

- Language and languages

Screen time robs average toddler of hearing 1,000 words spoken by adult a day, study finds

Research into 220 Australian families over two years concludes exposure to television, phone and other screens hinders young children's language skills

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The average toddler is missing out on hearing more than 1,000 words spoken by an adult each day due to screen time, setting back their language skills, a first-of-its kind study has found.

The research, published on Tuesday in the Journal of the American Medical Association (Jama) Pediatrics, tracked 220 Australian families over two years to measure the relationship between family screen use and children's language environment.

Families recorded all the audio around their child using advanced speech recognition technology over a 16-hour period on an average day at home. They repeated this process every six months between the ages of 12 and 36 months.

The lead researcher, Mary Brushe from the Telethon Kids Institute, said: "The technology we use is essentially like a Fitbit, but instead of counting the number of steps, this device counts the number of words spoken by, to and around the child."

The device also picked up electronic noise, which the researchers analyzed to calculate screen time.

The researchers found young children's exposure to screens including TVs and phones was interfering with their language opportunities, with the association most pronounced at three years of age.

For every extra minute of screen time, the three-year-olds in the study were hearing seven fewer words, speaking five fewer words themselves and engaging in one less conversation.

The study found the average three-year-old in the study was exposed to two hours and 52 minutes of screen time a day. Researchers estimated this led to those children being exposed to 1,139 fewer adult words, 843 fewer child words and 194 fewer conversations.

Because the study couldn't capture parents' silent phone use, including reading emails, texting or quietly scrolling through websites or social media, Brushe said they might have underestimated how much screen usage is affecting children.

A language-rich home environment was critical in supporting infants and toddlers' language development, Brushe said. While some educational children's shows were designed to help children's language skills, very young kids in the age group of the study could struggle to translate television shows into their own life, she said.

This study did not differentiate between whether children were watching high- or low-quality screen content.

Previous research in the area had relied on parents self-reporting their own and their child's screen time, and only studied short periods of time.

"To our knowledge, no studies conducted since the rapid uptake of mobile phones and tablets have actually tracked children's screen time and their early language experiences over an extended period of time," Brushe said.

Angela Morgan, the leader of the speech and language group at the Murdoch Children's Research Institute, which was not involved in the study, said: "To my knowledge it's the most robust examination of looking at screen time and interactions between parents and children that we've had available.

"For all children, the biggest opportunities for language learning are of course in those first few years of life ... we know that early predictors do predict your later language outcomes, so it is really important that they've been looking at this question in the early years."

Amber Flohm, the vice-president of the NSW Teachers Federation, said members who taught in early education and primary school had said how children were affected significantly by the increased amount of time spent on screen.

Flohm said teachers had noted language skills going backwards, both in conversation between children themselves and teachers and in reading and writing skills. The pandemic exacerbated the situation, but teachers had noted the trends around the increased used of screen time "at least the last five or six years pre-COVID", she said.

The research in the study was carried out between 2018 and 2021, with some families undertaking their 30- or 36-month recording day early in the pandemic. However, researchers said participants' average screen times did not appear to have increased substantially compared with those who completed their recordings prior to the pandemic.

Due to the advanced speech recognition technology only being able to code for English, only English-speaking households were part of the study.

Chinese researchers say daily consumption of diet soda can increase atrial fibrillation risk by as much as 20 percent

Consuming two liters of diet soda or other artificially sweetened drinks a day can increase the risk of a dangerous irregular heartbeat by 20 percent compared with people who drink none, according to a new study by researchers in China.

The study, from Shanghai, found that people who drink such beverages are more susceptible to a condition known as atrial fibrillation.

Theodore Maglione, an assistant professor of medicine and a cardiologist specializing in cardiovascular disease and cardiac arrhythmias at Robert Wood Johnson University hospital in New Jersey, said: "Atrial fibrillation is a chaotic quivering of the top chambers of the heart. Normally, they beat in an organized fashion."

Symptoms of atrial fibrillation, or "A-fib," include "fatigue, shortness of breath, [and] palpitations," Maglione said.

A-fib can often be genetic, Maglione said, but there are also some modifiable risk factors.

"Some things you cannot control are your genetics and age — which is a big risk factor as well. Some of the things you can control would include smoking, hypertension, uncontrolled sleep apnea, obesity and nutrition," he said.

Making sure blood pressure is optimized is important when it comes to A-fib, as well as a "heart-healthy lifestyle," Maglione said.

"Diet and exercise has been shown to decrease recurrence rates of atrial fibrillation after we treat them with certain procedures," he said.

"The jury's not out on whether the low-calorie or zero-calorie sodas with artificial sweeteners are any healthier than the conventional for-calorie sodas."

Maglione said that when it comes to A-fib and nutrition, avoiding foods that are high in cholesterol and fat, and doing regular exercise, are key.

“Even modest weight loss has been associated with much lower recurrence rates of atrial fibrillation after treatment,” he said.

A-fib can also lead to blood clots, strokes and other heart-related complications.

The US’s Centers for Disease Control and Prevention says stroke is “a leading cause of serious long-term disability.” And atrial fibrillation is the leading cause of stroke in the US.

Those above 65 are at greater risk for heart conditions such as A-fib and stroke, making it more important for this group to follow a healthy lifestyle and to avoid artificially sweetened drinks.

ABOVE: Italian farmer Vito Amantia on Feb. 26 shows small oranges and dry fruits in an orange grove in Lentini, Sicily.

BELOW: A soda dispenser machine featuring Pepsi products is shown on March 27, 2022, in Miami Gardens, Florida.

Maglione said there was also some evidence linking atrial fibrillation to early dementia later in life.

The study also looked at added-sugar beverages and pure unsweetened juices, such as orange juice. It was found that added-sugar beverages raised the risk of A-fib by 10 percent, while drinking roughly four ounces of pure unsweetened juices lowered the risk of the condition by 8 percent.

Penny Kris-Etherton, a nutritional sciences professor at Penn State University, told CNN: “This is the first study to report an association between no and low-calorie sweeteners and also sugarsweetened beverages and increased risk of atrial fibrillation.”

Soda fiend or not, Maglione said it was important to be aware when it comes to medical matters of the heart.

“If you feel any symptoms of irregular heartbeat or palpitations, seek out medical care,” he said. “Because usually with earlier intervention, we can be more successful in treatment and preventing any of the things like stroke from occurring.”