

Concussions in high school athletes may be a risk factor for suicide

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Concussion, the most common form of traumatic brain injury, has been linked to an increased risk of depression and suicide in adults. Now new research published by The University of Texas Health Science Center at

Houston (UTHealth) suggests high school students with a history of sports-related concussions might be at an increased risk for suicide completion.

The research, which recently appeared in the November issue of the *Journal of Affective Disorders*, examined the link between self-reported history of concussion and risk factors for suicide completion. It was the first study to include a nationally representative sample of [high school students](#). According to the Centers for Disease Control and Prevention, suicide is the second-leading cause of death in Americans ages 10 to 34.

"It's important to remember that when it comes to concussions, there's no visual test to confirm them. Unfortunately, you can't take your child to have a lab test done to diagnose one," said Dale Mantey, the study's lead author, a doctoral [student](#) at UTHealth School of Public Health in Austin.

Common symptoms of a concussion include loss of consciousness, headache, confusion, and change in mood.

The study examined [survey data](#) collected from more than 13,000 high school students in the United States. Participants were asked if they had received a concussion related to sports or physical activity in the last year, as well as a range of questions to measure potential suicidal behaviors. Approximately 15% of students surveyed reported having suffered a concussion.

Researchers discovered that teenagers who reported having a concussion in the last year were more likely to report feelings of depression, suicidal ideations, and planned or previous suicide attempts. Of the portion of students who reported a history of concussions, approximately 36% reported they had felt sad or hopeless (compared to 31.1% of all teens) and around 21% had thoughts of suicide (compared to 17%).

Male participants with a reported concussion in the last year were twice as likely to report having attempted suicide and three times more likely to report a history of receiving medical treatment for an attempted suicide than those who did not have a recent concussion.

The study also revealed female students with a history of concussions had greater odds to report all risk factors of suicide. They were more likely to have reported feeling sad or hopeless, having suicidal ideations, a planned suicide attempt, having attempted suicide, and were twice as likely to indicate a history of receiving medical treatment for an attempted suicide compared to females who did not report a concussion in the last year. A recently published article in the journal *Pediatrics* revealed female high school athletes have higher concussion rates than their male counterparts.

The researchers noted that while the study did control for commonly associated suicide risk factors like sexual orientation and a [history](#) of being bullied, it did not account for other risk factors like drug or alcohol use. There were no measures of preconcussion mental health for survey participants.

"Concussions are a [traumatic brain injury](#) and they are even worse for young people with developing brains," said Steven H. Kelder, Ph.D., MPH, senior author and Beth Toby Grossman Distinguished Professor in Spirituality and Healing at UTHealth School of Public Health in Austin. "These injuries can have long-term effects such as memory issues and sleep disturbances."

According to the National Suicide Prevention Lifeline, warning signs of [suicide](#) can include talking about feeling hopeless, withdrawing or social isolation, extreme mood swings, and reckless or anxious behavior.

"Everyone needs to be aware of the warning signs and the risks that

come with concussions—parents, teachers, coaches, but also the students themselves," Mantey said. "If there is any concern that a child may have suffered a concussion, it is critical to seek medical attention. If a child is diagnosed with a [concussion](#), everyone in their support network should look for changes in mood or behavior that may be warning signs of reduced mental well-being."

Provided by University of Texas Health Science Center at Houston

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