

Structural brain connectivity as a genetic marker for schizophrenia

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Functional magnetic resonance imaging (fMRI) and other brain imaging technologies allow for the study of differences in brain activity in people diagnosed with schizophrenia. The image shows two levels of the brain, with areas that were more active in healthy controls than in schizophrenia patients shown in orange, during an fMRI study of working memory. Credit: Kim J, Matthews NL, Park S./PLoS One.

Schizophrenia has been considered an illness of disrupted brain connectivity since its earliest descriptions. Several studies have suggested brain white matter is affected not only in patients with schizophrenia but also in individuals at increased risk for the disease.

Marc M. Bohlken, M.Sc., of University Medical Center Utrecht, the Netherlands, and coauthors in *JAMA Psychiatry* investigated whether schizophrenia risk and [white matter](#) integrity share common genes.

The imaging study included 70 individual twins discordant for schizophrenia (one with, one without) and 130 healthy control twins.

The authors report their analyses suggest that reductions in white matter integrity have genetic overlap with risk for schizophrenia.

"This finding suggests that genes that are relevant for (the development of) structural brain connections are partly overlapping with genes for [schizophrenia](#)," the authors note.

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