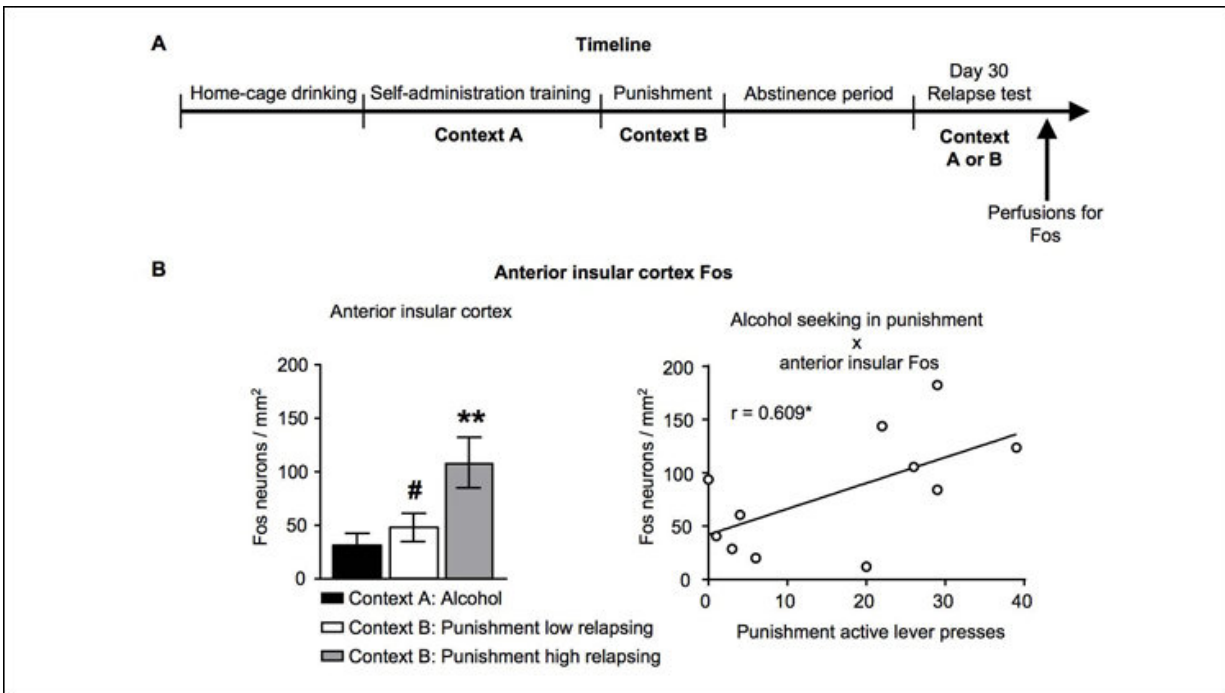


What makes rats relapse

December 3 2018



Context-induced relapse to alcohol seeking is associated with selective activation of the anterior insular cortex. Outline of the experimental procedure (A). Number of Fos-positive neurons per square millimetre in the anterior insular cortex in rats tested in Context A: alcohol context, or in Context B: punishment context who were either low relapsing or high relapsing. Correlation between alcohol seeking behavior in Context B: punishment context and active lever presses on relapse test (B). Credit: Campbell et al., *JNeurosci* (2018)

Activation of the anterior insular cortex—a brain region implicated in drug abuse—rather than drinking history or motivation for alcohol

predicts relapse after a month of abstinence, reports a study of male rats published in *JNeurosci*. The results may explain why some individuals are more likely than others to relapse.

Using a recently developed animal model of [alcohol](#)-seeking, Andrew Lawrence, Erin Campbell, and colleagues studied a defining feature of human alcohol use disorder: the tendency to relapse following self-imposed abstinence, despite known health and social consequences. Alcohol-using rats were more likely to relapse after 30 days of abstinence in an environment in which they were previously punished with a foot shock, suggesting alcohol-seeking in the face of adversity. This finding is relevant to the human experience of returning to alcohol use after a distressing event, such as an ended relationship or loss of a job.

Identification of the anterior insular cortex—inactivation of which prevented relapse in the punishment context—further our understanding the neurobiology of relapse, which could inform preventative strategies for [alcohol use disorder](#) in humans.

More information: *JNeurosci* (2018). [DOI: 10.1523/JNEUROSCI.1596-18.2018](#)

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