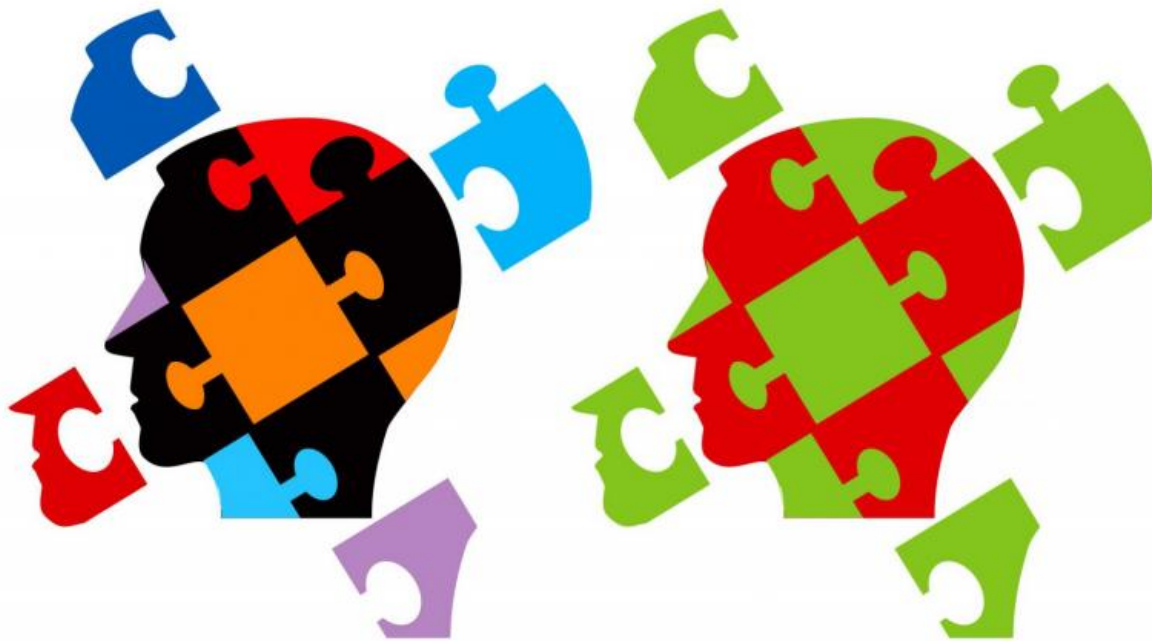


# Is schizophrenia a disorder of the immune system?

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Credit: Lancaster University

Using data from the largest ever genetic study of schizophrenia, researchers have shed light on the role of the immune system.

It had been suspected that the illness was an autoimmune disorder like multiple sclerosis, Crohn's or rheumatoid arthritis where the [immune system](#) misfires and attacks the body. The international team led by Dr Jennie Pouget from the University of Toronto and Dr Jo Knight from Lancaster University have found strong evidence that [schizophrenia](#) is different.

They tested the idea that genetic variants influencing [immune function](#) contribute to the disease but they found that the pattern in schizophrenia is not the same as in classic autoimmune disorders.

Among 108 regions of the genome previously linked to the schizophrenia, they found only six which act on both the immune system and the brain.

Jennie Pouget said: "This doesn't mean that the immune system isn't involved at all but it could be involved in a completely different way."

People with schizophrenia show hallmarks of [immune diseases](#) such as prior infection and inflammation, supporting the idea that immune disturbances may play a role by disrupting the brain.

However, it is not clear if these immune disturbances are a cause or a consequence of the illness and they themselves could be caused by a combination of genetic and [environmental risk factors](#).

Jo Knight said that the illness was also influenced by the environment.

"For example, we know that schizophrenia is more likely if someone has had a severe infection requiring hospitalisation.

This means that the involvement of the immune system could be environmental, like being exposed to a virus as a fetus in the womb."

They conclude that schizophrenia does not appear to be an autoimmune disease and that the illness could be caused by environmental risk factors which activate the [immune response](#), like infections or stress ,although further research is needed.

**More information:** Jennie G. Pouget et al. Genome-Wide Association Studies Suggest Limited Immune Gene Enrichment in Schizophrenia Compared to 5 Autoimmune Diseases, *Schizophrenia Bulletin* (2016). [DOI: 10.1093/schbul/sbw059](https://doi.org/10.1093/schbul/sbw059)

Provided by Lancaster University

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