

A gambling-analog simulation with feedback to promote better decision making under risk among youth

What this research is about

The increasing popularity of legal gambling and gambling-like digital environments has raised concerns about risk-taking among youth, especially because the line between entertainment and gambling is becoming blurred. Research on gambling behaviour has started to focus on the role of decision-making under uncertainty, rather than a general preference for risk-taking per se.

Decision making under uncertainty occurs when people have to make choices without knowing exactly what will happen. Immediate feedback may help people make better decisions about whether to take part, by giving them a clearer understanding of how difficult the task is, how likely they are to succeed, and how well they will perform. Immediate feedback may also help people to improve their decision quality by learning from previous outcomes and adjusting their strategies over time.

This study examined whether feedback provided immediately within a repeated gambling-like simulation would help young people to make better decisions about risk-taking and improve their performance under uncertainty.

What the researchers did

The researchers recruited participants at a public, historically Black research university in the United States. Participants were 60 undergraduate students aged 18 to 24 years old from two class sections. Over half of the participants (57%) were women, and most (92%) identified as African American.

What you need to know

This study examined whether feedback provided immediately within a repeated gambling-like simulation would help young people to make better choices about risk-taking and improve their performance under uncertainty. The researchers recruited 60 undergraduate students from two class sections at a public, historically Black research university in the United States. Participants completed a simulation consisting of probability-based academic tasks. One class received immediate feedback after each task, while the other class only received feedback at the end of the simulation. Participants who received immediate feedback made more consistent decisions about whether to take part in each task and performed more accurately when they did participate. These improvements occurred without increasing the time taken to make decisions or complete the tasks.

The researchers conducted an experiment that involved students taking part in a simulation. Each of the two classes was assigned to a different condition. One class, comprising 31 students, was assigned to the 'informed group', while the other class of 29 students was assigned to the 'uninformed group.'

Before taking part in the simulation, participants completed a survey. The survey asked questions about their demographic characteristics, baseline attitudes toward risk, perceived ability to evaluate odds, willingness to guess under uncertainty, and

previous exposure to gaming or gambling-like activities. The survey was only used to characterize the participants and to check whether there were any differences between two classes. No significant differences were found.

After completing the survey, participants logged into an online platform developed by the researchers. The platform provided a simulation consisting of a series of probability-based academic tasks. The tasks included multiple-choice and fill-in-the-blank questions based on commonly covered content from General Education coursework. The scoring structure awarded more points (+10) for correct responses and took away five points for wrong answers. Each question started at the same time for all participants in the same class.

Participants were given 15 seconds to decide whether to try to answer a question. If they opted to answer, they were given 150 seconds to submit the answer. In the informed group, participants were given feedback immediately after each question, including the correct answer and the points gained or lost. No feedback was given to the uninformed group until the end of the simulation.

What the researchers found

Participants in the informed group were less likely to opt out of answering questions and opted in more often than those in the uninformed group. This suggests that feedback increases willingness to engage with uncertain tasks. Moreover, the informed group displayed more consistent participation rates. By contrast, the uninformed group showed greater variability in their decisions about whether to take part in each task, suggesting that their choices were less consistent from one task to the next. These results suggest that immediate feedback supports calibrated decision making. This means that it helps people to make decisions by improving their understanding of task difficulty, potential payoff, and their own abilities.

Participants in the informed group earned higher total points than those in the uninformed group. Although immediate feedback improved average performance, it did not make everyone's performance more similar. This suggests that

although feedback supports people in making better decisions, individual differences in knowledge and problem-solving abilities influence how well they perform.

Feedback did not influence the time participants took to decide whether to answer a question.

How you can use this research

Educators and practitioners can use this research to design learning activities with immediate feedback to improve young people's decision making. Such approaches may help youth to develop more consistent and informed judgements in situations involving uncertainty.

About the researchers

Yu Cong and **Ziping Wang** are affiliated with the Earl G. Graves School of Business and Management at Morgan State University in Baltimore, MD, USA. For more information about this study, please contact Yu Cong at yu.cong@morgan.edu.

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About Greo Evidence Insights

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