

I acknowledge the use of Microsoft Editor on 15 May 2025 to check my spelling and grammar.

Introduction

Welcome to the autism online seminar. I am eager to learn more about autism and how it affects children. I have a strong interest in the ways that individuals with autism view and engage with their surroundings. My enthusiasm involves spreading knowledge about the significant barriers children deal with daily, which could hinder their growth, learning and social skills.

Identification and Diagnostic Procedures

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition affecting social interaction, communication and cognition, with symptoms varying by age (Welsh Government, 2019; National Autistic Society, 2025a). Common features of ASD include unique sensory responses, attention to detail and transition challenges (World Health Organisation (WHO), 2023). Inequalities in sensory processing often result in strange reactions in situations (Patil and Kaple, 2023). However, children with ASD have shown signs of having remarkable traits such as exceptional memory and sensory abilities, despite social difficulties (Cannon, 2018). Repetitive behaviours, narrow interests and challenges with communication and social interaction are common in children with ASD (Neurodivergence Wales, 2020a).

Diagnosing ASD can be complex due to the variety of symptoms, particularly in females (Young *et al.*, 2020). Moreover, due to diagnostic criteria's which favour male presentations, females are less likely to be diagnosed with autism (Happé and Frith, 2020). Access to therapy is limited by factors such as cost and experience level (Vo and Webb, 2024) emphasising the need for an improved diagnosis (Okoye *et al.*, 2023).

Early detection can be beneficial for preventing long-term issues (Christensen and Zubler, 2020; Kodak and Bergmann, 2020) in addition to enhancing communication skills, regulating behavioural issues and increasing developmental outcomes (Suthar *et al.*, 2020; Qin *et al.*, 2024). For children under the age of eighteen, early assessment of neurological pathways is particularly significant as it can result in better outcomes (Sandbank *et al.*, 2023). Referrals for neurological assessments occur through practitioners and health visitors to enable effective support solutions

that are customised to the individual's needs (Al-Biltagi, 2024; Welsh Government, 2021).

However, Okoye *et al.* (2023) highlights that early ASD detection may be difficult for several reasons. Autism can be present in a multitude of ways and each person with this condition has unique qualities and features, it is challenging to design a universally comprehensive diagnostic test. A major barrier is the belief that professionals, especially family doctors and teachers are unfamiliar with autism (Crane *et al.*, 2018). Despite these obstacles, early diagnosis has several advantages, such as enhanced developmental and adaptive capacities, timely intervention and access to support services, education and community resources which could reduce parental stress and encourage self-reliance. The potential risk of discrimination and branding, overdiagnosis or misdiagnosis could lead to needless therapies and the emotional complicated nature of the diagnostic process for families (Okoye *et al.*, 2023).

Communication Deficits

Children with ASD may struggle with the emphasis on socialisation within mainstream classrooms (Honeybourne, 2018). Communication impairments are displayed due to limited social engagement and language development difficulties (Wood, 2018), speech and language therapy are fundamental (Cummins, Pellicano and Crane, 2020). Furthermore, children with autism may show development delays such as decreased eye contact, limited social smiles and limited interests (Souza, Balestro and Cáceres-Assenço, 2022). Additionally, language in individuals with autism is often unidirectional, primarily used for labelling or requesting (Saad, 2017).

The double empathy theory suggests that communication difficulties may arise from mismatches between neurotypical and autistic communication styles, implying autistic people might be stronger communicators when exposed to other children with ASD (Milton, 2018; Crompton *et al.*, 2020). Many children with ASD also struggle with nonverbal communication, finding it difficult to recognise facial expressions and body language (Alshurman and Alsreaa, 2015; Cadette *et al.*, 2016).

Speech development in autistic children varies some have typical or advanced speech, while others have delayed development (National Autistic Society (2025c).

Communication problems could negatively affect children's mental health increasing anxiety and social isolation (Sumiya, Igarashi and Miyahara, 2018). However, non-face-to-face communication methods in the digital age offer unique opportunities for individuals with autism. Individualised communication based on needs can improve social inclusion and quality of life (Howard and Sedgewick, 2021). Understanding the diverse communication strengths and limitations of autistic individuals requires appreciating uniqueness in individuals (Haughey and Hall, 2019). Differences in expressive and receptive language could create communication difficulties for individuals (Neurodivergence Wales, 2020a; Sturrock *et al.*, 2021; United Kingdom Parliament, 2020). This aligns with the medical model as it is fundamentally built on a deficiency perspective (White, Maddox and Mazefsky, 2020). Moreover, Wood (2019) claims that the medical model treats an individual's limits since it views impairment as a condition within oneself. This concept places a strong emphasis on controlling and when possible, overcoming an individual's challenges, which is defined by their impairment (Crutchley, 2017).

Training Deficiencies

Providing high-quality care for children with ASD depends on trained professionals. A significant issue is the lack of depth in current training, often missing comprehensive knowledge of autism and evidence-based practices. This leaves teachers feeling unprepared and insecure in meeting the varied academic and social needs of autistic children (Dillenburger *et al.*, 2016; Silveira-Zaldivar and Curtis, 2019). Teachers may be hesitant to implement necessary programmes due to insufficient expertise in evidence-based social skills treatments, directly impacting the support children receive (Silveira-Zaldivar and Curtis, 2019). Furthermore, the training gap contributes to poorer life, health and educational outcomes for autistic children (Henninger and Taylor, 2013 cited in Barry, Holloway and McMahon, 2020). While inclusive policies aim to include autistic students into regular classrooms, the system often seems unprepared to effectively manage children's requirements (Hasson *et al.*, 2022). Teachers frequently lack the necessary tools, opportunities for teamwork and specialized training in areas such as behaviour management, communication and service organization (Jaffal, 2022; Babalola *et al.*, 2024). This lack of knowledge could reduce staff morale and increase stress and anxiety for autistic children (Dillenburger *et al.*, 2016).

Delayed diagnosis or insufficient support intensifies the situation by limiting access to interventions that could improve the developmental outcomes (Bivarchi, Kehyayan and Al-Kohji, 2021). While teachers acknowledge the wide range of academic achievements among autistic students, little is known about the factors influencing children's learning (McDougal, Riby and Hanley, 2020). Training that covers the autistic experiences is fundamental, as the focus on learning difficulties often overshadows social needs (Spencer, 2013; Sullivan, 2009 cited in Silveira-Zaldivar and Curtis, 2019). However, addressing this training gap requires a shift in practice and policy which involves providing ongoing professional development and reintroducing autism knowledge into teacher training programmes (Ambitious about Autism, 2022). Effective recommendations could incorporate teacher input and include practical, real-world inclusive teaching strategies (Jones, 2018; Jaffal, 2022). Ultimately, ensuring that all schools receive thorough autism support training which is significant for improving academic achievement but also for protecting the rights of autistic students to reinforce access to excellent education and a supportive environment (Neurodivergence Wales, 2020b; Ambitious about Autism, 2022). This aligns with the social model of disability which is not a result of biological impairment but rather a socially produced disadvantage caused by constraints such as physical or organisational restrictions and prejudices (Charlise, 2024; Welsh Government, 2023). It highlights how these social hurdles restrict children with additional learning needs from obtaining services fairly and fully engaging in society (Crutchley, 2017).

Support Strategy

The Picture Exchange Communication System (PECS), created by Bondy and Lori in 1985, is a popular communication tool for autistic children. PECS, which is based on applied behaviour analysis, attempts to improve communication abilities in children who have trouble speaking (Pyramid Educational Consultants, 2020). Through emphasising visual communication instead of just verbal communication, PECS aims to enable children to start discussions independently (Kennedy Krieger Institute, 2016). Moreover, PECS is a six-level system that progresses from simple chats to complex phrases. On top of that, picture cards are used to help children with ASD connect naturally, which improves their social and verbal communication skills (Welsh Government, 2019). According to research, children reported having better

communication abilities with the use of PECS (Pyramid Educational Consultants, no date). Additionally, children's communication needs can be met by technology such as PECS Online which follows the PECS phases (Liu *et al.*, 2023). Through strengthening skills acquired in school, family involvement in PECS instruction at home enhances communication success further (Tamanaha *et al.*, 2023). Moreover, through addressing significant behaviours associated with frustration brought on by communication problems, PECS in the classroom can help nonverbal students (Kruger, 2022).

As you can see in the poster, PECS facilitates communication for children with low verbal skills through visual exchanges (Children and Young People Health Services, 2024). It can be carried out with multiple participants in different locations and at different times of the day (Paris *et al.*, 2024; Koudys, Perry and McFee, 2022). To promote the behaviour, a communication partner delivers an image of the requested item and the partner promptly presents the item (Buobiad, 2024). Furthermore, PECS facilitates the development of strong connections between individuals (Kaduk, 2017). Children's communication skills are enhanced by regular picture-exchange interactions (Khoiriyah, 2021). Strategies include mixing PECS symbols with songs about food or using a PECS board with symbols for snack time choices can further improve usage in educational settings (Rocklands School, 2021; Beyond Autism, 2022). However, the setting would need to ensure that organisational support, time, resources, cost, opportunity, environmental setting and regular incorporation are all considered as these elements could create obstacles to PECS implementation. Furthermore, training and monitoring can also be difficult due to the advanced techniques (Paris *et al.*, 2024).

Conclusion

In summary, this investigation into ASD highlights the pressing need for accurate diagnostic techniques and early detection to improve long-term outcomes for affected children. Specialised interventions such as speech and language therapy are fundamental for addressing communication difficulties, a common challenge for individuals with ASD. The significant training gaps among professionals working with autistic children underscore the need for improved professional development and resources to ensure appropriate support. PECS is a promising and evidence-based

method for enhancing communication skills, particularly for non-verbal individuals. It demonstrates how focused interventions can benefit children with ASD and their families.

Questions

When is Autism Acceptance Month Celebrated and What is Its Significance?

April is World Autism Acceptance Month, a time to encourage inclusivity and compassion among pupils with autism. Promoting peer acceptance and understanding is more necessary than ever because only one in four autistic children report they are happy at school (Autism Education Trust, 2025). According to World Health Organisation WHO (2023) the current estimates of autism rates in children are at one in hundred. Raising awareness, encouraging acceptance and empowering people with autism are the main goals of the month. In celebration of World Autism Acceptance Month, a sponsored 5k walk has been held throughout April, with many people actively taking part (National Autistic Society, 2025b).

What are the primary reasons and consequences of underdiagnosis of autism in females?

According to Tien *et al.* (2025) females may mask their problems, which differ from those of males and diagnostic information is often based on male presentations, which leads to the underdiagnosis of autism in females. Cruz *et al.* (2024) suggest the misdiagnosis of females and the higher rate of autism diagnoses in males, may be due to gender variations in presentation and masking. The likelihood of a misdiagnosis contributes to the significant mental health problems and diminished wellbeing that women with autism often face (Bargiela, Steward and Mandy, 2016). The lower diagnosis incidence of ASD in females than in males calls into question diagnostic procedures and criteria. Additionally, females with autism exhibit more pronounced symptoms than males and carers and educators struggle to recognise them, underscoring the need for improved diagnostic methods (Georgantopoulou, 2023). Furthermore, there is documentary evidence involving a school in the UK whereby, staff tailor to support females with autism by expressing their symptoms without the need to mask (*Inside our minds*, 2023).

Reference list

Al-Biltagi, M. (2024) 'Pre-autism: Advancing early identification and intervention in autism', *World Journal of Clinical Cases*, 12(34), p. 6748-6753. Available at: <http://dx.doi.org/10.12998/wjcc.v12.i34.6748>

Alshurman, W. and Alsreaa, I. (2015) 'The Efficiency of Peer Teaching of Developing Non-Verbal Communication to Children with Autism Spectrum Disorder (ASD)' *Journal of Education and Practice*, 6(29), pp. 33-38.

Ambitious about Autism (2022) *Tackling problems in the SEND system that hold back autistic children and young people*. Available at: <https://www.ambitiousaboutautism.org.uk/sites/default/files/campaigns/written-off-report-ambitious-about-autism.pdf> (Accessed: 7 April 2025).

Autism Education Trust (2025) *This April Join us in Celebrating World Autism Acceptance Month*. Available at: <https://www.autismeducationtrust.org.uk/news/april-join-us-celebrating-world-autism-acceptance-month> (Accessed: 7 April 2025).

Babalola, T., Sanguedolce, G., Dipper, L. and Botting, N. (2024) 'Barriers and Facilitators of Healthcare Access for Autistic Children in the UK: a Systematic Review', *Review Journal of Autism and Developmental Disorders*. Available at: <https://doi.org/10.1007/s40489-023-00420-3>

Bargiela, S., Steward, R. and Mandy, W. (2016) 'The Experiences of Late-diagnosed Women with Autism Spectrum Conditions: An Investigation of the Female Autism Phenotype', *Journal of Autism and Developmental Disorders*, 46 pp. 3281-3294. Available at: <https://doi.org/10.1007/s10803-016-2872-8>

Barry, L., Holloway, J. and McMahon, J. (2020) 'A scoping review of the barriers and facilitators to the implementation of interventions in autism education', 78, pp. 1-16. Available at: <https://doi.org/10.1016/j.rasd.2020.101617>

Beyond Autism (2022) *Exploring the application of PECS board in the teaching of communication skills to an autistic learner*. Available at: <https://www.beyondautism.org.uk/wp-content/uploads/2022/12/Final-Tram-House-1.pdf> (Accessed: 7 April 2025).

Bivarchi, F., Kehyayan, V. and Al-Kohji, S. (2021) 'Barriers to the early detection and intervention of children with autism spectrum disorders: A literature review', *Journal of Nursing Education and Practice*, 11(11), pp. 72-80. Available at: <https://doi.org/10.5430/jnep.v11n11p72>

Buobiad, M. (2024) 'Using the Picture Exchange Communication System with Children with ASD: Educational Professionals' Experience and Perspectives', *International Journal of Learning Teaching and Educational Research*, 23(11), pp. 32-52. Available at: <https://doi.org/10.26803/ijlter.23.11.2>

Cadette, J., Wilson, C., Brady, M., Dukes, C. and Bennett, K. (2016) 'The Effectiveness of Direct Instruction in Teaching Students with Autism Spectrum Disorder to Answer 'Wh-' Questions', *Journal of Autism and Developmental Disorders*, 46(9), pp. 2968–2978. Available at: <https://doi.org/10.1007/s10803-016-2825-2>.

Cannon, H. (2018) *Autism: the positives*. Available at: https://cypf.berkshirehealthcare.nhs.uk/media/168884/positives_of_autism-poster.pdf (Accessed: 7 April 2025).

Charlise, K. (2024) *Models of Disability and Inclusive Education*. Available at: <https://www.sandermanpub.net/uploads/20240318/677d1ba5104b1610f548ed570af0a8f5.pdf> (Accessed: 7 April 2025).

Children and Young People Health Services (2024) *Children's Speech and Language Therapy*. Available at: <https://schools.essex.gov.uk/sites/default/files/2024-03/Picture%20Exchange%20Communication%20System%20%28PECS%29.pdf> (Accessed: 7 April 2025).

Christensen, D. and Zubler, J. (2020) 'From the CDC: Understanding Autism Spectrum Disorder', *The American journal of nursing*, 120(10), pp. 30–37. Available at: <https://doi.org/10.1097/01.NAJ.0000718628.09065.1b>

Communication Book for PECS (2025) [image] Available at: <https://pecs-unitedkingdom.com/shop/pecs-communication-book/#tab-description> (Accessed: 5 May 2025).

Crompton, C. J., Ropar, D., Evans-Williams, C. V., Flynn, E. G. and Fletcher-Watson, S. (2020) 'Autistic peer-to-peer information transfer is highly effective', *Autism*, 24(7), pp.1704-1712. Available at: <https://doi.org/10.1177/1362361320919286>

Crutchley, R. (2018) *Special needs in the early years: partnership and participation*. London: SAGE.

Cruz, S., Zubizarreta, S. C., Costa, A. D., Araújo, R., Martinho, J., Tubío-Fungueiriño, M., Sampaio, A., Cruz, R., Carracedo, A. and Fernández-Prieto, M. (2025) 'Is There a Bias Towards Males in the Diagnosis of Autism? A Systematic Review and Meta-Analysis' *Neuropsychology review*, 35(1), pp. 153–176. Available at: <https://doi.org/10.1007/s11065-023-09630-2>

Cummins, C., Pellicano, E. and Crane, L. (2020) 'Autistic adults' views of their communication skills and needs', *International Journal of Language and Communication Disorders*, 55(5) pp. 678–689. Available at: <https://doi.org/10.1111/1460-6984.12552>

Dillenburger, K., McKerr, L., Jordan, J. and Keenan, M. (2016) 'Staff Training in Autism: The One-Eyed Wo/Man', *International Journal of Environmental Research and Public Health*, 13(7), pp. 716. Available at: <https://doi.org/10.3390/ijerph13070716>

Georgantopoulou, M. (2023) 'Gender Differences in Diagnostic Process for Autistic Spectrum Disorder.' Available at: <https://www.diva-portal.org/smash/get/diva2:1786371/FULLTEXT01.pdf> (Accessed: 7 April 2025).

Happé, F. and Frith, U. (2020) 'Annual Research Review: Looking back to look forward – changes in the concept of autism and implications for future research', *The Journal of Child Psychology and Psychiatry*, 61(3) pp. 218-232 Available at: <https://doi.org/10.1111/jcpp.13176>

Hasson, L., Keville, S., Gallagher, J., Onagbesan, D. and Ludlow, A. (2022) 'Inclusivity in education for autism spectrum disorders: Experiences of support from the perspective of parent/carers, school teaching staff and young people on the autism spectrum', *International Journal of Developmental Disabilities*, 70(2), pp. 201–212. Available at: <https://doi.org/10.1080/20473869.2022.2070418>

Haughey, K. and Hall, A. (2019) *Positive Approaches to Supporting People with Autism Spectrum Conditions (ASD)*. Available at: <https://www.ldmcn.scot.nhs.uk/wp-content/uploads/Autism-Training-for-MCN-Support-workers-course-Feb-2019draft1-1.pdf> (Accessed: 7 April 2025).

Honeybourne, V. (2018) *Social communication skills in the classroom*. Available at: <https://www.autism.org.uk/advice-and-guidance/professional-practice/communication-skills-classroom> (Accessed: 7 April 2025).

Howard, P. and Sedgewick, F. (2021). 'Anything but the phone!': Communication Mode Preferences in the Autism Community', *Autism*, 25(8), pp. 2265-2278. Available at: <https://doi.org/10.1177/13623613211014995>

iHear PECS Animals app for PECS® students (no date) [image] Available at: <https://pecs-unitedkingdom.com/shop/ihear-pecs-animals/#tab-description> (Accessed: 05 May 2025).

Inside Our Autistic Minds. (2023) BBC TWO. Available at: BBC iPlayer (Accessed: 12 May 2025).

Jaffal, M. (2022) 'Barriers general education teachers face regarding the inclusion of students with autism', *Frontiers in psychology*, 13, pp. 01-11. Available at: <https://doi.org/10.3389/fpsyg.2022.873248>

Jones, M. (2018) *An exploration of reception class teachers' experiences of supporting children with Autism Spectrum Disorder in the first year of mainstream school*. PhD thesis. University of Essex and Tavistock and Portman NHS Trust. Available at: <https://repository.tavistockandportman.ac.uk/1903/> (Accessed: 7 April 2025).

Kaduk, L. (2017) *The Effectiveness of the Picture Exchange Communication System for Children Who Have Autism*. Available at: https://repository.stcloudstate.edu/cgi/viewcontent.cgi?article=1047&context=sped_etds (Accessed: 7 April 2025).

Kennedy Krieger Institute (2016) *Picture Exchange Communication System at the Center for Autism and Related Disorders*. Available at: <https://www.kennedykrieger.org/sites/default/files/library/documents/patient-care/centers-and-programs/center-for-autism-and-related-disorders/card-picture-exchange-communication-system-factsheet.pdf> (Accessed: 7 April 2025).

Khoiriyah, K. (2021) 'Picture Exchange Communication System (PECS): A strategy to improve children's speaking ability', *Journal of Early Childhood Care and Education*, 3(2), pp.111-123. Available at: <https://doi.org/10.26555/jecce.v3i2.2589>

Kodak, T. and Bergmann, S. (2020) 'Autism Spectrum Disorder: Characteristics, Associated Behaviors and Early Intervention', *Pediatric clinics of North America*, 67(3), pp. 525–535. Available at: <https://doi.org/10.1016/j.pcl.2020.02.007>

Koudys, J., Perry, A. and Mcfee, K. (2022) 'Picture Exchange Communication System® (PECS®) Use in a Community Setting: A Preliminary Investigation', *Journal of Developmental and Physical Disabilities*, 34(3), pp. 829–852 Available at: <https://doi.org/10.1007/s10882-021-09826-5>

Kruger, J. (2022) 'The Effectiveness of the Picture Exchange Communication The Effectiveness of the Picture Exchange Communication System (PECS) on Reducing Problem Behaviours in Students with Autism Spectrum Disorder', *Culminating Projects in Special Education*, 131, pp. 2-42.

Liu, J., Stephens, B., Abdoulqadir, C. and Loizides, F. (2023) 'PECSOnline: A Bespoke Classroom Based Picture Exchange Communication System (PECS) for Children with Autism', *Human-Computer Interaction – INTERACT 2023. INTERACT 2023. Lecture Notes in Computer Science*. 14145 pp. 544-550 Available at: https://doi.org/10.1007/978-3-031-42293-5_70

McDougal, E., Riby, D. and Hanley, M. (2020) 'Teacher insights into the barriers and facilitators of learning in autism', *Research in Autism Spectrum Disorders*, 79, pp. 1-9. Available at: <https://doi.org/10.1016/j.rasd.2020.101674>

Milton, D. (2018) *The double empathy problem*. Available at: <https://www.autism.org.uk/advice-and-guidance/professional-practice/double-empathy> (Accessed: 7 April 2025).

National Autistic Society (2025a) *What is autism?* Available at: <https://www.autism.org.uk/advice-and-guidance/what-is-autism> (Accessed: 7 April 2025).

National Autistic Society (2025b) *World Autism Acceptance Month April 2025*. Available at: <https://www.autism.org.uk/what-we-do/acceptance-and-awareness/world-autism-acceptance-month> (Accessed: 7 April 2025).

National Autistic Society (2025c) *Autism and Communication*. Available at: <https://www.autism.org.uk/advice-and-guidance/topics/about-autism/autism-and-communication> (Accessed: 7 April 2025).

Neurodivergence Wales (2020a) *Autism: A Guide for Early Years Settings*. Available at: https://neurodivergencewales.org/wp-content/uploads/2020/08/A-Guide-for-Early-Years-Settings_Eng.pdf (Accessed: 7 April 2025).

Neurodivergence Wales (2020b) *Autism: A Guide for Work-Based Training Providers*. Available at: https://neurodivergencewales.org/wp-content/uploads/2020/09/WBL_Providers_Eng-1.pdf (Accessed: 7 April 2025).

Okoye, C., Obialo-Ibeawuchi, C. M., Obajeun, O. A., Sarwar, S., Tawfik, C., Waleed, M. S., Wasim, A. U., Mohamoud, I., Afolayan, A. and Mbaezue, R. (2023) 'Early Diagnosis of Autism Spectrum Disorder: A Review and Analysis of the Risks and Benefits', *Cureus*, 15(8) pp. e43226. Available at: <https://doi.org/10.7759/cureus.43226>

Paris, A., Denne, L., Grindle, C., May, R., Apansionok, M. and Hastings, R. (2024) 'Facilitators and barriers to the implementation of the picture exchange communication system (PECS): a systematic review', *Sec. Special Educational Needs*, 9, pp. 01-15. Available at: <https://doi.org/10.3389/feduc.2024.1206410>

Patil, O. and Kaple, M. (2023) 'Sensory Processing Differences in Individuals With Autism Spectrum Disorder: A Narrative Review of Underlying Mechanisms and Sensory-Based Interventions', *Cureus*, 15(10), pp. e48020. Available at: <https://doi.org/10.7759/cureus.48020>

Pyramid Educational Consultants (no date) *What is PECS?* Available at: <https://pecs-unitedkingdom.com/pecs/> (Accessed: 7 April 2025).

Pyramid Educational Consultants (2020) *The Picture Exchange Communication System® (PECS®)*. Available at: <https://pecs-unitedkingdom.com/download/PECS-Brief%20Description-2020-UK.pdf> (Accessed: 7 April 2025).

Qin, L., Wang, H., Ning, W., Cui, M. and Wang, Q. (2024) 'New advances in the diagnosis and treatment of autism spectrum disorders', *European journal of medical research*, 29(1), pp. 322. Available at: <https://doi.org/10.1186/s40001-024-01916-2>

Rocklands School (2021) *10:30 Snack time using PECS*. Available at: <https://www.rocklands.manorhall.academy/1030-snack-time-using-pecs/> (Accessed: 7 April 2025).

Saad, M. (2017) 'A Systematic Review of Autism Spectrum Disorder in Children and Adolescents: Social Deficits and Intervention', *International Journal of Psycho-Educational Sciences*, 6(2), pp.12-22.

Sandbank, M., Bottema-Beutel, K., LaPoint, S., Feldman, J., Barrett, J., Caldwell, N., Dunham, K., Crank, J., Albarran, S. and Woynaroski, T. (2023) 'Autism intervention meta-analysis of early childhood studies (Project AIM): updated systematic review and secondary analysis', *BMJ* 383, pp. e076733-e076733. Available at: <https://doi.org/10.1136/bmj-2023-076733>

Silveira-Zaldivar, T. and Curtis, H. (2019) 'I'm Not Trained for This!' And Other Barriers to Evidence-Based Social Skills Interventions for Elementary Students with High Functioning Autism in Inclusion', *International Electronic Journal of Elementary Education*, 12(1) pp. 53-66. Available at: [0.26822/iejee.2019155337](https://doi.org/10.26822/iejee.2019155337)

Souza, L., Balestro, J. and Cáceres-Assençó, A. (2022) 'Communication difficulties perceived by mothers of children with suspected autism spectrum disorder during social distancing', *Speech, Language, Hearing Sciences and Education Journal*, 24(3), pp.1-7 Available at: <https://doi.org/10.1590/1982-0216/20222431422>

Sturrock, A., Chilton, H., Foy, K., Freed, J. and Adams, C. (2021) 'In their own words: The impact of subtle language and communication difficulties as described by autistic girls and boys without intellectual disability', *Autism*, 26(2), pp. 332-345. Available at: <https://doi.org/10.1177/13623613211002047>

Sumiya, M., Igarashi, K. and Miyahara, M. (2018) 'Emotions surrounding friendships of adolescents with autism spectrum disorder in Japan: A qualitative interview study', *PloS one*, 13(2), pp. e0191538. Available at: <https://doi.org/10.1371/journal.pone.0191538>

Suthar, N., Shreyance, J., Nebhinani, N. and Singhai, K. (2020) 'Autism spectrum disorder and its differential diagnosis: A nosological update', *Journal of Indian Association for Child and Adolescent Mental Health*, 16(1), pp. 86-101. Available at: <https://doi.org/10.1177/0973134220200107>

Tamanaha, A., Olivatti, D., Silva, S., Vieira, S. and Perissinoto, J. (2023) 'Picture Exchange Communication System (PECS) Implementation Program for children with autism spectrum disorder', *CoDAS*, 35(4), e20210305. Available at: <https://doi.org/10.1590/2317-1782/20232021305pt>

The Picture Exchange Communication System (PECS) [image] Available at: <https://pecs-unitedkingdom.com/download/PECS-Brief%20Description-2020-UK.pdf> (Accessed: 7 April 2025).

Tien, I., Pearson, A., Sozeri, S. and Seers, K. (2025) 'Only Boys Can be Autistic': A Qualitative Exploration of Gender Stereotype and Socialization on the Diagnostic Journey', *Autism in Adulthood*, 00 (00), pp. 1-12. Available at: <https://doi.org/10.1089/aut.2024.0178>

United Kingdom Parliament (2020) *Autism*. Available at: <https://researchbriefings.files.parliament.uk/documents/POST-PN-0612/POST-PN-0612.pdf> (Accessed: 7 April 2025).

Vo, S. and Webb, L. (2024) *Support for neurodivergent children and young people*. Available at: <https://researchbriefings.files.parliament.uk/documents/POST-PN-0733/POST-PN-0733.pdf> (Accessed: 7 April 2025).

Welsh Government (2019) *Support for children and young people with Autistic Spectrum Disorder (ASD) in educational settings*. Available at: <https://www.gov.wales/support-children-and-young-people-autistic-spectrum-disorder-asd-educational-settings-html> (Accessed: 7 April 2025).

Welsh Government (2021) *Code of Practice on the Delivery of Autism Services Supporting Guidance Document*. Available at: https://www.gov.wales/sites/default/files/publications/2021-07/code-of-practice-on-the-delivery-of-autism-services-supporting-guidance-document_0.pdf (Accessed: 7 April 2025).

Welsh Government (2023) *The Social Model of Disability*. Available at: <https://www.gov.wales/sites/default/files/publications/2023-06/atism17524doc7.pdf> (Accessed: 7 April 2025).

White, S., Maddox, B. and Mazefsky, C. (2020) *The Oxford handbook of autism and co-occurring psychiatric conditions*. 1st edn, New York: Oxford University Press.

Wood, R. (2018) 'The wrong kind of noise: understanding and valuing the communication of autistic children in schools', *Educational Review*, 72(1), pp. 111-130. Available at: <https://doi.org/10.1080/00131911.2018.1483895>

Wood, R. (2019) 'Autism, intense interests and support in school: from wasted efforts to shared understandings', *Educational Review*, 73(1), pp. 34–54. Available at: <https://doi.org/10.1080/00131911.2019.1566213>

World Health Organisation WHO (2023) *Autism*. Available at: <https://www.who.int/news-room/fact-sheets/detail/autism-spectrum-disorders> (Accessed: 7 April 2025).

Young, S., Hollingdale, J., Absoud, M., Bolton, P., Branney, P., Colley, W., Craze, E., Dave, M., Deeley, Q., Farrag, E., Gudjonsson, G., Hill, P., Liang, H., Murphy, C., Mackintosh, P., Murin, M., O'Regan, F., Ougrin, D., Rios, P., Stover, N., Taylor, E. and Woodhouse, E. (2020) 'Guidance for Identification and Treatment of Individuals with Attention guidance for identification and treatment of individuals with attention deficit/hyperactivity disorder and autism spectrum disorder based upon expert consensus', *BMC Med*, 18, pp. 146. Available at: <https://doi.org/10.1186/s12916-020-01585-y>