

Toddlers who use touchscreens show attention differences

August 19 2020



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Toddlers with high daily touchscreen use are faster to find targets that stood out during visual search compared to toddlers with no or low touchscreen use—according to new research.

The research team, co-led by Dr. Rachael Bedford of the University of Bath's Department of Psychology, say the findings are important for the growing debate around the impact of screen time on toddlers and their development.

Lead researcher Professor Tim Smith, from Birkbeck's Centre for Brain and Cognitive Development, said: "The use of smartphones and tablets by babies and toddlers has accelerated rapidly in recent years. The first few years of life are critical for children to develop the ability to focus their attention on [relevant information](#) and ignore distraction, early skills that are known to be important for later academic achievement. There has been growing concern that [toddler](#) touchscreen use may negatively impact their developing attention but this fear is not based on [empirical evidence](#)."

To provide such evidence, Professor Smith's TABLET Project, at Birkbeck's Centre for Brain and Cognitive Development, recruited 12-month-old infants who had different levels of touchscreen usage.

The study followed them over the next 2.5 years, bringing them into the lab at 18 months and 3.5 years. At the 18-month and 3.5-year visits, toddlers took part in a computer task in which they were trained to search for a red [apple](#) amongst a varying number of either blue apples (easy search), or blue apples and red apple slices (difficult search). An eye tracker monitored their gaze and visually rewarded the child when they found the red apple, allowing them to perform the task even though they were too young to verbally describe what they were doing.

Co-investigator Dr. Bedford commented: "We found that at both 18 months and 3.5 years the high touchscreen users were faster than the low users to find the red apple when it stood out amongst blue apples. There was no difference between the user groups when the apple was harder to find. What we need to know next is whether this attention difference is

advantageous or detrimental to their everyday life. It is important we understand how to use this [modern technology](#) in a way that maximizes benefits and minimizes any negative consequences."

Dr. Ana Maria Portugal, main researcher on the project points out "We are currently unable to conclude that the touchscreen use caused the differences in attention as it may also be that children who are generally more attracted to bright, colorful features seek out [touchscreen](#) devices more than those who are not."

More information: Ana Maria Portugal et al, Saliency-Driven Visual Search Performance in Toddlers With Low- vs High-Touch Screen Use, *JAMA Pediatrics* (2020). [DOI: 10.1001/jamapediatrics.2020.2344](https://doi.org/10.1001/jamapediatrics.2020.2344)

Provided by University of Bath

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