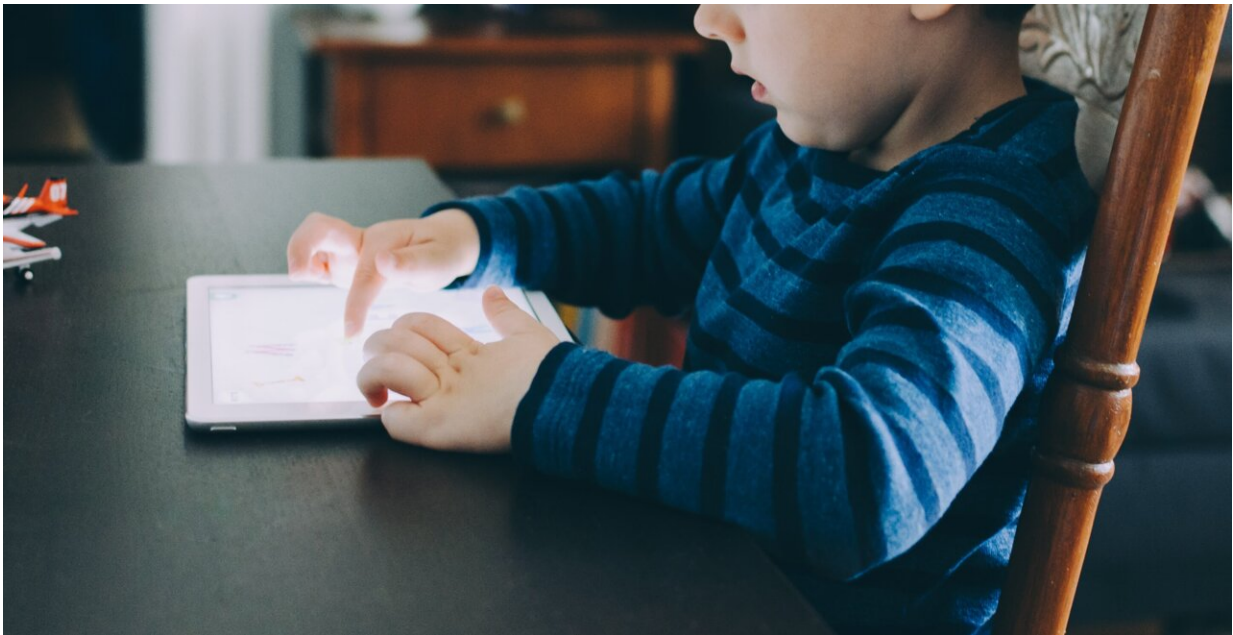


Lengthy screen time associated with childhood development delays

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The amount of screen time spent by one-year-olds is associated with developmental delays. This finding, by researchers at Tohoku University, with collaborators at Hamamatsu University School of Medicine, was published in the journal *JAMA Pediatrics*.

The research examined 7,097 [mother-child pairs](#) participating in the Tohoku Medical Megabank Project Birth and Three-Generation Cohort

Study. Each child's screen time exposure was assessed using parental questionnaires, covering viewing of televisions, video game displays, tablets, mobile phones and other [electronic devices](#) with visual displays.

The children in the study were almost evenly split between boys (51.8%) and girls (48.2%). Their screen time exposure was assigned to the categories of less than one hour (48.5% of subjects), from one to less than two hours (29.5%), from two to less than four hours (17.9%), and four or more hours (4.1%).

The children's development was assessed at two and four years of age in the five domains of communication, gross motor, fine motor, problem solving, and personal and social skills. Previous studies in the field have generally not broken development down into different domains, therefore offering a less refined view.

The association between screen time at age one and later developmental delay was assessed using an established statistical technique, revealing a dose-response association; meaning that the level of developmental delay (the response) was correlated to the amount (dose) of screen time.

For the children aged two, increased screen time when aged one was associated with developmental delays in all domains apart from gross motor skills. By the age of four however, increased screen time was associated with developmental delays in only the communication and problem-solving domains.

"The differing levels of developmental delays in the domains, and the absence of any detected delay in some of them at each stage of life examined, suggests that the domains should be considered separately in future discussions of the association between screen time and [child development](#)," says Tohoku University epidemiologist Taku Obara, corresponding author of the research article.

One reason for undertaking this study was recent evidence published by the World Health Organization and the American Academy of Pediatrics suggesting that only a minority of children are meeting guidelines for limiting screen time exposure. The guidelines were designed to ensure that children engage in sufficient physical activity and social interaction.

"The rapid proliferation of digital devices, alongside the impact of the COVID pandemic, has markedly increased screen time for children and adolescents, but this study does not simply suggest a recommendation for restricting screen time. This study suggests an association, not causation between [screen time](#) and developmental delay," says Obara.

"We use the term 'delay' in accordance with previous research, but it is debatable whether this difference in development is really a 'delay' or not. We would like to gain deeper insight in future studies by examining the effects of different types of screen exposure."

More information: Ippei Takahashi et al, Screen Time at Age 1 Year and Communication and Problem-Solving Developmental Delay at 2 and 4 Years, *JAMA Pediatrics* (2023). [DOI: 10.1001/jamapediatrics.2023.3057](#)

Provided by Tohoku University

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