

## **Study finds no link between years of high school football play and neurocognitive decline**

March 14, 2014 12:00 PM Keith Brannon

kbrannon@tulane.edu

504-862-8789

As more parents consider whether it's safe for adolescents to play football, a new Tulane University study of high school players found no link between years of play and any decline in neurocognitive function.

The [results](#), which were presented at the 2014 [Annual Meeting of the American Academy of Orthopaedic Surgeons \(AAOS\)](#) in New Orleans on March 14, suggest risks of sport-related brain injuries are relatively low, said lead author [Dr. Gregory Stewart](#), associate professor of orthopaedics at [Tulane University School of Medicine](#).

Researchers retrospectively reviewed data obtained between August 1998 and August 2001 on 1,289 New Orleans high school football players, including years of participation, age and concussion history, as well as scores on common neuropsychological tests: digit symbol substitutions (DSS), pure reaction time (PRT) and choice reaction time (CRT). The mean player age was 15.9, and the mean play time, 4.4 years. Only 4 percent of the athletes in the study suffered a sport concussion.

Age was positively related to performance on the DSS task, but years of football remained significantly and positively associated with DSS after controlling for age. There was no association between history of concussion and DSS, despite adding concussion to the model with years of football participation, and no significant association between years of football participation and PRT.

"The correlation between the number of years of football participation and the performance on the digit symbol substitution test does not support the hypothesis that participation in a collision sport negatively affects neurocognitive function," Stewart said. "The implication is that the playing of football is not in and of itself detrimental."

However, the research does “reinforce the need to educate high school and college athletes to better understand the importance of being honest about their (concussion) symptoms so that they can be treated appropriately,” Stewart said. “Many kids play with symptoms that they don't necessarily equate with a concussion.”

Concussion symptoms include balance problems, dizziness, fatigue, difficulty concentrating, headache, irritability, nausea, sensitivity to light or noise, vision problems, memory difficulties and feeling emotional or mentally foggy, Stewart said.