

knowledge snapshot



Operant learning and gambling behaviour

What this article is about

Gambling behaviour is likely influenced by aspects of gambling products that people respond to positively or negatively (i.e., operant conditioning). Operant conditioning is a method of learning that uses rewards and punishment to modify behaviour. It was initially researched using experiments with animals. In this paper, the researchers highlight the importance of considering the complexities of human responses in operant conditioning.

Schedules of reinforcement have been recognized as factors that affect gambling behaviour. They are rules that control the timing and frequency of a reinforcer (i.e., a reward, such as a small win). The aim is to increase the likelihood that a target behaviour will reoccur or strengthen.

Reinforcement in gambling is likely different from reinforcement in animal behaviour. This is because humans apply cognitive and verbal rules to their perceptions of future circumstances. Slot machines offer a schedule of reinforcement that can maintain a high rate of behaviour that are resistant to extinction. This means that people who play on slot machines are exposed to schedules that encourage them to keep gambling. Commonly, behaviour is reinforced after a random number of responses.

Most forms of gambling use this type of variable ratio schedule known as random ratio. In a random ratio schedule, the probability of a win after each turn is independently determined. Random ratio schedules have been found to maintain high levels of engagement. A person can become conditioned to continue gambling, even after many losses.

Why is this article important?

Gambling behaviour is likely influenced by operant learning principles (i.e., operant conditioning). Operant conditioning is a method of learning that uses rewards and punishment to modify behaviour. It was initially researched using experiments with animals. In this paper, the researchers highlight the importance of considering the complexities of human responses in operant conditioning. Various considerations must be made before generalizing animal models to human behaviour. While older frameworks of operant learning principles are important, the researchers suggest that new frameworks need to be developed. This work may have important implications for educational programmes, harm minimization measures, and gambling policies and regulations.

What was done?

The authors reviewed academic articles about gambling, operant conditioning, and slot machine games. Their goal was to highlight the considerations that must be applied when generalizing models of animal learning to human behaviour.

What you need to know

The principles of operant conditioning and schedules of reinforcement are keys to understanding gambling behaviours, notably, as they relate to slot games. However, the researchers believe that new frameworks need to be developed that can capture additional features of human behaviour that are not included in animal models.

An example is how people can modify the patterns of a schedule they are exposed to. In slot machine gambling, people place bets on whether certain combinations of symbols appear on certain pay-lines. People can choose how many lines they play, as well as how much they bet per line, to achieve a total bet per spin amount. By contrast, in animal studies, the schedule is usually unmodifiable. Another difference is that people may have preconceived ideas about which games yield more success. Thus, even before people start to gamble, there are differences in how they might approach the game.

There may also be differences between what people do in laboratory studies as compared with real life gambling. For example, studies show that animals and people tend to prefer the schedule of smaller and more consistent rewards when these are presented together. However, in real life gambling, it is often more volatile games with less frequent (but larger) rewards which people who gamble at higher risk gamblers find appealing and which have a stronger hold on their behaviour.

Moreover, people's behaviour is influenced by their motivations and goals. The fear of missing out and anticipated regret are individual differences that require further research on how they may influence gambling behaviour. Emotions can also affect how people interact with reinforcement schedules. Both positive and negative feelings can affect people's course of action when gambling.

Overall, people's responses seem to be driven by their understanding of schedules. They may also hold erroneous views and beliefs about the nature of gambling outcomes. The researchers suggest that there may be ways to reduce the likelihood of persistent and excessive behaviour (e.g., slot machine gambling) by increasing awareness of how schedules and conditioning work. The researchers believe that future research should attempt to dispel incorrect views people who gamble may have about schedules of reinforcement. Furthermore, research could examine how these factors may inform gambling policies and regulations.

Who is it intended for?

This article is intended for gambling researchers, policy makers, and people who work in gambling prevention and intervention services. It provides new avenues of gambling research and highlights the need to dispel people's incorrect views about the nature of reinforcement.

About the researchers

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Citation

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