

Fostering empathy in children through storytelling: A Protocol for Scoping Review.

Joseph Chinwuba Odumegwu (✉ josephodumegwu@gmail.com)

University of Limerick, Ireland.

Leticia Scheidt

University of Limerick, Ireland.

Jennifer McMahon

School, Child and Youth (SCY) Mental Health & Wellbeing Research Lab, Department of Psychology,
University of Limerick. Health Research Institute, University of Limerick

Systematic Review

Keywords: Stories, Empathy, Children

Posted Date: June 21st, 2022

DOI: <https://doi.org/10.21203/rs.3.rs-1665413/v2>

License:   This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Fostering empathy in children through storytelling: A Protocol for Scoping Review

Introduction

Rationale

Social scientists and researchers all over the world agree that empathy is a vital and advantageous trait during childhood development. This is primarily because, by fostering empathy, people are able to regulate emotion, develop connections, and engage in prosocial and altruistic behaviours. In children, empathy aids as far as making new friends, creating close, long lasting emotional connections, preventing bullying or antisocial behaviours, and helping them integrate better within their society. Storytelling has been shown on several occasions to be one of the most effective means of promoting this trait especially among children. Indeed, no matter the age, everyone seeks interaction and belonging, and storytelling creates this sense of belonging. Stories have the power to engage, influence, teach and inspire listeners. (Peterson, 2017). Stories do more than create a sense of connection; they build familiarity, trust and allow the listener to enter the story where they are, making them more open to learning (Boris, 2017).

There are four primary forms of storytelling; oral, visual, written and digital. As one of the oldest storytelling forms, oral storytelling is passed on through spoken words. Members of ancient societies would share stories by chanting, singing, reciting poetry, or reciting stories verbatim. For instance, in ancient Greece, people often crowded around great storytellers like Homer, who would create an emotional bond with his audience when he told them a tale of epic battles and lost love. Similarly, for tens of thousands of years, humans have also told stories visually, as the visual medium is a simple and straight-forward way of conveying ideas, messages and stories. Ancient cave paintings, engraving and hieroglyphics depicting events, animals,

figures with human characteristics, are some of the ways people told visual stories for many years. The ancient Egyptians, for example, used pictographic symbols to communicate information and tell stories. Written storytelling on the flip side has been present for as long as there have been written words. From ancient scrolls and scriptures such as the Torah, Bible and Quran to modern texts such as novels, biography, newspapers and postcards, people steadily tell stories through writing. Finally, digital storytelling, which is the most recent and versatile form of storytelling, is the transmission of stories through several electronic means such as television, internet, films and radios. Digitally, we can access a seemingly endless collection of captivating stories from throughout the history of humanity with a simple click of the mouse.

These forms are not only ways of discussing important events across human societies, but also means of entertainment and education (Molly, 2001; Lawrence & Paige, 2013). This is fundamentally because when people listen to a good story, rich in detail, full of metaphor and expressive of character, they tend to immerse and transport themselves into that same situation (Peterson, 2017).

According to recently published studies, several notable mechanisms are behind people's immersion with stories. However, the main theoretical explanation is that stories become more engaging and absorbing to listeners through “narrative transportation,” a complex interaction between language, text, and imagination which creates a strong state of cognitive and emotional immersion that deeply engages the listener into the world of the story (Gerrig, 1993; Green & Brock, 2000; Oatley, 2016; Irimiás, Mitev & Michalkó, 2021).

Van Laer, De Ruyter, Visconti & Wetzels (2014) define narrative transportation as the extent to which a story plot activates a listener's imagination and empathy with the story characters, which leads them to experience suspended reality during story reception. Story

listeners typically become transported through two main components: Imagination and empathy. The imagination or mental imagery component suggests that the listeners generate vivid images of a story plot, such that they feel as though they are experiencing the events themselves. Empathy implies that the listener or story receiver tries to understand the experience of a story character, that is, to know and feel their world in the same way.

By way of illustration, when immersed in a story, you start to experience the emotional experience that the main characters or just the characters in general are experiencing. If they are going through a very emotional moment and they experience a sense of loss, you experience that sense of loss with them, which is why people cry when watching a movie or reading a sentimental novel. What is also remarkably interesting about the immersive process, is that when you leave the story world, the story is still felt and you carry that experience with you as a memory or an experience that you have had which is now a part of you. Hence, narrative transportations helps reframe personal experiences, broaden perspectives, deepen emotional processing abilities, regulate self-models and emotional experiences, and significantly increase empathy toward others (Bal & Veltkamp, 2013; Djikic, Oatley & Moldoveanu, 2013; Tamir, Bricker, Dodell-Feder & Mitchell, 2016; Irimiás, et. al, 2021).

Empathy, which is a key predictor of human behaviour, fundamentally refers to being capable of understanding or experiencing what another person is going through from their perspective. It entails a shift from concern for self to concern for others, and develops alongside gains in self-other differentiation, perspective taking, and emotion regulation (Knafo, Zahn-Waxler, Van Hulle, Robinson & Rhee, 2008; Conte Ornaghi, Grazzani, Pepe & Cavioni, 2019). Empathy is a common emotional trait expressed by children, and it is primarily learnt through perception and/or imagination of what they observe. Children are highly imaginative and

their imagination serves as a fundamental building block for empathy. For instance, when children engage in imaginative play, they imagine how someone else in such a situation would feel, and they always want to play the role of the protagonist simply because they understand that it is not fun to be unlikeable. Storytelling has this same imaginative effect on children. As Cognitive Psychologists Johnson, Huffman and Jasper (2014) suggest, simply telling or listening to a story, even if fictitious, can increase our empathy towards others we may have initially viewed as being “outsiders”. By imagining themselves in someone else’s place, they are actively and positively challenged to accommodate other people's feelings.

Empirical research has also shown that from a biologically standpoint, listening to a captivating story triggers the secretion of the oxytocin in the brain. Oxytocin is a hormone primarily responsible for emotions such as empathy and sympathy. In one study conducted by Brockington, Moreira, Buso, Gomes da Silva, Altszyler, Fischer & Moll (2021) on a group of hospitalised children, researchers found a rapid increase in oxytocin and a sharp reduction in cortisol and pain, after just one storytelling session. A good explanation for this is that people often look to other people’s stories for inspiration by identifying other people's emotions and connecting it with their own. The emotional connection built when listening to a story, as opposed to reading raw facts or data, is far more stronger and pushes people to act in an altruistic or prosocial manner. The strong empathetic bond established as a result of being mesmerised in stories can unconsciously modify attitudes, beliefs, and moods (Green, Brock, & Kaufman, 2004).

Objectives of the Study

A scoping report was chosen to appropriately summarise the literature as the number of articles on storytelling is relatively small but dispersed. Overall, this study aims to identify all relevant quantitative and qualitative literature in the area of storytelling and empathy in children (specifically Grade schoolers) aged between 5 to 12 years, by adopting the Arksey and O'Malley (2005) framework. The primary objectives of this study includes;

1. Mapping out the evidence that exists on the link between storytelling and empathy.
2. Summarise how empathy is operationalised in the context of engaging in storytelling interventions.
3. Summarise the evidence of empathy outcomes following storytelling intervention.

Methods

Study design

This scoping report will provide a comprehensive overview of the up-to-date literature on storytelling interventions and empathy outcomes among primary school children. The study follows the five stage framework for scoping reviews identified by Arksey & O'Malley (2005):

1. Identify research questions.
2. Identify relevant studies.
3. Study selection.
4. Chart the data.
5. Collate, summarise, and report results.

Research questions

As the title of this study suggests, the primary research question for this scoping review is "What are the key findings concerning the relationship between storytelling interventions and empathy outcomes among primary school children?". The following sub-questions will guide the data charting in accordance with the objectives of the review:

1. What evidence exists on the relationships between storytelling and empathy among primary school children?
2. How is empathy operationalised in the context of the storytelling?
3. What is the effectiveness of storytelling interventions in fostering empathy among primary school children as reported by literature?

Information Sources

Following the scoping review guidelines provided by Arksey and O'Malley, the underlisted electronic databases will be searched;

1. MEDLINE (Ebsco, Ovid & Pubmed).
2. Scopus.
3. PsycINFO.
4. PsycArticles.
5. CINAHL.
6. Cochrane.

Reference lists of articles and journals would be screened to locate additional studies.

Gray literature will be searched through ProQuest Dissertations & Theses A&I to identify unpublished studies relevant to this review.

Table 1. Search terms to be used in the database searches.

Population	Intervention	Outcomes
Child*	Storytelling	Empath*
Preteen*	Narrative	Compassion
Preadolescen*	Stories	Perspective taking abilities
Grade schooler*	Fiction	Caring
Primary school		

Inclusion criteria

- a) Articles published in English.
- b) Studies where storytelling interventions or similar programs, such as story exchange, narrative and restorative practice, are the main focus of the research.
- c) Studies where empathy is the primary or secondary outcome of storytelling interventions.
- d) Studies carried out in school or an academic environment (i.e. Library).
- e) Studies which have children (Specifically primary, elementary or grade schoolers) as the population of interest. According to the CSO Ireland (2016), primary school children are defined as being between 5 and 12 years of age.
- f) Peer-reviewed publications.
- g) Qualitative, quantitative, mixed-methods, literature reviews and meta-analyses.

Exclusion criteria

- a) Articles published in languages other than English.
- b) Studies where storytelling interventions are not central to the research.
- c) Studies that do not report outcomes related to empathy.
- d) Studies that focus on populations other than primary school children (Example; Kindergarten, Nursery, Preschoolers, Adolescents or Secondary school and above).
- e) Editorials, blogs, forums, commentaries and opinion pieces

Study selection

In order to remove duplicates from search results, the EndNote software will be used to thoroughly screen and manage reference information. There will be a narrative presentation of the study selection procedure along with a PRISMA flow chart (Page, McKenzie, Bossuyt, Boutron, Hoffmann, Mulrow, Shamseer, Tetzlaff, Akl, Brennan, Chou, Glanville, Grimshaw, Hróbjartsson, Lalu, Li, Loder, Mayo-Wilson, McDonald, McGuinness, Stewart, Thomas, Tricco, Welch, Whiting & Moher, 2021), with the reasons for exclusion described in the report.

Data extraction

In a pre-pilot study, a random selection of articles will be used to test the data extraction form.

Data extracted will include:

- a) Publication data: authors, year, title, journal.
- b) Country of origin.
- c) Context of intervention (e.g. schools, community, health institutions).
- d) Study method: quantitative, qualitative, mixed-method, review.
- e) Sample size.
- f) Participants: age, gender, education level.
- g) Study aims and objectives.
- h) Description of storytelling intervention.
- i) Empathy outcomes: What were the described outcomes? How were they operationalised?
What measures were used?

j) Main findings.

k) Evidence of suitability of storytelling as a tool for fostering empathy.

Results

The results of this review will be reported using the Preferred Reporting Items for Systematic reviews and Meta-Analysis extension for Scoping Reviews (PRISMA-ScR) Tricco et al. (2018). The results will address the primary research question and describe a summary of the available literature on storytelling interventions among primary school children's ability to express empathy. The findings will be organised according to the aims of this review, identifying common denominators in the application of storytelling as a tool to develop empathy. A summary of how empathy is operationalised as an outcome of storytelling intervention will be provided. Ultimately, the data collated will synthesise the validity and effectiveness of storytelling interventions in fostering empathy.

Discussion

A scoping review of storytelling interventions and empathy outcomes among children has never been conducted due to a lack of literature. This report wants to fill this gap by summarising what is known about this issue. This report aims to summarise the effectiveness of storytelling when it comes to promoting empathy in childhood. The results from this report will provide an updated description of the available research in the field. In addition, the findings of this review will potentially inform future research into the effectiveness of storytelling interventions and point to the gaps in knowledge.

Limitations

Due to the fact that some studies might not be indexed or published, this review has potential limitations. The search terms were nonetheless carefully defined in order to cover most of the available literature and a strategy chosen to identify the relevant grey literature.

Reference

- Adler, J. M., Dunlop, W. L., Fivush, R., Lilgendahl, J. P., Lodi-Smith, J., McAdams, D. P., McLean, K. C., Pasupathi, M. & Syed, M. (2017). Research Methods for Studying Narrative Identity. *Social Psychological and Personality Science*. 8(5):519-27.
<https://doi.org/10.1177/1948550617698202>
- Arksey, H. & O'Malley, L. (2005). Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology*, 8(1); 19-32. DOI:
<https://doi.org/10.1080/1364557032000119616>
- Ashiabi, G.S. (2000). Promoting the emotional development of preschoolers. *Early Childhood Education Journal*. 28(2); 79-84. DOI:10.1023/A:1009543203089
- Alston, T. (1995). Storytelling: A tool of healing for Vietnam Veterans and their families. The legacy of Vietnam veterans and their families: Survivors of war. *Washington, DC: Agent Orange Class Assistance Program*. pp. 384-395.
- Bal, P. M. & Veltkamp, M., (2013) How does fiction reading influence empathy? An experimental investigation on the role of emotional transportation. *PLoS One* 8, e55341.
- Berkowitz, D. (2011). Oral storytelling: Building community through dialogue, engagement, and problem-solving. *YC Young Children* 66(2); 36-41.
- Boris, V. (2017). *What Makes Storytelling So Effective For Learning?* Harvard Business Publishing Corporate Learning. Retrieved from;
<https://www.harvardbusiness.org/what-makes-storytelling-so-effective-for-learning/>
- Bower, G. & Clark, M. C., (1969) Narrative stories as mediators for serial learning, *Psychonomic Science*, 15(4); 181-182 DOI:10.3758/BF03332778

- Brockington, G., Moreira, A. P. G., Buso, M. S., Gomes da Silva, S., Altszyler, E., Fischer, R. & Moll, J. (2021) Storytelling increases oxytocin and positive emotions and decreases cortisol and pain in hospitalized children, *PNAS*, *118*(22);
<https://doi.org/10.1073/pnas.2018409118>
- Conte, E., Ornaghi, V., Grazzani, I., Pepe, A., and Cavioni, V. (2019). Emotion knowledge, theory of mind, and language in young children: testing a comprehensive conceptual model. *Frontiers in Psychology* *10*:2144. doi: 10.3389/fpsyg.2019.02144
- Central Statistics Office Ireland (2016). *Census of Population 2016 - Profile 3 An Age Profile of Ireland*. Retrieved from;
<https://www.cso.ie/en/releasesandpublications/ep/p-cp3oy/cp3/agr/>
- Denham, S. A., Blair, K. A., DeMulder, E., Levitas, J. Sawyer, K., Auerbach-Major, S., & Queenan, P. (2003). Preschool emotional competence: Pathways to social competence? *Child Development*, *74*(1); 238-256. doi: 10.1111/1467-8624.00533.
- Dettore, E. (2002). Children's emotional growth: Adults' role as emotional archeologists. *Childhood education*. *78*(5); 278-281. <https://doi.org/10.1080/00094056.2002.10522741>
- De Vecchi, N., Kenny, A., Dickson-Swift, V. & Kidd, S. (2016). How digital storytelling is used in mental health: A scoping review. *International Journal of Mental Health Nursing*, *25*(3); 183-193. DOI: 10.1111/inm.12206
- Djikic, M., Oatley, K. & Moldoveanu, M. C., (2013) Reading other minds: Effects of literature on empathy. *Sci. Study Lit.* *3*, 28–47.
- Elias, M. J.; Zins, J. E.; Weissberg, R. P.; Frey, K. S.; Greenberg, M. T.; Haynes, N. M.; Kessler, R.; Schwab-Stone, M. E.; Shriver, T. P. (1997). Promoting Social and Emotional

Learning: Guidelines for Educators. Alexandria, VA: Association for Supervision and Curriculum Development. ISBN-0-87120-288-3

Figueroa-Sánchez, M. (2008). Building emotional literacy: Groundwork to early learning.

Childhood education 84(5); 301-304. <https://doi.org/10.1080/00094056.2008.10523030>

Gerrig, R. J., *Experiencing Narrative Worlds* (Yale University Press, New Haven, CT,).

Green, M. C. & Brock, T. C., (2000) The role of transportation in the persuasiveness of public narratives. *Journal of Personality and Social Psychology* 79, 701-721.

Gill, R. J. (2011). An integrative review of storytelling: using corporate stories to strengthen employee engagement and internal and external reputation. *PRism*, 8(1); 11-16

Hammond, C., Gifford, W., Thomas, R., Rabaa, S., Thomas, O. & Domecq, M-C. (2018)

Arts-based research methods with indigenous peoples: an international scoping review.

AlterNative: An International Journal of Indigenous Peoples, 14(3); 260-276.

<https://doi.org/10.1177/1177180118796870>

Helen R., (2017). The Science of Empathy, *Journal of Patient Experience*, 4(2); 74-77

<https://doi.org/10.1177/2374373517699267>

Narrative transportation and travel: The mediating role of escapism and immersion

Author links open overlay panel

Irimiás, A., Mitev, A. Z. & Michalkó, G. (2021). Narrative transportation and travel: The mediating role of escapism and immersion. *Tourism management perspectives*, 38

<https://doi.org/10.1016/j.tmp.2021.100793>

Johnson, D. R. Huffman, B. L. & Jasper D. M. (2014). Changing race boundary perception by reading narrative fiction. *Basic and Applied Social Psychology*, 36(1); 83-90

<https://doi.org/10.1080/01973533.2013.856791>

- Katic, B., Alba, L. A. & Johnson, A. H. (2020). A Systematic Evaluation of Restorative Justice Practices: School Violence Prevention and Response, *Journal of School Violence*, 19(4); 579-593 DOI: 10.1080/15388220.2020.1783670
- Knafo, A., Zahn-Waxler, C., Van Hulle, C., Robinson, J. L., and Rhee, S. H. (2008). The developmental origins of a disposition toward empathy: genetic and environmental contributions. *Emotion*, 8(6); 737-752. doi: 10.1037/a0014179
- Levac, D., Colquhoun, H. & O'Brien, K.K. (2010). Scoping studies: advancing the methodology. *Implementation Science*, 5(69); 69 DOI:10.1186/1748-5908-5-69
- Lucarevski, C. R. (2016) The role of storytelling on language learning: A literature review. *Working Papers of the Linguistics Circle*, 26(1); 24-44.
- Mar, R. A., Li, J., Anh T. P. Nguyen, A. T. P. & Ta, C. P (2021). Memory and comprehension of narrative versus expository texts: A meta-analysis. *Psychonomic Bulletin & Review* 28(3); 732-749 <https://doi.org/10.3758/s13423-020-01853-1>
- McAdams, D. P. (2013). The Psychological Self as Actor, Agent, and Author. *Perspectives in Psychological Science*. 8(3); 272-295. <https://doi.org/10.1177/1745691612464657>
- McCall, B., Shallcross, L., Wilson, M., Fuller, C. & Hayward, A. (2019). Storytelling as a research tool and intervention around public health perceptions and behaviour: a protocol for a systematic narrative review. *BMJ Open*, 9(12) <http://dx.doi.org/10.1136/bmjopen-2019-030597>
- Moen T. (2016). Reflections on the Narrative Research Approach. *International Journal of Qualitative Methods*. 5(4); 56-69. <https://doi.org/10.1177/160940690600500405>
- Oatley, K., (2016) Fiction: Simulation of social worlds. *Trends in Cognitive Science* 20, 618–628

- Page, M. J., McKenzie, J.E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, A. E., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L. A., Stewart, L. A., Thomas, J., Tricco, A. C., Welch, V. A., Whiting, P. & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* doi: 10.1136/bmj.n71
- Pekdoğan, S. (2016). Investigation of the effects of story-based social skills training programs on the social skill development of 5-6-year-old children. *Education and science*. 41(183) 305-318 DOI: 10.15390/EB.2016.4618
- Peters, M. D. J., Marnie, C., Tricco, A. C., Pollock, D., Munn, Z., Alexander, L., Mcinerney, P., Godfrey, C. M. & Khalil, H. (2020). Updated methodological guidance for the conduct of scoping reviews. *JBI Evidence Synthesis* 18(10); 2119-2126
DOI:10.11124/JBIES-20-00167
- Peterson, L. (2017). *The Science Behind The Art Of Storytelling*. Harvard Business Publishing Corporate Learning. Retrieved from;
<https://www.harvardbusiness.org/the-science-behind-the-art-of-storytelling/>
- Peterson, C., & Biggs, M. (2001). I was really, really, really mad! Children's use of evaluative devices in narratives about emotional events. *Sex roles* 45(11); 801-824
DOI:10.1023/A:1015692403932
- Quah, C. Y. & Ng, K. H. (2021) A Systematic Literature Review on Digital Storytelling Authoring Tool in Education: January 2010 to January 2020. *International Journal of Human-Computer Interaction*, pp. 1-17. <https://doi.org/10.1080/10447318.2021.1972608>

- Rieger, K. L., Gazan, S., Bennett, M., Buss, M., Chudyk, A. M. & Cook, L., Copence, S. Garson, C., Hack, T., Hornan, B., Horrill, T., Horton, M., Howard, S., Linton, J., Martin, D., McPherson, K., Rattray, J. M., Phillips-Beck, W., Sinclair, R. & Schultz, A. (2020). Elevating the uses of storytelling approaches within Indigenous health research: a critical and participatory scoping review protocol involving Indigenous people and settlers. *Systematic Reviews*, 9(1); 257. DOI:10.1186/s13643-020-01503-6
- Rodríguez, C. L., García-Jiménez, M., Massó-Guijarro, B. & Cruz-González, C. (2021) Digital Storytelling in Education: A Systematic Review of Literature. *Review of European Studies*, 13(2). DOI:10.5539/res.v13n2p13
- Rutledge, P. B. (2016) Everything Is Story: Telling Stories and Positive Psychology. In: Gregory EM, Rutledge PB. *Exploring Positive Psychology: The Science of Happiness and Well-Being*. ABC-CLIO.
- Singer, J. A. (2004). Narrative identity and meaning making across the adult lifespan: an introduction. *Journal of Personality* 72(3); 437-459. DOI: 10.1111/j.0022-3506.2004.00268.x
- Tamir, D. I., Bricker, A. B., Dodell-Feder, D., & Mitchell, J. P., (2016) Reading fiction and reading minds: The role of simulation in the default network. *Social Cognitive Affective Neuroscience* 11, 215-224
- Taylor, C. (2015). Learning in early childhood: experiences, relationships and 'learning to be.' *European Journal of Education Research Development and Policy*, 50(2); 160-174
<https://doi.org/10.1111/ejed.12117>
- Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., Moher, D., Peters, M. D., Horsley, T., Weeks, L., Hempel, S. et al. (2018). PRISMA extension for scoping

- reviews (PRISMA-ScR): checklist and explanation. *Annals of International Medicine*, 169(7):467-473. doi:10.7326/M18-0850.
- Van Laer, T., De Ruyter, K., Visconti, L. M., & Wetzels, M. (2014). "The Extended Transportation-Imagery Model: A meta-analysis of the antecedents and consequences of consumers' narrative transportation." *Journal of Consumer Research*, 40(5), 797-817. doi: <https://www.jstor.org/stable/10.1086/673383>
- Van Laer, T., Feiereisen, S., & Visconti, L. M. (2018) "Storytelling in the digital era: A meta-analysis of relevant moderators of the narrative transportation effect." *Journal of Business Research*, 96(1), 135-146. doi: <https://doi.org/10.1016/j.jbusres.2018.10.053>
- Willis, C. A., & Schiller, P. (2011). Preschoolers' social skills steer life success. *YC young children*, 66(1); 42-49.
- Whorrall, J. & Cabell, S. Q. (2016). Supporting children's oral language development in the preschool classroom. *Early Childhood Education Journal*, 44(4), 335-341. <https://doi.org/10.1007/s10643-015-0719-0>
- Wright, C., Diener, M. L., & Kemp, J. L. (2013). Storytelling dramas as a community building activity in an early childhood classroom. *Early Childhood Education Journal*, 41, pp. 197-210. DOI:10.1007/S10643-012-0544-7
- Wu, J. & Chen, D-T. V. (2020). A systematic review of educational digital storytelling. *Computers & Education*, 147. <http://dx.doi.org/10.1016/j.compedu.2019.103786>
- Yabe, M., Oshima, S., Eifuku, S., Taira, M., Kobayashi, K., Yabe, H. & Niwa, S. (2018). Effects of storytelling on the childhood brain: near-infrared spectroscopic comparison with the effects of picture-book reading. *Fukushima Journal of Medical Science* 64(3); 125-132. DOI: 10.5387/fms.2018-11

Yeager, D. S. (2017) Social and Emotional Learning Programs for Adolescents. *Future of Children*, 27(1); 73-94 DOI:10.1353/FOC.2017.0004