

How do toddlers use tablets?

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A team of University of Iowa researchers studied more than 200 YouTube videos of infants and toddlers using tablets and found that most showed a moderate ability to use the devices. Credit: Tim Schoon.

Can babies use iPads? If you've ever viewed YouTube videos of infants and toddlers using iPads, then you know the answer is a resounding



"Yes." But how are they using them?

To answer that question and others, a team of University of Iowa researchers set out to study more than 200 YouTube videos. Their paper is published in the proceedings of the CHI 2015 conference, the most prestigious in the field of human-computer interaction.

In the paper they write that their goal was to "provide a window into how these children are using tablets through an analysis of relevant YouTube videos."

What they found was information that supports "opportunities for research and starting points for design."

"By age two, 90 percent of the children in the videos had a moderate ability to use a tablet," says Juan Pablo Hourcade, associate professor of computer science in the UI College of Liberal Arts and Sciences and lead author of the study. "Just over 50 percent of 12-to-17-month-old children in the videos had a moderate ability."

For the purposes of the study, Hourcade and his colleagues defined "moderate ability" as needing help from an adult to access apps, but being able to use them while displaying some difficulty with basic interactions.

He says that to his knowledge, other researchers have conducted surveys of the prevalence of tablet use by <u>young children</u>, however, the UI study is the first to study how <u>infants</u> and toddlers are actually using the devices.

Hourcade says he was inspired to use YouTube videos by another researcher who analyzed online videos of computer use by people with motor impairments. He says YouTube enabled his group to conduct the



research without having to ask infants and toddlers to use tablets, something that some pediatricians discourage.

"On the other hand, we know that infants and toddlers are using iPads and other devices because we've seen the videos recorded by their parents, and surveys confirm it is happening. It's happened really quickly—before we could get out and arrange for more conventional studies," he says.

Hourcade acknowledged the drawbacks of using unsolicited YouTube videos, such as not knowing the exact ages of the children pictured and that the children pictured were selected by their caregivers and may not be representative of the larger society. However, he says the researchers were able to estimate the ages of the children (two-thirds of the videos included the age) and observe a clear progression of successful performance linked to age that is consistent with developmental milestones.

"One of the biggest differences we found is that when children turn one year old, they switch from using both hands and all their fingers to interact with the tablet to using an index finger—which is what adults do," he says.

He says he hopes that the study and others that follow will influence the development of apps that encourage interactive education for infants and toddlers. The apps he envisions might be similar to the social and interactive-like children's programs currently found on public television.

"We may be able to use research on what makes certain <u>children</u>'s educational television programs beneficial as a starting point and go on from there," he says.

More information: The paper, titled "Look, My Baby Is Using an



iPad! An Analysis of YouTube Videos of Infants and Toddlers Using Tablets," was presented at the 2015 CHI (Computers and Human Interaction) conference and can be found in the <u>ACM digital library</u>.

Provided by University of Iowa

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