

Study reveals unexpected literacy in autistic people who cannot speak

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About one-third of autistic people are unable to communicate using speech, and most are never provided an effective alternative. However, a new study from scientists at the University of Virginia suggests that

many of these individuals are literate, raising the possibility that they could learn to express themselves through writing.

The study, [published](#) in the journal *Autism*, reports that five times more nonspeaking autistic teenagers and adults demonstrated knowledge of written language conventions than would be expected from previous estimates of their abilities. The finding has important implications for the millions of [autistic people](#) around the world who have little or no speech and who are often assumed to be incapable of acquiring [literacy](#).

"If we assume that someone who can't speak doesn't understand, it limits the doors we open for them—we may not even try to figure out what they understand," said Vikram Jaswal, Professor of Psychology at the University of Virginia and the lead author of the study. "Our study shows that nonspeaking autistic people's capacity for language, for learning, and for literacy has been seriously underestimated."

The investigators addressed a fundamental question about literacy: whether or not nonspeaking autistic people react to letters, words and sentences in the same way as literate, non-autistic individuals. Jaswal's team developed a method similar to the arcade game Whac-a-Mole which required participants to tap letters displayed on a tablet as soon as those letters lit up. In some instances, the letters lit up in sequences that spelled out sentences that participants had earlier heard spoken aloud, and in other instances the letters lit up in meaningless sequences.

The research team, which included Ph.D. candidate Kayden Stockwell and recent graduate Andrew Lampi made the assumption that a literate individual—who knows how to spell and can convert speech into its written form—can predict the next letter in a sentence they have heard spoken aloud even before seeing that letter light up.

Consequently, they could be expected to respond faster to the sentences

than to meaningless sequences. Jaswal's team found that over half of the sample group of 31 nonspeaking autistic participants responded in the same way a literate individual would.

According to Jaswal, the results are striking because they show that even though most participants in the study had not received formal instruction in literacy, many had developed an understanding of how written language works.

"Society has traditionally assumed that people who can't speak are unable to understand language or to learn to read or write," Jaswal said. "But our findings suggest that many nonspeaking autistic people have foundational literacy skills. With appropriate instruction and support, it might be possible to harness these skills to provide access to written forms of communication as an alternative to speech. Learning to express themselves through writing would open up educational, employment and [social opportunities](#) that nonspeaking autistic people have historically not been given access to."

"This is cutting-edge research with enormous [potential](#) for impact," said Christa Acampora, dean of the College and Graduate School of Arts & Sciences. "We are truly fortunate to have professor Jaswal and outstanding graduate students like Kayden Stockwell and Andrew Lampi in the College's research community. Together, they're asking important questions, and their discovery will have life-changing consequences for many."

More information: Vikram K Jaswal et al, Literacy in nonspeaking autistic people, *Autism* (2024). [DOI: 10.1177/13623613241230709](https://doi.org/10.1177/13623613241230709)

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