



## Communicating Research in Clear Language

### THE FAMILIAL RISK OF AUTISM

#### What is the research about?

Autism Spectrum Disorder (ASD) is believed to “run in families”. However the individual risk of having ASD and to what extent this is caused by genetic and/or environmental factors remains unexplained. This was the largest population-based follow-up study evaluating familial risk of ASD.

#### What did the researchers do?

Researchers looked at data from over 2 million children born between 1982 and 2006 in Sweden. In that group, researchers identified twin pairs, full-sibling pairs, maternal and paternal half-sibling pairs, and cousin pairs. The researchers then calculated the probability of having ASD in an individual with a sibling or cousin with ASD and compared it with that of an individual with no diagnosed family member.

#### What did the researchers find?

- Genetic and non-genetic (environmental) influences on the risk for ASD were both important.
- ASD heritability (the genetic contribution to variability within a population in a specific environment) was estimated at around 50%.
- The recurrence risk for ASD was 10.3 for full siblings, 3.3 for maternal half siblings, 2.9 for paternal half siblings, and 2.0 for cousins.

#### Take home message

Among the children in this study, the individual risk of having ASD increased with greater genetic immediacy to a family member with ASD. Study findings suggest that genetic factors may explain half of the risk of ASD and that there is a need for further research investigating both genetic and non-genetic (environmental factors) potentially associated with ASD. This study may help inform the counseling of families with affected children.

**NOTE:** The original [Research Report](#) was published in the **Journal of the American Medical Association (JAMA)**, 2014. The primary author of this report is **Sven Sandin** of the Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Sweden and the Department of Psychosis Studies, Institute of Psychiatry, King’s College London, United Kingdom.