

# Heritability for autism spectrum disorder varies for males and females, finds study

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Heritability for autism spectrum disorder (ASD) varies for males and females, with higher heritability seen for males than females, according to a study [published](#) online April 17 in *JAMA Psychiatry*.

Sven Sandin, Ph.D., from the Karolinska Institutet in Stockholm, and colleagues estimated the sex-specific [heritability](#) of ASD in a population-based, retrospective analysis of nontwin siblings and cousins from Sweden born between Jan. 1, 1985, and Dec. 31, 1998, with follow-up to age 19 years. The relative variance in risk for ASD occurrence due to sex-specific additive genetics, shared [environmental effects](#), and a common residual term, which conceptually captured other factors that promote individual behavioral variation, was estimated.

The sample included 1,047,649 individuals in 456,832 families. The researchers found that 1.17% of the entire sample received a diagnosis of ASD, including 1.51% of males and 0.80% of females. For males and females, ASD heritability was estimated at 87.0 and 75.7%, respectively, with the difference in heritability estimated at 11.3%. No support was seen for shared environmental contributions.

"The skewed sex ratio in ASD may, partly, be explained by differences in [genetic variance](#) between sexes," the authors write. "This discovery opens up new avenues for further research aimed at gaining a deeper understanding of the prevalence of ASD."

A related editorial in *JAMA Psychiatry* [appears here](#).

**More information:** Sven Sandin et al, Examining Sex Differences in Autism Heritability, *JAMA Psychiatry* (2024). [DOI](#):

[10.1001/jamapsychiatry.2024.0525](https://doi.org/10.1001/jamapsychiatry.2024.0525)

Alex Tsompanidis et al, Sex Differences in Autism Heritability and Likelihood, *JAMA Psychiatry* (2024). DOI: [10.1001/jamapsychiatry.2024.0339](https://doi.org/10.1001/jamapsychiatry.2024.0339)

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