

# Autism largely caused by genetics, not environment: Study

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(HealthDay)—The largest study of its kind, involving more than 2

million people across five countries, finds that autism spectrum disorders are 80% reliant on inherited genes.

That means that environmental causes are responsible for just 20% of the risk.

The findings could open new doors to research into the genetic causes of autism, which the U.S. Centers for Disease Control and Prevention now says affects 1 in every 59 U.S. children.

It might also help ease fears that autism is caused by [maternal factors](#)—a mother's weight, mode or timing of delivery, or nutrient intake, for example. The new study found the role of maternal factors to be "nonexistent or minimal."

Instead, "the current study results provide the strongest evidence to our knowledge to date that the majority of risk for [autism spectrum disorders](#) is from [genetic factors](#)," said a team led by Sven Sandin, an epidemiological researcher at the Karolinska Institute in Stockholm, Sweden.

The new study might help dampen public interest in supposed—but unproven—"environmental" causes of autism, such as vaccines. Long-discredited, fraudulent data linking childhood vaccination with autism is still widely cited by the "anti-vaxxer" movement.

"The contribution of the environment to autism spectrum disorder risk appears to be much smaller than the contribution of genetics," a team of experts said in an editorial comment on the new study, which was published July 17 in the journal *JAMA Psychiatry*.

However, genetic factors are frequently ignored, and instead [environmental factors](#) "often receive disproportionate attention from the

public and the media, even when (as in the case of vaccine fears), they are debunked," wrote psychiatrists Drs. Amandeep Jutla, Hannah Reed and Jeremy Veenstra-VanderWeele in the editorial. They are all from Columbia University in New York City.

According to Sandin and colleagues, the new study is the largest and most rigorous yet conducted into the causes of autism. The researchers looked at the medical histories of more than 2 million children born in Denmark, Finland, Sweden, Israel and Western Australia between 1998 and 2012. All were tracked until 16 years of age. Of the group, just over 22,000 went on to develop an autism spectrum disorder.

Based on the data, about 80% of their risk of developing the condition was due to genetics, with the remainder of the risk tied to as-yet-unidentified environmental causes. Only a negligible amount of risk, about 1%, was due to maternal factors, the study researchers said.

They noted the new numbers are roughly in line with those from prior, smaller studies on the issue, further bolstering their validity.

Dr. Andrew Adesman directs developmental and behavioral pediatrics at Cohen Children's Medical Center in New Hyde Park, N.Y. Reviewing the findings, he agreed that it "provides stronger evidence that autism is mostly due to genetic, and not environmental, factors.

"Although families are often most concerned about environmental risk factors for autism, the reality is that genetic factors play a much larger role overall," Adesman said.

But he stressed that the findings don't let potential environmental factors—which, unlike genetics, can be changed—off the hook.

"Environmental factors also play a smaller, but important, role,"

Adesman said, so "this does not mean that we can completely ignore the environmental risk factors and their interaction with the genetic risk factors."

And he noted that despite the new data, "we are not yet able to identify a specific genetic cause for autism in many children." The next step, according to Adesman, is for researchers "to identify more of the different specific genetic differences or abnormalities that lead to [autism](#) in an individual child or family."

**More information:** There's more on what might cause autism at the [U.S. National Institute of Child Health and Human Development](#).

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