NEWS

Parents’ traits predict autism features in children

BY **RACHEL ZAMZOW**

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Children whose parents have a condition such as autism tend to have severe restricted interests and **repetitive behaviors**, even if they don’t have a diagnosis themselves, according to a new study[1].

A second study shows that low scores on tests that parents took in childhood track with various autism-like features in adulthood, and with autism traits in their children[2].

Together, the studies add to mounting evidence that **autism-related features** run in families.

In the first study, researchers developed two surveys that assess restricted interests and repetitive behaviors in children and adults. The surveys enable researchers to measure these behaviors over a lifetime and across generations.

“Until now, there hasn’t been a measure that allows for continuous assessment of children and their parents at the same time,” says lead researcher **David Evans**, professor of psychology at Bucknell University in Lewisburg, Pennsylvania.

The researchers started with the **Childhood Routines Inventory**, a well-established survey in which parents rate their child’s habits and compulsions. They then added items that probe motor tics, **sensory sensitivities** and restricted interests.

They also developed a second survey that allows adults to rate the same behaviors in themselves. Both surveys appear in the January issue of the *Journal of the American Academy of Child and Adolescent Psychiatry*.

The researchers tested the surveys online with 3,108 parents and their children. About one-third of the adults reported having a neurodevelopmental or psychiatric condition, such as autism, schizophrenia or obsessive-compulsive disorder. Roughly one-quarter of the 3,032 children have one of these conditions, according to their parents.

The surveys revealed that children whose parents have one of the conditions have more severe restricted interests and repetitive behaviors than do children whose parents do not have a diagnosis. This finding stands regardless of the children’s diagnoses. The more severe a parent’s restricted interests and repetitive behaviors, the more severe the behaviors in the child.

The findings support the idea that autism traits cluster within families. Genetics is only part of that story, says **John Constantino**, professor of psychiatry and pediatrics at Washington University in St. Louis, who was not involved in the study. “There have to be environmental or learning influences on these traits as well,” he says.

Testable traits:

In the second study, a different team reviewed the school records of 139 parents of children with autism and 28 adults who have either typically developing children or no children. They looked at scores on standardized tests of language, reading and math skills from kindergarten through high school. They also rated the participants’ autism-like features, such as impairments in social skills

and language, in adulthood using interviews and a test of social cognition.

Parents of children with autism who scored low on tests in childhood tend to have language and social difficulties as adults, the researchers found. The parents whose language, reading and math scores improved erratically over time are more socially aloof than those whose scores improved evenly.

The findings hint that aspects of childhood development track with a predisposition to autism-like features, collectively termed the **'broad autism phenotype,'** says lead researcher **Molly Losh**, associate professor of communication sciences and disorders at Northwestern University in Evanston, Illinois. The study appeared 9 January in the *Journal of Autism and Developmental Disorders*.

Low language test scores among the parents also tracks with the severity of their children's autism features. And the more slowly the parents' skills improved over time, the more pronounced their children's autism features. Early developmental patterns in individuals could provide clues to the genetics of autism risk in their children, Losh says.

It's not clear if this intergenerational connection is exclusive to autism. Losh's team is exploring whether parents' performance on childhood tests relates to the severity of **fragile X syndrome** in their children.

REFERENCES:

1. Evans D.W. *et al. J. Am. Acad. Child Adolesc. Psychiatry* **56**, 51-58 (2017) **PubMed**
2. Losh M. *et al. J. Autism Dev. Disord.* Epub ahead of print (2017) **PubMed**