

# research snapshot

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## Loot box purchasing and problem gambling risk among people who play Call of Duty

### What this research is about

Microtransactions are digital purchases that people who play video games make to unlock special in-game items. A popular type of microtransaction are loot boxes. Loot boxes contain random items that vary in value. People are not aware of what they will get when they purchase loot boxes. Similar to gambling, the random nature of loot boxes encourages people to take a risk and buy more until they get their desired items. Loot boxes also share other psychological features associated with gambling, such as the use of sounds and light to create excitement.

Past research suggests that people who spend more money on loot boxes are more likely to have gambling problems. Most of these studies have explored loot box purchasing and problem gambling across multiple games in general, rather than within individual games or game series. This study examined these behaviours among people who play Call of Duty during the COVID-19 pandemic. The researchers explored whether loot box purchasing, perceptions of the value of purchasing loot boxes, and self-worth derived from gaming were associated with risk of problem gambling. They also explored the influence of friends' engagement with Call of Duty games and loot boxes.

### What the researchers did

The researcher recruited 130 students from a university in the UK for the study. Participants must frequently play Call of Duty games and be over the age of 18. Their ages ranged from 18 to 48 years. Most participants were female (66%) and over one-quarter were male (28%). Over half identified as White (57%) and one-third identified as Asian (31%).

### What you need to know

This study examined whether loot box purchasing, perceptions of the value of purchasing loot boxes, and self-worth derived from gaming were associated with problem gambling risk among people who play Call of Duty. The study also explored the influence of friends' engagement with loot boxes. Of 130 people, 12% had purchased loot boxes in the last month. People with high and medium-risk of problem gambling were more likely to use loot boxes in a problematic way. But, higher spending on loot boxes was not associated with higher risk of problem gambling. A high risk of problem gambling was associated with placing higher value on game characters' appearance, higher purchase intention, and thinking one's self-worth would diminish if one were to stop gaming. People who thought that all or most of their friends purchased loot boxes were more likely to use loot boxes in a problematic way.

The survey asked participants how often they played Call of Duty in the last month, which device(s) they used, and how long each gaming session lasted. Two questions asked about the amount of money spent on loot boxes and payment method. Participants were also asked how often they played Call of Duty with friends and how many of their friends purchased loot boxes. Two questions asked about gambling activities and frequency in the last month.

Participants then completed the Risky Loot Box Index (RLBI), a 24-item scale on the perceived value of purchasing Call of Duty in-game items, and the Gaming-Contingent Self-Worth Scale (GCWS). The

RLBI was used to assess problematic loot box use. The GCWS was used to assess self-worth derived from gaming experiences. Finally, participants completed the Problem Gambling Severity Index (PGSI) and a short demographic questionnaire.

### What the researchers found

A total of 16 participants (12%) had spent money on loot boxes in the last month. The amount of money spent ranged from £5 to £100, with an average of £26.88. The most common way to pay for loot boxes was personal debit card (67%). Of the 130 participants, 19% scored as high-risk of problem gambling on the PGSI (score of 8 and above). Half of the participants (47%) scored as medium-risk (score of 3-7). Around 21% scored as low-risk (score of 1-2), and 13% scored as non-problem gambling (score of 0).

Higher loot box spending was not associated with a higher risk of problem gambling. However, participants with high-risk and medium-risk of problem gambling were more likely to engage with loot boxes in a problematic way (higher RLBI scores).

### Perception of value and gaming-contingent self-worth

There were few differences on perceptions of the value of purchasing Call of Duty in-game items. One difference was that those who valued their game characters' appearance more (higher visual authority) were more likely to report high-risk and medium-risk of problem gambling. Participants with high-risk of problem gambling also had higher purchase intention than those with non-problem gambling. Higher visual authority and higher purchase intention were associated with spending more money on loot boxes.

There were also few differences on participants' scores on the GCWS based on problem gambling risk. An exception was that participants with high-risk of problem gambling were more likely to think that their self-worth would diminish if they were to stop gaming (higher validation seeking) than participants with non-problem gambling. On the GCWS, only reward orientation was associated with spending more money on loot boxes. Reward orientation reflects a person's transfer of self-esteem feedback from the gaming environment to the real-world environment.

### Social interaction

Participants with non-problem gambling were less likely to play Call of Duty with friends than those with higher risk. Participants who thought most of their friends had spent money on loot boxes were more likely to engage with loot boxes in a problematic way. But, interaction with friends on Call of Duty and friends' engagement with loot boxes were not linked with participants' risk of problem gambling.

### How you can use this research

This study can inform research and policy considerations regarding loot boxes and gambling.

### About the researchers

**Daniel Hunt** is affiliated with the Department of Psychology at the University of Huddersfield in the UK. For more information about this study, please contact Daniel Hunt at [d.hunt2@hud.ac.uk](mailto:d.hunt2@hud.ac.uk).

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