Probability discounting can be viewed as a thought pattern. It occurs when someone decreases the value of a reward as the odds of winning that reward is lower. A person with shallower probability discounting tends to favour large rewards with lower odds of occurrence. Thus, people with shallower probability discounting are more likely to engage in risky behaviours such as gambling.

A number of studies have examined the relationship between probability discounting and gambling problems. The aim of this article was to evaluate the effect sizes of studies investigating the relationship between probability discounting and gambling. Effect size is a measure of the strength of the relationship between two factors. In other words, this article evaluated if having more severe gambling problems was associated with shallower probability discounting.

What was done?
In 2017, the authors searched several databases to find relevant studies. To be included in the review, studies must investigate probability discounting and gambling. They must also report sufficient data and statistical results that allowed for the calculation of effect sizes. Studies included those with effect sizes for: 1) the differences in probability discounting between people with gambling problems and those without; or 2) the association between probability discounting and degree of gambling.

The authors found 12 studies. Some studies reported more than one effect size. For example, they reported effect sizes calculated through self-report of gambling and through behavioural performance of gambling.

Why is this article important?
This article reviewed studies examining the association between probability discounting and gambling. It also evaluated the effect sizes obtained from the studies. Effect size is a measure of the strength of the relationship between two factors (here, probability discounting and gambling). The findings suggest that people with more severe gambling problems have a shallower probability discounting. That is, people with more severe gambling problems are more likely to favour rewards with lower odds of happening. Gambling treatment providers could consider how to alter thought patterns related to probability discounting.

Thus, there were 18 effect sizes across the 12 studies, involving 1685 participants.

What you need to know
Across the 12 studies, people who gambled more intensely had shallower probability discounting. People with gambling problems also had shallower probability discounting compared to those without gambling problems.

People with a clinical diagnosis of gambling disorder have the most severe gambling problems. Thus, the authors also examined if a diagnosis of gambling disorder would lead to a stronger effect size. A stronger effect size was found when comparing people with gambling disorder and people without the disorder. This finding supported that people with gambling disorder would show shallower probability discounting.
Who is it intended for?

This article is a summary of studies on the association between probability discounting and gambling. Gambling treatment specialists could consider the importance of probability discounting when working with their clients. Interventions, such as cognitive behavioural therapy, could focus on changing gamblers’ thought patterns. Future study could explore how best to target thought patterns such as probability discounting.

About the researchers

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Citation


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.

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