



Why reading really matters

Written by: Keryn O'Neill, MA PGCertEdPsych
Senior Researcher



The quantity and quality of language children experience in their interactions with parents and whānau during their earliest months and years has a profound and potentially lasting influence on their language and cognitive development.¹

There are many ways to support this aspect of children's development. One of these is through shared reading with parents, whānau and other caregivers. While most children learn to read after they begin school, learning about reading ideally begins much, much earlier. Children learn from reading long before they learn to read.

Why start early?

As with other areas of development, children's later literacy outcomes are influenced by both their genes and experiences.² While some think of reading as something that begins for children after they've begun school, the greatest period of neural plasticity occurs before a child is 5 years old.³ That makes the early years the ideal time to provide experiences that will support children's later development. A large body of research indicates that "literacy begins at birth."⁴ Early language and literacy experiences are of critical importance as they lay the foundation for a child's later abilities.⁵ The American Academy of Pediatrics (AAP) recommend that parents begin reading to their baby on a daily basis from birth.⁶

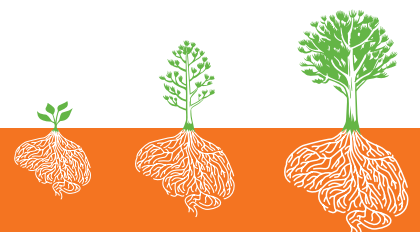
Shared reading with parents and whānau is an important component of a stimulating home literacy environment (HLE), which enhances the development of emerging literacy skills.⁷ These skills are developing long before children begin to learn to read themselves, and are the foundation for fluent, accurate reading with comprehension.⁸ These skills include: an interest in books, enjoyment of books, alphabet knowledge, vocabulary, phonological awareness, and an understanding of print.⁹

The earlier parents begin reading with their children, and the more books children are exposed to, the better their later outcomes in many aspects of literacy.

The earlier parents begin reading with their children, and the more books children are exposed to, the better their later outcomes in many aspects of literacy.¹⁰ Children who lack these early experiences are at greater risk of later illiteracy.¹¹

'The rich get richer and the poor get poorer.'

By starting to read with their children from a very young age, parents and whānau are beginning a "causal spiral". Shared reading contributes to a greater interest in books, stimulating the child's language and reading development. This leads, in turn, to increased exposure to a wider range of books, enhanced language development and more fluent reading later. Early patterns of reading tend to continue as a child develops.¹²



This continued literacy exposure, and the skills it brings about, tend to grow and increase over time with each layer building on what has gone before. This is an interactive process. Parent's language impacts children's skills, and children's skills in turn influence the language parents expose them to.¹³

On the other hand, for those children who have not had such rich early literacy experiences, their relative lack of skills may result in a reduced likelihood of further reading and the possibility of developing reading difficulties, with a widening gap between them and their peers. This has often been referred to as the Matthew effect, whereby the 'rich get richer and the poor get poorer.'¹⁴

These differences in early exposure accrue, and by the time children are in school "children with vocabularies of fewer than 2000 words may be learning alongside children with vocabularies of 10 000 words".¹⁵ Children with smaller vocabularies are likely to find the process of learning to read more difficult than their peers, as they are having to learn the meanings of many words at the same time as learning their sound patterns and written form.¹⁶

Early input is particularly important but there are still benefits for continued parent involvement with reading once children have begun school.¹⁷ Reading in the home environment continues to be associated with improved achievement at school. Stronger effects can be seen for those children who are struggling with reading who benefit more from increased practice.¹⁸

NZ children: Frequency of shared reading

Data from Growing Up in NZ found just over half the babies were being read to at least once daily by their mothers at 9 months of age.¹⁹ This increased as the children grew and by 2 years of age approximately two thirds of mothers reported reading books to their child at least once a day.²⁰ Partners' frequency of reading also increased, from almost a quarter at 9 months²¹ to half the partners at 2 years²² reading to their children at least daily. At 4 years, 59% of mothers reported reading to their child at least daily.²³

Early input is particularly important but there are still benefits for continued parent involvement with reading once children have begun school.

Benefits of Shared Reading

There is no shortage of research indicating the benefits of shared reading. In fact, the tricky part is to stop reading, and begin writing!

1. Richness of language

Everyday conversations between parents and their children are tremendously important for language development, however the language used in books is richer and more varied than that used in everyday speech.²⁴ This means that a child who has a parent read with them is frequently being exposed to a wider vocabulary than a child who is not read to often.²⁵

When comparing an individual book with a conversation, books contain more unique, rare and challenging words²⁶ and three times the number of low frequency words.²⁷ When adults speak with children about 85% of their words are from the 1000 highest frequency words, compared to written language in which around 60% are these high-frequency words.²⁸

As well as a broader vocabulary the language of books is likely to be more grammatically correct and cover a wider range of subjects than those that arise in everyday conversations, which may be limited by the here-and-now.²⁹ Topics covered in books may lead to further conversations between parent and child.³⁰

Parents' conversations during book reading tend to focus on the meaning of the book, and relatively infrequently on the text.³¹

¹ Zauche et al., 2016

² van Bergen et al., 2014, cited by Dilnot et al., 2016

³ Horowitz-Kraus & Hutton, 2015

⁴ Weikle & Hadadian, 2004, p. 660

⁵ Niklas et al., 2016

⁶ Chen et al., 2016; Hutton et al., 2015

⁷ Chen et al., 2016; Mol & Bus, 2011; Van Bysterveldt et al., 2010

⁸ Chen et al., 2016; Mol & Bus, 2011; Westerveld et al., 2015

⁹ Whitehurst & Lonigan, 1998, cited by Chen et al., 2016; Van Bysterveldt et al., 2010

¹⁰ Mol & Bus, 2011; Westerveld et al., 2015

¹¹ Bus & Van Ijzendoorn, 1995

¹² Fletcher et al., 2008

¹³ Nelson, 2007, and, Vygotsky, 1978, cited by Escobar et al., 2017

¹⁴ Mol & Bus, 2011; Tunmer et al., 2006

¹⁵ Dickinson et al., 2010, cited by Warren, 2015, p. 3

¹⁶ Oullette, 2006, cited by Warren, 2015

¹⁷ Tichnor-Wagner et al., 2016

¹⁸ Mol & Bus, 2011

¹⁹ Morton et al., 2012

²⁰ Morton et al., 2014

²¹ Morton et al., 2012

²² Morton et al., 2014

²³ Morton et al., 2017

²⁴ Montag et al., 2015

²⁵ Horowitz-Kraus & Hutton, 2015

²⁶ Massaro, 2016; Montag et al., 2015

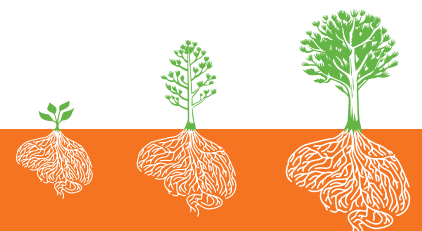
²⁷ Hayes & Ahrens, 1988, cited by Mol & Bus, 2011

²⁸ Hayes, 1988, cited by Massaro, 2016

²⁹ Hindman et al., 2014; Duursma et al., 2008, and, Hart & Risley, 1995, cited by Hutton et al., 2015

³⁰ Montag et al., 2015

³¹ Hindman et al., 2014





This meaning-related talk during reading was associated with improved language skills. In particular, having parents relate the story to children's own experiences was associated with greater vocabulary skills.³² The use of what's known as decontextualized language is important. This means conversation "that goes beyond the information in the text or illustrations" including connecting events in the story the child's past experiences, providing explanations and making inferences about the story characters' emotions.³³

A child's early vocabulary, at around the time of beginning school, is an important predictor of their reading and comprehension later on in their schooling.³⁴

2. Emergent literacy skills

Many studies support the important role of shared reading for children's emerging literacy skills. The seemingly simple act of a parent reading with a baby or toddler promotes the development of many early literacy skills.³⁵ These include alphabet knowledge, vocabulary, paying attention, listening ability, phonological awareness, recognising print, the structure of a narrative, page turning, book and text orientation.³⁶ These are all skills that enable a child to transition more successfully to school.³⁷

The more often young children are read to at home the better their ability to retell stories is likely to be. This indicates that frequent opportunities to hear stories improves children's awareness of the structure of stories.³⁸ Shared reading is also associated with improved comprehension.³⁹

"Much of written language is not found in day-to-day spoken language. When children begin reading independently, they will encounter many new words that they have not experienced in spoken language. Thus, spoken language alone does not prepare the child for the written language of books".⁴⁰

3. Social emotional benefits

The benefits of shared reading extend much further than cognitive and language development, also enhancing children's social and emotional skills.

Through books children have the opportunity to learn about themselves and others,⁴¹ as stories in books essentially simulate a variety of social situations they might otherwise not experience.⁴²

Books can be used to help children cope with a variety of difficult situations. Either as part of therapy with a professional, or with parents, whānau and other caregivers.⁴³ Examples include books exploring situations of death, parental separation, disability and the arrival of a new sibling.

Shared reading of picture books provides a unique opportunity to think and talk about the feelings and behaviours of book characters that may be less likely to occur in faster-moving, real-life social situations.⁴⁴ Parents tend to use more talk about mental states during shared reading than at other times⁴⁵ which is associated with an increase in children's social understanding.⁴⁶

Reading and the Brain

Research has identified for some time specific brain regions which are involved with different aspects of language.⁴⁷ Although there are neurological pathways for language development, there are no specific neural circuits for reading.⁴⁸ However, the brain's plasticity allows it to adapt to various circumstances and change the function of particular cells.⁴⁹ Therefore later success in reading depends upon reshaping existing neural networks involved in vision and oral language from a young age.⁵⁰

Recent research suggests that reading comprehension involves a greater number of brain areas than previously thought⁵¹ and that "reading may well be a 'whole brain' mental exercise".⁵²

³² Hindman et al., 2014

³³ Duursma et al., 2008, p. 556

³⁴ Juel, 2006, cited by Mol et al., 2008

³⁵ Petrill et al., 2014; Van Bysterveldt et al., 2010

³⁶ Shaw, 2015; Tichnor-Wagner et al., 2016; Van Bysterveldt et al., 2010

³⁷ Foster & Miller, 2007, cited by Mol & Bus, 2011

³⁸ Westerveld et al., 2015

³⁹ Foster & Miller, 2007, cited by Mol & Bus, 2011

⁴⁰ Massaro, 2016, p.16

⁴¹ Norton & Norton, 2010, cited by Gilmore & Howard, 2016

⁴² Stine-Morrow et al., 2015

⁴³ Gilmore & Howard, 2016, p. 221

⁴⁴ Dyer et al., 2000, and, Sabbagh & Callanan, 1998, cited by Murray et al., 2016

⁴⁵ Adrian et al., 2005, cited by Murray et al., 2016

⁴⁶ De Rosnay & Hughes, 2006, Dunn et al., 1991, Ensor & Hughes, 2008, and Ruffman et al., 2002, cited by Murray et al., 2016

⁴⁷ Carter, 2009

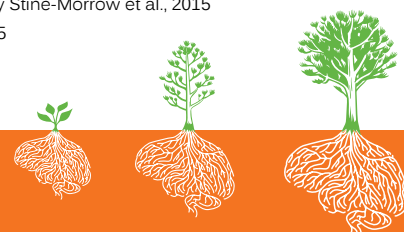
⁴⁸ Horowitz-Kraus & Hutton, 2015; Nevills & Wolfe, 2009

⁴⁹ Nevills & Wolfe, 2009

⁵⁰ Horowitz-Kraus & Hutton, 2015

⁵¹ Fedorenko et al., 2013, cited by Stine-Morrow et al., 2015

⁵² Stine-Morrow et al., 2015, p. 95





A number of studies indicate that this way of sharing books with young children, at around 2- to 3-years of age, can further increase the beneficial effects of reading, although children at risk did not gain as much as other children.⁶⁶

Research with low-income Latino families found the reverse, with parents' use of a more story-telling and less interactive shared reading styles associated with enhanced emergent literacy skills for their children. Studies such as this indicate the importance of considering the child and family's cultural background. One way of reading is not necessarily the best for all children.⁶⁷ What works best may differ between cultural, linguistic and socioeconomic groups.⁶⁸

Children often enjoy their favourite stories being repeated. And repeated. While parents might sometimes wish for a change, research indicates that children can benefit from repeated reading of the same book,⁶⁹ including increased word learning⁷⁰ and recall.⁷¹

Comprehending what is being read involves many areas of the brain, including those involved with perception, action and emotion.⁵³

What happens is that the words and phrases being read become a simulation of what's being described in the book. This simulation occurs in the neural systems usually used for the described activity. So, descriptions of visual imagery activate brain regions used in visual perception;⁵⁴ descriptions of physical actions produce activity in the brain regions involved in planning and controlling movement;⁵⁵ and highly emotive book situations activate the neural systems used for processing emotions.⁵⁶

A study looking at children's home reading environment and the activation of brain regions supporting literacy and language skills⁵⁷ found that children with higher home literacy scores⁵⁸ had more activation in semantic processing regions whilst listening to a story, than children with lower home literacy scores. This is thought to be related to an improved ability to visualise and understand what is happening in the story, using mental imagery.⁵⁹ Simply put, they have had more practise in skills that are crucial to learning at school.

Quality of Reading

Research indicates that both the quantity and quality of shared reading experiences can impact children's emerging literacy outcomes.⁶⁰ Quality can be viewed along two dimensions - with both instructional and emotional dimensions of quality related to children's literacy outcomes, as well as to each other.⁶¹

1. Instructional aspects

A typical reading interaction involves the parent reading and the child listening. In dialogic reading, on the other hand, parents use a variety of techniques to engage children and encourage their more active participation in the shared reading,⁶² including asking questions, linking aspects of the story to the child's own experiences, expanding on or retelling the story as needed.⁶³ In other words, "dialogic reading involves reading with, rather than to, children".⁶⁴

2. Emotional environment

The emotional environment is an important, albeit lesser studied, aspect of the shared reading experience. Aspects such as the warmth and sensitivity of the parent and their responsiveness to their child's interests have been found to be associated with children's language and emerging literacy skills. So too have behaviours likely to enhance their child's enjoyment of reading, "including reading with expression and excitement".⁷² It is likely that frequent shared reading experiences will "increase parent's sensitivity to their children's linguistic skills, enabling them to match their reading strategies to their children's linguistic ability".⁷³

Children who are securely attached were more likely to be read to frequently by their mothers.⁷⁴ Not only are insecurely attached children much less likely to be read to, but they are more easily distracted during the reading and more likely to be disciplined by their mothers to attend to the story.

⁵³ Chow et al., 2014; Ferstl et al., 2005; Glenberg et al., 2013; Speer et al., 2009, and, Xu et al., 2005, cited by Stine-Morrow et al., 2015

⁵⁴ Rueschemeyer et al., 2010, cited by Glenberg et al., 2013

⁵⁵ Chow et al., 2014; Glenberg et al., 2013

⁵⁶ Chow et al., 2014; Glenberg et al., 2013

⁵⁷ Hutton et al., 2015; Powers et al., 2016

⁵⁸ Hutton et al., 2015

⁵⁹ Schmithorst et al., 2006, cited by Hutton et al., 2015

⁶⁰ Cline & Edwards, 2013

⁶¹ Leseman & de Jong, 1998, cited by Cline & Edwards, 2013

⁶² Fletcher et al., 2008

⁶³ Parish-Morris et al., 2013

⁶⁴ Fielding-Barnsley & Purdie, 2003, cited by Mol et al., 2008, p.9

⁶⁵ Mol et al., 2008

⁶⁶ Caspe, 2009, cited by Cline & Edwards, 2013

⁶⁷ Reese et al., 2003, cited by Fletcher et al., 2008

⁶⁸ Cline & Edwards, 2013

⁶⁹ Williams & Horst, 2014

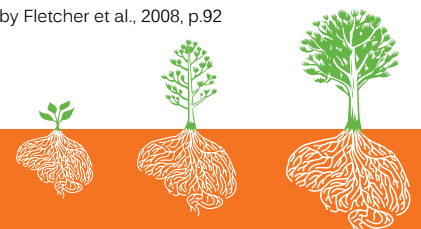
⁷⁰ Horst et al., 2011, cited by Williams & Horst, 2014

⁷¹ Richter & Courage, 2017

⁷² Cline & Edwards, 2013, p.1217

⁷³ Fletcher & Reese, 2005, cited by Fletcher et al., 2008, p.92

⁷⁴ Bus & Van Ijzendoorn, 1995





One way of reading is not necessarily the best for all children. What works best may differ between cultural, linguistic and socioeconomic groups.

The authors suggest that the security of the attachment relationship influences the child's ability to explore the language of books, as securely attached children are better "able to strike a balance between attachment and exploration".⁷⁵

One study found cultural differences in the type of talk that parents used during shared reading. Whilst the types of talk were associated with different outcomes, the emotional quality of the reading interaction was important for both groups of children.⁷⁶

The Role of Illustrations

Talk between parent and child during reading commonly includes discussing the pictures in the book.⁷⁷ Young children are much more likely to look at a book's illustrations than its text when being read to,⁷⁸ and doing so is associated with enhanced memory and comprehension.⁷⁹ This suggests that children's preference for looking at illustrations during story reading may be an important feature of their early literacy development, rather than something to avoid.⁸⁰

Children at heightened risk

A number of factors can decrease the likelihood that a child will experience a rich early literacy environment. These factors include families experiencing multiple risks, children with disabilities, and those at family risk of language or reading difficulties, including dyslexia.

A small study of disadvantaged mothers found that whilst many knew that shared reading was good for their babies, most did not understand why this was so.⁸¹ It has been suggested that while mothers may recognise the importance of literacy skills, and want to support their baby's development, they don't necessarily feel capable of providing this themselves, and may also underestimate their young child's ability to benefit from literacy activities at a young age.⁸²

As with other aspects of children's development, the wider context of the child's and family's life is very influential. Research may hone in on one aspect of a child's experience, but everyday life is less straight-forward. An Australian longitudinal study found a consistent association between the number of risks a child was exposed to, and the absence of parental book reading.⁸³ Risks included low family income, single parent family, low maternal education, and maternal psychological distress. As the number of risks increased, the likelihood of not being read to increased substantially. The authors suggested that the lack of book reading "may serve as a red flag for multiple disadvantages,"⁸⁴ and that for parents in high risk situations the associated stress and other priorities may make it difficult for parents to spend the time reading with their child.⁸⁵

Although less studied, research suggests that children with disabilities have a less rich literacy environment and significantly fewer literacy experiences with their parents than typically developing children.⁸⁶ Although the home learning environment (HLE) is associated with improved early literacy development, children with intellectual disabilities had HLE that differed in many ways from that of their non-disabled peers.⁸⁷

Family risk for language impairment

Children with language impairments come from a wide variety of homes in terms of the amount of shared book reading they've experienced. In some instances, literacy deficits may be a consequence of a family environment. In others, deficits may occur despite a supportive home environment.⁸⁸

⁷⁵ Bus & Van Ijzendoorn, 1995, p.1001

⁷⁶ Cline & Edwards, 2013

⁷⁷ Hindman et al., 2014

⁷⁸ Evans & Saint-Aubin, 2005, and van Kleeck, 2004, cited by Massaro, 2016

⁷⁹ Kaefer et al., 2016

⁸⁰ Kaefer et al., 2016

⁸¹ Whitmarsh, 2011

⁸² Bus & van Ijzendoorn, 1995; Burgess, 2005, cited by Whitmarsh, 2011

⁸³ Taylor, Zubrick, & Christensen, 2016

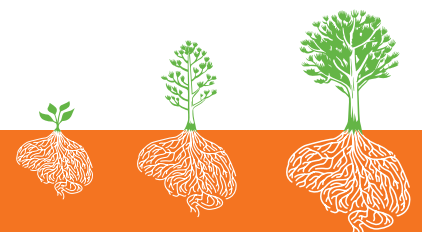
⁸⁴ Taylor et al., 2016, p.1

⁸⁵ Taylor et al., 2016

⁸⁶ Marvin & Miranda, 1993, cited by Van Bysterveldt et al., 2010; Weikle & Hadadian, 2004

⁸⁷ Van der Schuit et al., 2009

⁸⁸ Petrill et al., 2014





As with other aspects of children's development, the wider context of the child's and family's life is very influential.

Whilst shared reading may not always be enough to prevent language impairments, it is an important component, for those children at risk.⁸⁹ However, a lack of shared reading further disadvantages the emerging literacy of those children at risk for language impairment.⁹⁰ Children whose parents have dyslexia may have less frequent shared reading experiences.⁹¹ Children who develop reading difficulties need continued literacy exposure and appropriate interventions as early as possible.⁹²

Risks associated with poor literacy skills

Greater literacy skills have been associated with earning a higher income, better jobs, improved physical and mental health.⁹³ Conversely, public health consequences of illiteracy include increased likelihood of academic failure, crime, poverty, substance abuse, teen pregnancy, obesity and depression.⁹⁴

Conclusions

The quantity and quality of the early language children experience has significant implications for their development. There is abundant literature indicating that shared reading, between parents/whānau and child, is one important way to support this.

Early experiences of being read with are particularly important as these early experiences lay the foundations for later development. The importance of reading with children from infancy is sometimes underestimated.

The sooner shared reading starts the better; as benefits accrue for some children, so do gaps for others who miss this early exposure. These gaps tend to widen as children progress through their school years.

The benefits of shared reading include exposure to richer, more varied language; development of emerging literacy skills; and improved social emotional skills.

If you enjoyed this article, here are some others that may be of interest

Print Book or e-Book: Does it matter?

<https://brainwave.org.nz/article/print-book-or-e-book-does-it-matter/>

Nourishing Our Babies: Why Listening And Talking Matter

<https://brainwave.org.nz/article/nourishing-our-babies-why-listening-and-talking-matter/>

Tots, toddlers and TV: The potential harm

<https://brainwave.org.nz/article/tots-toddlers-and-tv-the-potential-harm/>



⁸⁹ Westerveld et al., 2017

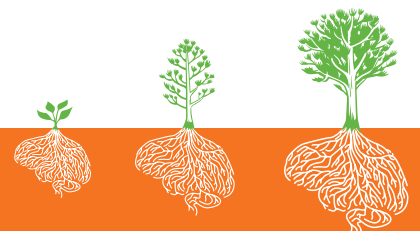
⁹⁰ Petrill et al., 2014

⁹¹ van Bergen et al., 2014, cited by Dilnot et al., 2016

⁹² Horowitz-Kraus & Hutton, 2015

⁹³ Fawcett, 2004, and Lyon, 2002, cited by Niklas et al., 2016

⁹⁴ Horowitz-Kraus & Hutton, 2015; Shaw, 2015



References

- Bus, A. G., & Van Ijzendoorn, M. H. (1995). Mothers reading to their 3-year-olds: The role of mother-child attachment security in becoming literate. *Reading Research Quarterly, 30*(4), 998-1015.
- Carter, R. (2009). *The Human Brain Book*. New York, NY: Doring Kindersley Ltd.
- Chen, P., Rea, C., Shaw, R., & Bottino, C. J. (2016). Associations between public library use and reading aloud among families with young children. *The Journal of Pediatrics, 173*, 221-227.
- Chow, H. M., Mar, R. A., Xu, Y., Liu, S., Wagage, S., & Braun, A. R. (2014). Embodied comprehension of stories: interactions between language regions and modality-specific neural systems. *Journal of Cognitive Neuroscience, 26*(2), 279-295.
- Cline, K. D., & Edwards, C. P. (2013). The instructional and emotional quality of parent-child book reading and early head start children's learning outcomes. *Early Education and Development, 24*(8), 1214-1231.
- Dilnot, J., Hamilton, L., Maughan, B., & Snowling, M. J. (2016). Child and environmental risk factors predicting readiness for learning in children at high risk of dyslexia. *Development and Psychopathology, 29*, 235-244.
- Duursma, E., Augustyn, M., & Zuckerman, B. (2008). Reading aloud to children: the evidence. *Archives of Disease in Childhood, 93*(7), 554-557.
- Escobar, K., Melzi, G., & Tamis-LeMonda, C. S. (2017). Mother and child narrative elaborations during booksharing in low-income Mexican-American dyads. *Infant and Child Development, n/a-n/a*.
- Fletcher, K. L., Cross, J. R., Tanney, A. L., Schneider, M., & Finch, W. H. (2008). Predicting language development in children at risk: the effects of quality and frequency of caregiver reading. *Early Education and Development, 19*(1), 89-111.
- Gilmore, L., & Howard, G. (2016). Children's books that promote understanding of difference, diversity and disability. *Journal of Psychologists and Counsellors in Schools, 26*(2), 218-251.
- Glenberg, A. M., Witt, J. K., & Metcalfe, J. (2013). From the Revolution to Embodiment: 25 Years of Cognitive Psychology. *Perspectives on Psychological Science, 8*(5), 573-585.
- Hindman, A. a. t. e., Skibbe, L., & Foster, T. (2014). Exploring the variety of parental talk during shared book reading and its contributions to preschool language and literacy: evidence from the Early Childhood Longitudinal Study-Birth Cohort. *Reading & Writing, 27*(2), 287-313.
- Horowitz-Kraus, T., & Hutton, J. S. (2015). From emergent literacy to reading: how learning to read changes a child's brain. *Acta Paediatrica, 104*, 648-656.
- Hutton, J. S., Horowitz-Kraus, T., Mendelsohn, A. L., DeWitt, T., & Holland, S. K. (2015). Home reading environment and brain activation in preschool children listening to stories. *Pediatrics, 136*(3), 466-478.
- Kaefer, T., Pinkham, A. M., & Neuman, S. B. (2016). Seeing and knowing: Attention to illustrations during storybook reading and narrative comprehension in 2-year-olds. *Infant and Child Development, n/a-n/a*.
- Massaro, D. W. (2016). Two different communication genres and implications for vocabulary development and learning to read. *Journal of Literacy Research, 1-23*.
- Mol, S. E., & Bus, A. G. (2011). To read or not to read: A meta-analysis of print exposure from infancy to early adulthood. *Psychological Bulletin, 137*(2), 267-296.
- Mol, S. E., Bus, A. G., de Jong, M. T., & Smeets, D. H. (2008). Added value of dialogic parent-child book readings: A meta-analysis. *Early Education and Development, 19*(1), 7-26.
- Montag, J. L., Jones, M. N., & Smith, L. B. (2015). The words children hear: Picture books and the statistics for language learning. *Psychological Science, 26*(9), 1489-1496.
- Morton, S. M. B., Ataoa Carr, P. E., Grant, C. C., Berry, S. D., Bandara, D. K., Mohal, J., . . . Wall, C. R. (2014). *Growing Up in New Zealand: A longitudinal study of New Zealand children and their families. Now we are Two: Describing our first 1000 days*. Retrieved from Auckland, NZ: www.growingup.co.nz
- Morton, S. M. B., Ataoa Carr, P. E., Grant, P., Lee, A. C., Bandara, D. K., Mohal, J., . . . Wall, C. R. (2012). *Growing Up in New Zealand: A longitudinal study of New Zealand children and their families. Report 2: Now we are born*. Retrieved from Auckland, NZ: https://cdn.auckland.ac.nz/assets/growingup/research-findings-impact/report03.pdf
- Morton, S. M. B., Grant, C., Berry, S., Walker, C. G., Corkin, M., Ly, K., . . . Fa'alili-Fidow, J. (2017). *Growing Up in New Zealand: A longitudinal study of New Zealand children and their families. Now we are Four: Describing the preschool years (7)*. Retrieved from Auckland, NZ: https://cdn.auckland.ac.nz/assets/growingup/research-findings-impact/GUiNZ_Now%20we%20are%20four%20report.pdf
- Murray, L., De Pascalis, L., Tomlinson, M., Vally, Z., Dadomo, H., MacLachlan, B., . . . Cooper, P. J. (2016). Randomized controlled trial of a book-sharing intervention in a deprived South African community: effects on carer-infant interactions, and their relation to infant cognitive and socioemotional outcome. *Journal of Child Psychology and Psychiatry, 57*(12), 1370-1379.
- Nevills, P., & Wolfe, P. (2009). *Building the Reading Brain PreK-3* (2nd ed.). Thousand Oaks, CA: Corwin Press.
- Niklas, F., Cohns, C., & Tayler, C. (2016). The sooner the better: Early reading to children. *SAGE Open, 1-11*.
- Parish-Morris, J., Mahajan, N., Hirsh-Pasek, K., Golinkoff, R. M., & Collins, M. F. (2013). Once Upon a Time: Parent-Child Dialogue and Storybook Reading in the Electronic Era. *Mind, Brain, and Education, 7*(3), 200-211.
- Petrill, S. A., Logan, J. A. R., Sawyer, B. E., & Justice, L. M. (2014). It depends: Conditional correlation between frequency of storybook reading and emergent literacy skills in children with language impairments. *Journal of Learning Disabilities, 47*(6), 491-502.
- Powers, S. J., Wang, Y., Beach, S. D., Sideridis, G. D., & Gaab, N. (2016). Examining the relationship between home literacy environment and neural correlates of phonological processing in beginning readers with and without a familial risk for dyslexia: an fMRI study. *Annals of Dyslexia, 66*(3), 337-360.
- Richter, A., & Courage, M. L. (2017). Comparing electronic and paper storybooks for preschoolers: Attention, engagement, and recall. *Journal of Applied Developmental Psychology, 48*, 92-102.
- Shaw, A. (2015). Read, speak, sing: Promoting literacy in the physician's office. *Paediatric and Child Health, 11*(9), 601-606.
- Stine-Morrow, E. A. L., Hussey, E. K., & Ng, S. (2015). The potential for literacy to shape lifelong cognitive health. *Policy Insights from the Behavioral and Brain Sciences, 2*(1), 92-100.
- Taylor, C. L., Zubrick, S. R., & Christensen, D. (2016). Barriers to Parent-Child Book Reading in Early Childhood. *International Journal of Early Childhood, 1-15*.
- Tichnor-Wagner, A., Garwood, J. D., Bratsch-Hines, M., & Vernon-Feagans, L. (2016). Home literacy environments and foundational literacy skills for struggling and nonstruggling readers in rural early elementary schools. *Learning Disabilities Research & Practice, 31*(1), 6-21.
- Tunmer, W. E., Chapman, J. W., & Prochnow, J. E. (2006). Literate cultural capital at school entry predicts later reading achievement: A seven year longitudinal study. *New Zealand Journal of Educational Studies, 41*(2), 183-204.
- Van Bysterveldt, A. K., Gillon, G., & Foster-Cohen, S. (2010). Literacy environments for children with Down Syndrome: What's happening at home? *Down Syndrome Research and Practice*.
- Warren, S. F. (2015). *Right from Birth: Eliminating the Talk Gap in Young Children*. Retrieved from Boulder, CO: https://www.lenafoundation.org/wp-content/uploads/2015/08/RightFromBirth_Warren_5.12.2015_v.3.pdf
- Weikle, B., & Hadadian, A. (2004). Literacy, development and disabilities: are we moving in the right direction? *Early Child Development and Care, 174*(7-8), 651-666.
- Westerveld, M. F., Gillon, G. T., van Bysterveldt, A. K., & Boyd, L. (2015). The emergent literacy skills of four-year-old children receiving free kindergarten early childhood education in New Zealand. *International Journal of Early Years Education, 23*(4), 339-351.
- Westerveld, M. F., Paynter, J., Trembath, D., Webster, A. A., Hodge, A. M., & Roberts, J. (2017). The emergent literacy skills of preschool children with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders, 47*(2), 424-438.
- Whitmarsh, J. (2011). Out of the mouth of babes: first-time disadvantaged mothers and their perceptions of infant communication. *International Journal of Early Years Education, 19*(3-4), 283-296.
- Williams, S. E., & Horst, J. S. (2014). Goodnight book: sleep consolidation improves word learning via storybooks. *Frontiers in Psychology, 5*(Article 184).
- Zauche, L. H., Thul, T. A., Mahoney, A. E. D., & Stapel-Wax, J. L. (2016). Influence of language nutrition on children's language and cognitive development: An integrated review. *Early Childhood Research Quarterly, 36*, 318-333.

