NEWS

Adolescence unmasks autism traits in girls

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13 MAY 2017

Autism traits become more apparent as girls reach adolescence but stay stable in boys, suggests unpublished work presented today at the **2017 International Meeting for Autism Research** in San Francisco, California.

The findings may explain why girls with autism tend to be diagnosed later in life than boys are[1].

Girls with autism are known to be good at **learning to mask their autism traits**. Based on this theory, the researchers expected to see that girls got better and better at hiding these traits over time. Instead, they found the opposite. “We were genuinely surprised,” says lead researcher **William Mandy**, senior lecturer in clinical psychology at University College London.

The official estimate of autism prevalence in the U.S., which is based on 8-year-old children, finds a ratio of 4.5 boys with the condition for every girl. A new study that includes worldwide prevalence data reports a ratio **closer to 3 to 1**. The ratio drops even lower in adults with autism, Mandy says.

The new finding may explain why the ratio evens out in adulthood, as girls may be diagnosed only after adolescence, if at all, he says.

Tracking traits:

Mandy’s team looked at data from the **Avon Longitudinal Study of Parents and Children**. This study has collected long-term health information on more than 14,000 children born in Bristol, England, between 1990 and 1992. The researchers looked at a measure of social behavior in 4,960 boys and 4,784 girls at 7, 10, 13 and 16 years of age.

A questionnaire called the Social Communication Disorders Checklist asks parents to rate their

children's social behavior. A study last year found that the same genetic variants that increase autism risk **track with poor scores** on this questionnaire.

At 7, boys score worse on average than girls do on this measure, but by 16 years of age girls have average scores similar to boys'. Girls are more likely than boys to cross a cutoff for autism on the checklist at 13 or 16 years of age, rather than at 7 or 10 years, as is common for boys.

It is unclear whether autism features appear later in girls or flare up because of the stress of being a teenager. Mandy says the latter explanation is probably correct. "The social milieu at that age is growing in complexity quite rapidly," he says. "Subtle social difficulties that didn't matter in primary school may suddenly start to matter in secondary school."

Alternatively, there may be biological changes related to puberty that make the traits more apparent. This would be really interesting to follow up, says **Caitlin Hudac**, a postdoctoral associate in **Raphael Bernier**'s lab at the University of Washington in Seattle, who was not involved in the work.

The study has some limitations. For one, it relies on tracking autism traits in the general population rather than looking at children diagnosed with the condition, says Mandy. It also does not assess **repetitive behaviors**, an important feature of autism.

"We need to look in a little more detail to say for sure that these are genuinely autistic social communication difficulties we are seeing in these females," he says. "There's work to be done, but it's still intriguing."

On the other hand, one advantage to looking at traits in the general population is that diagnostic tests for autism often miss girls with the condition, Mandy says. Relying only on diagnosed children might skew the findings.

*For more reports from the 2017 International Meeting for Autism Research, please **click here**.*

REFERENCES:

1. Giarelli E. *et al. Disabil. Health J.* **3,** 107-116 (2010) PubMed