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Drinkers Tend to Jump the Gun

Reports new study in Biological Psychiatry

Philadelphia, PA, March 9, 2016 – Why do we make bad choices? In particular, why do we rush into decisions? In humans, the tendency to show poor behavioral control is one of the hallmarks of people prone to alcohol use disorders. A new report in the current issue of *Biological Psychiatry* sheds light on why people with alcohol use disorders make one form of maladaptive decision-making, the tendency to “jump the gun.”

It is known that rodents with high waiting impulsivity, which is the tendency to respond prematurely, are more likely to develop addiction-like behaviors. Researchers at the University of Cambridge, led by Dr. Valerie Voon, mapped the neural correlates of behavioral control using a translational task and resting state functional magnetic resonance imaging in order to examine the same type of impulsivity in humans.

They found that waiting impulsivity in healthy volunteers is associated with lower connectivity of the subthalamic nucleus with ventral striatum and subgenual cingulate, brain regions similarly implicated in rodent studies. In a second set of studies, they show that binge drinkers display elevated impulsivity and that both binge drinkers and individuals with alcohol use disorders have reduced subthalamic nucleus connectivity.

“The same connections are impaired in alcohol misuse across social drinkers, binge drinkers and alcohol dependent subjects,” explained Voon, a Wellcome Trust Fellow at the University of Cambridge. “Connectivity of the subthalamic nucleus, a brain region involved in switching from automatic to controlled behaviors, can classify problem drinkers from social drinkers.”

“This study suggests why some people are prone to impulsive decision making,” commented Dr. John Krystal, Editor of *Biological Psychiatry*. “It sheds light on why cognitive behavioral therapies that help people to be a bit more reflective may help them to make better life choices.”

The article is “Jumping the Gun: Mapping Neural Correlates of Waiting Impulsivity and Relevance Across Alcohol Misuse” by Laurel S. Morris, Prantik Kundu, Kwangyeol Baek, Michael A. Irvine, Daisy J. Mechelmans, Jonathan Wood, Neil A. Harrison, Trevor W. Robbins, Edward T. Bullmore, and Valerie Voon (doi: 10.1016/j.biopsych.2015.06.009). The article appears in *Biological Psychiatry*, Volume 79, Issue 6 (March 15, 2016), published by Elsevier.

Notes for editors

Full text of the article is available to credentialed journalists upon request; contact Rhiannon Bugno at +1 214 648 0880 or Biol.Psych@utsouthwestern.edu. Journalists wishing to interview the authors may contact Dr. Valerie Voon at vv247@cam.ac.uk.

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

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