

No link found between youth contact sports and cognitive, mental health problems

October 21 2019



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Adolescents who play contact sports, including football, are no more likely to experience cognitive impairment, depression or suicidal thoughts in early adulthood than their peers, suggests a new University of

Colorado Boulder study of nearly 11,000 youth followed for 14 years.

The study, published this month in the *Orthopaedic Journal of Sports Medicine*, also found that those who play sports are less likely to suffer from [mental health issues](#) by their late 20s to early 30s.

"There is a common perception that there's a direct causal link between youth [contact sports](#), head injuries and downstream adverse effects like impaired cognitive ability and [mental health](#)," said lead author Adam Bohr, Ph.D., a postdoctoral researcher in the Department of Integrative Physiology. "We did not find that."

The study comes on the heels of several highly-publicized papers linking sport-related concussion among former professional football players to chronic traumatic encephalopathy (CTE), [cognitive decline](#) and mental health issues later in life. Such reports have led many to question the safety of youth tackle football, and participation is declining nationally.

But few studies have looked specifically at adolescent participation in contact sports.

"When people talk about NFL players, they are talking about an elite subset of the population," said senior author Matthew McQueen, an associate professor of integrative physiology. "We wanted to look specifically at kids and determine if there are true harms that are showing up early in adulthood."

The study analyzed data from 10,951 participants in the National Longitudinal Study of Adolescent to Adult Health (Add Health), a representative sample of youth in seventh through 12th grades who have been interviewed and tested repeatedly since 1994.

Participants were categorized into groups: those who, in 1994, said they

intended to participate in contact sports; those who intended to play non-contact sports; and those who did not intend to play sports. Among males, 26% said they intended to play football.

After controlling for [socioeconomic status](#), education, race and other factors, the researchers analyzed scores through 2008 on word and number recall and questionnaires asking whether participants had been diagnosed with depression or attempted or thought about suicide.

"We were unable to find any meaningful difference between individuals who participated in contact sports and those who participated in non-contact sports. Across the board, across all measures, they looked more or less the same later in life," said Bohr.

Football players—for reasons that are not clear—actually had a lower incidence of depression in [early adulthood](#) than other groups.

Those who reported they did not intend to participate in sports at age 8 to 14 were 22% more likely to suffer depression in their late 20s and 30s.

"Right now, football is in many ways being compared to cigarette smoking—no benefit and all harm," said McQueen, who is also director for the Pac-12 Concussion Coordinating Unit. "It is absolutely true that there is a subset of NFL players who have experienced horrible neurological decline, and we need to continue to research to improve our understanding of that important issue."

But, he said, "the idea that playing football in [high school](#) will lead to similar outcomes later in life as those who played in the NFL is not consistent with the evidence. In fact, we and others have found there is some benefit to playing youth sports."

A recent University of Pennsylvania study of 3,000 men who had graduated high school in Wisconsin in 1957 found that those who played football were no more likely to suffer depression or [cognitive impairment](#) later. But some pointed out that the sport had changed radically since the 1950s.

The new study is among the largest to date and looks at those who played football in the 1990s.

The authors note that, due to the design of the dataset, they were only able to measure "intended" participation. (Due to the timing of the questionnaires, however, it is likely that those who reported participation in football actually did participate.)

They also could not tell how long an adolescent played, what position or whether a concussion or sub-concussive head injury was ever sustained. Further studies should be done exploring those factors, they said.

"Few current public health issues are as contentious and controversial as the safety and consequences of participation in [football](#)," they concluded. "Research on the risks of participation weighed with the risks of not participating in sports will enable parents and young athletes to make educated, informed decisions based on solid evidence."

A new CU Boulder study, looking at the long-term mental and physical health of CU student-athlete alumni, is already underway.

More information: Adam D. Bohr et al, Association of Adolescent Sport Participation With Cognition and Depressive Symptoms in Early Adulthood, *Orthopaedic Journal of Sports Medicine* (2019). [DOI: 10.1177/2325967119868658](https://doi.org/10.1177/2325967119868658)

Provided by University of Colorado at Boulder

Citation: No link found between youth contact sports and cognitive, mental health problems (2019, October 21) retrieved 25 April 2024 from <https://medicalxpress.com/news/2019-10-link-youth-contact-sports-cognitive.html>

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