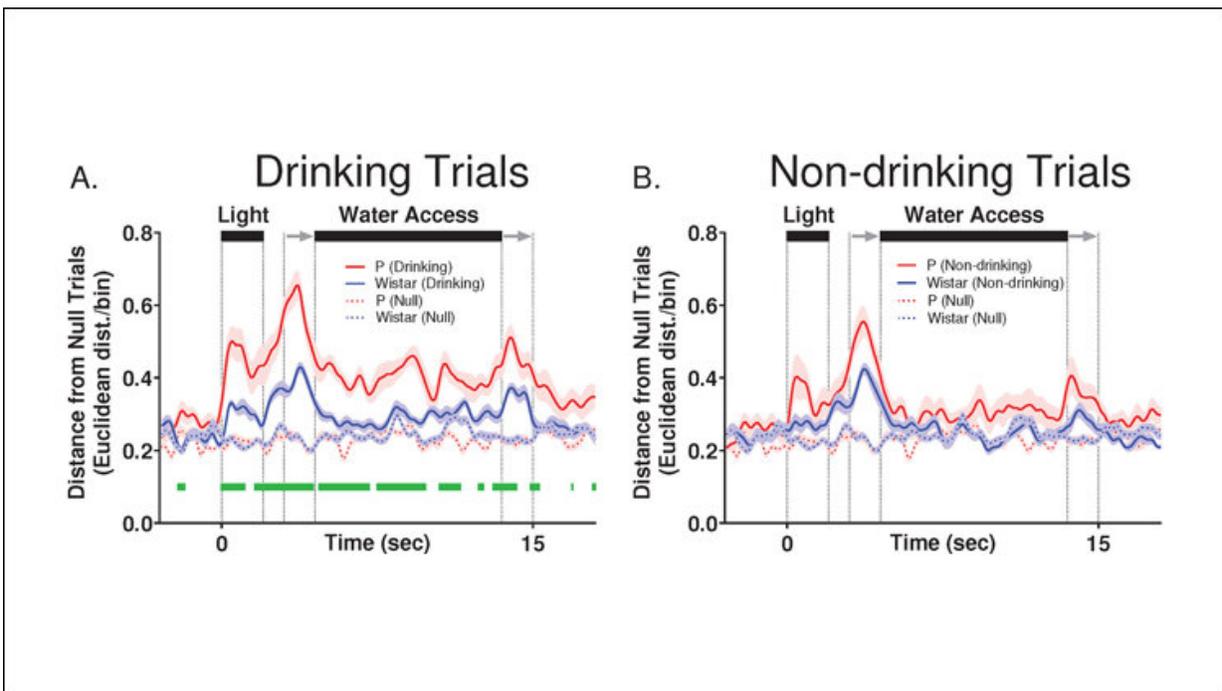


# Impaired brain activity in rats with family history of alcohol abuse

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Prefrontal cortex activity more robustly encodes alcohol-associated stimuli in rats with a family history of excessive drinking, even when water is presented in place of alcohol. Credit: Linsenbardt et al., *eNeuro* 2019

Neural activity that reflects the intention to drink alcohol is observed in the prefrontal cortex and is blunted in rats with a family history of excessive drinking, according to research from *eNeuro*. This insight could lead to novel treatments for alcohol use disorders.

The prefrontal cortex is a brain region involved in decision-making that becomes active before a behavior is initiated, indicating intention. David Linsenbardt, Nicholas Timme, and Christopher Lapish at Indiana University ? Purdue University Indianapolis investigated [neural activity](#) in the prefrontal cortex to determine if it encodes the intention to consume [alcohol](#).

Linsenbardt's team compared activity before and during [alcohol consumption](#) in two types of rats. One modeled a family history of alcohol abuse, while the other lacked this family history. The prefrontal cortex was active during consumption in both types of rats, but only active pre-consumption in the rats without a family history of drinking.

These findings suggest that the prefrontal cortex directly encodes the intention to consume alcohol but less so in those with greater risk of abusing alcohol. Restoring [prefrontal cortex](#) activity in individuals with a predisposition to over-drink could be a new approach for treating alcohol use disorders.

**More information:** Encoding of the Intent to Drink Alcohol by the Prefrontal Cortex is Blunted in Rats with a Family History of Excessive Drinking, *eNeuro* (2019). [DOI: 10.1523/ENEURO.0489-18.2019](https://doi.org/10.1523/ENEURO.0489-18.2019)

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