Multilingualism boosts cognitive skills in autistic children, study suggests

by University of California, Los Angeles (UCLA)

A study from UCLA Health in US adds to the growing body of evidence on the cognitive benefits of speaking multiple languages, finding that multilingualism not only enhances general cognitive abilities but also may help reduce certain symptoms and bolster control of daily thoughts and actions in children with and without autism.

The study, published in the journal *Autism Research*, found parents of autistic and non-autistic children in multilingual households reported their children had stronger overall executive function, including the ability to focus and understand other people's perspectives and communication, as well as reduced levels of repetitive behaviors, compared to children in mono-lingual households.

"It turns out that speaking multiple languages, whether or not you have a diagnosis of autism, is associated with better inhibition, better shifting or flexibility, and also better perspective taking ability," said study lead author Dr. Lucina Uddin, a UCLA Health Psychiatry and Biobehavioral Sciences Professor and Director of the UCLA Brain Connectivity and Cognition Laboratory.

Conducted initially at the University of Miami, US the study recruited more than 100 autistic and non-autistic children aged 7 to 12 from both monolingual and multilingual households. Most of the multilingual households spoke Spanish and English at home. Parents were asked to score their child's executive function skills, which are often affected by autism spectrum disorder.

Skills assessed included:

- Inhibition: the ability to suppress doing something irrelevant or get distracted.
- Working memory: the ability to keep something in mind, such as remembering a phone number.

- Shifting: the ability to switch between two or more different tasks, such as playing with toys and cleaning up after.

Parents were also asked to score some of the core abilities affected by autism such as the ability to understand different perspectives, social communication and repetitive behaviors.

Results from the survey found multilingualism is associated with better inhibition, shifting and perspective taking skills in children both with and without autism.

"If you have to juggle two languages, you have to suppress one in order to use the other. That's the idea, that inhibition might be bolstered by knowing two languages," Uddin said.

Speaking multiple languages

Speaking multiple languages also positively affected some of the core symptoms of autism, resulting in improved communication, reduced repetitive behaviors and improved perspective taking skills, Uddin said.

Uddin said there can be a concern among parents of autistic children that speaking multiple languages could contribute to delays in their child's development relating to language learning. However, she said the evidence so far has suggested no negative impacts and possible long-term benefits.

"The big takeaway is we don't see any negative effects of speaking multiple languages in the home," Uddin said. "It's actually beneficial to celebrate all the languages associated with your culture."

From these findings, Uddin is expanding the study and addressing limitations. The new study will recruit about 150 children with autism and will include more executive function and language tests as well as brain imaging.

More information: Celia Romero et al, Multilingualism impacts children's executive function and core autism symptoms, *Autism Research* (2024). DOI: 10.1002/aur.3260
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