism and Interculturalism in ASD Services*

Case studies have examined the role of multiculturalism and interculturalism in the provision of ASD services. These studies provide examples of how multicultural and intercultural approaches are integrated into service delivery to address the diverse needs of individuals with ASD (Elias et al., 2020).

## 3.9 *Evidence from UAE*

Several studies address issues related to multiculturalism, cultural sensitivity, and the development of culturally competent assessment and intervention approaches for individuals with ASD in the UAE:

Dyches et al., (2004) explored issues surrounding autism and multiculturalism, raising questions for further examination. This review could provide insights into the cultural considerations in the assessment and intervention for autism disorder within the multicultural context of the UAE (Dyches et al., 2004).

Stuart & Ward (2018) constructed and validated the normative multiculturalism scale, examining the effects of contact with diversity, multicultural ideology, and policies on interpersonal and intergroup outcomes. This study could provide insights into the impact of multicultural attitudes on the assessment and intervention for autism disorder in the UAE (Stuart & Ward, 2018).

Nair et al. (2023) conducted a cross-sectional study on health literacy levels in patients with type 2 diabetes in the UAE. While not directly related to autism, this study highlights the importance of targeted educational and behavioral interventions, which could be relevant for

developing culturally sensitive interventions for autism in the UAE (Nair et al., 2023).

Kurz (2018) discussed behavioral and supportive interventions used in working with children with ASD and their families. This study could provide insights into the development of culturally sensitive interventions for autism in the multicultural context of the UAE (Kurz, 2018).

Wentz (2020) focused on the early diagnosis of autism in the UAE and the knowledge and attitudes among primary healthcare providers. This study could offer insights into the challenges and opportunities for culturally sensitive assessment and intervention for autism in the UAE (Wentz, 2020).

Abdulrahman et al. (2017) conducted a study on professionalism among multicultural medical students in the UAE. While not directly related to autism, this study could provide insights into the cultural competence of healthcare professionals, which is essential for providing culturally sensitive care for individuals with ASD (Abdulrahman et al., 2017).

#### 4 Discussion and Conclusion

This systematic review addresses the critical need for cultural considerations in the assessment and intervention of ASD. It is evident that cultural factors significantly influence the diagnosis, assessment, and treatment of ASD. As such, there is a pressing need for the development and implementation of culturally sensitive and adapted tools and interventions. Future research should focus on developing standardized, culturally competent training for professionals, and further exploration into the impact of cultural beliefs and practices on ASD diagnosis and intervention is warranted. The ultimate goal is to provide inclusive and effective support for individuals with ASD from diverse cultural backgrounds, ensuring equitable access to diagnosis and treatment.

##### 4.1 Future Research Directions

1. **Development of Culturally Adapted Tools:** There's a need for research focused on creating and validating culturally adapted assessment tools for ASD.
2. **Longitudinal Studies:** Undertake longitudinal studies to understand the long-term outcomes of culturally adapted interventions.
3. **Training Programs Evaluation:** Research evaluating the effectiveness of cultural competence training programs for professionals working with ASD.

##### 4.2 Practice Recommendations

1. **Cultural Competence Training:** Incorporate comprehensive cultural competence training for healthcare providers working with ASD.

2. **Community Involvement:** Engage with diverse communities to understand their specific needs and incorporate their insights into practice.
3. **Family-Centered Approaches:** Emphasize family-centered approaches that respect and integrate cultural values and beliefs.

##### 4.3 Implications

1. **Healthcare Policy:** Inform policymakers about the necessity of culturally informed practices in healthcare, advocating for policies that support such practices.
2. **Educational Curricula:** Suggest the inclusion of cultural competence in educational curricula for professionals dealing with ASD.
3. **Resource Allocation:** Encourage equitable allocation of resources to support culturally diverse populations in accessing ASD services.

#### Authors' Contributions

All authors equally contributed to this article.

#### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

#### Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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#### Declaration of Interest

The authors report no conflict of interest.

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#### Ethics Considerations

As this review synthesizes published data and does not involve primary data collection from human participants, ethical approval was not required. However, all analyzed works were treated with respect for the intellectual property of the original authors, and proper citations and



acknowledgments were made in accordance with academic standards.

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