

Copy number variants contribute to risk of 'schizophrenia-like' bipolar disorder subtype

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A form of rare genomic structural variation called copy number variants (CNVs) may be more closely associated with schizophrenia than bipolar disorder. A new study published in *Biological Psychiatry* failed to find that CNVs were associated broadly with risk for bipolar disorder. However, schizoaffective disorder, which is a hybrid of bipolar disorder and schizophrenia, had higher rates of CNVs compared with controls and other bipolar disorder subtypes.

"This study sheds important new light on the heterogeneity of bipolar disorder. It suggests an important new mechanism linking the biology of the most severely disabling form of bipolar disorder, schizoaffective disorder, to that of [schizophrenia](#)," said John Krystal, MD, Editor of *Biological Psychiatry*.

Schizophrenia and bipolar disorder share many symptoms and [genetic characteristics](#), but the contribution of CNVs to [genetic risk](#) has only been confirmed in schizophrenia. Although some studies have previously reported increased CNVs in bipolar disorder, the new genome-wide study, which included 6,353 bipolar disorder cases and 8,656 controls, did not find strong support for any of these.

"In this paper, we can strongly conclude that these variants do not make a substantial contribution to risk of bipolar disorder broadly. However, we provide some evidence that CNVs do contribute to risk of a more 'schizophrenia-like' subtype of bipolar disorder and that this does not seem to be predominantly driven by symptoms of psychosis," said Douglas Ruderfer, Ph.D., Vanderbilt University Medical Center, Tennessee, a senior author of the study.

No differences in CNVs were found between subtypes of bipolar I disorder with and without psychosis. The lack of connection between CNVs and psychosis led the authors to suggest that

these rare genetic alterations may instead contribute to the nuances that differentiate psychotic illnesses, including bipolar disorder with psychosis, schizoaffective bipolar, and schizophrenia.

"Our findings diverge from previous studies of common genetic variation that show genetic risk of schizophrenia is associated with risk of psychosis in bipolar disorder. These observations support the notion that different classes of genetic variation contribute to different domains of psychopathology, and suggest that the combination of genetic variants in a given individual create his or her unique symptom profile," said lead author Alexander Charney, MD, Ph.D., Icahn School of Medicine at Mount Sinai, New York.

The symptoms of [bipolar](#) disorder vary between people, and the subtypes of the disorder are characterized by differences in strength and timing of the symptoms. The findings that CNVs are not associated with [bipolar disorder](#) as a whole, but rather a subtype of the disorder, provide insight into how symptom variation arises within the disease and highlights that considering these different subgroups as a single diagnosis might overlook important differences that define them.

More information: Alexander W. Charney et al, Contribution of rare copy number variants to bipolar disorder risk is limited to schizoaffective cases, *Biological Psychiatry* (2018). DOI: [10.1016/j.biopsych.2018.12.009](https://doi.org/10.1016/j.biopsych.2018.12.009)

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