



3-2019

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Kislowski, Kelly and Harpe, Abigail, "The Effect of Screen Time on Development in Elementary-Aged Children" (2019). *Occupational Therapy Graduate Student Evidenced-Based Research Reviews*. 67. https://scholarworks.wmich.edu/ot_posters/67

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The Effect of Screen Time on Development in Elementary-Aged Children

Kelly Kislowski and Abigail Harpe

Play and education are two primary occupations influencing development in elementary-aged children. As screen time has impacted these childhood occupations, the outpatient pediatric OT is noticing clients are struggling with motor, cognitive, and psychosocial skills. She wants to understand the relationship between increased screen time and child development.

1 Ask: Research Question

What is the relationship between screen time and motor, cognitive, and psychosocial skills in elementary-aged children?

2a Acquire: Search Terms

Databases: Scopus, ProQuest Central, PubMed, and Cochrane Library

Search Terms: mobile device use, screen time, technology use, children, childhood, development, developmental milestones

2b Acquire: Selected Articles

Pagani, Fitzpatrick, & Barnett (2013): This study examined the relationship between hours of television viewed at 29 mos. and receptive vocabulary, number knowledge, locomotion, classroom engagement, and victimization at 65 mos.

Madigan, Browne, Racine, Mori, & Tough (2019): This study examined directionality in the correlation between screen time and child development, specifically communication, gross motor, fine motor, problem-solving, and personal-social domains.

Allen & Vella (2015): This study examined the relationship between screen-based sedentary behavior and mental health in children, specifically pro-social behavior, hyperactivity, emotional symptoms, peer problems, and conduct problems.

3a Appraise: Study Quality

Pagani, Fitzpatrick, & Barnett (2013): Level 3, n=1,997. Prospective longitudinal cohort study using data from the Quebec Longitudinal Study of Child Development. Reliable and valid outcome measures. Limitations include parent-reported data and unspecified televising content.

Madigan, Browne, Racine, Mori, & Tough (2019): Level 3, n=2,441. Prospective longitudinal cohort study using data from the Canadian All Our Families study. Reliable outcome measures. Limitations include parent-reported data, changes in technology throughout the study, and unspecified screen time content.

Allen & Vella (2015): Level 3, n (younger cohort)=3,956, n (older cohort)=3,862. Prospective cross-sectional and longitudinal study using data from a younger (6 years old at baseline, 8 years old at follow-up) and an older (10 years old at baseline, 12 years old at follow-up) cohort. Limitations include parent-reported data and unspecified screen time content.



3b Appraise: Study Results

Pagani, Fitzpatrick, & Barnett (2013): Significant results correlating televising to unit decreases in developmental screen scores for Peabody Picture Vocabulary Test (PPVT) ($p < .001$), Number Knowledge Test (NKT) ($p < .001$), and locomotion ($p < .001$).

Madigan, Browne, Racine, Mori, & Tough (2019): Increased screen time at 24 mos. predicted a decrease in developmental screening test scores and an increase in future screen time at 36 mos. This study suggested a directional relationship: screen time impacts developmental test scores, not vice versa.

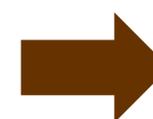
Allen & Vella (2015): B cohort: high levels of screen time were associated with *more of an increase* in emotional problems ($p < .01$) over time than is expected for 8-year-old children. K cohort: high levels of screen time were associated with *less of a decrease* in hyperactivity ($p < .01$) and conduct problems ($p < .01$) over time than is expected for 12-year-old children.

4 Apply: Conclusions for Practice

These studies suggest a strong correlation between screen time and developmental difficulties with play and education. A directional relationship was indicated, giving the OT objective data on recommending reduced screen time to support motor, cognitive, and psychosocial skills. The evidence warrants parental education and involvement in developing family media plans. Children are encouraged to engage in creative play and personal interaction time with family members for healthy development. Future research should examine the impact of media content and use objective tools for monitoring screen time.

References:

- Allen, M.S. & Vella, S.A. (2015). Screen-based sedentary behavior and psychosocial well-being in childhood: Cross-sectional and longitudinal associations. *Mental health and physical activity*, 9, 41-47. doi:10.1016/j.mpha.2015.10.002
- Madigan, S., Browne, D., Racine, N., Mori, C., & Tough, S. (2019). Association between screen time and children's performance on a developmental screening test. *JAMA Pediatrics*, 173(3), 244-250. doi:10.1001/jamapediatrics.2018.5056
- Pagani, L.S., Fitzpatrick, C., & Barnett, T.A. (2013). Early childhood television viewing and kindergarten entry readiness. *Pediatric Research*, 74, 350-355. doi:10.1038/pr.2013.105



Screen time negatively impacts the development of motor, cognitive, and psychosocial skills in children.