NEWS

Early language loss in autistic children not tied to later communication problems

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Autistic children who **show language regression** — a loss of language skills in early childhood — do not necessarily have communication problems later on, a new study finds.

In fact, in terms of both speaking and understanding words, these children follow the same overall developmental trajectory as autistic children without language regression, and the two groups display similar communication skills by about age 10.

“Regression — while it can be a striking concern at the time and is a marker for autism spectrum disorder — seems to have little direct effect on long-term language outcomes,” says study investigator **Andrew Pickles**, professor of biostatistics and psychological methods at King’s College London in the United Kingdom.

Much remains uncertain about the regression of skills in autism, including what causes it and what outcomes are associated with it. Even how common regression is and how to define it have **increasingly come into question**.

A 2014 study that retrospectively examined **autistic children** with and without skill loss found significant differences in autism traits, cognitive function and daily living skills at about age 9. But the new study, which followed children to older ages, suggests that “at least for language skills, language regression may have decreased impact over time,” says **Robin Kochel**, associate professor of pediatrics at the Baylor College of Medicine in Houston, Texas, who led the 2014 study but was not involved in the new work.

The results echo those from at least a half-dozen studies over the past decade and, as such, “put the final nail in the coffin of the standard dogma that regressive patterns are associated with worse outcomes,” says **Sally Ozonoff**, professor of psychiatry and behavioral science at the University of California, Davis, who did not participate in this study. “It will be reassuring to parents to hear that if their child had a regressive period in their development, this is not associated with a poorer prognosis.”

To shed light on what happens after a language regression, Pickles and his colleagues examined data from 408 autistic children enrolled in **Pathways in ASD**, a long-term study in Canada. The children’s parents filled out a standard questionnaire called the Autism Diagnostic Interview-Revised (ADI-R) at around the time of their child’s diagnosis between ages 2 and 5, and again when their child was age 6.6 and 10.7 years old, on average. The researchers also interviewed parents about other aspects of their children's physical and mental skills, using questions from the Vineland Adaptive Behavior Scales-Second Edition and the Merrill-Palmer-Revised Scales of Development.

The ADI-R answers indicated that 90 children, or 22 percent, had experienced language regression, which the researchers defined as the loss of at least five previously mastered words. That estimate is in line with others that suggest 22 to 41 percent of autistic children **show language regression**.

Children with language regression did not differ from those without in terms of health and demographic factors, including sex, reported seizures, age of enrollment, caregiver education and family income, Pickles and his colleagues found. And language development varied significantly among both sets of children.

Children with language regression walked about one month earlier and spoke their first words nearly one year sooner than children without regression. Children with regression also showed greater cognitive and fine motor skills early on. Both groups began speaking in phrases at a comparable age.

Children with language regression showed a three-month delay, on average, in both expressive communication, such as speaking, and receptive communication, or language they could understand and respond to. These brief lags were associated with communication problems by age 11 but likely have little practical significance for the children, as their communication skills, on average, increased, the scientists note.

Still, language regression should not be ignored, Pickles says. “It is strongly associated with autism spectrum disorder and very rarely reported for children following more typical development,” he says.

He and his colleagues detailed their findings in January in the *Journal of Child Psychology and*

Psychiatry.

The ADI-R questions the researchers used to assess language regression are not highly sensitive to subtle losses of language, such as loss of babbling, cautions **Vanessa Bal**, Karmazin and Lillard Chair in Adult Autism at Rutgers University in Piscataway, New Jersey, who did not take part in this work.

Nonetheless, Bal says, this study “is yet another example highlighting the connection between language and motor skills and unique patterns of development in children on the autism spectrum — and a demonstration of the importance of longitudinal studies, which are so hard to get funded, yet yield such important information.”

Catherine Lord, distinguished professor of psychiatry and education at the University of California, Los Angeles, who co-developed the ADI-R, agrees with Bal that the test’s questions are not valid for language regression.

“I think people should stop using the ADI-R definition of regression and use Sally Ozonoff's regression interview,” says Lord, who did not take part in the new study.

The **Early Development Questionnaire** Ozonoff’s lab developed can be used to track development over time, and the number of social and communication skills that a child demonstrates will drop over time if regression occurs, Ozonoff says. “However, it is only useful for prospective studies — those in which children are followed from infancy through age 3 — and administered to parents throughout the window when autism spectrum disorder develops and regression occurs.”

Research suggests that other kinds of regression, such as a loss of interest in social relationships, a loss of imitation and social play, and a loss of eye contact and gestures, “are even more common than loss of language,” Ozonoff says. “So this research is likely describing only the tip of the iceberg of regression.”

Studying a broader range of regressive experiences “is important, so I hope future studies will find ways to validly quantify losses in eye contact and social interest, which are much harder for parents to remember precisely” than language losses, Ozonoff adds.

The lack of reports focusing on regression in recent years is largely due to challenges in defining and measuring it, Kochel notes. “While I think this is definitely an important phenomenon to understand, it will be difficult to move forward if scientists can’t agree on what constitutes skill loss and how to accurately measure it.”

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