research snapshot

summarize | mobilize

How do payouts, wining sounds, and lights affect people's slot machine choices?

What this research is about

Winning cues refer to signals that people get when they gamble that tell them they have won. The lights and sounds that games make when people win money are winning cues. Evidence suggests that winning cues encourage people to gamble. People who are easily influenced by winning cues may be more likely to develop problem gambling. Problem gambling is repetitive gambling behaviour that leads to negative consequences. Winning cues may also make people remember their big wins. These positive memories may encourage people to gamble again.

Slot machines are addictive. They often show winning cues that are exciting and make it more fun for people to play. Also, slot machine play occurs at a rapid pace which can increase risky gambling. A previous study found that people made more risky gambling choices when they played a casino game that had lights and sounds when they won. In this study, the researchers explored whether winning cues in slot machine games encourage people to make risky gambling choices, and if the timing of the cues makes a difference.

What the researchers did

The researchers recruited 630 undergraduate university students from a Canadian university. The researchers showed participants different types of slot machines on a computer screen. The participants chose between safe or risky slot machines with high or low payout amounts. The safe machines always paid out the same amounts (either high or low value). The risky machines could also be high-value (e.g., 50 or 70 points) or low-value (e.g., 10 or 30 points), but the amount paid varied depending on which symbols lined up.

What you need to know

In this study, the researchers explored whether winning cues in slot machine games make people more likely to make risky gambling choices. They recruited 630 undergraduate university students. The participants completed a task where they had to choose between safe or risky slot machines. The findings suggested that, with higher payouts, people were more likely to choose risky slot machines. People also preferred slot machines that had casino-related winning cues (e.g., coin dropping sounds and dollars signs) over machines without these cues. Whether the cues appeared when the reels were spinning or had stopped did not affect their choices. People more often remembered their higher payout and judged that they won more often when there were winning cues.

The task had two kinds of tests. In one kind of test, participants chose between two machines that paid out a low or high number of points (i.e., different payout values). In the other kind of test, participants chose between safe and risky machines that paid out the same number of points. Afterwards, participants recalled how many points they won on each slot machine and how often each machine returned different payout amounts.

This study had three experiments. In experiment 1a, the researchers randomly assigned 310 participants to one of three groups. The groups either received a neutral sound before a payout from the risky high-value slot machine, a neutral sound before a payout from the risky low-value machine, or no sound at all. Experiment 1b tested 124 participants. Participants

received one type of sound before a payout of 70 points (better win) from one risky high-value machine. They received a different sound before a payout of 50 points (lower win) from the other risky high-value machine. The risky low-value machines did not have any sounds.

Experiment 2 tested 196 participants. There were two safe machines that always paid out 30 points, but only one machine had casino sounds and pictures (e.g., dollar signs). There were two risky machines that either paid out 10 or 50 points. One machine had casino sounds and pictures when participants won 50 points (better win), and the other did not. One group received the casino sounds and pictures when the reels were still spinning. The other group received these cues when the reels had stopped spinning.

What the researchers found

Participants in experiment 1a more often chose the risky slot machines that had high payout compared to the safe machine with high payouts. Participants in experiment 1b also chose the risky high-payout slot machines more often. Neutral sounds that were paired with winning had weak or no effect on participants' choices in experiment 1a or 1b. In experiment 1a, more participants remembered the better win for the risky high-value machine, and the lower win for the risky low-value machine. In experiment 1b, more participants remembered the better win for both risky high-value machines.

In experiment 2, participants were more likely to choose slot machines with casino sounds and pictures. This occurred regardless if they were choosing between two safe machines or between two risky machines. The timing of the casino cues did not have an effect. More participants remembered the better win on the risky slot machine that had casino sounds and pictures than on the risky slot machine without these cues. These results suggest that casino-related winning cues increased people's ability to remember their highest win and how often it happened. Participants who remembered the better win were more likely to make risky gambling choices. This result suggests that winning cues might increase people's chances of developing problem gambling.

How you can use this research

This study could inform future research. For example, future research could explore whether people who are attracted to winning cues are more likely to gamble often and develop problem gambling.

About the researchers

Marcia L. Spetch and **Yang S. Liu** are affiliated with the Department of Psychology at the University of Alberta in Edmonton, Alberta, Canada. **Christopher R. Madan** is affiliated with the School of Psychology at the University of Nottingham in Nottingham, United Kingdom. **Elliot A. Ludvig** is affiliated with the Department of Psychology at the University of Warwick in Coventry, United Kingdom. For more information about this study, please contact Marcia L. Spetch at mspetch@ualberta.ca.

Citation

Spetch, M. L., Madan, C. R., Liu, Y. S., & Ludvig, E. A. (2020). Effects of winning cues and relative payout on choice between simulated slot machines. *Addiction, 115*, 1719-1727. https://doi.org/10.1111/add.15010

Study funding

This study was funded by the Natural Sciences and Engineering Research Council of Canada and the Alberta Gambling Research Institute.

About Gambling Research Exchange (GREO)

Gambling Research Exchange (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 safer 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.