

Strong genetic selection against some psych disorders

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Robert A. Power, from King's College London, and colleagues measured the fecundity of patients with schizophrenia, autism, bipolar disorder, depression, anorexia nervosa, or substance abuse versus their unaffected siblings and the general population in order to assess the level of selection on causal genetic variants. Data were obtained from the Swedish Multi-Generation Register and the Swedish Hospital Discharge Register for 2.3 million individuals in the 1950 to 1970 birth cohort.

The researchers found that affected patients had significantly fewer children ([fertility rate](#) range from 0.23 to 0.93), with the exception of women with depression. The reduction in fecundity was greater among men than women. Sisters of patients with schizophrenia and bipolar disorder had significantly increased fecundity, while brothers of patients with schizophrenia and autism showed significantly lower fecundity. Fecundity was significantly increased among all siblings of patients with depression and substance abuse.

"Our results suggest that strong selection exists against schizophrenia, autism, and [anorexia nervosa](#) and that these variants may be maintained by new mutations or an as-yet unknown mechanism," the authors write. "Vulnerability to depression, and perhaps substance abuse, may be preserved by balancing selection, suggesting the involvement of common genetic variants in ways that depend on other genes and on environment."

One author disclosed [financial ties](#) to the pharmaceutical industry.

More information: [Abstract](#)
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