

Anticipation helps pathological gamblers hold out for larger-but-later rewards

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Credit: George Hodan/public domain

Triggering pathological gamblers to envision a future personal experience reduces their preference for an immediate reward over a larger, delayed award, according to a study published in *eNeuro*.

Pathological gambling is a behavioral addiction associated with preference for a smaller but more immediate reward over a larger

reward in the future. In the brain, the [nucleus accumbens](#) (NAcc) and [ventromedial prefrontal cortex](#) (vmPFC) are thought to encode how these rewards are valued.

Antonius Wiehler and colleagues presented 24 male pathological gamblers and 24 healthy men with a choice between an immediate monetary reward or a larger-but-delayed reward, while also reminding them of a future personal event such as an upcoming vacation.

The researchers found that thinking about this future event might shift reward preference and its associated representation in the brain in the pathological gamblers. Brain activity while thinking about the future event was similar in both the pathological gamblers and healthy men.

A correlation between decision-making and activity in the hippocampus was found only in healthy men, suggesting a possible role for this region in regulating [impulsive behavior](#).

These findings suggest interventions that enhance the value of future rewards may be effective in reducing impulsive decision-making in pathological gamblers.

More information: Episodic tags enhance striatal valuation signals during temporal discounting in pathological gamblers, *eNeuro*, doi.org/10.1523/ENEURO.0159-17.2017

Provided by Society for Neuroscience

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