

Study: Poor motor skills predict long-term language impairments for children with autism

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Credit: AI-generated image ([disclaimer](#))

Fine motor skills—used for eating, writing and buttoning clothing—may be a strong predictor for identifying whether children with autism are at risk for long-term language disabilities, according to a Rutgers-led study.

The study, in the *Journal of Child Psychology and Psychiatry*, highlights the association between fine motor skills and their later language development in young speech-delayed children with [autism](#) who, at approximately age three, are nonverbal or using primarily single words to communicate.

In an American sample of language-delayed children with autism, researchers found that nearly half had extremely delayed fine motor skills. Of this group, 77.5 percent who had extremely delayed motor skills continued to have language disabilities in later childhood or young adulthood. By contrast, 69.6 percent of children who demonstrated less impaired fine motor skills overcame their [language delays](#) by late childhood or young adulthood.

In a second study of Canadian children with autism, researchers found that those with extremely delayed fine motor skills made fewer gains in expressive language.

"Language development is complex. Many interventions for young children with autism focus on language intervention or [social skills](#)," said lead researcher Vanessa Bal, the Karmazin and Lillard Chair in Adult Autism at Rutgers University-New Brunswick's Graduate School of Applied and Professional Psychology. "But our findings indicate it may be useful for clinicians and parents to assess fine motor skills and build opportunities for these skills to be further developed, in order to help with language development."

The researchers analyzed data from existing studies that used different standardized developmental tests to assess fine [motor](#) skills through tasks that require children to manipulate small objects, such as picking up Cheerios or stacking small blocks.

The first analyses focused on 86 children with autism recruited to an

American study from before their second birthday to age 19. The replication study was conducted using data from a Canadian study that followed 181 [children](#) with autism from two to four years of age, until age 10.

The Rutgers-led researchers analyzed the American study and found the link between fine [motor skills](#) and later language ability. They replicated the findings in the Canadian study sample. Replication in independent samples, using different developmental tests of [fine motor skills](#) is a strength of this study and underscores the potential importance of the findings.

More information: Vanessa H. Bal et al. Predictors of longer-term development of expressive language in two independent longitudinal cohorts of language-delayed preschoolers with Autism Spectrum Disorder, *Journal of Child Psychology and Psychiatry* (2019). [DOI: 10.1111/jcpp.13117](#)

Provided by Rutgers University

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