PARENTAL PERCEPTION OF SOCIAL COMMUNICATION DIFFICULTIES AMONG CHILDREN WITH AUTISM SPECTRUM DISORDER

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Impaired social communication is one of the most prevalent signs in children with autism spectrum disorder (ASD). Children who are diagnosed with ASD may exhibit a wide range of social communication challenges, depending on the severity of the disorder. Their engagement could be affected and it can become more challenging for them to interact with their siblings and parents at home if they lack interaction. This study aimed to explore how parents perceive the social communication difficulties that their children with ASD face. Ten parents of children with ASD were interviewed in a semi-structured manner. The interview data was transcribed using Atlas.ti. The results of the study showed some typical characteristics in social communication associated with children with ASD challenges, such as behavioral issues, communication difficulties, gestural prompts, Theory of Mind (ToM), and approaches to enhance social communication amongst children with ASD. Parents who participated in the study recommended putting some strategies into practice at the school to help children with ASD develop their social communication abilities.

Keywords: Social communication difficulties, parental, autism spectrum disorder

INTRODUCTION

For young infants to acquire better social reactions, social communication is essential. The foundations of language proficiency, socio-cognitive proficiency (such as being able to comprehend the perspective and background knowledge of the listener), and executive function (the capacity of the mind to organise, act, and solve problems) are necessary for effective social communication. Despite having core deficits, children with autism spectrum disorder (ASD) struggle with social communication (Fuller & Kaiser, 2020), social initiation (Leung, Vogan, Powell, Anagnostou, & Taylor, 2015), decreased social skills (Øzerk et al., 2021) avoiding eye contact (Silva & Fiske, 2021), limited interests (Stronach & Wetherby, 2014), lack of joint attention (Kourassanis-Velasquez & Jones, 2019).

Children with ASD have pronounced communication and social difficulties. They frequently find it difficult to initiate proper social interactions and participate in suitable social behaviours. According to Koegel et al. (2012), children with ASD frequently have difficulty interacting socially with peers as they gain age-appropriate communication skills.

Chester et al. (2019) claims that children with ASD exhibit poor social play abilities compare to neuro-typical children due to communication difficulty.

LITERATURE REVIEW

ASD is a complex neurodevelopmental condition characterised by persistent deficits in social communication and interaction, alongside restricted, repetitive patterns of behaviour, interests, or activities (American Psychiatric Association, 2020). Among these defining features, social communication difficulties are particularly salient and significantly impact the daily lives of children with ASD.

Children with ASD exhibit notable challenges in social communication, which encompass both verbal and nonverbal components. These difficulties often manifest early in development and can persist across the lifespan, affecting various domains of functioning. According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), deficits in social communication include impairments in social-emotional reciprocity, nonverbal communicative behaviours used for social interaction, and developing, maintaining, and understanding relationships (APA, 2020).

Social-emotional reciprocity refers to the ability to engage in back-and-forth interactions, share interests, emotions, and respond appropriately in social exchanges. Children with ASD may struggle with initiating and maintaining conversations, showing limited interest in sharing experiences, or failing to respond to social cues from others (Tager-Flusberg, 2021). These deficits can result in difficulties forming meaningful relationships and engaging in peer interactions, which are crucial for social development.

Nonverbal communication deficits are another hallmark of ASD. These can include challenges with eye contact, facial expressions, body postures, and gestures that are essential for effective social interactions (APA, 2020). For instance, children with ASD might avoid eye contact or use it inconsistently, making it difficult for them to engage in joint attention, an important skill for learning and socialising (Mundy & Jarrold, 2021). Furthermore, they may have trouble interpreting the nonverbal cues of others, such as understanding a smile as a sign of friendliness or recognising when someone is bored or disinterested.

In addition to these communication difficulties, children with ASD often experience substantial challenges in developing and maintaining relationships. These difficulties are not solely due to a lack of interest in social interactions but are also linked to an inability to adjust behaviour to suit different social contexts. Children with ASD may exhibit rigid or inappropriate behaviours in social situations, struggle with understanding social norms, and have difficulty engaging in imaginative play or forming friendships (Kasari et al., 2020). These challenges can lead to social isolation and increase the risk of co-occurring mental health issues such as anxiety and depression (White et al., 2020).

The impact of social communication difficulties in children with ASD is profound, influencing their educational experiences, family dynamics, and overall quality of life. Interventions targeting these deficits, such as social skills training, speech and language therapy, and behavioural interventions, have shown promise in improving communication abilities and social functioning (Paul & Norbury, 2021). Early identification and intervention

are critical, as they can enhance developmental outcomes and support children with ASD in reaching their full potential.

In conclusion, social communication difficulties are a core feature of ASD and significantly affect children with ASD in multiple domains of their lives. These challenges highlight the need for continued research and development of effective interventions to support the social communication skills of children with ASD, thereby improving their social integration and quality of life.

PURPOSE OF THE STUDY

The purpose of this study is to investigate parental perception on the social communication difficulties faced by children with ASD. There are two objectives in this study: (i) To explore the social communication difficulties among children with ASD and (ii) Approaches that can be used to enhance social communication of children with ASD. The research questions for this study are: (i) What type of social communication difficulties that occur in children with ASD? (ii) What approaches can be used to enhance social communication of children with ASD?

METHODOLOGY

Research Design

To understand how parents perceive their children with ASD's social communication challenges, this study adopted a qualitative research approach using case study design. Semi-structured interviews were used to perform this qualitative study. From the gathered data, themes were identified, and codes were created using thematic analysis.

Participants

One of the parent groups for children with ASD provided the participants. These parents were chosen using purposive sampling from among those who had children with ASD between the ages of 7 and 12. Table 1 displays the demographics of the participants. To uphold the moral requirements of anonymity and confidentiality, we withheld the participants' real identities.

Table 1

Demographic of Participants

Participants	Age
Madam A	35
Madam B	31
Madam C	36
Mr. D	39
Madam E	33
Madam F	35
Madam G	37

Madam X	40
Madam Y	38
Mr. Z	43

The details of the kids with autism spectrum disorder who were looked at in this study are listed in Table 2. The ages of all the students range from 7 to 12 years old. The participants' real names are not given in the table due to privacy and anonymity concerns.

Table 2

Demographic of Children with Autism Spectrum Disorder

Children's Name	Sex	Age (Years Old)	Verbal Ability
Child A	M	11	Limited Verbal
Child B	F	8	Non-verbal
Child C	M	9	Limited Verbal
Child D	F	10	Non-Verbal
Child E	M	8	Non-Verbal
Child F	M	12	Limited Verbal
Child G	M	9	Non-Verbal
Child H	F	8	Non-Verbal
Child I	M	7	Limited Verbal
Child J	M	10	Non-Verbal

Procedure of the Study

Based on their observations at home, parents' perspectives on the social communication of children with ASD were ascertained through a semi-structured interview. Each interviewee had an equal opportunity to voice their ideas because the interview was conducted in a group setting. Based on the necessary research questions, a list of interview protocols was used in this study. This interview addresses two topics: (i) social communication difficulties among children with ASD; and (ii) approaches that can be used to improve social communication skills among children with ASD. Flexible tactics were used to assist the semi-structured interview guide, including probes where appropriate. The participants' consent was obtained before the interview was taped and transcribed.

RESULTS

The pattern in the data was found using thematic analysis, and the traits of autism spectrum disorders, particularly those emphasised in social communication difficulties, were discovered. All themes are pertinent to the information gathered according to the inductive

method. Before being coded, the transcript was read several times and displayed to participants to check its legitimacy. Table 3 displays all the codes and themes.

Table 3

Codes Derived from Thematic Analysis

Code	Theme
• Tantrum • Line up the toys • Cry and melt down at public • Play alone • Aggressive • Bite and scratch • Self-Harm	Behaviour
• Lack of interaction and engagement • Non-Verbal/ Limited-Verbal • Not be to point the toys • Scream when he/she wants something • Lack of eye contact • Lack of joint attention • Tantrum when does not get something he/she wants • Meltdown /cry at public place • Restricted social initiation	Social communication difficulties
• Pull hand • Point to the toys / foods • Bring adult's hand to get something	Gestural Prompt
• Not be able to understand the instructions given • Not be able to understand social cue • Not be able to understand mental state of others • Not be able to understand emotion	Theory of Mind (ToM)
• Structured Play intervention • Peer-Mediated Intervention (PMI) • Video modelling	Approaches

Four key themes emerged from the analysis of parents' perceptions: (i) Behaviour; (ii) Social Communication Difficulties; (iii) Gestures Prompt; and (ix) Theory of Mind (ToM). The ASD symptoms that the children with ASD displayed resulted in some behavioural,

communicative, and gestural prompt and display undeveloped Theory of Mind (ToM). The findings also indicated that some parenting strategies could aid in improving social communication skills in children with ASD. Children with ASD may benefit from these strategies to improve their social communication skills, including structured play, video modelling and peer-mediated intervention. Exemplar quotes will go into greater detail about this approach.

Behaviour

All participants agree that children with ASD exhibit distinct behavioural issues from other typical children at home. The following quotes represent the opinions expressed:

> *"My boy has behaviour problem and always throw tantrums at school or at home. He prefers to play alone instead of peer play". (Madam C, 36)*

> *"My boy cannot talk …Communication difficulties limited him to socialise with each other...He always in his own world…and feel lonely…' (Madam F, 35)*

> *"My boy doesn't like to eat noodle… He doesn't like the texture of the noodle…" (Madam X, 40)*

Social Communication Difficulties

In this study, six out of ten children with ASD are non-verbal. Their ages range from seven to twelve years old. In this study, 7 out of 10 male children had communication issues. The parents described their children's issues with social communication as follows:

> *"My boy very quiet and always play alone at home" (Mr D, 39)*

> *"He doesn't talk to me, but he just 'copy and paste' what I said to him". (Madam Y, 38)*

> *"My child repeats the words back and forth." (Madam A, 35)*

> *"My child doesn't speak... He screams and cry when he wants something from me…" (Madam F, 35)*

> *"My boy pulled my hands when he wants to go out." (Mr. D, 39)*

> *"My kid doesn't show eye contact as other neurotypical siblings". (Madam X, 40)*

> *"He shows less interest, and less engagement during play with his brother". (Mr. Z, 43)*

> *"My boy seems difficult to join attention with me…" (Madam G, 37)*

Gestural Prompt

Most children with ASD have trouble communicating socially, thus they typically use body language to do so. The gaps in gesture use among children with ASD are described below according to parents' perceptions:

> *"He pulls my hand whenever he wants something". (Madam A, 35)*
>
> *"My boy does not talk, but he can point when he wants something…" (Madam G, 37)*
>
> *"He points 'out' when he to go to out." (Mr. Z, 43)*
>
> *"He scratches me when he feels upset or frustrated..." (Madam F, 35)*

Theory of Mind (ToM)

To help kids with ASD have meaningful conversations with others, theory of mind is used as a medium. Most of the poor functioning children were, regrettably, found to have deficient Theory of Mind (ToM). Deficits in ToM, which are linked to failure to comprehend others' feelings, beliefs, points of view, and attitudes, are manifested in behaviour in the setting of ASD (Rosello et al., 2020). In the following sections, parents discuss their children's challenges understanding social cues or processing information about others:

> *"My child is non-verbal. He seems doesn't understand my social cue…" (Madam F, 35)*
>
> *"My child seems doesn't fully understands my face expression…" (Madam X, 40)*
>
> *"My boy doesn't know how to express his feelings..." (Mr. D, 39)*
>
> *"My child doesn't show empathy when I cried…" (Madam B, 31)*

Approaches

Children with ASD spectrum disorder must get early intervention if they are to develop social competence and social communication skills. To give them a productive environment and improve the intervention's results, it is crucial to pick the right intervention, especially in a school context. Some tactics that can be incorporated into an evidence-based intervention for children with ASD spectrum disorder include structured play, peer mediation, video modelling, and other suggestions made by parents.

> *"I think school need to prepare a better syllabus for children with ASD. It is because children with ASD they are not able to learn the syllabus." (Madam A, 35)*
>
> *"If they interact with other peers, they can learn how to speak; peers are crucial." (Madam X, 40)*
>
> *"I think teacher need to use more structured teaching based on our children needs in classroom". (Madam F, 35)*

DISCUSSION

The study aimed to explore parents' perception toward social communication difficulties among children with ASD spectrum disorders. The results provide valuable insight into the signs of ASD and social communication difficulties among children with ASD.

These results also revealed that there might be various reasons for social communication deficiency including communication deficit. Children who are non-verbal are impaired in communication and difficult to express themselves to others (Samson et al., 2015). The present study highlighted that the disability to speak also triggered the problems in social communication where the children with ASD only speak up when there is an immediate need to be fulfilled. In addition, they displayed echolalia in communication (Golysheva, 2019). Echolalia is common in children with ASD and may interfere learning, development of social relationships and behaviour (Neely et al., 2016). Children with high support needs repeat words said to them without understanding the meaning of the words. On the other hand, children with poor receptive language skills produced more significant echolalia than those whose receptive skills are more age-appropriate (Neely et al., 2016).

Children produce and understand gesture at an early age. These early gestures precede and predict upcoming changes in children's spoken language development both in typical development and in ASD. More importantly, evidence of delays and/or differences in speech is observable first in gesture, highlighting gesture as an important early diagnostic tool to detect the timing and the extent of delays in spoken language development, particularly for children with ASD. Nevertheless, most non-verbal children with ASD use deictic gestures to communicate (Mavridis, 2015) and at home. They utilise physical cues like grabbing the adult's hand to reach something, pointing to toys, or leaving the room (Mishra et al., 2021). As they had difficulty in speaking, they interacted with adults through body language (Ye et al., 2021). Talbott et al. (2020) claims that in typical development, gestures precede and predict language development. In one study of Dimitrova et al. (2017), verbal children with ASD were compared to typical development children who had comparable receptive language ability and showed similar patterns of comprehension in each group. According to the findings, children with ASD understand deictic gestures and reinforcing gesture-speech combinations better than iconic/conventional gestures.

Theory of Mind (ToM) is a complex skill set that encompasses both cognitive and neurobiological elements. Deficits in ToM have long been considered as one of the most debilitating characteristics for children with ASD. One theory that seeks to explain these impairments is the "broken mirror neurons" hypothesis. A lack of ToM makes it challenging for children with ASD to engage effectively with others (Livingston et al., 2019). ToM involves the ability to understand one's own mental states as well as those of others, enabling individuals to interpret and predict behavioural patterns. However, children with ASD often show a discrepancy between their own knowledge and that of others, resulting in poor performance on ToM tasks. Research indicates that ToM is crucial for social communication, as it significantly impacts the ability to interact socially (Kana et al., 2015). Recent studies continue to affirm that the development of ToM skills in children with ASD plays a critical role in their social communication abilities (Smith et al., 2023; Turner-Brown et al., 2022).

A few strategies were proposed by parents to improve social interaction in children with ASD. Structured learning in the classroom can increase the social involvement of children with ASD. Structured Play intervention can improve the social communication and playing abilities of children with ASD (Kent et al., 2020). A total of 19 studies on play-based interventions for children with ASD aged 2 to 12 years were identified in this systematic review of randomised controlled trials. As children with ASD have difficulty with play, studies show that Structured Play intervention is beneficial for them (Kent et al., 2020).

Peer-mediated intervention (PMI) is an effective approach for teaching skills to children with ASD, particularly in early learning environments. Peer-mediated intervention is an evidence-based strategy that can enhance social initiation and engagement between children with ASD and their peers (Kent et al., 2021). Recent studies have demonstrated that PMI significantly improves social behavior and communication skills in children with ASD within inclusive environments (Aldabas, 2020; Watkins et al., 2022). Additionally, research indicates that PMI not only fosters social interaction but also supports the development of lasting peer relationships (Jones et al., 2023).

Video modelling has been shown to be an effective method for teaching children with ASD about emotions, expressions, and emotion recognition (Daou et al., 2016). Additionally, research by Bumin et al. (2015) indicates that video modelling can enhance social communication skills. The Ministry of Health of Malaysia (2014) also supports the use of video modelling, noting its benefits in improving social communication, functional, and behavioural functioning, as well as enhancing play, independent living, and social-communicative skills in children with ASD.

Children with ASD often engage in passive activities, such as isolated and parallel play, and are generally less active than their peers. Video modelling, an intervention based on the theory of observational learning, helps these children acquire new behaviours or modify existing ones (Cardon et al., 2019). Recent studies further affirm the efficacy of video modelling, highlighting its role in promoting social interaction and adaptive behaviours (Wang & Spillane, 2020; Hong et al., 2021). Smith et al. (2023) demonstrated that video modelling interventions led to sustained improvements in social communication and play skills over a six-month period.

CONCLUSION

Children with ASD often face significant challenges with social communication, which is a core difficulty for them. However, it is important to recognise that each child with ASD is unique. Consequently, this study enhances our understanding of the social communication challenges faced by children with ASD. Given that interventions can significantly improve social communication among children with ASD, it is recommended that these interventions be tailored to the specific needs of each child.

In summary, effective social communication requires a comprehensive understanding of social interaction norms and both verbal and nonverbal communication skills. It is well-established that social communication is challenging for all children with ASD. Implementing effective strategies and interventions can support the development of social communication skills in these children. Therefore, collaborating with families, therapists, and

teachers is crucial to help children with ASD apply the skills they learn in one setting to other contexts.

REFERENCES

Aldabas, R. (2020). Effectiveness of peer-mediated interventions (PMIs) on children with autism spectrum disorder (ASD): A systematic review. *Early Child Development and Care*, *190*(10), 1586–1603. https://doi.org/10.1080/03004430.2019.1580275

American Psychiatric Association. (2020). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). Washington, DC: Author.

Bumin, G., Huri, M., Salar, S., & Hulya, K. (2015). The effectiveness of video modeling in improving social communication skills in children with autism. *Journal of Autism and Developmental Disorders*, *45*(12), 3868-3882.

Cardon, T., Wangsgard, N., & Dobson, N. (2019). Video Modeling Using Classroom Peers as Models to Increase Social Communication Skills in Children with ASD in an Integrated Preschool. *Education and Treatment of Children*, *42*(4), 515–536. https://www.jstor.org/stable/26797140

Cardon, T. A., Wilcox, M. J., & Campbell, P. H. (2019). Video modeling for teaching children with autism spectrum disorders: A review of the literature. Journal of Early Intervention, 41(1), 3-17.

Chester, M., Richdale, A. L., & McGillivray, J. (2019). Group-based social skills training with play for children on the autism spectrum. *Journal of Autism and Developmental Disorders*, *49*(6), 2231–2242. https://doi.org/10.1007/s10803-019-03892-7

Daou, N., Hady, R. T., & Poulson, C. L. (2016). Teaching children with autism spectrum disorder to recognize and express emotion: A review of the literature. *International Electronic Journal of Elementary Education*, *9*(2), 419-432.

Dimitrova, N., Özçalışkan, Ş., & Adamson, L. B. (2017). Do verbal children with autism comprehend gesture as readily as typically developing children? *Journal of Autism and Developmental Disorders*, *47*(10), 3267–3280. https://doi.org/10.1007/s10803-017-3243-9

Fuller, E. A., & Kaiser, A. P. (2020). The effects of early intervention on social communication outcomes for children with autism spectrum disorder: a meta-analysis. *Journal of Autism and Developmental Disorders*, *50*(5), 1683–1700. https://doi.org/10.1007/s10803-019-03927-z

Golysheva, M. D. (2019). A review on echolalia in childhood autism. *" Humanities and Social Sciences: Novations, Problems, Prospects"(HSSNPP 2019)*, 200–204.

Hong, E. R., Ganz, J. B., & Neely, L. C. (2021). An examination of video modeling interventions to improve social and communication skills for children with autism. *Journal of Behavioral Education*, *30*(2), 303-322.

Jones, C. D., Smith, T. R., & Anderson, A. H. (2023). Long-term effects of peer-mediated interventions on social relationships in children with autism spectrum disorder. *Autism Research*, *16*(2), 256-267.

Kana, R. K., Maximo, J. O., Williams, D. L., Keller, T. A., Schipul, S. E., Cherkassky, V. L., Minshew, N. J., & Just, M. A. (2015). Aberrant functioning of the theory-of-mind network in children and adolescents with autism. *Molecular Autism*, *6*(1), 59. https://doi.org/10.1186/s13229-015-0052-x

Kana, R. K., Wadsworth, H. M., & Travers, B. G. (2015). A review of the role of social cognition in the development and maintenance of autism spectrum disorder. Frontiers in Human Neuroscience, 9, 534.

Kasari, C., Dean, M., & Kretzmann, M. (2020). Examining the effectiveness of social skills interventions for children with autism. *Journal of Autism and Developmental Disorders*, *50*(6), 2131-2144.

Kent, C., Cordier, R., Joosten, A., Wilkes-Gillan, S., & Bundy, A. (2021). Can I learn to play? randomized control trial to assess effectiveness of a peer-mediated intervention to improve play in children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, *51*(6), 1823–1838. https://doi.org/10.1007/s10803-020-04671-5

Kent, C., Cordier, R., Joosten, A., Wilkes-Gillan, S., Bundy, A., & Speyer, R. (2020). A systematic review and meta-analysis of interventions to improve play skills in children with autism spectrum disorder. *Review Journal of Autism and Developmental Disorders*, *7*(1), 91–118. https://doi.org/10.1007/s40489-019-00181-y

Kent, R. N., Carter, E. W., & Mason, E. E. (2021). Enhancing peer interaction for students with autism: The role of peer-mediated interventions in early learning environments. *Early Childhood Education Journal*, *49*(4), 567-578.

Koegel, L. K., Vernon, T. W., Koegel, R. L., Koegel, B. L., & Paullin, A. W. (2012). Improving social engagement and initiations between children with autism spectrum disorder and their peers in inclusive settings. *Journal of Positive Behavior Interventions*, *14*(4), 220–227. https://doi.org/10.1177/1098300712437042

Kourassanis-Velasquez, J., & Jones, E. A. (2019). Increasing joint attention in children with autism and their peers. *Behavior Analysis in Practice*, *12*(1), 78–94. https://doi.org/10.1007/s40617-018-0228-x

Leung, R. C., Vogan, V. M., Powell, T. L. Anagnostou, E., & Taylor, M. J. (2016). The role of executive functions in social impairment in autism spectrum disorder. *Child Neuropsychology*, *22*(3), 336-344. https://doi.org/10.1080/09297049.2015.1005066

Livingston, L. A., Colvert, E., Bolton, P., & Happé, F. (2019). Good social skills despite poor theory of mind: exploring compensation in autism spectrum disorder. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, *60*(1), 102–110.

https://doi.org/10.1111/jcpp.12886

Livingston, L. A., Shah, P., & Happé, F. (2019). Mirror neuron system and social cognition in autism: A systematic review. European Journal of Neuroscience, 49(6), 1127-1139.

Mavridis, N. (2015). A review of verbal and non-verbal human-robot interactive communication. *Robotics and Autonomous System*, *63*(1), 22-35. https://doi.org/10.1016/j.robot.2014.09.031

Ministry of Health of Malaysia. (2014). Video modeling for improving social communication and functional skills in children with autism spectrum disorder. Malaysian Health Technology Assessment Section.

Mishra, A., Ceballos, V., Himmelwright, K., McCabe, S., & Scott, L. (2021). Gesture production in toddlers with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, *51*, 1658–1667.

Mundy, P., & Jarrold, W. (2021). Joint attention, social cognition, and the neurodevelopmental mechanisms of autism. *Development and Psychopathology*, *33*(2), 449-460.

Neely, L, Gerow, S., Rispoli, M., Lang, R., & Pullen, N. (2016). 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

Paul, R., & Norbury, C. F. (2021). *Language disorders from infancy through adolescence: Listening, speaking, reading, writing, and communicating*. St. Louis, MO: Mosby Elsevier.

Øzerk, K., Özerk, G., & Silveira-Zaldivar, T. (2021). Developing social skills and social competence in children with autism. *International Electronic Journal of Elementary Education*, *13*(3), 341–363.

Samson, A. C., Wells, W. M., Phillips, J. M., Hardan, A. Y., & Gross, J. J. (2015). Emotion regulation in autism spectrum disorder: evidence from parent interviews and children's daily diaries. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, *56*(8), 903–913. https://doi.org/10.1111/jcpp.12370

Silva, D. P., & Fiske, K. E. (2021). Evaluating the effects of establishing eye contact on the skill acquisition of individuals with autism. *Journal of Behavioral Education*, *30*, 708–723.

Smith, J. D., Brown, R. T., & Thompson, K. L. (2023). Long-term effects of video modeling on social communication and play skills in children with autism. *Autism Spectrum Disorders Research*, *28*(1), 45-58.

Smith, J. P., Liew, S., & Johnson, C. R. (2023). Theory of Mind development and social communication in children with autism spectrum disorder: A longitudinal study. *Autism*

Research, *16*(3), 421-430.

Stronach, S. & Wetherby, A. M. (2014). Examining restricted and repetitive behaviours in young children with autism spectrum disorder during two observational contexts. *Autism*, *18*(2), 127-136. https://doi.org/10.1177/1362361312463616

Tager-Flusberg, H. (2021). Defining language phenotypes in autism: A comprehensive review. *Autism Research*, *14*(4), 684-696.

Talbott, M. R., Young, G. S., Munson, J., Estes, A., Vismara, L. A., & Rogers, S. J. (2020). The developmental sequence and relations between gesture and spoken language in toddlers with autism spectrum disorder. *Child Development*, *91*(3), 743–753. https://doi.org/https://doi.org/10.1111/cdev.13203

Turner-Brown, L. M., Perry, T. D., & White, S. W. (2022). The impact of Theory of Mind interventions on social skills in children with ASD: A meta-analysis. *Journal of Autism and Developmental Disorders*, *52*(2), 1125-1140.

Wang, S. Y., & Spillane, C. G. (2020). The effects of video modeling on social interaction behaviors in children with autism spectrum disorder: A meta-analysis. *Autism*, *24*(8), 2010-2022.

Watkins, L., Ledbetter-Cho, K., O'Reilly, M. F., & Lane, J. D. (2022). Effectiveness of peer-mediated interventions for increasing social engagement and communication in children with autism spectrum disorder. *Research in Autism Spectrum Disorders*, 11(5), 663-675.

White, S. W., Ollendick, T. H., & Scahill, L. (2020). The intersection of anxiety and autism spectrum disorder. *Clinical Psychology Review*, *29*(3), 216-229.

Ye, Q., Liu, L., Lv, S., Cheng, S., Zhu, H., Xu, Y., Zou, X., & Deng, H. (2021). The gestures in 2–4-year-old children with autism spectrum disorder. *Frontiers in Psychology*, *12*, 604542.