

# research snapshot

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## Is risky loot box use related to gambling and problem gaming?

### What this research is about

Loot boxes are rewards in video games that can be paid for with real-world money. Loot boxes contain items to help win the game, like weapons, or objects for in-game characters, like clothing. The item in the loot box is randomly generated. Some items are more desirable and/or valuable than others. Some games allow 'cashing out' of loot boxes through online marketplaces.

Similar to gambling, people who buy loot boxes risk money on something where the outcome is unknown and determined by chance. Some researchers believe that the similarities between loot boxes and gambling may lead to problem gambling among gamers. Problem gambling is repetitive gambling behaviour that leads to negative consequences. The current study explored the relationships between loot box use, gambling, and problem gambling among two different groups of adult video gamers.

### What the researchers did

The researchers carried out their study among two different groups. Participants in Study 1 were 144 adults, age 21 or over, who played video games and knew about loot boxes. Participants in Study 2 were 113 undergraduate students, age 19 or over, who also played video games and knew about loot boxes.

Participants completed an online survey. They answered video game and loot box questions about the value of loot box items, use and purchase of loot boxes, and beliefs and behaviours related to loot boxes. Participants completed the Internet Gaming Disorder Scale (IGDS), a measure of problem internet gaming. They completed the Domain-Specific Risk-Taking (DOSPERT-F) financial subscale, a measure of

### What you need to know

Most of the video gamers in the current study were familiar with, and had used, loot boxes. Most gamers agreed that loot boxes were a form of gambling within video games. Loot box use and purchase was related to false beliefs about gambling and problem gambling. In fact, gambling measures were more strongly related to risky loot box use than a typical measure of problematic gaming. This suggests that problematic loot box use might arise from a tendency for risky behaviours and false beliefs about gambling.

risky investment and gambling behaviours. Participants completed two questionnaires that measured false beliefs about gambling: The Gambling Related Cognitions Scale (GRCS), and the Darke and Freedman Beliefs Around Luck Scale (BALS). They also completed the Problem Gambling Severity Index (PGSI).

The researchers analyzed the collected information to determine:

- 1) To what extent do adults who play video games use loot boxes?
- 2) To what extent is loot box use related to gambling-related beliefs, problem gambling, and problem internet gaming?
- 3) To what extent do games with marketplaces influence the use of loot boxes?

The researchers developed an index of risky loot box use. The index was made up of five questions about loot box spending and problematic use. These were:

(1) “The thrill of opening Loot Boxes has encouraged me to buy more”; (2) “I frequently play games longer than I intent to, so I can earn Loot Boxes”; (3) “I have put off other activities, work, or chores to be able to earn or buy more Loot Boxes”; (4) “Once I open a Loot Box, I often feel compelled to open another”; and (5) “I have bought more Loot Boxes after failing to receive valuable items”. Participants that answered yes to these items had risky loot box use.

### What the researchers found

Most gamers (88.9% in Study 1 and 94.8% in Study 2) had opened a loot box. About half (49.3% in Study 1 and 60.3% in Study 2) had spent money on loot boxes. Most gamers (75.7% in Study 1 and 79.3% in Study 2) agreed that loot boxes felt like betting. Most gamers (68.1% in Study 1 and 86.2% in Study 2) believed that loot boxes were a form of gambling. There were more current gamblers among participants in Study 1 (53.2%) than in Study 2 (15.5%).

In Study 1, gamers with risky loot box use reported more severe video gaming and gambling problems, and greater false beliefs about gambling and luck. These results suggest that false beliefs about gambling could be a factor for risky loot box use. Similar relationships were found among gamers in Study 2, but to a lesser extent. This might be because there were less gamblers in Study 2 than in Study 1.

In both studies, gambling measures were more strongly related to risky loot box use than a typical measure of problem gaming. This suggests that there might be differences between problematic loot box use and problem gambling. Problematic loot box use might arise from a tendency for risky behaviours and false beliefs about gambling.

Some gamers (27.8% in Study 1 and 39.7% in Study 2) reported selling items from loot boxes through online marketplaces. Further, those who preferred marketplace games were more likely to buy loot boxes specifically to sell their content. This suggests that games with marketplaces may lead to gambling behaviours, and shift a gamer’s use of loot boxes from wanting the items for personal reasons towards wanting to make money.

### How you can use this research

Policy-makers and gambling regulators could place restrictions on the selling or trading of loot box items within video games. They could also make sure that video gamers are able to impose spending limits on loot box purchases within games. Future researchers could repeat the current study in other populations.

### About the researchers

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### 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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