

Ontario adults who reported a TBI also reported more road rage than people who did not have a TBI

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Ontario adult drivers who say they have experienced at least one traumatic brain injury in their lifetime also report significantly higher incidents of serious road-related driving aggression, said a new study published Monday in the journal *Accident Analysis and Prevention*.

Serious driver aggression includes: making threats to hurt a fellow driver, passenger or vehicle. These individuals also reported significantly higher odds of being involved in a motor vehicle collision that resulted in hurting themselves, their passenger or their vehicle.

"We know already that driver aggression and risk of driving collision are affected by psychiatric factors and substance use, and that this connection is strong, and we know that [mental health](#) and substance can be, both, antecedents and consequences of brain injury," said Dr. Gabriela Ilie, lead author of the study and a post-doctoral fellow at St. Michael's Hospital. "Through this study, we wanted to examine if a link between traumatic brain injuries and road-related aggression and driving collisions also exists." A [traumatic brain injury](#) was defined as trauma to the head that resulted in loss of consciousness for at least five minutes or overnight hospitalization. TBI occurs when a sudden hit or blow to the head, or when an object piercing the skull and entering brain tissue, causes trauma and damages the brain. Concussions are a subset of more mild or moderate forms of TBI.

"These data suggest links between TBI and hazardous driving behaviours, but at this early stage we can't be sure if these relationships are causal," said Dr. Robert Mann, senior scientist at the Centre for Addiction and Mental Health in Toronto and co-principal investigator of the study. "Nevertheless, it appears that a large proportion of the driving population has experienced these injuries, so understanding how trauma to the head affects driving could have important implications for improving traffic safety."

Everything is so dependent on the quality of our brain, said Dr. Ilie.

"From tying our shoelaces to getting behind the wheel [driving](#) requires a tremendous amount of concentration and attention to safely navigate the road," she said. "The quality of our brain plays an essential role in how effectively these cognitive processes unfold. It is for this reason that we thought it was important to probe brain injuries and driver aggression and collisions. Is it possible that a disproportion number of traffic safety problems may be linked with drivers' brain injuries?"

Dr. Ilie said the study points to the value of brain injury prevention, and screening and rehabilitation services for drivers who live with a traumatic brain injury, with the goal of assessing fitness to drive and other related cognitive skills.

"Perhaps the burden of traffic collisions and road rage could be mitigated if we were mindful of the implications associated with a [brain injury](#)," she suggested.

Almost 4,000 adults ages 18 to 97 were surveyed by phone in 2011 and 2012 as part of the Centre for Addiction and Mental Health's ongoing survey of adult mental health and substance use in Canada.

Provided by St. Michael's Hospital

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