

Gambling addicts present brain function abnormalities that affect their decision-making capacity

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University of Granada researchers have analysed similarities and differences in psychological profile and brain function when comparing cocaine addicts and gambling addicts. The study reveals that gambling addicts present brain function abnormalities affecting their decision-making capacity.

In two articles, recently published in *Frontiers in Neuroscience*, they

confirm that cocaine has cumulative prejudicial effects on the functioning of areas of the brain (anterior cingulate and part of the [prefrontal cortex](#)) necessary for correct control of impulses. This has been proven through laboratory tasks and techniques that identify abnormal [brain function](#) through electroencephalography (EEG).

However, these negative effects on correct control of impulses were not present in the gamblers, as their addiction does not involve the use of toxic substances. The research—conducted at the University of Granada—shows that individuals addicted to gambling do present other brain function abnormalities in areas of the prefrontal cortex. These are related to the severity of their affliction and affect their capacity to take decisions.

Negative emotions

Principle authors lecturer José César Perales and researcher Ana Torres—of the University of Granada Department of Experimental Psychology—explain that "these bad decisions affect the individuals' ability to recognise and evaluate loss, even when this is not financial loss". Moreover, among the volunteers who took part in the research they also found that the tendency to take [bad decisions](#) increased significantly when they experienced [negative emotions](#) such as anxiety or sadness.

From the data gathered, they have derived "practical guidelines of direct use in the psychological treatment of both addictions". Firstly, we must bear it in mind that abnormalities provoked by chronic cocaine consumption can in turn impede treatment and, therefore, should be taken into account when establishing a prognosis.

Secondly, the researchers have identified key issues that rehabilitation-oriented treatment for [pathological gambling](#) should include, especially in the most severe cases: to directly treat the emotional problems that

trigger the need to gamble, and to undergo specific training that enables the individual to adequately evaluate losses and their consequences.

Provided by University of Granada

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