CENTRE for GAMBLING RESEARCH at UBC

The gamblification of video games: An overview of 'Loot Boxes' and their links with disordered gambling.

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THE UNIVERSITY OF BRITISH COLUMBIA

Department of Psychology

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Objectives:

- To describe features typical of loot boxes.

- To provide an overview of current loot box concerns, and the initial regulatory actions taken.

- To look at emerging data regarding loot boxes and gambling-related cognitions and behaviour.

- To review policy implications of these findings.

What are Loot Boxes?

- These are a virtual good common to many modern video games, typically included as a form of monetization.

  1) Are rewarded during gameplay or bought.
  2) Produce a randomly-generated reward once "opened".
  3) Received items vary in desirability.

Apex: Legends (Electronic Arts)

Counter-Strike: Global Offensive (Valve Corp)

Loot Box Design: Variation

- Substantial variation across games:
  - Loot box design and unlocking animations
  - Functionality of received items
  - Ability to sell or trade items

Fortnite (Epic Games)

PlayerUnknown's Battlegrounds (PUBG Corp)

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Why Discuss Loot Boxes?

Apex Legends:

- 50 million players a month after release (Polygon – March 4th 2019).

PlayerUnknown's Battlegrounds:

- 87 million players a day reported last year (Polygon - June 19th 2018).

Dota 2:

- 550,000 concurrent player average (Steam Charts – March 7th 2019).

Increasing Concern:

'Easy trap to fall into': why video-game loot boxes need regulation

This money-making addition can 'exploit and manipulate' players. But the impact on children is the biggest concern

The Guardian – Mattha Busby (29 May 2018)

The games industry doesn't know how to cure its loot box addiction

Loot boxes and similar mechanisms have been defended as essential for modern games to break even. But their impact on players tells a different story

Wired – Edwin Evans-Thirlwell (7 June 2018)

GAMING

HOW LOOT BOXES HOOKED GAMERS AND LEFT REGULATORS SPINNING

'When your brain works like mine, you can't stop'

The Verge – Makena Kelly (28 Feb 2019)

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I'M SHOCKED, SHOCKED —

Op-ed: Game companies need to cut the crap—loot boxes are obviously gambling

Ars Technica – Peter Bright (28 May 2018)

Increasing Concern:

Drummond & Sauer (*Nature Human Behaviour,* 2018):

- *"Games that allow players to sell their virtual items (that is, cash-out their winnings) provide the clearest example of gambling in video games".*

King & Delfabbro (*Addiction,* 2018):

- Loot Boxes represent a "*predatory monetization scheme"*, which entrap the player in a pattern of continued expenditure (i.e., sunk cost).

- Increase risk of financial harm within video games

Regulatory Response:

China (2016):
- Item probabilities made public and prohibition of direct sale, may still be awarded or 'gifted'.

Netherlands (2018):
- Loot Boxes that allow the sale or trade of received items were deemed in contravention of existing gambling laws.

Belgium (2018):
- Purchase of in-game currency to buy loot boxes constitutes a bet under Belgian Gaming and Betting Act.

Zendle & Cairns (PLoS One, 2018)

- Survey administered to 7,422 gamers.

  1) Loot box expenditure associated with severity of problem gambling ($\eta 2 = 0.054$).

  1) Association between other microtransactions was weaker ($\eta 2 = 0.004$).

- Concluded gambling-like features are responsible for this relationship.

- Results were supportive of regulation.

Centre for Gambling Research: Objectives

- Wanted to explore adult gamer engagement with, and attitudes toward, loot boxes.

- Hypothesized that risky use of loot boxes would be associated with both gambling behaviour and gambling-related cognitions.

- To examine the influence of marketplace affiliated games upon loot box behaviour and attitudes.

Centre for Gambling Research: Exploratory Data

- 1,000 respondents completed a "pre-screen" questionnaire on Amazon's Mechanical Turk (MTurk).

- 144 MTurk respondents completed a larger survey regarding gaming, loot box, and gambling perceptions and behaviour.

- A second sample of university students also collected (n = 113).

Descriptive Statistics:

Pre-Screen Data:
- 85% were familiar with loot boxes

Loot Box Engagement	MTurk	University
Has played game with loot boxes	93.8%	97.4%
Has opened a loot box	88.9	94.8
Has spent time to earn loot boxes	63.2	55.2
Has bought a loot box or "key"	49.3	60.3
Has sold a loot box or loot box item	27.8	39.7
Has profited from loot boxes	18.1	25.9

Descriptive Statistics:

Loot Box Perceptions:

- 76% and 79% agreed that *"opening Loot Boxes sometimes feels like making a bet"*.

- 68% and 86% endorsed *"I believe Loot Boxes are a form of gambling"*.

Opinion of Loot Boxes	MTurk	University
Good Feature	52.1%	30.2%
Neutral Feature	33.3	38.8
Bad Feature	14.6	31.0

Risky Loot-box Index (RLI):

Five Item Index of Loot Box 'Risk':

1) *I have bought more Loot Boxes after failing to receive valuable items.* (Loss Chasing)
2) *I have put off other activities, work, or chores to be able to earn or buy more Loot Boxes.* (Preoccupation)
3) *I frequently play games longer than I intend to, so I can earn Loot Boxes.* (Preoccupation)
4) *Once I open a Loot Box, I often feel compelled to open another.* (Inability to Stop)
5) *The thrill of opening Loot Boxes has encouraged me to buy more.* (Tolerance?; Inability to Stop?)

Associations with the RLI:

	Mean (SD)	Internet Gaming Disorder Scale	Problem Gambling Severity Index	Gambling-Related Cognitions Scale	Belief in Luck	Loot Box Monthly Expense
RLI	7.86 (5.70)	.355**	.491**	.518**	.329**	.486**
IGDS	3.18 (2.51)		.426**	.340**	.224**	.183*
PGSI	1.90 (2.51)			.697**	.330**	.234**

*Note: * p ≤ .05, ** p ≤ .01 (two-tailed), df = 141.*

- Stronger associations with the PGSI and the GRCS, as compared to the IGDS.

- The PGSI correlates with estimated monthly expense on loot boxes.

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Predicting the RLI:

- Using a hierarchical regression, gambling-related variables accounted for 37% of RLI's variance.
  - $F(7, 134) = 16.3$, $p < .001$, $R^2 = .398$, Adj. $R^2 = .371$

- The IGDS and other covariates predicted 15%, with gambling-related variables predicting an additional 29% of the variance
  - $F(10, 131) = 12.1$, $p < .001$, $R^2 = .479$, Adj. $R^2 = .439$; F-change$(6,131) = 12.64$, $p < .001$.

- Replicated (although attenuated) within the university sample.

Marketplace Enabled Games:

- Significant positive association between preference for games with marketplaces and status as a monthly spender on loot boxes.

  - $\chi^2(1) = 5.84$, $p = 0.016$, $\varphi = .262$.

- Associated with greater endorsement of statement, *"Virtual items that can be sold are better than those that cannot be"*.

  - $M = 3.57$, $SD = 1.14$ vs. $M = 3.04$, $SD = 1.18$;
    $t(83) = 2.07$, $p = .041$, Cohen's $d = 0.46$

Discussion:

- Loot boxes are a prominent feature of video games, and most gamers in our samples have opened (90 & 95%) or bought one (49 & 60%).

- A sizeable minority of participants have sold items from loot boxes (28 & 40%).

- Majority of our participants view loot boxes as a form of gambling (68 & 86%).

Discussion:

- Replicated Zendle & Cairns (2018) finding that loot box expenditure correlates with the problem gambling behaviour.

- Beyond expenditure, 'risky use' (e.g. loss chasing) is also associated with problem gambling behaviour.

- Positively linked to distorted cognitions (e.g., illusion of control, gambler's fallacy), which have etiological implications in Gambling Disorder.

Discussion:

- Gambling-related variables more strongly predict risky loot box use than a typical measure of problem gaming (37% vs. 15%).

  Such measures emphasize excessive time and ignore financial harm.

- The presence of marketplaces to sell virtual items could increase spending and shift player's valuation to monetary worth.

Concluding Thoughts:

- There is substantial concern that loot boxes are a largely unregulated gambling-like mechanism.

- Loot boxes can look and feel like gambling, and this is apparent to our participants.

- Our correlational data could suggest two pathways:

1) Individuals with risky gambling beliefs and behaviours may be vulnerable to loot box features.

2) Risky loot box use may promote problematic gambling.

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Concluding Thoughts:

- The presence of item marketplaces allow loot boxes to be used as a gambling-like mechanism:

    1) Allow a 'wager' to be made
    2) Outcome is uncertain, chance determined
    3) Allow transformation of virtual item to cash

- Overall our results are supportive of regulation, which could borrow from the gambling field.

    - Examples: Account limit-setting, self-exclusion, age restrictions, warning labels, publish probabilities.

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With Thanks!

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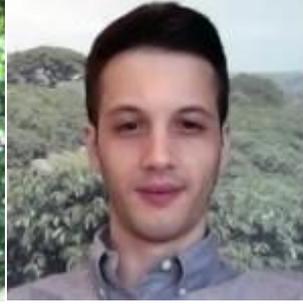
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