

The Impact of Screen Time on Early Language Development

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Background

There is rising evidence showing the negative impact of screen time on language development in children (Zimmerman et al., 2007). Screen time is defined as watching television and DVDs, playing video games, and using computers, tablets, and cellular phones (Kuta, 2017). According to a national survey, 68% of children under the age of three years engage in screen time for approximately two hours each day (Duch, Fisher, Ensari, & Harrington, 2013). This trend is concerning considering that the W.H.O. recommends children between ages two and five years spend one hour or less using screens each day (Reub, 2019). Professionals in the field of speech-language pathology must understand the implications of screen time as it relates to linguistic development and the differences between independent and adult facilitated screen use in young children. Having such knowledge will allow speech-language pathologists to better advise parents and other health professionals about related topics.

Literature Review

Screen Time and Risk of Language Delay in Infants and Toddlers:

Huevel et al. (2018) analyzed the relationship between mobile media device use in 18-month-old children and the incidence of expressive language deficits. Results indicated the prevalence of expressive language delay increased by 2.3 times for every 30 minutes a child used a mobile device daily (Huevel et al., 2018). Similar findings were identified by Zimmerman, et al., (2007). Each daily hour of screen time reflected a significant decrease in *MacArthur-Bates Communicative Development Inventory* scores for children 8- to 16 months (-16.99 points) (Zimmerman, et al., 2007). Ultimately, 8- to 18-month-old children who more frequently use screens are at a higher risk of language delay when compared to their normative peers.

Parent-Child Interactions and Early Language Development:

One study found that adult vocalizations and adult-child conversational turns resulted in higher CDI language scores, whereas increased TV time decreased scores (Zimmerman et al., 2009). Further, higher parent-child conversational turn exchanges resulted in improved infant/toddler language skills (Zimmerman et al., 2009). Moreover, increased conversational interactions enable the child to practice vocalizing and using language while listening to adult models and corrections (Zimmerman et al., 2009).

Parent-Child Screen Time and its Effect: There are three forms of child-parent media co-viewing: non-interactive, passive, and active. Zimmerman et al. (2009) found non-interactive viewing to deter children from receiving adequate linguistic stimulation from adults. Further, passive co-viewing decreases the amount of child-directed language a parent uses but provides opportunities for parents to use new vocabulary and discuss different topics with their children after the program is over (Lavigne et al., 2015). Active parent-child co-viewing can be an effective means of language exposure to support linguistic acquisition when done appropriately (Canadian Paediatric Society, 2017). Evidently, a 2-year-old child can begin to learn from media while viewing it with a co-viewing adult, especially when the media is linguistically interactive and responsive to them (Canadian Paediatric Society, 2017).

Discussion

Increased Screen Time and Birth to Three-Year-Old Risk of Language Delay: Studies suggested that parents are more likely to give their child access to screens to suppress the child's already present language deficits (Zimmerman, et al., 2007; Byeon & Hong, 2015). This assertion could explain why children with higher screen time presented with decreased language skills because they had pre-existing language deficits before screen exposure. However, multiple studies found that when parents spend more time using language with their child, the child is more likely to have higher language performance (Byeon & Hong, 2015; Gialamas et al., 2019; Lin et al., 2020; Zimmerman et al., 2009; Zimmerman et al., 2007). This finding asserts that reducing parent verbalizations, including enabling screen time, will result in decreased infant-toddler language performance. While Lin et al. (2020) did not identify any children at risk of language delay during their study, it was clear that children living in single-parent households, and who were frequently using screens, had greater emotional and behavioral problems. Emotional and behavioral development are vital to long-term language development, and parent-child interactions are necessary during this process (Walker, Greenwood, Hart, and Carta, 1994). Presumably, using screens instead of interacting with parents results in developmental problems, and to some degree, these problems include language development (Lin et al., 2020). Ultimately, a young child's access to excessive screen time places them at greater risk for language delay.

Independent Vs. Adult-Mediated Screen Time:

Evidently, children are less likely to have positive linguistic experiences while using screens independently than with an interactive adult (Duch et al., 2013; Zimmerman et al., 2009). The question remains why adult interaction is so imperative for language development during screen use when most media is linguistically driven. Both Weisleder and Fernald (2013) and Zimmerman et al. (2009) found that adult reciprocation is necessary to stimulate language learning in infants and toddlers during media use. Parents can describe or define events in the media to support the child's understanding of the context, when doing so, the child hears alternate language that can be added to their lexicon. Further, young children often imitate behaviors seen by their parents, and this tendency can be seen in developmental processes such as babbling. When a guardian converses with a child during active co-viewing, these increased conversational interactions encourage the child to practice vocalizing and using language (Zimmerman et al., 2009). Importantly, the first two years of life are vital for neurological growth in brain size and function (Christakis, 2009). Presumably, if a child is left alone to engage with an electronic device that is too advanced for their neurological interpretation, they will not learn the language demonstrated in the media independently.

Future Research

More research needs to be conducted to identify a definitive relationship between screen time and language development in children ages birth to three years. The current research lacks conclusive findings and explanations regarding the relationship between screen time and the risk of language delay. In the field of speech-language pathology, understanding the dynamics of these components is vital to properly guide parents who express concerns about their child's language development. To properly educate current and future professionals on this subject, additional research is needed. Specifically, future research needs to address the existence of a cause-and-effect relationship between the two factors to better assess how, and if, screen time negatively relates to language development. Variables such as type of device, type of media, and type of alternative activities need to be further examined. Specific examinations of these elements will better reveal language patterns that correlate to specific screen and screenless behaviors. Similarly, parental involvement during screen-based and non-screen-based activities should be analyzed.

Conclusion

Findings indicated a correlation between higher daily screen use and decreased language skills in children ages birth to three years. Literature analyses also revealed the value of active parental mediation during screen use to decrease a child's risk of language delay. While the current literature in this area is still growing, screen use is inevitable for many young children, and its effects on language acquisition for birth to three-year-olds are apparent. Therefore, parents and professionals must proceed with caution and refer to evidence-based literature when making decisions about young children and screen use.