

Girls with autism may need different treatments than boys

May 2 2013, by Serena Gordon, Healthday Reporter



New studies highlight variations in symptoms, genetic makeup

(HealthDay)—With four to five times more males affected by autism spectrum disorders than females, much less is known about girls with autism.

Fortunately, more research is beginning to focus on [autism](#) in girls, said Geraldine Dawson, chief science officer of Autism Speaks, with two such studies set to be presented Saturday at the International Meeting for Autism Research in San Sebastian, Spain.

"Autism affects [boys](#) much more frequently than girls. But, we may be missing some girls. The [diagnostic criteria](#) were developed using symptoms in boys, and symptoms in girls and boys may be different," Dawson explained.

"Because of this difference in incidence, researchers may end up with a small number of girls in studies," she said, adding that differences in symptoms or reactions to treatments may lead to the girls' data being excluded from studies. But, it's just those differences that may really need to be researched, to make sure girls are being diagnosed and treated correctly.

"Other [neuropsychiatric disorders](#) have already made the discovery that symptoms can be different in girls and may require different treatments for girls," said Dawson, who is also a research professor in the department of psychiatry at the University of North Carolina, Chapel Hill. One such example is attention-deficit/hyperactivity disorder. Girls tend to be less hyperactive than boys, and may instead appear as if they're daydreaming.

In the latest [autism research](#), the first study compared visual scanning patterns in boys and girls with [autism spectrum disorders](#). Scanning patterns were also collected for typically developing children.

"We used eye-[tracking technology](#) while the participants in these studies watched videotapes of social scenes that presented naturalistic stimuli," said study co-author Ami Klin, director of the Marcus Autism Center, in Atlanta.

The study, which was led by Klin's student, Jennifer Moriuchi, included 116 school-aged children with autism spectrum disorders. Eighty-one were boys and 35 were girls. The children with autism had varying degrees of social disability. The study also included 36 typically developing children.

"On a surface level, it appears that boys and girls with autism appear to spend equal time learning from the eyes. They did look less than other children," Klin said. But, when the researchers correlated the youngsters'

eye tracking with their level of disability, a much different picture emerged.

"In boys, the more they looked at the eyes, the less socially disabled they are. In girls, the more they looked at the eyes, the more disabled they are," said Klin, chief of the division of autism and related disorders at Emory University School of Medicine and Children's Healthcare of Atlanta.

"What the study is suggesting is that we should not automatically assume that boys and girls learn about the world in the same way," Klin said, adding, "we have to take gender as a mediating factor."

Dawson said "the study found that there are differences in the way [girls and boys](#) look at the eyes, so there may be differences in the way autism is manifested in girls than in boys." She noted that an important criterion right now for diagnosing autism is a lack of eye contact and using the eyes for social cues.

The second study looked at the genetics involved in autism, and potential differences in boys and girls. Yale University researchers analyzed samples from 2,326 families. Included in those samples were those of 2,017 boys and 309 girls with an autism spectrum disorder.

The Yale team found differences between the boys' and girls' genetic samples.

"The fact that autism does affect boys so much more frequently has been staring us in the face for decades. There's been a hypothesis that there's something in the extra X chromosome that [girls](#) have that may be protective," Dawson explained. "The idea is that if you have this protective mechanism in place you may need more risk factors to overwhelm that protective effect and cause autism, and that's exactly

what they found."

"To develop autism in a girl requires more genetic mutations," Dawson said. The type of mutations they found are called "de novo" mutations, she added. This means that the genetic change occurs in the sperm or the egg. It isn't a gene that's passed down from the parents. These mutations can occur randomly, or they can be caused by an environmental trigger.

Because these studies are being presented at a medical meeting, the data and conclusions should be viewed as preliminary until published in a peer-reviewed journal.

More information: Learn more about autism from the [U.S. National Institute of Neurological Disorders and Stroke](#).

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