

Study finds personalized approach enhances communication skills in children with autism

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(Medical Xpress)—A UCLA-led study has found that the communication skills of minimally verbal children with autism can be greatly improved through personalized interventions that are combined with the use of computer tablets.

The three-year study examined different approaches to improving [communication](#) abilities among children with [autism spectrum disorder](#) and minimal verbal skills. Approximately 30 percent of children with ASD overall remain minimally verbal even after years of intervention.

UCLA professor Connie Kasari, the paper's senior author, worked with

researchers at Vanderbilt University and the Kennedy Krieger Institute. They found that children's language skills greatly improved when spoken- and social-communication therapy was tailored based on their individual progress and delivered using computer tablets.

The trial involved 61 children with ASD, ages 5 to 8. For six months, each child received communication therapy focusing on social communication gestures, such as pointing, as well as play skills and spoken language.

Half of the children were randomly selected to also use speech-generating applications on computer tablets for at least half of the time during their sessions. The tablets were programmed with audio clips of words the children were learning about during their therapy sessions and images of the corresponding objects. Working with a therapist, the child could tap a picture of a block, for example, and the tablet would play audio of the word "block."

The researchers found that children who had access to the tablets during therapy were more likely to use language spontaneously and socially than the children who received the communication intervention alone—and that incorporating the [tablets](#) at the beginning of the treatment was more effective than introducing it later in the therapy.

"It was remarkable how well the tablet worked in providing access to communication for these children," said Kasari, professor of human development and psychology in the UCLA Graduate School of Education and professor of psychiatry at UCLA's Semel Institute for Neuroscience and Human Behavior. "Children who received the behavioral intervention along with the tablet to support their communication attempts made much faster progress in learning to communicate, and especially in using spoken language."

Researchers also conducted follow-up visits with the children three months after the initial study period and found that their improvement had been maintained during that time.

The study was the first ASD research to use a sequential multiple assignment randomized trial, or SMART, design. The approach, which enables researchers to tailor interventions according to how each child in the study responds, was designed by Daniel Almirall and Susan Murphy, biostatisticians at the University of Michigan who were members of the research team. It also was the first randomized, controlled trial on this underserved population of [children](#) to use a computer tablet combined with an effective behavioral intervention.

More information: "Communication Interventions for Minimally Verbal Children With Autism: A Sequential Multiple Assignment Randomized Trial" Connie Kasari, Ann Kaiser, Kelly Goods, Jennifer Nietfeld, Pamela Mathy, Rebecca Landa, Susan Murphy, Daniel Almirall. *Journal of the American Academy of Child & Adolescent Psychiatry* - June 2014 (Vol. 53, Issue 6, Pages 635-646, [DOI: 10.1016/j.jaac.2014.01.019](#))

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