



Reward preferences and impulsive behaviours of pathological gamblers

What this research is about

Research has shown a strong association between impulsivity and problem gambling. Impulsivity is the tendency to act without forethought or consideration of potential consequences. Impulsivity has different aspects, which involve different behavioural tendencies. Attentional impulsivity is an inability to concentrate and pay attention to tasks. Motor impulsivity is a tendency to act without thinking. Nonplanning impulsivity is a lack of future thinking. Problem gamblers are also prone to take risks. Delay discounting occurs when an individual chooses a smaller, immediate reward over a larger reward in the future. Delay discounting is thought to be a behavioural aspect of impulsivity. It involves a tendency to ignore the future consequences of a decision. However, more research is needed to confirm a relationship.

The aim of this research was to examine reward preferences of pathological gamblers and healthy controls in Italy on a risk-taking task. The researchers also examined the relationship between impulsivity, delay discounting, risk taking and consideration of future consequences.

What the researcher did

Researchers recruited 54 adult pathological gamblers from the Local Health Trust in the Italian cities of Caserta, Salerno, and Naples. Another 54 healthy

What you need to know

This study examined reward preferences of pathological gamblers and healthy controls. Severity of problem gambling was associated with delay discounting, risk-taking behaviour, and a focus on the present over future consequences.

Pathological gamblers were more impulsive and more likely to take risks compared to healthy controls. Pathological gamblers also tended to focus on the present and were more likely to choose smaller but immediate rewards.

controls without gambling problems were recruited from the local community. Participants completed surveys to assess their frequency and severity of gambling, impulsivity, delay discounting and consideration of future consequences.

The Balloon Analogue Risk Task (BART) was used to assess risk taking. The BART is a computer task to assess risky behaviour and reward preferences under uncertain conditions. The task involves a series of balloons that can be inflated by clicking a button on the computer screen. Each click pumps the balloon and is awarded by a small amount of money in a temporary bank. After an unknown number of clicks, the balloon may pop and the money in the temporary bank will be lost. Participants have the choice to transfer money from the temporary bank to

a permanent bank at any time. The number of pumps is used to assess risk taking, with more pumps suggesting greater risk taking.

What the researcher found

Pathological gamblers were more likely to take risks in the BART. They pumped the balloon more times than the healthy controls. Pathological gamblers were more impulsive compared to healthy controls on all aspects of impulsivity (attentional impulsivity, motor impulsivity, and non-planning impulsivity). Pathological gamblers were also more likely to choose immediate, smaller rewards. They were less likely to consider future consequences and more focused on the present.

Impulsivity, a focus on the present, and risk taking were associated with each other. These traits along with delay discounting were all associated with the severity of problem gambling.

How you can use this research

Treatment providers should also emphasize to pathological gamblers the importance of considering future scenarios and consequences.

Future studies should examine other personality traits and impulsive behaviours that may play a role in problem gambling.

About the Researcher

Maria Ciccarelli, Giovanna Nigro, and Martina Cosenza are affiliated with the Department of Psychology at the Second University of Naples, Italy. Roberto Malinconico is affiliated with the Department of Addictions at Local Health Trust, Italy. Mark D. Griffiths is affiliated with the Department of Psychology at Nottingham Trent University in the UK.

The primary author, Maria Ciccarelli, can be contacted by email at maria.ciccarelli@unina2.it.

Citation

Ciccarelli, M., Malinconico, R., Griffiths, M. D., Nigro, G., & Cosenza, M. (2016). Reward preferences of pathological gamblers under conditions of uncertainty: An experimental study. *Journal of Gambling Studies* 32(4), 1175-1189. <https://doi.org/10.1007/s10899-016-9593-y>

Keywords

Pathological gambling, risk-taking, impulsivity, time perspective, delay discounting

Gambling Research Exchange Ontario (GREO)

Gambling Research Exchange Ontario (GREO) has partnered with the Knowledge Mobilization Unit at York University to produce Research Snapshots. GREO is an independent knowledge translation and exchange organization that aims to eliminate harm from gambling. Our goal is to support evidence-informed decision making in responsible gambling policies, standards and practices. The work we do is intended for researchers, policy makers, gambling regulators and operators, and treatment and prevention service providers.

Learn more about GREO by visiting greo.ca or emailing info@greo.ca.

