



How much screen time is too much for preschoolers?

New Canadian study finds a link between screen time and behavioural problems.

What is this research about?

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The amount of time young children spend sitting in front of screens has increased with the introduction of new digital technologies such as gaming consoles and mobile devices. Parents, healthcare providers and educators may be left wondering: How much screen time is too much?

There has been little research to address this question during the preschool years. This study is the largest in Canada to look at screen time exposure among toddlers and preschoolers and to measure its impact on behavioural and emotional problems in three- to five-year-olds.

Citation

Tamana SK, Ezeugwu V, Chikuma J, Lefebvre DL, Azad MB, Moraes TJ, [...], Mandhane PJ (2019). Screen-time is associated with inattention problems in preschoolers: Results from the CHILD birth cohort study. *PLoS ONE* 14(4): e0213995. <https://doi.org/10.1371/journal.pone.0213995>.

What did the researchers do?

The researchers studied 2,427 preschool children participating in a national research project called the CHILD Cohort Study.

Parents in the study completed a standardized questionnaire about their child's behaviour at five years of age. Parents reported on "externalizing" behavioural problems, such as acting out, inattention, and aggression, and "internalizing" behavioural problems, such as anxiety, depression, and being withdrawn.

Parents also reported on their child's typical screen time use – including TV, computers, tablets, gaming devices and smartphones – at ages three and five; as well as how much time their child spent engaged in organized physical activity, and how many hours their child typically slept at night.

Using the new [Canadian 24-Hour Movement Guidelines](#), researchers classified screen time exposure into three categories: less than 30 minutes of screen time per day; between 30 minutes and two hours of screen time per day; and more than two hours of screen time per day.

The researchers then compared the children's screen time exposure with their behaviour, and calculated the likelihood of a child having clinically significant behavioural problems based on exposure.

Keywords

ADHD, physical activity, screen time guidelines & behaviour, sleep, children

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What did the researchers find?

The researchers found that many preschoolers exceeded the amount of screen time recommended by the 24-Hour Movement Guidelines for their age:

- At age three, 42% of children exceeded the recommendation of less than 1 hour of screen time per day; the average viewing time was 1.5 hours per day.
- At age five, 13% of children exceeded the recommendation of less than 2 hours of screen time per day; the average viewing time was 1.4 hours per day.

The researchers found that increased screen time was linked to more behavioural problems. Compared with children who had less than 30 minutes per day of screen time, children who were exposed to more than two hours of screen time per day were:

- 5 times more likely to exhibit clinically significant “externalizing” behavioural problems such as inattention.
- Over 7 times more likely to meet the criteria for attention deficit hyperactivity disorder (ADHD).

Less than 30 minutes per day was shown to be the ideal amount of screen time for preschool children.

This study also identified protective factors that may reduce the negative effects of screen time.

- Children who spent more than 2 hours per week in organized physical activities had a reduced risk for developing externalizing behavioural problems. The researchers suggested that organized activities may provide structure and routine needed to promote positive behavioural development.
- Children who achieved the recommended 10 hours or more of sleep each night were also less likely to have behavioural problems, although the benefit of adequate sleep was small.

Finally, the researchers found that the association between screen time and behaviour was greater than any other risk factor assessed in the study, including sleep, parenting stress, and socioeconomic factors.

How can this research be used?

This research suggests that preschool is an ideal time to promote healthy relationships with screens, and that parents, caregivers and educators should strive to balance a child’s screen use with other opportunities for healthy active living, including participating in organized physical activities and prioritizing adequate sleep.

This study did not evaluate whether screen content (educational, interactive, gaming, social media) or screen type (television, computer, tablet) were associated with different types of behaviour.

Additional research in this area will help parents, caregivers and educators to develop a healthy media plan for preschool children, and to determine how much and what kind of screen time to allow.