

Imaging Studies On Cue-reactivity in Pathological Gambling

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Pathological gambling resembles substance dependence with respect to craving, reduced control and harmful consequences of this behaviour. Furthermore, some patients report withdrawal symptoms when not allowed to gamble in a situation in which gambling previously occurred regularly. Beyond such clinical similarities, brain imaging studies reported altered activation of the ventral striatum, a core area of the brain's reward system, during reward expectation in both disorders. However, to date only very few studies directly compared patients who gamble in a harmful way with patients suffering from drug addiction. We review brain imaging studies on cue-reactivity as well as reward anticipation and feedback in patients with pathological gambling and alcohol dependence and report a study that directly compared these two groups of patients with respect to reward and loss expectation and feedback. While similarities exist with respect to reduced ventral striatal activation during reward anticipation between these two disorders, there are substantial differences with respect to brain activation during loss feedback as well with respect to general cue-reactivity. Such neurobiological alterations can contribute to clinical differences as well as specific symptoms such as 'chasing losses'.