

NEWS

# Social motivation predicts language skills in autistic children

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The more autistic children tune in to and communicate with others as toddlers, the stronger their conversation skills are later in childhood, according to a new study<sup>1</sup>.

The findings lend support to the **social motivation theory** of autism, which posits that some autistic children do not prioritize social cues or seek out social interactions and, as a result, miss out on opportunities to practice and develop language skills.

The work suggests that parents and clinicians should also aim to enhance an autistic child's social motivation rather than focusing solely on helping them develop a particular skill, says **Emily Neuhaus**, assistant professor of psychiatry and behavioral sciences at the University of Washington in Seattle, who was not involved in the study.

Social motivation leads to better expressive language, or the ability to communicate thoughts and ideas, in two ways: by pushing children to try to communicate and encouraging them to tune in to the communication of others, the researchers found.

Just one of the factors is not sufficient for better language skills, the study found; "it has to be both," says study investigator **Pumpki Lei Su**, a postdoctoral researcher at the University of Delaware in Newark. "And it's not just a one-way street," she says.

The findings support a theory of language development that is self-reinforcing: The more a child tries to communicate, the more she elicits communication from others; and the more input she gets from others, the more she tunes in, which helps hone her expressive language, Su says.

## Top model:

Su and her colleagues analyzed data from another study that used parent reports of social and communication skills in 87 autistic children over two years, starting when the children were 14 to 31 months of age<sup>2</sup>.

The team saw a strong connection between the children's social motivation scores on their earliest tests, as measured by the 'Social Approach' subscale from the Pervasive Developmental Disorder Behavioral Inventory, and their expressive language skills two years later, assessed using the Mullen Scales of Early Learning (MSEL).

There are three theories that could account for how early social motivation leads to better expressive language: Autistic children who are socially motivated try to communicate more frequently than their peers; the link is driven by strong receptive language skills, or the ability to tune in to someone else's words and gestures; or both<sup>3,4,5</sup>.

The researchers set up three statistical models to test these theories, using additional previously collected data on how frequently the children tried to communicate with others, as measured by a short play-based test called the Early Communication Index, and their receptive language skills, measured using the MSEL.

The model that included both intentional communication and receptive language explained the data best, says lead researcher **Paul Yoder**, emeritus professor of special education at Vanderbilt University in Nashville, Tennessee. The study was published in *Autism* in September.

## Additional input:

Identifying early life skills that could be targeted to improve later functioning "is an incredibly important thing," says **Thomas Frazier**, professor of psychology at John Carroll University in University Heights, Ohio, who was not involved in the study.

But he says he has some concerns about how the different behaviors were measured.

"My biggest worry is that they're not actually measuring social motivation in the purest form, and really what they're measuring is social motivation *and* social communication," he says.

If the parent reports do not distinguish between motivation and communication, then social-communication abilities early in life, rather than social motivation, may drive the expressive-language skills they evaluated later on.

If the findings hold, however, "then maybe we should look at treatments that focus on increasing social motivation biologically as well as behaviorally," Frazier says. One way to do that is through

drugs such as oxytocin or vasopressin that act on the brain's reward system and have been shown to **improve social motivation**.

Yoder and his colleagues are trying to replicate their findings with a new group of autistic children and adding in a measure for the parents. They want to see how a parent's communication affects the child's receptive language and, ultimately, the child's ability to express herself.

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