

Research shows a genetic overlap in schizophrenia and cognitive ability

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Investigators at The Feinstein Institute for Medical Research have discovered for the first time, direct evidence of a genetic overlap between schizophrenia and general cognitive ability. The findings are published online in *Molecular Psychiatry*.

Schizophrenia is a chronic, severe and disabling brain disorder that affects approximately 2.2 million Americans each year. It is characterized by a significant reduction in general [cognitive abilities](#), so that many patients struggle with completing school, holding jobs and achieving their full potential. Previous studies have indicated subtle cognitive abnormalities in undiagnosed and unmedicated relatives of patients who live with schizophrenia, which suggests the possibility of genetic overlap between risk for schizophrenia and cognitive traits. These previous studies, however, did not test this overlap on the molecular level.

Anil Malhotra, MD, director of psychiatry research at Zucker Hillside Hospital and an investigator at the Feinstein Institute, and his colleague Todd Lencz, PhD, associate investigator at the Zucker Hillside Hospital and the Feinstein Institute, conducted the first molecular genetic test to determine if genetic markers of reduced cognitive ability were also genetic markers of increased schizophrenia risk. Specifically, they conducted a large-scale, meta-analysis, genome-wide association study (GWAS) of samples from 5,000 subjects provided by the Cognitive Genomics consortium (COGENT). COGENT, which was founded and is led by Dr. Malhotra, is an international consortium of nine teams of researchers across seven countries. Through their analysis, they confirmed that patients who suffered from schizophrenia also had lessened cognitive ability. This is the first direct evidence for genetic overlap between schizophrenia risk genes and genes that regulate general cognitive ability, such as memory, attention, and language abilities. The results provide molecular confirmation of this

genetic overlap and additional insight into how schizophrenia develops and progresses.

"This research leads us to a deeper understanding of how [schizophrenia](#) affects the brain at the molecular level," said Dr. Lencz. "Our studies are designed to provide clues to the development of new treatments to improve the lives of our patients."

Provided by North Shore-Long Island Jewish Health System

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