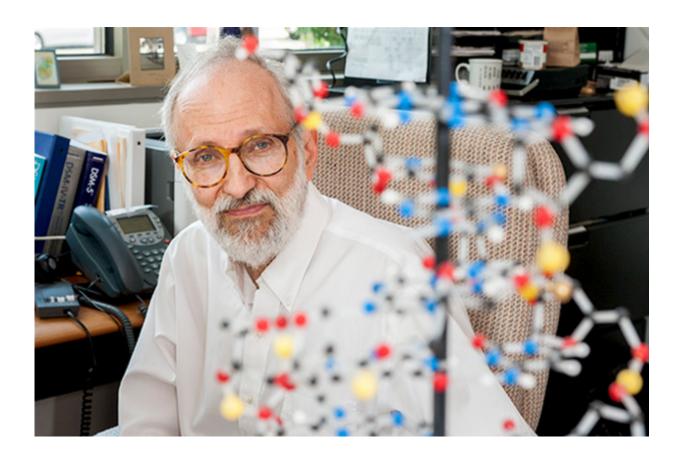# Study finds schizophrenia risk better predicted by deviation in intelligence from family

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Kenneth S. Kendler, M.D.

The degree to which an individual deviates in intelligence from their family is a more accurate predictor of schizophrenia development than

the individual's intelligence alone, according to a new study conducted by researchers at Virginia Commonwealth University and Lund University in Sweden.

The study confronts the conventional wisdom that low intelligence alone is a sufficient risk factor for schizophrenia development, going further to say that the risk for schizophrenia development is more accurately indexed by the degree to which an individual diverges from their family's average intelligence level.

"Merely not doing well in school is not predictive," said first author Kenneth S. Kendler, M.D., professor of psychiatry and human and molecular genetics in the Department of Psychiatry, VCU School of Medicine. "It is all in the deviation from the family expectation. If you have poor cognitive performance, but you come from a family where that is normal, then you do not have an increased risk of illness."

Relatedly, someone could be a high academic achiever compared to the average student, but if they came from a family of intellectually superior people and were falling short of their family's average intelligence then they would have a substantially increased risk for developing schizophrenia.

More than 1 million individuals born in Sweden between 1972 and 1990 were included in the study that predicted schizophrenia development based on school achievement and IQ as well as the deviation of that performance from the individual's familial cognitive aptitude. Familial cognitive aptitude was calculated from the school achievement, IQ and educational attainment of biological relatives.

"In a family that is intellectually average, if you are really smart then your risk of schizophrenia will be about half of that of the rest of the population," Kendler said. "A person of average intelligence who comes

from a brilliant family has almost a three-fold risk of developing schizophrenia."

While the basic etiological research does not directly benefit individuals who suffer from schizophrenia in the immediate future, it does help to clarify how cognitive performance affects schizophrenia development risk, and thus paves the way for treatment possibilities down the road.

The study, which is titled "Observed Cognitive Performance and Deviation from Familial Cognitive Aptitude at Ages 16 and 18-20, and Risk for Schizophrenia and Bipolar Illness in a Swedish National Sample," was published in the *Journal of the American Medical Association* Psychiatry journal on March 30. It will be published again in an upcoming print issue of the journal.

More information: Kenneth S. Kendler et al. Observed Cognitive Performance and Deviation From Familial Cognitive Aptitude at Age 16 Years and Ages 18 to 20 Years and Risk for Schizophrenia and Bipolar Illness in a Swedish National Sample, *JAMA Psychiatry* (2016). DOI: 10.1001/jamapsychiatry.2016.0053

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