

NEWS

# Regression marks one in five autism cases, large study finds

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In some children with autism, normal development stalls, often around age 2, and they start to lose many of the communication and social skills they had already mastered. The first large epidemiological study of this phenomenon, called regression, reveals that it occurs in at least 20 percent of children with autism<sup>1</sup>.

The new work, published in the July/August issue of the *Journal of Developmental and Behavioral Pediatrics*, also shows that regression can appear long after the toddler years.

A better understanding of regression could help researchers predict how children will fare over time and provide clues to autism's **biological basis**. But despite decades of research, scientists continue to debate **how prevalent regression is and even what it is**.

The data come from the **Autism and Developmental Disabilities Monitoring network**, which estimates autism prevalence in the U.S. The network "lets us gain information from much bigger samples than would be otherwise possible," says lead researcher **Catherine Bradley**, assistant professor of pediatrics at the Medical University of South Carolina in Charleston.

Previous estimates have generally relied on interviews of families from a small number of autism clinics and range from 20 to 30 percent. The new study examined medical and education records of children with autism from the entire eastern half of South Carolina.

The study sample is fairly representative of the population as a whole, says **Audrey Thurm**, a clinical psychologist at the National Institute of Mental Health in Bethesda, Maryland, who was not involved in the work. "It uses a very big, more epidemiologically based sample," she says. "This is a nice addition."

## Hidden reversals:

Still, like other studies of regression prevalence, this one rests on information supplied by parents. Parents **do not always accurately recall** subtle shifts in their child's development, especially when they take a survey years after these shifts took place.

"All the questions we always had about parent report of regression apply to this methodology," says **Sally Ozonoff**, vice chair for research in psychiatry and behavioral sciences at the MIND Institute of the University of California, Davis. Ozonoff was not involved in the work.

The new data may be more reliable than most survey data, however, because they came from medical histories taken during doctor visits, which usually involve recalling recent events, Bradley says.

Bradley and her colleagues combed through the records of 862 children with autism at age 8 for indications that they had ever lost language, social or play skills. They also investigated ties between regression and other traits.

The documents revealed that 179 — or 21 percent — of the children had experienced a loss of skills. This is likely to be an underestimate, Ozonoff says, because doctor and school records are apt to omit cases. For a developmental setback to appear on these forms, a parent has to recognize and report it — and a doctor has to deem it significant enough to note, she says.

When researchers track children over time, they get larger numbers for regression's prevalence. In one small study of this type, Ozonoff's team found that **social skills decline** at some point between 6 months and 3 years of age in 86 percent of children with autism.

## Wider window:

The new study pins the average age of regression at about 24 months but shows that it can happen as early as 6 months or as late as 7 years, a wider window than other studies have seen. Some researchers have assumed that regression does not occur after age 3<sup>2</sup>. But Bradley's team found that about 10 percent of children with autism lose some abilities after age 3.

The researchers reported that children with autism who regress have some defining characteristics. They are more likely to have intellectual disability than those who do not regress — a finding consistent with the notion that **regression in children tracks with severe autism**. These children also tend to have **repetitive behaviors**.

Regression is associated with a greater likelihood of receiving an autism diagnosis and eligibility for autism-related services at school, Bradley's team found. "I think [regression] can serve as a red flag in a lot of cases," she says. If so, learning to reliably spot signs of regression could expedite

diagnosis and treatment.

**REFERENCES:**

1. Bradley C.C. *et al. J. Dev. Behav. Pediatr.* **37**, 451-456 (2016) [PubMed](#)
2. Parr J.R. *et al. J. Autism Dev. Disord.* **41**, 332-340 (2011) [PubMed](#)