

The WAGER, Vol. 28(7) - The relationship between loot box engagement and gambling behavior over time

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One common aspect of modern video gaming is loot boxes, which are a form of [video game microtransaction](#). Loot boxes are virtual items that produce a randomly generated in-game reward based on chance, which is why they are often described as being similar to gambling products. While previous [cross-sectional](#) studies have found a [correlation](#) between loot box engagement and problem gambling, very few [longitudinal](#) studies have been conducted on this topic. This week, The WAGER reviews a [study by Gabriel Brooks and Luke Clark](#) that examined the relationship between loot box engagement and gambling behavior among gamblers and non-gamblers.

What were the research questions?

(1) How does loot box engagement differ between gamblers and non-gamblers? and (2) Does loot box engagement at baseline predict future gambling behavior at six-month follow-up?

What did the researchers do?

The researchers used [Prolific](#), a crowdsourcing platform for research, to recruit 636 participants aged 18 - 26 who regularly played video games. The researchers included participants in this age group because gambling initiation is common among young adults. Participants were then [stratified](#) into gambler and non-gambler subgroups. At baseline and at the six-month follow-up, participants completed surveys relating to engagement with and money spent on loot boxes, gambling cognitions, and [problem gambling](#) status. The researchers also conducted [logistic regressions](#) to examine whether loot box expenditure predicted migration to initiating gambling behavior at follow-up.

What did they find?

Although non-gamblers were more likely to be familiar with loot boxes, gamblers were more likely to have engaged with loot boxes and spent more money on them

when compared to non-gamblers at baseline (see Figure). For example, 71.5% of gamblers reported directly spending money on loot boxes compared to 61% of non-gamblers, and the median amount of money spent on loot boxes was \$33.50 for gamblers compared to only \$13.40 for non-gamblers. Additionally, among the non-gambler subgroup, those who had higher spending on loot boxes prior to baseline were more likely to initiate gambling by the follow-up period. Furthermore, [erroneous gambling cognitions](#) at baseline significantly predicted higher loot box spending at follow-up, which suggests that there is a bidirectional relationship between loot box engagement and gambling behavior.

Loot Box Engagement in Gamblers vs Non-Gamblers

LOOT BOX ENGAGEMENT	GAMBLERS	NON-GAMBLERS
Familiar with loot boxes	99.5%	99.8%
Played a game containing loot boxes	98.2%	96.9%
Directly spent money on loot boxes	71.5%	61.0%
Sold an item from a loot box for money	45.7%	35.2%
Median spend on loot boxes in the past 12 months	\$33.50	\$13.40

Figure. This figure compares loot box engagement in gamblers (n = 221) and non-gamblers (n = 415) at baseline. Statistically significant differences are shown in bold. [Chi-square tests](#) were used to compare percentages and [Mann-Whitney U tests](#) were used to compare median values for spending on loot boxes. Click image to enlarge.

Why do these findings matter?

These findings support the notion that loot box engagement increases the likelihood of future gambling behavior. Additionally, almost all participants indicated that they were familiar with loot boxes, which emphasizes the ubiquity

of loot boxes and monetary systems in modern video gaming. Previous research has also documented a link between [gambling at a younger age](#) and greater problem gambling severity, so these findings suggest a need for potentially regulating loot box engagement among young adults to reduce their exposure to these products. [Loot box regulations](#) might include imposing spending limits on loot boxes, restricting access to loot boxes for players under a certain age, and [including clear labels](#) on games indicating that they contain loot boxes.

Every study has limitations. What are the limitations in this study?

One limitation in this study is that the researchers recruited participants through a crowdsourcing platform, so the sample is not representative of all gamers and gamblers in the young adult population. Additionally, since this was a longitudinal study, there was [attrition](#), as some participants dropped out of the study before completing the follow-up surveys.

For more information:

Individuals who are concerned about their gambling behaviors or simply want to know more about problem gambling may benefit from visiting the [National Council on Problem Gambling \(NCPG\)](#). The NCPG's perspective on loot boxes and gambling can also be found at their [loot boxes](#) page. Additional resources can be found at the BASIS [Addiction Resources](#) page.

— Annette Siu

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