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## Understanding social cognitive deficits in children with autism spectrum disorders: Implications for clinical practice and educational and societal integration

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### Abstract

Autism Spectrum Disorders (ASD) encompasses a range of neurodevelopmental conditions characterized by persistent deficits in social communication and interaction, as well as restricted and repetitive patterns of behavior. One of the key challenges faced by children with ASD is social cognitive deficits, which significantly impact their ability to navigate the complexities of social interactions. These Kids immensely face a huge amount of barriers due to a bunch of inabilities such as difficulties in understanding the second and third person perspective, failure to pay joint attention, recognising emotional expressions and ineffective executive functional abilities. This article explores an array of social cognitive deficits in children with ASD, delving into the implications for clinical practice, Educational and societal integration. Drawing upon current research and evidence-based interventions, the article aims to provide practical suggestions for clinicians, educators, and policymakers working towards fostering inclusive environments for children with ASD.

**Keywords:** Autism; Social Cognition; Deficits; Theory of Mind; Special Education; Integration; Early Intervention; Disability; Social Support

### 1. Introduction

Autism Spectrum Disorder (ASD) is a pervasive developmental disorder characterized by deficits in both social and communication skills. In most cases, the onset occurs before the age of two years (American Psychiatric Association, 2013). However, until recent times, ASD was not usually subjected to clinical diagnosis. Often, a lack of knowledge about the primary features and the neglect of these features' expression have delayed the efficacy of behavioral interventions in the clinical setting. Children with ASD exhibit considerable diminishment in social and emotional interconnectivity, making it challenging for them to engage in normal back-and-forth conversations with primary caregivers (National Institute of Mental Health, 2018).

These social and communication deficits in ASD are closely linked to impairments in social cognition. For example, children with ASD often struggle with the ability to understand that others have thoughts, beliefs, and intentions different from their own (Baron-Cohen, 2000). They may also have difficulty recognizing and interpreting facial expressions and emotions, leading to challenges in responding appropriately in social interactions (Grossman et al., 2000).

Furthermore, deficits in executive functioning can hinder their ability to plan, organize, and adapt to new or changing social situations (Hill, 2004). Early identification and intervention, such as Applied Behavior Analysis (ABA) and social skills training, are crucial in addressing these deficits and supporting the social and emotional development of children with ASD (Lovaas, 1987).

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### **1.1. Social Cognitive Deficits In Autism Spectrum Disorder**

Individuals with Autism Spectrum Disorder (ASD) often exhibit social cognitive deficits, which can significantly impact their daily functioning. ASD is characterized by impairments in social interaction and communication, as well as restricted and repetitive behaviors (American Psychiatric Association, 2013). Social cognitive deficits in ASD can manifest in various ways, including difficulties in understanding and responding to social cues, limited theory of mind abilities, and challenges in emotion recognition.

#### **1.2. Understanding in others point of view**

Research has shown that individuals with ASD often struggle with theory of mind, which affects their ability to understand others' perspectives and predict their behavior (Baron-Cohen, 2000; Leslie, & Frith, 1985). This can lead to difficulties in social interactions, such as misunderstanding social intentions, failing to recognize social norms, and having trouble forming and maintaining relationships.

Emotion recognition is another area where individuals with ASD may experience challenges. Studies have found that people with ASD often have difficulty interpreting facial expressions and vocal intonations, which are critical for understanding others' emotions and responding appropriately (Harms, Martin, & Wallace, 2010). This can result in misunderstandings and miscommunications in social interactions.

The social cognitive deficits associated with ASD can have far-reaching impacts on academic, vocational, and daily living skills. In academic settings, students with ASD may struggle with group work, social aspects of learning, and understanding implicit social rules, which can affect their academic performance and social integration (Ashburner, Ziviani, & Rodger, 2010). In vocational contexts, difficulties in social cognition can hinder job performance, particularly in roles that require frequent social interaction and collaboration (Müller et al., 2003). In daily living, challenges in social cognition can affect the ability to form friendships, participate in social activities, and access social support, which can impact overall quality of life (Howlin, 2000).

One of the hallmark features of ASD is an impairment of Theory of Mind which affects the ability to understand that others have different perspectives, thoughts, and feelings. This deficit in ToM leads to difficulties in predicting and interpreting the actions of others (Baron-Cohen, 2000). Research indicates that children with autism typically perform poorly on ToM tasks compared to their neurotypical peers. The child is expected to be averted from egocentrism and develop the greatest ability to interpret mental status consisted with fears, hopes, desires, beliefs and expectations of others around him in the age of 3-5 years. They may have difficulty understanding that someone can hold a false belief or a belief which is different from their perspective about a situation, a foundational aspect of ToM (Baron-Cohen, 2000; Leslie, & Frith, 1985). This impairment can manifest in various ways, such as challenges in recognizing social cues, understanding sarcasm, or empathizing with others' emotional states. The most recurrent controversy can be happened based on the misunderstandings caused due to the inability to understand hidden emotions of others.

Deficits in ToM significantly impact the quality of social interactions for individuals with autism. Effective social interaction relies on the ability to interpret and respond to others' mental states. Without this skill, individuals with autism may find it challenging to engage in meaningful and reciprocal social exchanges (Frith, 2001). For instance, understanding and participating in a conversation requires the ability to take turns, recognize when someone else wants to speak, and calibrate the listener's interest and understanding. ToM deficits can lead to misunderstandings and difficulties in maintaining the flow of conversation, often resulting in social isolation or frustration for individuals with autism (Tager-Flusberg, 2007). Moreover, the inability to understand others' perspectives can affect the formation and maintenance of friendships and relationships. Friendships are built on mutual understanding and shared experiences, which are facilitated by ToM. Individuals with autism might struggle to interpret the intentions and emotions of their peers, leading to potential conflicts or the perception of being insensitive or detached. (Bauminger & Kasari, 2000).

#### **1.3. Challenges in Joint Attention**

Autism Spectrum Disorder (ASD) is characterized by a range of social cognitive deficits, prominently including challenges with joint attention and language barriers. Joint attention, the shared focus of two individuals on an object, is a fundamental aspect of early social and cognitive development. It is crucial for the development of communication skills and social interaction. Children with ASD often exhibit impairments in joint attention, which can manifest as difficulties in following another person's gaze or pointing gestures, and in initiating or responding to put forward joint

attention (Charman, 2003; Sheinkopf, 2005). These deficits hinder their ability to engage in meaningful social interactions and to learn from their social environment.

Language barriers are another significant challenge for individuals with ASD. Many children with ASD experience delays in language development, and those who do develop language often have atypical language patterns. These can include echolalia: repeating the words just uttered by someone else in a meaningless manner, atypical prosody: speaking with unusual stresses or pauses, exaggerated or monotonous tone, sing song rhythm, or emphasis and difficulties with understanding and using pragmatic language (Tager-Flusberg & Joseph, 2003). Due to these shortcomings, the child can be humiliated in the society in several ways at the instances where communication breakdowns happen. The child can be subjected to social failure and stigmatized in social contexts such as school. Miscommunication can happen due to not conveying the emotional meanings of the expression of verbatim (Neely et al., 2015b). The combination of joint attention deficits and language barriers can severely impact social communication, leading to further isolation and hindering academic and social success. Effective interventions often focus on enhancing joint attention and language skills to improve overall social functioning (Kasari et al., 2006).

#### **1.4. Emotion Recognition and Regulation**

Emotion recognition and regulation are critical aspects of social cognition, significantly impacting individuals with Autism Spectrum Disorder (ASD). Difficulties in identifying and expressing emotions are prevalent among individuals with ASD, often leading to significant social and behavioral challenges. Research indicates that individuals with ASD may have trouble recognizing facial expressions and interpreting the emotional states of others (Harms, Martin, & Wallace, 2010). This inability to accurately perceive and understand emotions can result in inappropriate social responses and contribute to social isolation. Furthermore, the challenges in emotion regulation, such as managing feelings of frustration or anxiety, can lead to behavioral issues, including aggression or withdrawal (Mazefsky, Pelphrey, & Dahl, 2012). These emotional and regulatory difficulties necessitate targeted interventions aimed at improving emotion recognition and regulation skills to enhance social functioning and reduce behavioral problems.

#### **1.5. Executive Functioning**

Executive functioning encompasses a range of cognitive processes including planning, reasoning, organizing, and adapting to changing social contexts. Individuals with ASD often exhibit impairments in these areas, which can adversely affect their adaptive functioning and independence. Poor executive functioning can manifest as difficulties in planning and completing tasks, organizing thoughts and actions, and adapting to new or unexpected social situations (Hill, 2004). These deficits can obstruct daily living skills and reduce an individual's ability to function independently. For instance, challenges in organizing and planning may result in difficulties managing time or maintaining personal hygiene routines. In social contexts, ASD can fail the child to adhere to unified time schedules. Furthermore, the inability to adapt to changing social contexts can hinder social interactions and contribute to social isolation. Based on the narrow interests of ASD Kids, there can be a tendency to retrieve preferred information from the stored memory packs and that can be unfairly treated in occasions such as impromptu examinations. Effective clinical interventions should focus on enhancing executive functioning skills to promote greater independence and adaptive functioning in individuals with ASD.

#### **1.6. Implications for Clinical Practice**

Addressing social cognitive deficits in individuals with ASD requires a comprehensive approach that considers emotion recognition and regulation as well as executive functioning. Clinicians should develop interventions that target these specific domains to improve overall social cognition and adaptive functioning. For emotion recognition and regulation, therapies such as cognitive-behavioral therapy (CBT) and social skills training can be effective (White et al., 2009). These interventions can help individuals with ASD better identify and manage their emotions, leading to improved social interactions and reduced behavioral issues. For executive functioning, interventions may include strategies to enhance planning and organizational skills, such as using visual schedules or organizational tools (Kenworthy et al., 2005). By addressing these key areas, clinicians can help individuals with ASD achieve greater social integration, independence, and overall quality of life.

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## **2. Early Intervention**

### **2.1. Importance of Early Identification and Intervention**

Early identification and intervention are crucial in addressing social cognitive deficits in children with Autism Spectrum Disorder (ASD). The earlier these deficits are identified, the sooner targeted interventions can begin, potentially

mitigating the severity of social cognitive challenges as the child develops. Research consistently shows that early intervention can lead to significant improvements in social skills, communication, and adaptive behavior, which are critical for successful integration into mainstream settings (Dawson et al., 2010). Early intervention programs typically focus on enhancing social interaction, communication skills, and adaptive functioning, laying a foundation for more complex social and cognitive abilities as the child grows (Wetherby et al., 2014).

## **2.2. Evidence-Based Practices for Addressing Social Cognitive Deficits**

Several evidence-based practices have been shown to effectively address social cognitive deficits in children with ASD. Applied Behavior Analysis (ABA), for instance, uses principles of learning and motivation to improve social behaviors (Lovaas, 1987). Another effective approach is the Early Start Denver Model (ESDM), which combines ABA techniques with developmental and relationship-based strategies to enhance social communication skills in young children (Rogers & Dawson, 2010). Social Stories, developed by Carol Gray, are also widely used to help children with ASD understand and respond to social situations by providing them with clear and simple narratives (Gray, 2010).

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## **3. Individualized Treatment Plans**

### **3.1. Tailoring Interventions to the Specific Needs of Each Child**

Creating individualized treatment plans is essential in addressing the unique social cognitive deficits of each child with ASD. These plans should be tailored to the child's specific strengths, weaknesses, and interests, ensuring that interventions are both relevant and engaging.

Personalized approaches allow for more effective targeting of specific social skills that the child needs to develop. For instance, some children may benefit more from interventions focused on improving eye contact and joint attention, while others may need help with understanding and using social cues (Koegel et al., 2012).

### **3.2. Collaborative Approaches Involving Families, Educators, and Therapists**

A collaborative approach that involves families, educators, and therapists can significantly enhance the effectiveness of individualized treatment plans. When all associated disciplines work together, they can create a consistent and supportive environment for the child, reinforcing learning across different settings. Family involvement is particularly crucial, as parents can provide valuable insights into the child's behavior and progress, as well as implement strategies at home. Perhaps the professionals can engage in teaching therapeutic strategies for the caregiver and assign tasks to build up skills in the home environment and in such occasions the caregiver's role is crucial in engaging the child in the activities amidst a number of trials and errors.

Educators and therapists can work together to ensure that interventions are seamlessly integrated into the child's daily routine, promoting the generalization of skills across various contexts (Brookman-Frazee et al., 2009).

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## **4. Promoting Social Skills in Naturalistic Settings**

### **4.1. Strategies for Facilitating Social Skills in Real-World Situations**

Promoting social skills in naturalistic settings involves creating opportunities for children with ASD to practice and apply their skills in real-world situations. Hopefully, Play therapy can be the ideal way here to keep the child engaged and make an attachment. This can be achieved through structured playdates, participation in group activities, and guided interactions with peers.

Techniques such as modeling, role-playing, and social scripts can help children learn appropriate social behaviors and responses. Additionally, providing immediate and positive feedback can reinforce desired behaviors and encourage their repetition (Bellini et al., 2007).

### **4.2. Generalization of Learned Skills to Diverse Social Contexts**

Generalization is a critical goal of social skills training, as it ensures that children with ASD can apply what they have learned across various social contexts. This requires ongoing practice and reinforcement in different settings, such as home, school, and community environments.

Educators and therapists can help by creating structured opportunities for social interaction and by gradually increasing the complexity and variability of social situations. Using consistent prompts and cues across settings can also aid in the transfer of skills (Stokes & Baer, 1977). When generalizing, the entire cohort around the child has to act systematically while maintaining the uniformity among each other until the child is familiarized and realizes opportunities and threats within the boundaries of the play area.

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## **5. Educational Challenges and Interventions**

### **5.1. Impact of Social Cognitive Deficits on Learning and Classroom Dynamics**

Social cognitive deficits in children with Autism Spectrum Disorder (ASD) can significantly impact learning and classroom dynamics. These deficits often manifest as difficulties in understanding social cues, engaging in reciprocal communication, and forming peer relationships. In a classroom setting, these challenges can lead to misunderstandings, social isolation, and behavioral issues that disrupt both the child's learning and the overall classroom environment (Ashburner et al., 2010). For example, a child with ASD might struggle to interpret a teacher's non-verbal signals or may have difficulty following group instructions, leading to confusion and frustration. Additionally, social cognitive deficits can affect a child's ability to participate in collaborative learning activities, which are integral to many educational models (Cappadocia et al., 2012).

### **5.2. Effective Educational Strategies and Interventions to Support Students with ASD**

To address the educational challenges imposed by social cognitive deficits, several strategies and interventions have proven effective. One approach is the use of Social Stories, which are tailored narratives that help children with ASD understand and navigate social situations by providing clear, step-by-step instructions (Gray, 2010). Another effective strategy is the implementation of peer-mediated interventions, where typically developing peers are trained to interact and support their classmates with ASD, promoting social engagement and reducing isolation (Kamps et al., 2015). Additionally, incorporating visual supports, such as schedules and social scripts, can help children with ASD better understand and predict social interactions and routines, thereby reducing anxiety and improving participation (Hodgdon, 1995).

### **5.3. Role of Special Education and Inclusive Classroom Settings**

Special education and inclusive classroom settings play a crucial role in supporting students with ASD. Special education programs provide tailored instructional strategies and individualized support to address the unique learning needs of children with ASD (Brock et al., 2014). Inclusive classrooms, on the other hand, integrate students with and without disabilities, fostering an environment of acceptance and diversity. Research has shown that inclusive education not only benefits children with ASD by providing opportunities for social interaction and modeling of appropriate behaviors but also enhances empathy and understanding among typically developing peers (Boutot & Bryant, 2005). Effective inclusive practices include differentiated instruction, where teachers adjust their teaching methods to accommodate diverse learning styles, and the use of co-teaching models, where special education and general education teachers collaborate to support all students (Friend et al., 2010).

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## **6. Family Dynamics and Support Systems**

### **6.1. Impact of a Child's Social Cognitive Deficits on Family Dynamics**

The social cognitive deficits of a child with ASD can have a profound impact on family dynamics. Parents often face increased stress and challenges related to managing their child's behavior and social interactions, which can affect their mental health and well-being (Hayes & Watson, 2013). Siblings may also experience feelings of neglect or resentment due to the disproportionate amount of attention required by their sibling with ASD (Rivers & Stoneman, 2008). Moreover, the lack of understanding and support from extended family members and the community can further isolate families, exacerbating the challenges they face.

### **6.2. Strategies for Families to Support Social Development in Children with ASD**

Families play a vital role in supporting the social development of children with ASD. One effective strategy is engaging in parent-mediated interventions, where parents are trained to implement social skills training and behavioral interventions at home (Bearss et al., 2015). Consistent practice of social skills through structured playdates and community activities can also help children generalize these skills to different settings. Additionally, creating a supportive and predictable home environment with clear routines and expectations can reduce anxiety and promote

positive social behaviors (Dunlap & Fox, 1999). It is also important for families to seek out and participate in support groups and networks, which can provide emotional support, resources, and shared experiences from other families facing similar challenges (Kuhaneck et al., 2010).

### **6.3. Resources and Support Networks for Families of Individuals with ASD**

There are numerous resources and support networks available to assist families of children with ASD. These include local and national organizations that offer educational materials, advocacy, and community programs. For example, organizations like the Autism Society and Autism Speaks provide comprehensive resources on understanding ASD, accessing services, and connecting with other families (Autism Society, 2021; Autism Speaks, 2021). Additionally, online forums and social media groups can offer a platform for parents to share advice, experiences, and support. Access to respite care services can also be invaluable, providing parents with temporary relief from caregiving responsibilities, which can help reduce stress and improve family well-being (Harper et al., 2013).

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## **7. Social Relationships and Community Integration**

### **7.1. Building and Maintaining Friendships for Individuals with ASD**

Building and maintaining friendships can be particularly challenging for children with ASD due to their social cognitive deficits. However, with the right support and interventions, these children can develop meaningful relationships. Social skills training programs that focus on specific skills, such as initiating conversations, understanding social cues, and taking turns, can help children with ASD interact more effectively with their peers (Williams White et al., 2007). Additionally, structured social activities and clubs that align with the child's interests can provide natural opportunities for social interaction and friendship building (Locke et al., 2013).

### **7.2. Role of Community Programs and Activities in Improving Social Skills**

Community programs and activities play a crucial role in improving the social skills of children with ASD. Programs such as recreational sports, arts and crafts classes, and social skills groups can provide structured yet low-pressure environments for children to practice and develop their social abilities (Cheung et al., 2015). These programs often use evidence-based approaches and are facilitated by trained professionals who understand the unique needs of children with ASD. Furthermore, participation in community activities can help children with ASD feel more included and connected to their community, enhancing their overall quality of life (Hochhauser & Engel-Yeger, 2010).

### **7.3. Barriers to Social Integration and Ways to Overcome Them**

Despite the availability of programs and interventions, children with ASD often face significant barriers to social integration. These barriers can include a lack of understanding and acceptance from peers, limited access to inclusive activities, and insufficient support from community institutions. Overcoming these barriers requires a multifaceted approach. Increasing public awareness and education about ASD can help foster a more inclusive and accepting environment (Neely et al., 2015a). Schools and community organizations can also play a key role by implementing inclusive practices and providing adequate support and accommodations for children with ASD. Finally, advocacy for policies that promote the inclusion and integration of individuals with disabilities can help create a more supportive and accessible community for everyone (Shattuck et al., 2011).

### **7.4. Societal Integration Inclusive Education**

Inclusive education aims to create supportive environments within mainstream educational settings that accommodate the needs of children with ASD. This involves training educators and peers to understand and support the social and learning needs of these children. Implementing individualized education plans (IEPs), providing access to specialized resources, and fostering a culture of acceptance and inclusion are critical components of an inclusive educational environment (Odom et al., 2011).

### **7.5. Community Programs and Resources**

Developing community-based initiatives for social skill development can play a significant role in the societal integration of individuals with ASD. Community programs that offer social skills groups, recreational activities, and peer mentoring can provide valuable opportunities for social interaction and practice. Partnerships between schools, healthcare providers, and community organizations can enhance the availability and quality of these programs, ensuring that they are accessible to all who need them (Guralnick, 2010).

## 7.6. Advocacy and Policy Changes

Policymakers play a crucial role in promoting inclusive practices and ensuring access to resources and support for individuals with ASD. Advocacy efforts can lead to the implementation of policies that support early intervention, inclusive education, and community-based programs. Additionally, policies that provide funding for research and the development of new interventions can further improve outcomes for individuals with ASD. Advocacy organizations can help raise awareness and promote policy changes that benefit the ASD community (Lord et al., 2018).

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## 8. Conclusion

In conclusion, understanding social cognitive deficits in children with Autism Spectrum Disorders (ASD) is crucial for developing effective clinical, educational, and societal strategies. Early identification and intervention are essential, as they can significantly improve social communication and adaptive behaviors, laying a foundation for future success. Evidence-based practices such as Applied Behavior Analysis (ABA) and the Early Start Denver Model (ESDM) have shown promise in enhancing social cognition. Tailored interventions that consider the unique needs of each child, coupled with collaborative approaches involving families, educators, and therapists, are vital. These strategies not only address the immediate social challenges faced by children with ASD but also promote long-term positive outcomes by fostering essential social skills in naturalistic settings and ensuring their generalization across diverse contexts. Moreover, societal integration requires a multifaceted approach encompassing inclusive education, community programs, and advocacy efforts. Inclusive classroom settings and special education programs play pivotal roles in supporting the learning and social development of students with ASD, promoting understanding and acceptance among peers. Community-based initiatives and support networks are instrumental in providing opportunities for social interaction and skill development, aiding in the overall integration of individuals with ASD into society. Advocacy and policy changes are necessary to ensure access to resources and support, fostering a more inclusive environment. By bridging research with practical application, these comprehensive strategies underscore the importance of continued efforts in research, awareness, and advocacy to improve the lives of individuals with ASD and their families.

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## Compliance with ethical standards

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### *Author' contributions*

Author contributed completely on this article.

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## References

- [1] American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.).
- [2] Ashburner, J., Ziviani, J., & Rodger, S. (2010). Surviving in the mainstream: Capacity of children with autism spectrum disorders to perform academically and regulate their emotions and behavior at school. *Research in Autism Spectrum Disorders*, 4(1), 18-27. <https://doi.org/10.1016/j.rasd.2009.07.002>
- [3] Autism Society. (2021). Retrieved from <https://www.autism-society.org/>
- [4] Autism Speaks. (2021). Retrieved from <https://www.autismspeaks.org/>
- [5] Baron-Cohen, S., Leslie, A. M., & Frith, U. (1985). Does the autistic child have a "theory of mind"? *Cognition*, 21(1), 37-46. [https://doi.org/10.1016/0010-0277\(85\)90022-8](https://doi.org/10.1016/0010-0277(85)90022-8)
- [6] Baron-Cohen, S. (2000). Theory of mind and autism: A review. *International Review of Research in Mental Retardation*, 23, 169-184.
- [7] Baron-Cohen, S., Leslie, A. M., & Frith, U. (1985). Does the autistic child have a "theory of mind"? *Cognition*, 21(1), 37-46.

- [8] Bauminger, N., & Kasari, C. (2000). Loneliness and friendship in high-functioning children with autism. *Child Development*, 71(2), 447-456.
- [9] Bearss, K., Burrell, T. L., Challa, S. A., Postorino, V., Gillespie, S. E., Crooks, C., & Scahill, L. (2015). Feasibility of parent training via telehealth for children with autism spectrum disorder and disruptive behavior: A demonstration pilot. *Journal of Autism and Developmental Disorders*, 45(5), 1474-1486.
- [10] Bellini, S., Peters, J. K., Benner, L., & Hopf, A. (2007). A meta-analysis of school-based social skills interventions for children with autism spectrum disorders. *Remedial and Special Education*, 28(3), 153-162.
- [11] Boutot, E. A., & Bryant, D. P. (2005). Social integration of students with autism in inclusive settings. *Education and Training in Developmental Disabilities*, 40(1), 14-23.
- [12] Brock, M. E., Huber, H. B., Carter, E. W., Juárez, A. P., & Warren, Z. (2014). Statewide assessment of professional development needs related to educating students with autism spectrum disorder. *Focus on Autism and Other Developmental Disabilities*, 29(2), 67-79.
- [13] Brookman-Fraze, L., Stahmer, A., Baker-Ericzén, M., & Tsai, K. (2009). Parent perspectives on community mental health services for children with autism spectrum disorders. *Journal of Child and Family Studies*, 18, 526-536.
- [14] Cappadocia, M. C., Weiss, J. A., & Pepler, D. (2012). Bullying experiences among children and youth with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 42(2), 266-277.
- [15] Charman, T. (2003). Why is joint attention a pivotal skill in autism? *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences*, 358(1430), 315-324.
- [16] Cheung, P. P., Siu, A. M., & Brown, T. (2015). Measuring the participation of children with disabilities in community-based rehabilitation. *Disability and Rehabilitation*, 37(10), 927-933.
- [17] Dawson, G., Rogers, S., Munson, J., Smith, M., Winter, J., Greenson, J., ... & Varley, J. (2010). Randomized, controlled trial of an intervention for toddlers with autism: The Early Start Denver Model. *Pediatrics*, 125(1), e17-e23.
- [18] Dunlap, G., & Fox, L. (1999). A demonstration of behavioral support for young children with autism. *Journal of Positive Behavior Interventions*, 1(2), 77-87.
- [19] Friend, M., Cook, L., Hurley-Chamberlain, D., & Shamberger, C. (2010). Co-teaching: An illustration of the complexity of collaboration in special education. *Journal of Educational and Psychological Consultation*, 20(1), 9-27.
- [20] Frith, U. (2001). *Autism: Explaining the enigma* (2nd ed.). Blackwell Publishing.
- [21] Gray, C. (2010). *The new Social Story book*. Arlington, TX: Future Horizons.
- [22] Grossman, J. B., Klin, A., Carter, A. S., & Volkmar, F. R. (2000). Verbal bias in recognition of facial emotions in children with Asperger syndrome. *Journal of Child Psychology and Psychiatry*, 41(3), 369-379.
- [23] Guralnick, M. J. (2010). Early intervention approaches to enhance the peer-related social competence of young children with developmental delays: A historical perspective. *Infants & Young Children*, 23(2), 73-83.
- [24] Harms, M. B., Martin, A., & Wallace, G. L. (2010). Facial emotion recognition in autism spectrum disorders: A review of behavioral and neuroimaging studies. *Neuropsychology Review*, 20(3), 290-322. <https://doi.org/10.1007/s11065-010-9138-6>
- [25] Hayes, S. A., & Watson, S. L. (2013). The impact of parenting stress: A meta-analysis of studies comparing the experience of parenting stress in parents of children with and without autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 43(3), 629-642.
- [26] Hill, E. L. (2004). Executive dysfunction in autism. *Trends in Cognitive Sciences*, 8(1), 26-32.
- [27] Hochhauser, M., & Engel-Yeger, B. (2010). Sensory processing abilities and their relation to participation in leisure activities among children with high-functioning autism spectrum disorder (HFASD). *Research in Autism Spectrum Disorders*, 4(4), 746-754.
- [28] Hodgdon, L. Q. (1995). *Visual strategies for improving communication: Practical supports for school and home*. QuirkRoberts Publishing.
- [29] Howlin, P. (2000). Outcome in adult life for more able individuals with autism or Asperger syndrome. *Autism*, 4(1), 63-83. <https://doi.org/10.1177/1362361300004001005>
- [30] Kamps, D. M., Thiemann-Bourque, K., Heitzman-Powell, L., Schwartz, I., Rosenberg, N., Mason, R., & Cox, S. (2015). A comprehensive peer network intervention to improve social



- [31] communication of children with autism spectrum disorders: A randomized trial in kindergarten and first grade. *Journal of Autism and Developmental Disorders*, 45(6), 1809-1824.
- [32] Kasari, C., Freeman, S., & Paparella, T. (2006). Joint attention and symbolic play in young children with autism: A randomized controlled intervention study. *Journal of Child Psychology and Psychiatry*, 47(6), 611-620
- [33] Koegel, L. K., Ashbaugh, K., Navab, A., & Koegel, R. L. (2012). Improving empathic communication skills in adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 42, 2201-2211.
- [34] Kuhaneck, H. M., Burroughs, T., Wright, J., Lemanczyk, T., & Darragh, A. R. (2010). A qualitative study of coping in mothers of children with an autism spectrum disorder. *Physical & Occupational Therapy in Pediatrics*, 30(4), 340-350.
- [35] Locke, J., Ishijima, E. H., Kasari, C., & London, N. (2013). Loneliness, friendship quality and the social networks of adolescents with high-functioning autism in an inclusive school setting. *Journal of Research in Special Educational Needs*, 10(2), 74-81.
- [36] Lord, C., Elsabbagh, M., Baird, G., & Veenstra-Vanderweele, J. (2018). Autism spectrum disorder. *The Lancet*, 392(10146), 508-520.
- [37] Lovaas, O. I. (1987). Behavioral treatment and normal educational and intellectual functioning in young autistic children. *Journal of Consulting and Clinical Psychology*, 55(1), 3-9.
- [38] Müller, E., Schuler, A., Burton, B. A., & Yates, G. B. (2003). Meeting the vocational support needs of individuals with Asperger syndrome and other autism spectrum disabilities. *Journal of Vocational Rehabilitation*, 18(3), 163-175. <https://doi.org/10.3233/JVR-2003-18304>
- [39] National Institute of Mental Health. (2018). Autism spectrum disorder. Retrieved from <https://www.nimh.nih.gov/health/topics/autism-spectrum-disorders-asd/index.shtml>
- [40] Neely, L., Amatea, E. S., Echevarria-Doan, S., & Tannen, T. (2015a). Working with families living with autism: Potential contributions of marriage and family therapists in collaborative family-school interventions. *The American Journal of Family Therapy*, 43(3), 171-183.
- [41] Neely, L., Gerow, S., Rispoli, M., Lang, R., & Pullen, N. (2015b). Treatment of Echolalia in Individuals with Autism Spectrum Disorder: a Systematic Review. *Review Journal of Autism and Developmental Disorders*, 3(1), 82-91. <https://doi.org/10.1007/s40489-015-0067-4>
- [42] Odom, S. L., Buysse, V., & Soukakou, E. (2011). Inclusion for young children with disabilities: A quarter century of research perspectives. *Journal of Early Intervention*, 33(4), 344-356.
- [43] Rivers, J. W., & Stoneman, Z. (2008). Sibling relationships when a child has autism: Marital stress and support coping. *Journal of Autism and Developmental Disorders*, 38(2), 279-289
- [44] Rogers, S. J., & Dawson, G. (2010). *Early Start Denver Model for young children with autism: Promoting language, learning, and engagement*. Guilford Press.
- [45] Sheinkopf, S. J. (2005). Hot topics in autism: cognitive deficits, cognitive style, and joint attention dysfunction. *Medicine and Health*, 88(5), 155-158.
- [46] Shattuck, P. T., Grosse, S. D., Parish, S., & Bierman, A. (2011). Utilization of publicly funded systems of care among adults on the autism spectrum. *Journal of Autism and Developmental Disorders*, 41(4), 444-450.
- [47] Stokes, T. F., & Baer, D. M. (1977). An implicit technology of generalization. *Journal of Applied Behavior Analysis*, 10(2), 349-367
- [48] Tager-Flusberg, H. (2007). Evaluating the theory-of-mind hypothesis of autism. *Current Directions in Psychological Science*, 16(6), 311-315.
- [49] Tager-Flusberg, H., & Joseph, R. M. (2003). Identifying neurocognitive phenotypes in autism. *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences*, 358(1430), 303-314.
- [50] Wetherby, A. M., Guthrie, W., Woods, J., Schatschneider, C., Holland, R. D., Morgan, L., ... & Lord, C. (2014). Parent-implemented social intervention for toddlers with autism: An RCT. *Pediatrics*, 134(6), 1084-1093.
- [51] Williams White, S., Keonig, K., & Scahill, L. (2007). Social skills development in children with autism spectrum disorders: A review of the intervention research. *Journal of Autism and Developmental Disorders*, 37(10), 1858-1868.