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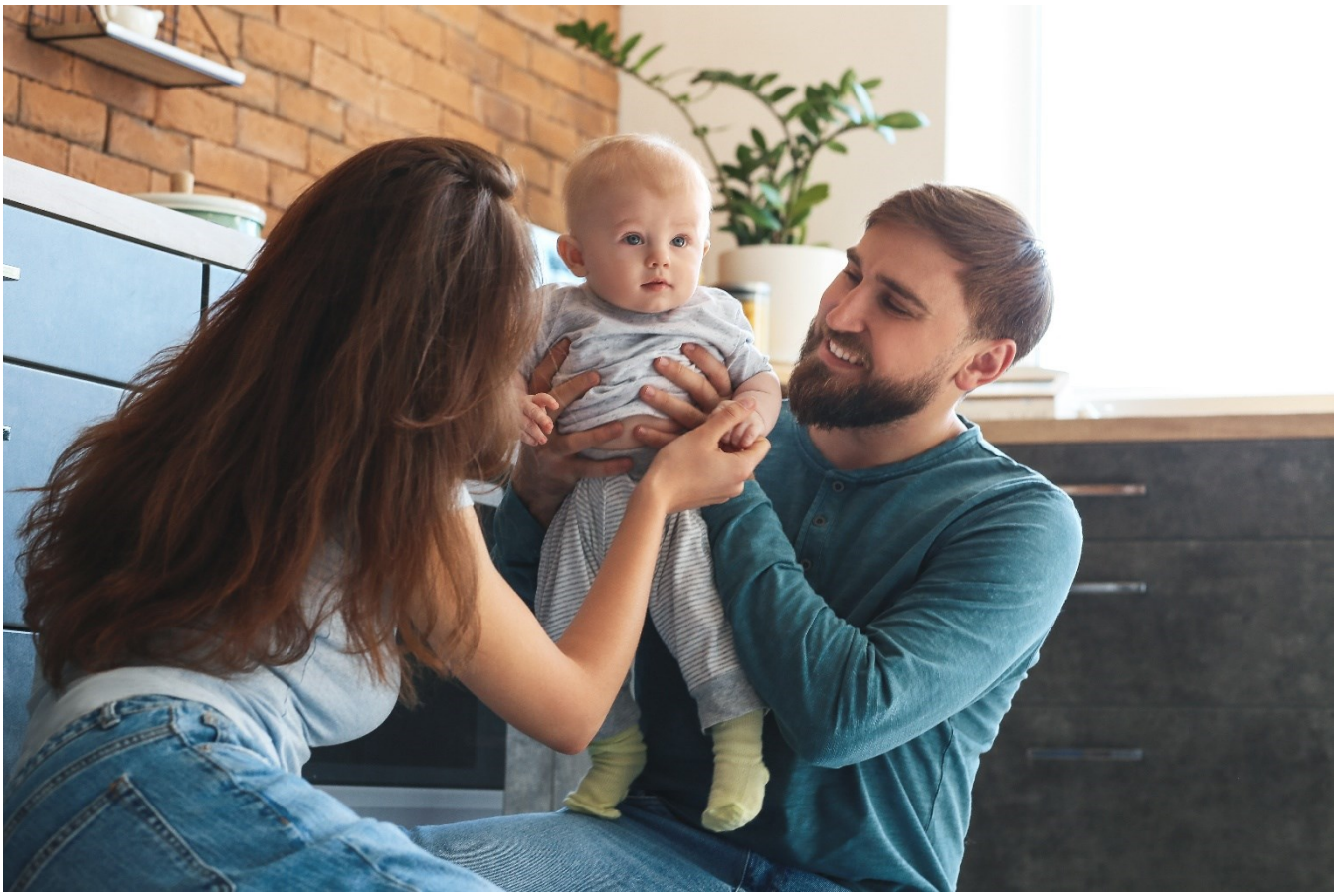

Evidence review: How sharing stories, songs and rhymes can support children and families with additional support needs

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Contents

Background

All children have the right to receive support for their learning and wellbeing. The Scottish approach to inclusive education and Getting it Right for Every Child (GIRFEC)[1] aims to ensure that all children and young people get the support they need to reach their full potential. Some children and young people may need different, or additional support at different points during their learning and/or development. Additional Support Needs (ASN) can arise in the short or long term from a variety of circumstances including: the learning environment, family circumstances, health or disability needs and/or social and emotional factors. It is estimated that 34% of pupils in Scottish schools have ASN[2]. Additionally, approximately 17% of children have a long-term condition or illness and 10% have a long-term condition or illness that is considered a disability[3]. The majority of pupils with ASN (90%) attend mainstream classes. The Education (Additional Support for Learning) (Scotland) Act 2004[4] provides the legal framework for identifying and addressing additional support needs of children and young people who face barriers to learning; the GIRFEC framework promotes a connected approach – across family, community and society – to ensuring the individual needs of children and their families are met.

This review outlines the ways in which sharing stories, songs and rhymes can support children and families with ASN. There remain large gaps in the research into how shared reading, singing and rhyming can support the development and wellbeing of children with ASN. The research which does exist often looks at distinct populations, relying on diagnostic labels (e.g., autistic children, deaf children). We know that all children and their circumstances are unique, that there are barriers to diagnoses and support which disproportionately affect some groups, that many children have multiple and overlapping support needs, and that there are many other factors which influence wellbeing and development. At Scottish Book Trust, helping children with ASN and their families to find the right books – and the best ways of sharing them – forms part of our approach to inspiring a lifelong love of stories. This report aims to provide a snapshot of the research we might be able to draw upon to support families who want to know more about how sharing stories, songs and rhymes can support their child's needs, and the types of approaches which may be most beneficial / appropriate.

D/deaf children and families

Approximately 90% of deaf children are born to hearing parents who have no previous experience with deafness or connection to the deaf community[5]. It is therefore essential that families receive targeted information and support regarding their child's early development and communication.

There is substantial research which indicates that language play can support the development of spoken language for all children[6]. More recent research has suggested that engaging with signed rhyme and rhythm can also play an important role in the development of home language practices for D/deaf children and their families[7]. For example, a 2024 U.S. study found that for deaf children who experience language deprivation due to not having accessible communication at home, exposure to signed rhyme and rhythm led to teacher-perceived increases in the child's use of communication features such as eye contact, gesturing and facial expressions[8]. The teachers felt that the repetitive nature of signed rhyme and rhythm also accelerated language development for these children, who began making more playful use of American Sign Language (ASL; e.g., spontaneous manipulation of phonological patterns for artistic expression and humour). This may be because the playful nature of signed rhyme and rhythm promotes engagement, and the repetition aids children's ability to internalise new vocabulary and language patterns. Teachers also reported that supporting hearing families to use signed language to sing and rhyme with their deaf children could increase their bonding. Teachers believed that modelling signed rhyme and rhythm during home visits helped the process of learning signed language become more enjoyable and less stressful, potentially fostering a more supportive home environment for the whole family.

Specific parental techniques used during joint book reading may also influence the oral language skills of children with hearing loss. For example, in one study which looked at the relationship between maternal contributions during storybook reading and receptive and expressive (oral and sign) language skills in children (mean age 4.8 years old) with cochlear implants, facilitative language techniques – such as asking open-ended questions – positively related to children's oral language skills[9]. This suggests that encouraging families to learn facilitative language techniques to

use during shared book reading with children with hearing loss can support reading interest and comprehension. Building parents' confidence and knowledge regarding using joint reading techniques which are specifically tailored to a child's language level is also important for supporting language development[10]. In addition to reading print books, the use of ebooks, digital reading tools and multimodal resources (e.g., use of signed videos alongside text) may support interaction and subsequent language development during shared reading with deaf children.

Children with congenital visual impairment

Congenital visual impairment (VI) can have a profound effect on early development and the relationship between caregivers and their child. For example, lack of visual input and very low levels of vision have been associated with significant developmental delays and challenges in acquiring sensorimotor/cognitive, social-communicative and language abilities, with delays of up to 12–24 months[11]. Parents and infants may also experience obstacles related to co-ordinated interactions, including difficulty for parents in reading infants' nonvisual cues, and children having difficulty picking up or responding to their parents' social intentions[12]. These challenges may also contribute towards parenting stress, which creates an increased likelihood of developing parental anxiety and depression[13].

A longitudinal observational study of visually-impaired children (8–17 months; *N* = 55) predicted that mothers' use of attention-maintaining strategies during joint play would lead to increases in children's cognition and language skills. However, they found instead that it was maternal sensitivity (i.e., appropriateness of responses to children's interaction, empathy, acceptance) which had a significant positive association with verbal comprehension[14]. This indicates the importance of supporting parent–child interactions and helping parents to develop skills in interpreting and responding appropriately to their child's cues, especially as strategies may differ for children with different levels of visual impairment. Also, providing additional targeted support for parental wellbeing is important for reducing stress for parents of children with visual impairment. As research shows that shared singing[15] and reading[16] can have stress-reducing effects for caregivers, supporting families to engage in these activities could support positive outcomes for both children and parents.

Shared reading, singing and rhyming can also strengthen parent–child attachment by fostering closeness, trust and emotional security. For children with visual impairments, focusing on tactile and auditory elements (e.g., using expressive voices, tactile books, sound effects) can help make these interactions accessible and engaging. Focusing on emotional connection, rather than visual content, can also support feelings of comfort and safety for children; bodily-tactile communication can be a suitable alternative to visual communication for parents of children with visual impairment[17]. Accessible resources also play a key role in these interactions. Tactile books, story bags with relevant objects and auditory tools (e.g., audiobooks) can provide multisensory ways to engage children in stories. Parents can also enhance storytelling by using repetition, rhythm, and co-creating simple narratives based on shared experiences with their child[18]. Supporting parents to develop and use these strategies from early in their child's development could aid language and socio-emotional development for children with visual impairment.

Children who are deafblind

Deafblindness is a complex disability with a highly heterogenous population of learners. Deafblindness creates a complex set of characteristics which extend beyond the additive effects of vision and hearing loss. The acquisition and development of communication and literacy skills therefore require direct support which must be suited to the individual needs of each learner. A mixed-methods study in the U.S. identified shared reading strategies which special education teachers and parents of deafblind children use to support their literacy development[19]. These included: attention and active engagement strategies (e.g., considering the child's interests when selecting the text, pausing to re-engage the child and to check for understanding and/or clarify the meaning of texts, reducing environmental distractions during shared reading, choosing texts which are visually appealing, and showing enthusiasm and exaggerated expression), child-guided strategies (e.g., responding to child's cues), and systematic instructional and skills acquisition strategies (e.g., allowing enough time for children to process information when asking questions, repetition and reinforcement of vocabulary and concepts, integrating reading with writing, using pictures and objects to support understanding, and having a consistent routine). Importantly, they emphasise that approaches

should be highly individualised, utilise visual, auditory and tactile strategies, and adopt a collaborative approach between home and school.

Children with profound and multiple learning disabilities (PMLD)

The term profound and multiple learning disabilities (PMLD) is used to describe a heterogeneous group of people with a profound intellectual disability, often combined with physical disabilities and sensory impairments. The complexity of these needs often means that children and young people with PMLD are dependent on adult support to take part in most everyday activities and may spend much of their free time at home[20]. However, the research base for using shared story reading with children who have extensive support needs is limited; better understanding of how to support children with PMLD and their families within home life is therefore essential.

In a study of 48 caregivers of children (aged 0–25 years) with profound and multiple learning disabilities[21], the majority of respondents 'strongly agreed/agreed' that they felt that listening to music increased the communication attempts (85%), alertness (79%) and playful behaviours (90%) displayed by their child, as well as having a 'calming and relaxing' (65%) effect. In terms of making music (e.g., using instruments, singing) at home (90%) 'strongly agreed/agreed' that music-making experiences increased their child's playfulness, having a 'lift in mood' and appearing 'happier/more animated'. Parents also reported feeling more connected to their child when listening to or making music together, and that they used music to support enjoyment and daily routines at home. These findings demonstrate that although preference, ability and need differ between individuals, music-making can be accessible, inclusive and emotive and support both children with PMLD and their families.

Autistic children and their families

Autistic children have an increased likelihood of developing reading disabilities[22] and may acquire early literacy skills (e.g., alphabet knowledge, phonological awareness, listening comprehension) differently to neurotypical children. For example, autistic

children tend to have relative strengths in decoding skills like word or letter recognition, but can find it harder to find meaning in what they read (although the reading profiles of autistic children do vary widely)[23]. Despite research which demonstrates the role the home literacy environment can play in supporting reading development in typically developing children, there are relatively fewer studies focusing on home reading with autistic children specifically. There are even fewer studies with autistic children who have limited-to-no spoken language and/or moderate-to-severe intellectual disabilities, a group which is overlooked in current autism research[24].

A recent meta-analysis of 11 studies which looked at the effect of shared reading interventions with autistic children (ages 2–14 years old) on their early language and literacy skills[25] found that shared reading activities can have a moderate positive impact on early language and literacy skills for children with ASD. The impact of shared reading was most clearly observed on outcome measures of listening comprehension, participation, and 'combination outcomes' that included communicative and non-communicative acts. Interestingly, positive effect sizes were seen with studies that included a variety of adult shared reading behaviours and in the number of sessions provided, indicating that shared reading may be a robust intervention that is resilient to the presence or absence of individual components. The authors recommended specific practices which should be incorporated into shared reading interventions with autistic children, these included (a) pausing while reading to encourage the child to respond; (b) asking the child questions while reading to keep them engaged and check understanding; (c) relating what is occurring in the text to real-life experiences; (d) evaluating and expanding on the child's answers; and (e) using augmentative and alternative communication (AAC) to specifically build expressive communication skills for children who use limited speech.

A study which measured social attention in autistic and neurotypical children (aged 3–12 years old) found that autistic children displayed reduced attention to salient social information and increased attention to background distractors during a shared book reading video task[26]. The authors noted that reduced attention to socially-salient information can result in fewer opportunities to learn from the social interactions and environmental cues which are instrumental in the development of

social, cognitive, and language skills across childhood[27]; they suggest that the different gaze patterns demonstrated by autistic children in this study could partially account for the difficulties that some autistic children experience when acquiring reading skills. Interestingly, the researchers also found that autistic children who showed initial social attention with the target 'joint attention area' (e.g., an illustration pointed out by the reader) maintained social attention throughout the joint attention sequence, while the opposite was true for children who initially focused on the distractor stimuli. This suggests that ensuring autistic children are initially engaged with the intended target of attention during shared book reading is important for the maintenance of their attention.

Focus groups conducted with parents of autistic children who had moderate-to-severe intellectual disabilities and limited-to-no spoken communication (*N* = 63; 53 of which were mothers; age range of children = 3–11 years old) indicated that engaging in reading activities at home could be joyful and calming for their children, provided opportunities for shared quality time and gave parents opportunities to gain insights into their children's interests and skills[28]. However, parents also emphasised that engaging their children in home reading activities was not a straightforward task and it was often difficult to 'find the right moment' to engage in shared reading; many children enjoyed looking at books on their own but only a minority showed engagement with shared book reading. Parents reported adopting innovative strategies such as encouraging recognition of environmental print, labelling items around the house and repeatedly returning to texts featuring their child's favourite themes or characters. They also emphasised the importance of consistency across home and school settings and of strong, trusting relationships between parents and teachers to support their children's reading development.

Sharing songs and rhymes with autistic children may also have a number of benefits. Musical activities provide a highly familiar and routinised play context with clear expectations and predictable routines. Not only can the predictability provided by the rhythmic structure of musical activities support language learning[29], predictability and sameness can help autistic children to feel safe and comfortable. Music can also help regulate emotional arousal and facilitate pleasurable sensory experiences.

Children with ADHD and their families

Self-regulation skills enable children to manage their thoughts, emotions and behaviours. They also support co-ordination of the cognitive skills required to comprehend a story (e.g., focusing on relevant stimuli and ignoring irrelevant information, processing upcoming input while holding previously learned information in mind). Children with deficits in aspects of self-regulation (e.g., attention and inhibitory control), such as those diagnosed with attention deficit/hyperactivity disorder (ADHD), can sometimes struggle with comprehending stories and acquiring literacy skills. For example, children with weaker attentional skills can experience difficulties in maintaining attention and retrieving information and in constructing connections between story events[30]. However, shared reading practices which promote interaction and engagement with the story (e.g., providing recall prompts, asking open-ended and wh-questions (what, when, where, etc.), and prompting children to link the story to their own experiences or feelings) may help support comprehension in children with weaker self-regulation skills. For example, in a shared reading intervention with bilingual Chinese-English speaking children (3–7 years old), children with a combination of relatively weaker attentional skills and challenges with impulsivity appeared to benefit more from the ebook discussion prompts than children with stronger self-regulation skills[31]. This may be because dialogic reading – shared reading that promotes children's active participation through social interaction and verbal engagement – increases opportunities for engagement and facilitates sustained engagement and attention. This approach also offers opportunities for parental scaffolding and feedback (e.g., correcting misunderstandings or incorrect vocabulary use, reviewing key points together). This suggests that interactive shared reading might support children with weaker self-regulation skills to comprehend texts (although it should be noted that the sample in this study consisted of typically developing children with relatively limited expressions of inattention and impulsivity, and therefore the findings may not generalise to children with diagnosed ADHD).

A recent study of 850 families in China reported that both parents and siblings can play an important role in fostering the language development of children with ADHD by adopting a dialogic reading approach[32]. In this study, participating families were randomly divided into parent reading (PR) and sibling reading (SR) groups, and each

group was further randomly divided into the Dialogic Reading (DR; shared reading) and control (C) conditions. The parents / siblings in the DR group attended a two-hour workshop where they were trained on how to apply DR methods. All families read the books provided with their children at home for 25 minutes, twice a week for 12 weeks, either using DR methods (DR condition) or their normal approach (control condition). Children with ADHD in the DR condition who read with parents or siblings showed increased scores on language development and reading interest measures at post-test comparative to pre-test. Interestingly, children who engaged in DR with their siblings showed greater growth in expressive vocabulary, character reading, morphological awareness, phonological awareness and reading interest compared with those who engaged in DR with their parents. In contrast, they showed greater growth in their listening comprehension when they read with their parents than with their siblings. These differences may be due to the fact that parents and siblings tended to adopt different teaching approaches during DR; siblings were more likely to apply a learner-centred teaching style, paid more attention to individual units of language (e.g., word reading accuracy), used typical standardised Mandarin more often when offering suggestions and correcting the word pronunciation and were more likely to respond positively to children's answers to DR questions (e.g., using positive or encouraging words, such as 'well done' and 'exactly'). Parents were more likely to ask comprehension questions (e.g., sentence or story comprehension questions), providing more comprehension practice. The researchers concluded that both parents and siblings play an important role in fostering the language development of children with ADHD. They hypothesised that the interaction and communication between parents / siblings and children with ADHD during DR helps draw children's attention to the story, reduces distractions and maintains the focus of the child during shared reading.

Children with Down syndrome

Down syndrome is a condition that results in an extra copy of chromosome 21 and occurs in 1 in every 873 live births[33]. For children with Down syndrome, language acquisition is often comparably slower than that of typically developing infants, particularly in the domains of expressive vocabulary and grammar. A recent

systematic review of seven eligible studies found that interventions which incorporate shared book reading are associated with improved language and communication outcomes for young children with Down syndrome, including improved expressive language outcomes.[34] The review also reports that parents/carers perceive shared book reading interventions to be effective, easy to implement and enjoyable. It emphasised that shared book reading strategies may need to be modified and adapted for children of different ages and/or attention and language skills (e.g. incorporating pause time, pictures, prompts and technology enhancement), but that the naturalistic nature of shared book reading interventions (i.e. that they can be carried out with trusted adults, in familiar surroundings) makes them a promising strategy for supporting the language and communication skills of children with Down syndrome.

During infant-directed singing, infants with Down Syndrome may require more time than typically developing infants to process information and comprehend the emotional intent of sung information. In a study which compared the gaze patterns and emotional responses of infants with Down Syndrome and typically developing infants (age 39 months) during a period of infant-directed singing, typically developing infants displayed 'intermittent gaze' a larger percentage of time than infants with Down syndrome[35]. Intermittent gaze reflects a flexible form of attentional control, through which infants regulate the amount of stimulation they experience so as to achieve or maintain an optimal level of arousal to self-regulate. The researchers hypothesised that during infant-directed singing, infants with Down syndrome may require more time to process information, resulting in a longer duration of continuous attention toward the mother during singing (i.e., less intermittent gaze). As intermittent gaze can modify arousal level, the development of self-regulation may be reduced where there are fewer opportunities to regulate environmental stimulation. Therefore, it is important for caregivers to be aware that children with Down syndrome may require extra processing time during a face-to-face interaction, and to allow sufficient time for this. It is also important for caregivers to be aware that neutral affect (e.g., the absence of smiling or other visual indicators of emotional state) is a common response for infants with Down syndrome during face-to-face interaction and likely reflects a calm, curious state.

Children with speech, language and communication (SLC) delays

The term 'speech, language, and communication (SLC) delay' is used internationally in health and education sectors to describe delays in a child's ability to understand, produce or use language effectively. It encompasses difficulties in speech (e.g., sound production), language (e.g., understanding and forming sentences), and communication (e.g., using language in social interactions). SLC delay can be caused by a range of factors, which may affect children or individuals at different stages of development (e.g., genetic conditions, developmental disorders, hearing impairments etc.). Since early 2021, there has been an increase in SLC developmental concerns recorded at child health reviews in Scotland, particularly at the 27–30-month review. The report on speech and communication development of children in Scotland post-Covid 19 found that a higher percentage of boys than girls and a higher percentage of children living in the most deprived SIMD quintile than those living in the least deprived quintile have SLC developmental concerns recorded at child health reviews. Additionally, the report notes that data sources likely under-estimate the full extent of SLC developmental delay in children in Scotland, particularly in deprived areas[36]. To address this, the report emphasises the importance of supporting parents to create language-enriching home environments for children with speech, language and communication (SLC) delays. For example, 'communication-friendly environments may include features such as visual aids and symbols, clear and consistent communication using accessible language, quiet spaces that are not sensorily overwhelming and the use of use of signing, augmentative communication tools or other activities tailored to the needs of individual children. The report also emphasises the importance of providing additional support for parents and caregivers, and suitable training for workforce professionals to recognise and address SLC needs, including timely intervention[37]. Notably, understanding the cause of a delay in speech, language and communication is crucial for developing effective interventions and support strategies. This again highlights the importance of supporting a multi-modal and individualised approach to shared reading, singing and rhyming at home, with a focus on ensuring parents have the knowledge, skills and confidence to respond to their child's individual needs.

Conclusion

In conclusion, sharing stories, songs and rhymes can provide significant support for children with additional support needs (ASN) and their families, supporting language development, social interaction and emotional wellbeing. While research on the topic is still developing, existing studies highlight the potential for positive outcomes from these experiences for children and families with a variety of different needs. Positive and accessible shared experiences involving stories, songs and rhymes can not only improve communication and literacy skills but also offer opportunities for bonding, engagement, and emotional regulation. Tailoring these activities to the unique needs of each child – for example, through using multimodal techniques, encouraging dialogue and participation, or allowing extra processing time – ensures that families can effectively support their children's wellbeing and development in a comfortable, enjoyable way. As research evolves, it is crucial that practitioners and families continue to explore and refine the approaches they use, ensuring they are accessible and beneficial for all children. Ultimately, tailoring our approach to making stories, songs and rhymes accessible and enjoyable can help create positive, enriching experiences for all children and their families.

References

[1] Children and Families Directorate, Early Learning and Childcare Directorate. *Getting it right for every child (GIRFEC).* Scottish Government. Retrieved March 5, 2025 from https://www.gov.scot/policies/girfec/

[2] Learning Directorate, Children and Families Directorate, Early Learning and Childcare Directorate, Education Reform Directorate, Equality, Inclusion and Human Rights Directorate, Social Care and National Care Service Development. (2023). *Pupils with complex additional support needs: Research into provision.* Scottish Government. https://www.gov.scot/publications/research-provision-pupils-complex-additional-support-needs-scotland/pages/3/.

[3] Population Health Directorate. (2018). *Scottish Health Survey 2017: Summary report.* Scottish Government. https://www.gov.scot/publications/scottish-health-survey-2017-summary-key-findings/

[4] Learning Directorate, Justice Directorate. (2017). *Additional support for learning: Statutory guidance 2017.* Scottish Government. https://www.gov.scot/publications/supporting-childrens-learning-statutory-guidance-education-additional-support-learning-scotland/pages/17/.

[5] National Deaf Children's Society. (2016). *Right from the start: A campaign to improve early years support for deaf children.* https://www.ndcs.org.uk/media/1283/right_from_the_start_campaign_report_final.pdf

[6] Bhide, A., Power, A. & Goswami, U. (2013). A rhythmic musical intervention for poor readers: A comparison of efficacy with a letter-based intervention. *Mind, Brain, and Education, 7*, 113–123. https://doi.org/10.1111/mbe.12016

[7] Holcomb, L. (2023). ASL rhyme, rhythm, and phonological awareness for deaf children. *Perspectives on Early Childhood Psychology and Education*, *5*(2), 3. https://doi.org/10.58948/2834-8257.1058

[8] Holcomb, L., & Higgins, M. (2024). Signed rhyme and rhythm with deaf children: Early childhood teacher interviews. *Journal of Deaf Studies and Deaf Education*, *29*(1), 19–29. https://doi.org/10.1093/deafed/enad025

[9] DesJardin, J. L., & Eisenberg, L. S. (2007). Maternal contributions: Supporting language development in young children with cochlear implants. *Ear and Hearing*, *28*(4), 456–469. https://doi.org/10.1097/AUD.0b013e31806dc1ab

[10] DesJardin, J. L., Doll, E. R., Stika, C. J., Eisenberg, L. S., Johnson, K. J., Ganguly, D. H., Colson, B. G., & Henning, S. C. (2014). Parental support for language development during joint book reading for young children with hearing loss. *Communication Disorders Quarterly*, *35*(3), 167–181. https://doi.org/10.1177/1525740113518062

[11] Dale, N., & Sonksen, P. (2002). Developmental outcome, including setback, in young children with severe visual impairment. *Developmental Medicine and Child Neurology*, *44*, 613–622. https://doi.org/10.1017/s0012162201002651

[12] Grumi, S., Cappagli, G., Aprile, G., Mascherpa, E., Gori, M., Provenzi, L., & Signorini, S. (2021). Togetherness, beyond the eyes: A systematic review on the interaction between visually impaired children and their parents. *Infant Behavior and Development*, *64*, 101590. https://doi.org/10.1016/j.infbeh.2021.101590

[13] Sakkalou, E., Sakki, H., O'Reilly, M. A., Salt, A. T., & Dale, N. J. (2018). Parenting stress, anxiety, and depression in mothers with visually impaired infants: A cross-sectional and longitudinal cohort analysis. *Developmental Medicine and Child Neurology, 60*, 290–298. https://doi.org/10.1111/dmcn.13633

[14] Sakkalou, E., O'Reilly, M. A., Sakki, H., Springall, C., de Haan, M., Salt, A. T., & Dale, N. J. (2021). Mother–infant interactions with infants with congenital visual impairment and associations with longitudinal outcomes in cognition and language. *Journal of Child Psychology and Psychiatry*, *62*(6), 742–750. https://doi.org/10.1111/jcpp.13308

[15] Fancourt D., & Perkins R. (2017). Associations between singing to babies and symptoms of postnatal depression, wellbeing, self-esteem and mother-infant bond. *Public Health, 145*, 149–152. https://doi.org/10.1016/j.puhe.2017.01.016

[16]Weisleder, A., Cates, C. B., Harding, J. F., Johnson, S. B., Canfield, C. F., Seery, A. M. & Mendelsohn, A. L. (2019). Links between shared reading and play, parent psychosocial functioning, and child behavior: Evidence from a randomized controlled trial. *The Journal of Pediatrics*, *213*, 187–195. https://doi.org/10.1016/j.jpeds.2019.06.037

[17] Peltokorpi, S., Salo, S., Nafstad, A., Hart, P., Tuomikoski, E., & Laakso, M. (2023). Bodily-tactile early intervention for a mother and her child with visual impairment and additional disabilities: A case study. *Disability and Rehabilitation*, *45*(12), 2057–2072. https://doi.org/10.1080/09638288.2022.2082563

[18] Chopra, B., & Gupta, R. (2022). StoryBox: Independent multi-modal interactive storytelling for children with visual impairment. In F. F. Mueller, P. Kyburz, J. R. Williamson, & C. Sas (Eds.), *CHI conference on human factors in computing systems extended abstracts* (pp. 1–7). Association for Computing Machinery.

[19] Brum, C., & Bruce, S. M. (2023). Instructional strategies to support shared reading with learners who are deafblind. *British Journal of Visual Impairment, 41*(3), 504–516. https://doi.org/10.1177/02646196221077219

[20] Doukas, T., Fergusson, A., Fullerton, M., & Grace, J. (2017). *Supporting people with profound and multiple learning difficulties*: *Core & essential service standards.* PMLD LINK. https://www.pmldlink.org.uk/wp-content/uploads/2017/11/Standards-PMLD-h-web.pdf

[21] Rushton, R., & Kossyvaki, L. (2022). The role of music within the home-lives of young people with profound and multiple learning disabilities: Parental perspectives. *British Journal of Learning Disabilities*, *50*(1), 29–40. https://doi.org/10.1111/bld.12387

[22] Ricketts, J., Jones, C. R., Happé, F., & Charman, T. (2013). Reading comprehension in autism spectrum disorders: The role of oral language and social functioning. *Journal of Autism and Developmental Disorders*, *43*, 807–816. https://doi.org/10.1007/s10803-012-1619-4

[23] Fleury, V. P., Whalon, K., Gilmore, C., Wang, X., & Marks, R. (2021). Building comprehension skills of young children with autism one storybook at a time. *Language, Speech, and Hearing Services in Schools*, *52*(1), 153–164. https://doi.org/10.1044/2020_LSHSS-20-00026

[24] Russell, G., Mandy, W., Elliott, D., White, R., Pittwood, T., & Ford, T. (2019). Selection bias on intellectual ability in autism research: A cross-sectional review and meta-analysis. *Molecular Autism*, *10*, 1–10. https://doi.org/10.1186/s13229-019-0260-x

[25] Boyle, S. A., McNaughton, D., & Chapin, S. E. (2019). Effects of shared reading on the early language and literacy skills of children with autism spectrum disorders: A systematic review. *Focus on Autism and Other Developmental Disabilities*, *34*(4), 205–214. https://doi.org/10.1177/1088357619838276

[26] Ambarchi, Z., Boulton, K. A., Thapa, R., Arciuli, J., DeMayo, M. M., Hickie, I. B., Thomas, E. E. & Guastella, A. J. (2024). Social and joint attention during shared book reading in young autistic children: A potential marker for social development. *Journal of Child Psychology and Psychiatry, 65*(11), 1441–1452. https://doi.org/10.1111/jcpp.13993

[27] DeMayo, M. M., Young, L. J., Hickie, I. B., Song, Y. J. C., & Guastella, A. J. (2019). Circuits for social learning: A unified model and application to autism spectrum disorder. *Neuroscience and Biobehavioral Reviews*, *107*, 388–398. https://doi.org/10.1016/j.neubiorev.2019.09.034

[28] Walker, R., Swain, J. & Pellicano, E. (2022). "It's about sharing a moment": Parents' views and experiences of home reading with their autistic children with moderate-to-severe intellectual disabilities. *Research in Developmental Disabilities, 128*, 104289. https://doi.org/10.1016/j.ridd.2022.10428

[29] Falk, S., & Tsang C. D. (2020). The role and functions of infant-directed singing in early development. In F. A. Russo, B. Ilari, & A. J. Cohen (Eds.), The Routledge companion to interdisciplinary studies in singing, volume I: Development (pp. 179–188). Routledge.

[30] Kim, Y. G. (2016). Direct and mediated effects of language and cognitive skills on comprehension of oral narrative texts (listening comprehension) for children. *Journal of Experimental Child Psychology, 141*, 101–120. https://doi.org/10.1016/j.jecp.2015.08.003

[31] Yang, D., Ge, Y., Sun, Y., Collins, P., Jaeggi, S. M., Xu, Y., Shea, Z. M., & Warschauer, M. (2024). Self-regulation and comprehension in shared reading: The moderating effects of verbal interactions and E-book discussion prompts. *Child Developmen*t, 95, 1934–1949. https://doi.org/10.1111/cdev.14128

[32] Dong, Y., Chow, B. W.-Y., Mo, J., & Zheng, H.-Y. (2023). Dialogic reading with attention-deficit-hyperactivity disorder (ADHD) kindergarteners: Does reading with parents or siblings enhance their language development? *Developmental Psychology, 59*(5), 862–873. https://doi.org/10.1037/dev0001466

[33] NHS England. (2022). *NCARDRS congenital anomaly official statistics report, 2020*. https://digital.nhs.uk/data-and-information/publications/statistical/ncardrs-congenital-anomaly-statistics-annual-data/ncardrs-congenital-anomaly-statistics-report-2020/prevalence-t21-t18-t13

[34] Jeremic, M., Stojanovik, V., Burgoyne, K., & Pagnamenta, E. (2023). Shared book reading as a context for language intervention for children with Down syndrome: A mini-review. *Frontiers in Psychology*, *14*, 1176218. https://doi.org/10.3389/fpsyg.2023.1176218
[35] de l'Etoile, S. K. (2015). Self-regulation and infant-directed singing in infants with down syndrome. *Journal of Music Therapy, 52*(2), 195–220. https://doi.org/10.1093/jmt/thv003
[36] Public Health Scotland. (2019). *Speech and communication development among children in Scotland during the COVID-19 pandemic.* https://publichealthscotland.scot/population-health/health-protection/infectious-diseases/covid-19/covid-19-data-and-intelligence/speech-and-communication-development-among-children-in-scotland-during-the-covid-19-pandemic
[37] White, J., Hunter, L., & Wason, D. (2023). *Speech, language and communication development among children in Scotland during the COVID-19 pandemic: Whole system approach.* Public Health Scotland. https://publichealthscotland.scot/media/17292/slc-development-children-scotland-covid-19-pandemic-whole-system-approach.pdf