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Head injury does not worsen drinking behavior in heavy drinkers

A new study in [Biological Psychiatry: Cognitive Neuroscience and Neuroimaging](#) looks at the relationship between traumatic brain injury and alcohol use

Philadelphia, PA, November 15, 2017 – Head injury, which often damages brain regions overlapping with those involved in addictive behaviors, does not worsen drinking behavior in people with heavy alcohol use, according to a [new study](#) published in [Biological Psychiatry: Cognitive Neuroscience and Neuroimaging](#). The study, led by Dr. Andrew Mayer of the Mind Research Network and University of New Mexico in Albuquerque, New Mexico, also found that combining head injury with heavy alcohol use did not further alter the structure or function of the brain.

“Individuals who consume too much alcohol are prone to experience more accidents as a result of their intoxication,” said Dr. Mayer. Importantly, he added, heavy alcohol use and traumatic brain injury (TBI) affect similar regions of the brain. This has led researchers to think that the common combination of head injury and heavy drinking may interact to worsen the brain damage already caused by chronic alcohol exposure.

The study compared people with a recent history of heavy alcohol use and TBI with a control group carefully matched on lifetime history of alcohol exposure. Mayer and colleagues found the opposite of what they expected — heavy drinkers with a history of a TBI did not have worse drinking behavior, such as how often and how much they drank, compared with drinkers without a history of TBI.

The researchers also used imaging techniques to measure the structure of the brain and its activity when the participants were given a taste of their favorite drink. “On average, the brains of the two groups were similar both in terms of the amount of lost tissue, as well as how each person’s brain responded to their favorite drink,” said Dr. Mayer, suggesting that TBI does not further damage brain circuitry in heavy drinkers.

“The observation that the participants with TBI did not have greater neurocircuitry dysfunction than those without TBI might translate into greater therapeutic optimism for the treatment of individuals with a combination of TBI plus heavy drinking histories,” said Dr. Cameron Carter, Editor of *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*.

Notes for editors

The article is "An Examination of Behavioral and Neuronal Effects of Comorbid Traumatic Brain Injury and Alcohol Use," by Andrew R. Mayer, Faith M. Hanlon, Eric D. Claus, Andrew B. Dodd, Brittny Miller, Jessica Mickey, Davin K. Quinn, Sarah L. Hagerty, Brandi Seaman, and Kent E. Hutchison

(<http://dx.doi.org/10.1016/j.bpsc.2017.09.012>). It appears in *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, published by Elsevier.

Copies of this paper are available to credentialed journalists upon request; please contact Rhiannon Bugno at BPCNNI@UTSouthwestern.edu or +1 214 648 0880. Journalists wishing to interview the authors may contact Andrew Mayer, Ph.D., at amayer@mrn.org.

The authors' affiliations and disclosures of financial and conflicts of interests are available in the article.

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About *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*

Biological Psychiatry: Cognitive Neuroscience and Neuroimaging is an official journal of the [Society of Biological Psychiatry](#), whose purpose is to promote excellence in scientific research and education in fields that investigate the nature, causes, mechanisms and treatments of disorders of thought, emotion, or behavior. In accord with this mission, this peer-reviewed, rapid-publication, international journal focuses on studies using the tools and constructs of cognitive neuroscience, including the full range of non-invasive neuroimaging and human extra- and intracranial physiological recording methodologies. It publishes both basic and clinical studies, including those that incorporate genetic data, pharmacological challenges, and computational modeling approaches.

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