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Editorial: Early media exposure

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Editorial on the Research Topic
Early media exposure

Introduction

The ever-evolving landscape of digital media now encompasses many novel ways for young children to watch, play, and engage. Just over a decade ago, ground-breaking work was focused primarily on television and videos as the main format of audiovisual media use among children. This work generally converged on associations between greater TV duration and less optimal child developmental outcomes such as language and cognition (Madigan et al., 2020). However, contrary to this deficit perspective, high-quality media content has been found to have a positive impact on children's social-emotional development, language, and cognition (Huston et al., 2014; Mares and Pan, 2013).

Regardless of the veracity of arguments over the positive and negative developmental impacts of exposure to audiovisual media, it is increasingly apparent that the substantial differences between traditional TV and the current digital landscape call for contemporary perspectives to ensure the generalizability of established findings. Television can be turned off, has finite programming, and is fixed in location. In contrast, newer forms of digital media are constantly on, have boundless and personalized content, and are highly portable. These diverse characteristics can make digital media study and translation more challenging (Barr et al., 2020). Furthermore, caregivers and parents are also likely to have their own devices and digital media use patterns (McDaniel and Radesky, 2018). Therefore, more precise approaches to address the diversity of the digital ecology, including caregivers' device use, and the impact on young children's wellbeing are needed. No singular approach is likely to capture every aspect of the digital media environment. However, the field is moving toward multi-faceted measurement approaches to understand the duration/frequency, content, and context of digital media use. This eBook, titled "Early Media Exposure" highlights the collective field's progress toward aligning digital media research with the realities of modern family media ecology. These 15 published works offer key insights into family media ecology, highlighting the duration/frequency, content, and context of digital media use which shape children's wellbeing.

Duration and frequency of digital media use

Sticca et al. conduct an ambitious scoping review of the digital media effects on children's developmental outcomes, focusing on infants and preschoolers. They find that digital media use overall continues to have weak to null associations with less optimal sleep,

language, and cognition. They summarize stronger associations between digital media use overall and social-emotional development (Sticca et al.).

However, the relationships between digital media and development are not always straightforward, depending on the type of digital media used and the age of the child. For instance, Mortimer et al. leverage a longitudinal study to examine tablet use during infancy and associations with executive functioning, finding that infant tablet use is not significantly associated with poorer EF, at least up to preschool-age. Sanchez-Bravo et al. also find null cross-sectional associations during this infancy period between screen exposure, sleep quality, and language development, suggesting more work to characterize infant development and screen exposure may be warranted, especially longitudinally.

These works also include an international lens on the impact of digital media use on children's development. For instance, Fekonja et al. find null associations between digital media use and toddler language development among toddlers in Slovenia, possibly related to low average toddler exposure to electronic media. Future work might include additional countries and cultures, where digital media use habits and exposures might vary and where the socioecological systems that shape digital media use might also vary tremendously. Such work would shed light on potential policy-level or cultural approaches to shaping digital media habits and outcomes.

Content

Given the ability to create and upload user-generated content, digital media content is growing increasingly saturated. In order to break through the market, content creators now may need to use more emotionally affective, catchy, or dramatic tactics in order to catch users' attention (Radesky et al., 2024). The quality of digital media now may have greater variability compared to the past when digital media was primarily consumed from major networks. This eBook highlights the varied ways in which online content might shape children's outcomes.

Online harm is unfortunately quite common. Gath and Swit's work highlights that approximately one quarter of New Zealand children have experienced online harm before the age of 8 and that children with behavioral difficulties or personal devices are more likely to experience online harm. In turn, online harm is adversely associated with greater depressive symptoms (Gath and Swit). This work converges with another article in this Research Topic finding that device ownership predicts exposure to violent content among young children, suggesting that device ownership might be one way to modify content quality (Henderson et al.). Henderson et al. also find that young children are exposed to violent and inappropriate content on YouTube, with younger infants (0–12 months of age) having increased risk of exposure to violent content than toddlers.

However, the implications of Henderson et al.'s work for young children may be unclear, as infants and young toddlers may exhibit a video-deficit effect, making it hard for them to transfer information from a 2D source to the 3D world (Barr, 2010). Taylor et al. find that 3-year-old children have a harder time learning a verb from an educational touchscreen apps as compared with an in-person live demonstration. For young children, in-person opportunities continue to be important for learning (Taylor et al.).

Recent views have suggested that with an ever-changing digital landscape the meanings associated with screen-based information are in a state of flux (e.g., Sommer et al., 2023; Strouse and Samson, 2021). For example, whether via fictional child-oriented media characters or online personalities featured on social media platforms, children are increasingly provided with opportunities to develop parasocial relationships, one-sided bonds in which a sense of connection or emotional attachment is fostered, even though there is no actual personal interaction (Richert et al., 2011). Given the explosion in user-generated content, more needs to be known about the ways young children's relationships of this nature might shape their decision-making. In this context, Williams-Gant et al. find that parasocial relationships with familiar characters are less likely to influence a 4–5 year old's decision-making as compared with features more relevant to the object themselves.

Context—*Family use*

How parents use digital media has been an area of emerging research that suggests that parent use has associations not only with children's digital media habits but also with early childhood outcomes, given parents' key relational role in children's lives (Corkin et al., 2021; Holmgren et al., 2024; McDaniel and Radesky, 2018).

For instance, Tulviste and Tulviste find that greater parental and child duration of video game play has adverse associations with children's language skills. This may be related to the immersive and engaging nature of video gaming, which may make it more challenging to have back-and-forth reciprocal conversations (Tulviste and Tulviste). Similarly, Mason et al. find that greater disruptions in maternal attention occurred in a digital media condition as compared with the control condition; however, maternal attention overall was a more important predictor of interaction quality than the mere presence of digital media. Conversely, Kucker and Schneider find that social interactions with young children offset the detrimental effects of digital media use on children's vocabulary. However, Wildt find that parents may be commenting more frequently on the technology itself, to structure the interaction, or provide instructions, so the quality of language may not be as rich during digital media use as it is in the absence of digital media.

McDaniel et al. find that objectively-measured smartphone use during their time with their infant is linked with depressed mood, but not when parents perceived themselves to be more responsive to their infant, suggesting parent judgments and perceptions of their parenting may be one potential area for intervention.

Lastly, Reich et al. answer an important question about differences between maternal and paternal perceptions and boundaries around digital media, finding that fathers tend to report longer time limits with digital media compared with mothers. For both parents, stronger beliefs in the benefits of media during infancy predicts greater digital media use during the toddler years (Reich et al.).

Context–Measurement precision

Another important area of emerging work includes how caregivers might be relying on screen media for child soothing, which has been found to have adverse effects on social-emotional development longitudinally (Radesky et al., 2023) but often findings are based on a single item response. Suh et al. create a reliable, valid rating scale to describe the use of digital media for soothing among infants, toddlers, and children, which is key to precisely characterizing this phenomenon in future work.

Conclusion

In summary, these articles highlight how the collective science of digital media and early childhood is moving toward a more holistic and inclusive understanding of the nuanced ways that families are using digital media. This Research Topic of publications highlights how digital content can shape children's for better or worse, limitations to young children's learning from digital devices, and how device ownership might modify exposures to online content. Importantly, it brings into view how parents and caregivers are using digital media, with potential implications on young children's development.

Ultimately, this body of work may contribute to the development of tailored interventions around digital media use for young children, and to create anticipatory guidance and counseling for families and children that fits with the realities of how they are using digital media. With more novel and precise ways of measuring the complexity of family media ecology, there is strong possibility of both developing effective digital media interventions and accurately measuring its outcomes for families.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

References

Barr, R. (2010). Transfer of learning between 2D and 3D sources during infancy: informing theory and practice. *Dev. Rev.* 30, 128–154. doi: 10.1016/j.dr.2010.03.001

Barr, R., Kirkorian, H., Radesky, J., Coyne, S., Nichols, D., Blanchfield, O., et al. (2020). Beyond screen time: a synergistic approach to a more comprehensive assessment of family media exposure during early childhood. *Front. Psychol.* 11:1283. doi: 10.3389/fpsyg.2020.01283

Corkin, M. T., Henderson, A. M. E., Peterson, E. R., Kennedy-Costantini, S., Sharplin, H. S., and Morrison, S. (2021). Associations between technoference, quality of parent-infant interactions, and infants' vocabulary development. *Infant Behav. Dev.* 64:101611. doi: 10.1016/j.infbeh.2021.101611

Holmgren, H. G., Booth, M. A., Ashby, S., Coyne, S. M., Clifford, B. N., and Davis, E. (2024). Patterns of parent media use: the influence of parent media use profiles on parental mediation, technoference, and problematic media use. *Comput. Human Behav.* 161:108410. doi: 10.1016/j.chb.2024.108410

Huston, A. C., Anderson, D. R., Wright, J. C., Linebarger, D. L., and Schmitt, K. L. (2014). "Sesame street viewers as adolescents: the recontact study," in *G Is for Growing* (Routledge), 131–143.

Madigan, S., McArthur, B. A., Anhorn, C., Eirich, R., and Christakis, D. A. (2020). Associations between screen use and child language skills: a systematic review and meta-analysis. *JAMA Pediatr.* 174, 665–675. doi: 10.1001/jamapediatrics.2020.0327

Mares, M.-L., and Pan, Z. (2013). Effects of sesame street: a meta-analysis of children's learning in 15 countries. *J. Appl. Dev. Psychol.* 34, 140–151. doi: 10.1016/j.appdev.2013.01.001

McDaniel, B. T., and Radesky, J. (2018). Technoference: longitudinal associations between parent technology use, parenting stress, and child behavior problems. *Pediatr. Res.* 84, 210–218. doi: 10.1038/s41390-018-0052-6

Radesky, J., Bridgewater, E., Black, S., O'Neil, A., Sun, Y., Schaller, A., et al. (2024). Algorithmic content recommendations on a video-sharing platform used by children. *JAMA Netw. Open* 7:e2413855. doi: 10.1001/jamanetworkopen.2024.13855

Radesky, J. S., Kaciroti, N., Weeks, H. M., Schaller, A., and Miller, A. L. (2023). Longitudinal associations between use of mobile devices for calming and emotional reactivity and executive functioning in children aged 3 to 5 years. *JAMA Pediatr.* 177, 62–70. doi: 10.1001/jamapediatrics.2022.4793

Richert, R. A., Robb, M. B., and Smith, E. I. (2011). Media as social partners: the social nature of young children's learning from screen media. *Child Dev.* 82, 82–95. doi: 10.1111/j.1467-8624.2010.01542.x

Sommer, K., Slaughter, V., Wiles, J., and Nielsen, M. (2023). Revisiting the video deficit in technology-saturated environments: successful imitation from people, screens, and social robots. *J. Exp. Child Psychol.* 232:105673. doi: 10.1016/j.jecp.2023.105673

Strouse, G. A., and Samson, J. E. (2021). Learning from video: a meta-analysis of the video deficit in children ages 0 to 6 years. *Child Dev.* 92, e20–e38. doi: 10.1111/cdev.13429