

NEWS

Parents' ages influence autism traits in general population

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Children born to parents who are unusually young or old stand an increased chance of having features of autism or other psychiatric conditions, suggest two large new analyses^{1,2}.

Studies have suggested that advanced age in men is associated with an increased risk of autism or schizophrenia in their children. There is also evidence that children **born to young women** (below age 20 or 25, depending on the study) are at heightened risk of attention deficit hyperactivity disorder (ADHD), schizophrenia and substance use³.

The two new studies link having young or old parents to a range of features in the general population. “When you do a population-type study of the community and don’t select people from a specific clinic, you’re able to generalize more to the population,” says **Raquel Gur**, professor of psychiatry at the University of Pennsylvania.

Gur and her colleagues found an increased risk of autism among children of men older than 32. They also found that children of parents younger than about 30 are more likely to show features of ADHD or schizophrenia than their peers.

The other study, co-led by **Avraham Reichenberg**’s team in New York City, shows that children born to men older than 51 or younger than 24 lag behind their peers in acquiring social skills. Both studies were published in the May issue of the *Journal of American Child and Adolescent Psychiatry*.

“What we’re seeing is a fairly stubborn, persistent pattern,” says **John McGrath**, Niels Bohr Professor at Aarhus University in Denmark, who was not involved in either study. “That gives us some confidence that we are looking at a real finding.”

Social signs:

Reichenberg’s team used data from the **Twins Early Development Study**, which follows more than 15,000 pairs of British twins. The researchers excluded children with an autism diagnosis.

When the children were 4, 7, 9, 14 and 16 years old, their parents rated their children’s conduct, emotional problems, hyperactivity, peer relationships and social skills. The researchers split the children into five groups based on the fathers’ age and analyzed their social skills and problem behaviors.

The analysis revealed that children born to men aged 24 or younger or 51 or older have the most advanced social skills of all the children at age 4. However, their skills improve more slowly than those of children born to men between ages 25 and 50; by the time these children turn 16, their social skills are the least mature of all the groups.

The results held up when the researchers controlled for the child’s sex as well as for the mother’s age and parents’ education and employment. The father’s age does not track with the severity of the behavioral problems, emotionality or hyperactivity.

Identical twins, who share the same genetic information, score more similarly to each other at age 4 than do fraternal twins, who are only as similar as siblings. Social skills also develop more similarly among identical twins than among fraternal twins. These findings suggest that social skills are largely inherited.

“Even when we made sure that none of those kids have a formal diagnosis of autism spectrum disorder, they still showed altered profile of social development,” says **Magdalena Janecka**, a postdoctoral fellow in Reichenberg’s lab at the Icahn School of Medicine at Mount Sinai in New York City.

Broad range:

Gur’s team explored a broad range of features. The researchers looked at 8,725 people aged 8 to 21, including 265 who have autism. They relied on data from the **Philadelphia Neurodevelopmental Cohort**; individuals in this cohort received medical care at the Children’s Hospital of Philadelphia and were assessed for signs of **anxiety**, ADHD, depression and schizophrenia.

The researchers found that people with autism are more likely than others to have fathers who were older than 32 when their children were born. By contrast, people with features of schizophrenia or ADHD tend to have been born to mothers younger than 29 or fathers younger than 32.

The researchers controlled for variables such as parent income and education, and adjusted for individuals with features of more than one condition. Gur says the study was not designed to reveal the mechanisms underlying the increased risk, but environmental and genetic factors may both contribute.

REFERENCES:

1. Janecka M. *et al. J. Am. Acad. Child. Adolesc. Psychiatry* **56**, 383-390 (2017) [PubMed](#)
2. Merikangas A.K. *et al. J. Am. Acad. Child. Adolesc. Psychiatry* **56**, 391-400 (2017) [PubMed](#)
3. McGrath J.J. *et al. JAMA Psychiatry* **71**, 301-309 (2014) [PubMed](#)