

Traumatic stress interacts with bipolar disorder genetic risk to increase odds of suicide attempt

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Genetic susceptibility to bipolar disorder can increase the risk for suicide attempt, but only among those who also have experienced traumatic stress, reports a study published in the December 2017 issue of the *Journal of the American Academy of Child and Adolescent Psychiatry (JAACAP)*.

Suicide in 2015 was the second leading cause of death among teens ages 15-19 with steep increases in suicide risk from ages 14 to 20. Bipolar disorder (BD) is one of the most heritable psychiatric conditions and is associated with high suicide risk.

"We found that [genetic susceptibility](#) to BD can increase the risk for [suicide attempt](#), but only among those who also have experienced [traumatic stress](#) such as bullying, sexual abuse, and domestic violence," said lead author Holly Wilcox, PhD, an associate professor at the Johns Hopkins Bloomberg School of Public Health. "This work highlights the importance of severe environmental stressors in the development of [suicide](#) attempts in those at higher genetic risk for [bipolar disorder](#)."

The findings are based on data from 307 adolescent offspring/relatives of parents affected with BD (BD-relatives) as compared to 166 offspring/relatives of parents without specific psychiatric [disorders](#) (controls). Participants were recruited from five independent sites, four in the United States (Johns Hopkins University, University of Michigan,

Washington University in St. Louis, and Indiana University) and one in Australia (University of New South Wales).

Blood samples were collected from all individuals, DNA was extracted from blood, and genome-wide genotyping was conducted. Genetic risk scores were derived from the sum of individual effects of many hundreds of BD-associated single nucleotide polymorphisms to elucidate the relative contributions of genes versus environment for suicidal behaviors in BD.

"This study uniquely examines suicidal and self-harm behaviors in a young cohort of individuals who are at increased risk of BD, but many of whom have not yet developed BD themselves," Dr. Wilcox said. "We found that offspring of BD-relatives report more suicidal ideation and attempts than controls. This finding was sustained after accounting for the presence of mood disorders and substance use disorders, suggesting that parental BD is a key correlate of suicidal ideation and attempts, and that [genetic risk](#) for suicidal behavior is not wholly acting through a genetic pathway for mood disorder." There were no differences between BD-relatives and controls in exposure to domestic violence, sexual abuse, being bullied, or a composite measure of any traumatic event exposure.

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More information: Holly C. Wilcox et al. Traumatic Stress Interacts With Bipolar Disorder Genetic Risk to Increase Risk for Suicide Attempts, *Journal of the American Academy of Child & Adolescent*

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