

# Study identifies genetic risks for suicide death in individuals with bipolar disorder

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A new study shows that individuals with bipolar disorder who are exposed to significant trauma may be at greater risk for suicide death, suggesting that clinical diagnosis of or genetic predisposition to trauma-related conditions could be important factors to consider in suicide prevention.

Suicide is the 10th leading cause of death in the United States, accounting for over 40,000 deaths each year, and [suicide](#) death rates are 10 to 30 times higher for people with bipolar disorder than for the general population.

The research, spearheaded by Eric Monson, MD, Ph.D., and Hilary Coon, Ph.D., from the University of Utah, in collaboration with Virginia Willour, Ph.D., from the University of Iowa, set out to identify unique risk factors for suicide attempt and death within bipolar disorder.

"There are many factors that go into increased risk for suicide—genetics is one of them," says Willour, a professor of psychiatry in the UI Carver College of Medicine. "We want to understand what the risk factors are so we can move forward with better interventions and decrease the rates of suicide."

The team's findings were recently published in a [research paper](#), titled "Assessment of suicide attempt and death in bipolar affective disorder: a combined clinical and genetic approach," in the journal *Translational Psychiatry*.

Monson, first author on the study and a former graduate student of Willour's, says this research is a first meaningful assessment of risk factors that are specific not just to suicide attempt but to suicide death.

"Even though it does not provide a definitive answer, this work provides information that supports the idea that the risk factors for suicide attempt and suicide death may differ from one another," Monson says. "And ongoing research is going to be really critical to make sure we make the best use of valuable resources to prevent suicide."

Primary results of the study demonstrate that diagnosis of trauma-associated [disorders](#), such as post-traumatic stress disorder (PTSD), are

much more frequent in individuals with bipolar disorder who died from suicide than within all other groups—including [suicide attempt](#).

The researchers' analysis also demonstrates a [genetic predisposition](#) to developing PTSD within individuals with bipolar disorder who died from suicide.

Additionally, the findings suggest that PTSD genetic risk factors derived from males were found more frequently in individuals with bipolar disorder who died from suicide, but genetic risk factors derived from females were associated with both suicide death and attempt.

Understanding how genetic variation contributes to suicide risk can help identify different strategies or potential medications to bring relief to patients at greatest risk of suicide.

"This is not a job to us—it's not even a career," says Willour, a senior author on the study and a member of the Iowa Neuroscience Institute. "This is a mission, to decrease suicide rates and do it in a way that brings relief to the patient as soon as possible."

Funded primarily by a grant from the American Foundation for Suicide Prevention, the study is the largest combined clinical and genetic effort to investigate risk factors for suicide death in [bipolar disorder](#) and uses the single largest sample of individuals who have died from suicide in the world.

"There have been decades of work that have gone into preparing this data," Monson says. "We would have no access to data of this caliber, of these numbers, if it weren't for the efforts of collaboration. There have been hundreds of investigators, and thousands of individuals who have donated their time, their DNA samples—all of these different things to make this possible."

It is critical to identify these potential [risk factors](#) because [death](#) from suicide is inherently preventable, and any tools to better predict those at greatest risk may aid in leveraging highly limited mental-health resources to reach those who need it most.

"Suicide is preventable—that doesn't get said enough," Monson says.

"That's why screening is so important, and that's why all these steps of research that we take really matter. When you have something that is the worst possible outcome for an illness but is completely preventable—we have to do something about that."

**More information:** Eric T. Monson et al, Assessment of suicide attempt and death in bipolar affective disorder: a combined clinical and genetic approach, *Translational Psychiatry* (2021). [DOI: 10.1038/s41398-021-01500-w](#)

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