

Gambling on games

How video games expose children to gambling

Gambling themes, simulated gambling and outright gambling for objects with monetary value are found in a range of video games, including some of the most popular. Changes to the classification system to restrict gambling content to adults would go some way to addressing this problem.

Discussion paper

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Summary

The presence of gambling and gambling technologies in video games is widespread, pernicious and often hidden. This report identifies four different categories of gambling–gaming crossover, each of which poses different risks and may need to be addressed in different ways: immersive and addictive technologies, simulated gambling, gambling within games and gambling via games.

Table 1: Four categories of gambling–gaming crossover

Category	Features	Potential harms	Potential regulation
Immersive and addictive technologies	The “slotification” of games that have no thematic link to gambling: intermittent rewards, no real progress or changing stages, lack of player agency, ready availability, micro-transactions, etc.	Gaming disorder/video game “addiction”; spending too much time or money on the game.	Self-exclusion; transparency around time played (by session and in total) and money spent; transparent systems.
Simulating gambling	Video games that ape real-world gambling, in some cases operated by or promoting real-world gambling providers (e.g. virtual slots, social casino games).	Normalisation and romanticisation of gambling; players prompted to claim rewards at real-world gambling venues; misleading odds; collection of player data.	Age limits for simulated gambling; banning gambling providers from owning or dealing with simulated gambling providers.
Buying chance-based items	Video games that allow players to spend real-world money on chance-based virtual items of value (e.g. “loot boxes”, “gacha games”).	Correlation with problem gambling (causing or taking advantage of); enabling under-age gambling.	Age limits for buying loot boxes; transparent odds; refunds or rerolls for undesirable loot boxes; direct purchase always an option; spending limits; no pay to win provisions.
Gambling via games	Placing bets on the results of esports matches or games of chance using virtual currencies or virtual items with real monetary value (“skin betting”).	As with in-game gambling; match fixing; unlicensed operators; scams.	Liability on game developers for third-party gambling; age limits for trading virtual items.

The categories are roughly ranked from having the weakest gambling association to having the strongest gambling association, with the potential harms of less associated categories also found in the more pernicious categories. Much of the potential regulation for less associated categories would also help manage the harms of the more pernicious categories.

These issues go largely unaddressed by the current classification system, which addresses game content (sexual themes, depictions of drug use, etc) but not game functions.

The Department of Communication's 2020 review of Australian classification regulation¹ provides an opportunity to address these missing elements. The computer game classification scheme should be updated to include:

- Details on how gambling themes (especially those with “incentives and rewards”) should affect a game's classification.
- An R18+ rating for games that replicate the psychological elements of gambling, for example through loot boxes.
- An R18+ rating for games that feature real-world gambling branding or cross-promotions.

The classification scheme should also be expanded to better address video games sold online, including via mobile phone app stores. Given the sheer quantity of online games available, this may require self-regulation – but with real and significant financial penalties where failures of self-regulation exposes children to gambling content.

Broader regulation of video games, beyond the classification system, is also needed. At the least, video games that meet the psychological criteria of gambling should come under the scrutiny of state-based gambling regulators. There is also a need for parents, teachers and children to be educated about the potential risks involved with video games.

¹ Department of Communication (2020) *Review of Australian classification regulation*, <https://www.communications.gov.au/have-your-say/review-australian-classification-regulation>

Introduction

“You know how you get people younger to gamble? Hand them a fucking telephone.”

Mike Trask, then senior marketing manager of Bally Technologies
(world’s largest slot machine manufacturer)²

I don't know how else to say this, but I have a gambling problem. I didn't find this out at a casino. I found this out playing games.

Gaming journalist Heather Alexandra³

When someone gambles, they bet something of value (“the stakes”) on an uncertain outcome, in order to win a prize. It can include an element of skill, such as a person wagering chips on a poker hand. Gambling can be distinguished from other risk–reward trade-offs like investing in the stock market or buying insurance because of two key features: gambling is at best zero-sum (winners gain at the sole expense of losers) and losses can be avoided by simply not taking part.⁴

Wagers are present in many different aspects of life. The traditional Hanukkah game of dreidel can be played for money, although usually a trivial amount. The psychological aspect of the game of poker depends on playing for chips or money. A child buying a booster pack of Pokemon cards may end up with cards with resale value much higher or lower than the booster pack cost. “Friendly wagers” on sporting matches or other outcomes are common among both children and adults.

At a more fundamental level, human motivation can be driven by uncertain prizes. “Variable ratio” reinforcement, where behaviour is rewarded unpredictably (e.g. sometimes on the first push of a button, sometimes on the 20th push, or anywhere in between), can result in people responding more rapidly and persistently than they would to a predictable reward. Gambling, video games and other aspects of life have always taken advantage of this phenomenon to manipulate behaviour.

² Thompson (2015) *Engineers of addiction*, <https://www.theverge.com/2015/5/6/8544303/casino-slot-machine-gambling-addiction-psychology-mobile-games>

³ Alexandra (2017) *Loot Boxes Are Designed To Exploit Us*, <https://www.kotaku.com.au/2017/10/loot-boxes-are-designed-to-exploit-us/>

⁴ See also Griffiths’ five characteristics that differentiate gambling from other risk-related behaviours: Griffiths (1995) *Adolescent Gambling*, pp. 1–2, Psychology Press

If aspects of gambling have always been present in games played by children, and if gambling-like rewards are part of basic game design, why is it concerning that gambling elements are present in video games played by children?

This paper sets out to answer that question, and then offer potential regulations that could mitigate some of the harms.

Gaming and gambling in Australia

The most recent Digital Australia report gives us a picture of gaming in Australia, including among young people:

- Two in three Australians play video games.
- Those aged 5–14 are the second most likely age group to play video games, at 81%.
- Children (ages 1–17) are 22% of all video game players in Australia.
- Girls aged 5–14 spend about 60 minutes a day playing video games; boys of the same age spend around 80 minutes a day. For both girls and boys, this is about 10 minutes less per day than the average for all Australians.⁵

The report also investigates parental attitudes to video games:

- Most parents have rules about when and for how long children can play video games, and what kinds of video games they can play.
- Parents report “gambling” elements as the sixth highest concern for them in interactive games, but this is not significantly different to their concern about gambling elements in movies and social media.
- 41% of parents identified “loot boxes” as a concern (discussed further below), more than the 33% who nominated in-game purchasing (also known as “micro-transactions”).⁶

Virtual items, loot boxes, micro-transactions, DLC and in-game currencies

Many different types of video game allow players to collect virtual items, like in-game currencies, weapons, tools, allies, character options and cosmetic changes (“skins”). These virtual items can be acquired in a fixed progression (e.g., one every character level advanced) or by chance (e.g., killing a dragon gives you a magic sword 15% of the time).

As well as allowing virtual items to be earned through gameplay, some video games allow players to purchase virtual items with real money. These take two forms: “micro-

⁵ Brand, Jervis, Huggins, & Wilson (2019) *Digital Australia 2020*, pp. 17, 23, 33, <https://igea.net/2019/07/digital-australia-2020-da20/>

⁶ Brand et al. (2019) *Digital Australia 2020*, pp. 33, 35–37

transactions”, in which someone spends small amounts of money to buy specific virtual items like 100 “gold coins” or a magic sword, and “loot boxes”, when a player buys random virtual items with real money (or they buy an in-game currency with real money and spend the in-game currency on the random virtual items).

These virtual items can be useful (“pay to win”) or purely cosmetic. Cosmetic changes are sometimes called “skins” (after the textures that can be used to “reskin” a 3D model so it looks different).

These variable rewards are called “loot boxes” because the virtual items are typically hidden in a crate. Once the player pays to open the crate, they receive one or more random virtual items of uncertain value.⁷ Loot boxes are superficially similar to a lucky dip, in that every participant wins some kind of prize – but not necessarily a valuable one.

Table 2: Explanation of terms

	Invariable rate	Variable rate
Earned in-game	(No particular term): Players are rewarded with set virtual items for achieving objectives.	Loot drops: Players are rewarded with random virtual items for achieving objectives.
Paid for	Micro-transactions: Real money is exchanged for set virtual items.	Loot crates: Real money is exchanged for random virtual items.

Table 3: Cosmetic, pay to win and virtual currency virtual items, compared to DLC

Variety	Description
Cosmetic/Skins	These changes to game aesthetics do not change the difficulty of the game or the player’s competitiveness.
Pay to win	These changes to game content lower the difficulty of the game or increase the player’s competitiveness.
In-game currencies	These are used to buy virtual items and opportunities in game, including in some cases the ability to keep playing without a pause.
Downloadable content (DLC)	These additions to game content expand the game experience in a substantial way, by introducing new character options, new challenges, new locations, etc.

Source: Based on the classification in Zendle, Ballou, & Meyer (2019) *The changing face of desktop video game monetisation: An exploration of trends in loot boxes, pay to win, and cosmetic microtransactions in the most-played Steam games of 2010-2019*, <https://psyarxiv.com/u35kt>

Some platforms allow virtual items to be sold. Others allow them to be traded; in these cases, third-party markets and brokers can be used to sell the goods for real money and

⁷ In practice, the random number generator is only used once the player pays to open the crate. It is a conceit of the game that there is something “in” the crate already.

then arrange a “trade” in-game. Even where virtual items are “locked” to a particular account, the account itself can be sold for real money.

For the purposes of this report, “loot boxes” that are achieved through in-game effort and skill rather than bought are called “loot drops”. Any risk factors from these loot drops come under category 1, “immersive and addictive technologies”. But when loot boxes are bought, the introduction of real-world money turns the technology from playing on some of the same psychological behaviours as gambling to potentially constituting a form of gambling.

Classification

Since 2012, Australia has had separate classification systems for film and television and for computer games. However, while legally distinct the guidelines for classification are very similar. In both cases, the guidelines focus on five main types of content – violence, sex, language, drug use and nudity – as well as a general category “themes” for social issues.⁸

The Department of Communication is currently conducting a review into the classification system, with the consultation period ending in February 2020. The review will be considering several elements particularly important for video game classification, including whether the criteria reflect community standards, the type of content that should be classified and who should be responsible for classifying content.⁹

The current computer game classification scheme is focused on video game content, rather than video game function or “architecture”. The scheme does consider “interactivity” (and degrees of interactivity, e.g. third person vs first person) as an aggravating factor, since it can be more confronting to “participate” in violent or sexual content during a video game than to watch it passively. However, video game functions like in-game purchases, tracking and sharing players’ personal information, in-game chat and opportunities to game are not considered, but they also contribute to the risks posed by video games.

Another issue is how video games sold online are classified. The Australian Government Classification Board has a relationship with the International Age Rating Coalition, which allows game developers to self-report against certain criteria, which results in a classification that matches the general Australian classification scheme. These are displayed across some major online app/video game stores.¹⁰ However, while opt-in parental controls may stop children from downloading these games, there is no positive confirmation of a

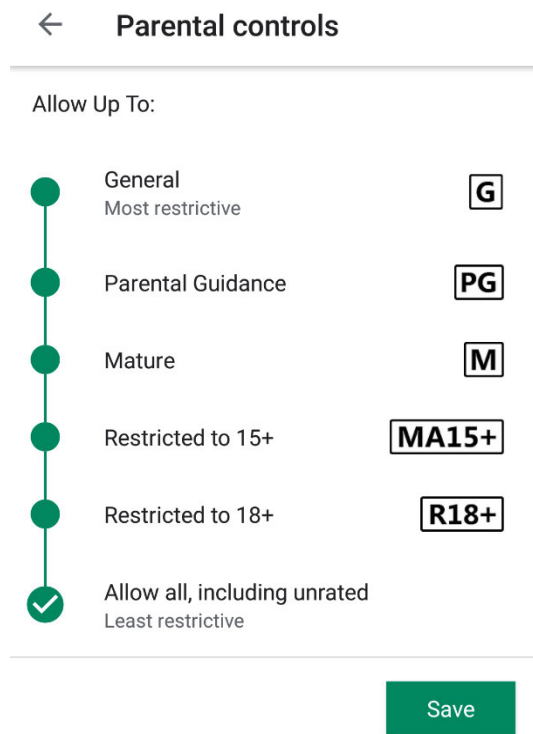
⁸ “Social issues such as crime, suicide, drug and alcohol dependency, death, serious illness, family breakdown and racism.” *Guidelines for the Classification of Computer Games 2012* (Cth), <https://www.legislation.gov.au/Details/F2012L01934>

⁹ Department of Communication (2020) *Review of Australian classification regulation*

¹⁰ IARC (n.d.) *About the International Age Rating Coalition*, <http://www.globalratings.com/about.aspx>

user's age – as there would be if the games were purchased from a store.¹¹ Furthermore, not all major online game stores participate in the International Age Rating Coalition, and allowing game developers to self-report runs the risk of them not correctly applying the classification scheme to their game.

Figure 1: Parental controls on Google Play, showing Australian classifications



Source: Screenshot from author's phone.

¹¹ See for example Google Play Help (n.d.) *Set up parental controls on Google Play*, <https://support.google.com/googleplay/answer/1075738>

Category 1: Immersive and addictive technologies

The first category of gambling–gaming crossover is the use of immersive and addictive technologies in video games. Even games with no gambling-based content or themes can use the same principles as gambling to make their products more engaging, to encourage players to play longer and to create additional profit sources.

For decades, video games have taken advantage of psychological principles like variable ratio reinforcement to make players play at high and consistent rates for long times, and to discourage players from “pausing” or “quitting” playing. Video games allow for multiple overlapping variable ratio schedules: “You're trying to level up, advance your avatar, get rare add-ons, build up game currency, all at the same time. What this means is that there is a regular trickle of some kind of reinforcement”.¹² Reports of addiction to video gaming, and analogies to the better-established concept of gambling addiction, go back to at least the early 1990s.¹³

Initially, when video game companies relied on one-off sales of games, the commercial incentives for keeping players playing indefinitely were lower. The rise of subscription-based MMOs (massively multiplayer online games) in the 1990s created a different model: one that depended on monthly subscriptions, and therefore prolonged playing.

More recently, the rise of free-to-play video games (including mobile games) have seen designers more frequently and consciously used poker machine systems in video games, a process called “slotification” (from “slot machines” and “gamification”). Modern games may benefit from prolonged playing because they charge subscription fees, run in-game advertisements, charge players to keep playing or include micro-transactions or loot boxes.

Poker machine-like features in these modern games include:

- Variable ratio reinforcement (leaving the player “wanting more”);
- Disassociation through in-game currencies (players lose track of how much real money has been spent);

¹² Wiltshire (2017) *Behind the addictive psychology and seductive art of loot boxes*, <https://www.pcgamer.com/au/behind-the-addictive-psychology-and-seductive-art-of-loot-boxes/>

¹³ Forrest, King, & Delfabbro (2015) *The Gambling Preferences and Behaviors of a Community Sample of Australian Regular Video Game Players*, https://www.researchgate.net/publication/273638601_The_Gambling_Preferences_and_Behaviors_of_a_Community_Sample_of_Australian_Regular_Video_Game_Players; see also Hopson (2001) *Behavioral Game Design*, https://www.gamasutra.com/view/feature/131494/behavioral_game_design.php

- Complicated maths and non-transparent odds (systems of reward are complex and hard to understand);
- Low barriers to entry (free-to-play, but not necessarily free to keep playing or free to win);
- Progress gates (pausing play unless players pay);
- Entrapment (“chasing losses”) and other mechanisms encouraging continued spending;
- Limited skill-based play or decision-making required;
- Intrusive and unavoidable solicitations;
- Hard to keep track of expenditure;
- Ability to hide playing or play in private;
- Social interaction with a competitive or reinforcement effect;
- Immersion;
- Accompanying visual and audio stimulation;
- Ready and constant availability and no cool-off period (mobile phone is always with you; in-app/in-game purchases that do not interrupt the flow of play); and
- No sense of progress or end points.¹⁴

Many MMO and mobile games have these poker machine-like features, as do non-gaming apps like Facebook, Instagram and Tinder. The term “the machine zone” has been coined to describe the sense of flow that people experience while playing certain video games or poker machines, but also while scrolling through Facebook or Tinder. With intermittent rewards, no breaks or changes in state and constant simulation, people can lose track of time, money and their responsibilities.¹⁵

By 2002, people were documenting so-called “MMORPG addiction” (MMORPGs being the most popular sub-set of MMOs at the time), with a significant share of MMO players having

¹⁴ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 32–37, 44–45, https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Gamingmicro-transactions; Baker (2016) *This Is What Product Designers Should Learn From The Slot Machine Industry*, https://www.gamasutra.com/blogs/AdrianBaker/20160307/267386/This_Is_What_Product_Designers_Should_Learn_From_The_Slot_Machine_Industry.php; Krook (2017) *The business of addiction: how the video gaming industry is evolving to be like the casino industry*, <http://theconversation.com/the-business-of-addiction-how-the-video-gaming-industry-is-evolving-to-be-like-the-casino-industry-83361>; Shokrizade (2013) *The Top F2P Monetization Tricks*, https://www.gamasutra.com/blogs/RaminShokrizade/20130626/194933/The_Top_F2P_Monetization_Tricks.php; (2013) *Systems of Control in F2P*, https://www.gamasutra.com/blogs/RaminShokrizade/20130516/192386/Systems_of_Control_in_F2P.php; Thompson (2015) *Engineers of addiction*; Wiltshire (2017) *Behind the addictive psychology and seductive art of loot boxes*

¹⁵ Madrigal (2013) *The Machine Zone: This Is Where You Go When You Just Can't Stop Looking at Pictures on Facebook*, <https://www.theatlantic.com/technology/archive/2013/07/the-machine-zone-this-is-where-you-go-when-you-just-cant-stop-looking-at-pictures-on-facebook/278185/>; Thompson (2015) *Engineers of addiction*

played a game for 10 or more hours continuously, “often” losing sleep because of the game and playing the game even when “not really enjoying it”. 40–67% of (apparently self-selected) respondents reported that they “would consider myself addicted to the game”.¹⁶

In 2019, the World Health Organisation officially recognised “gaming disorder” as a medical condition, characterised by:

impaired control over gaming, increasing priority given to gaming over other activities to the extent that gaming takes precedence over other interests and daily activities, and continuation or escalation of gaming despite the occurrence of negative consequences.¹⁷

Whether “addiction” is the right term to use for playing video games extensively in a way that negatively affects a person’s life is disputed, but some players certainly experience negative effects in the rest of their lives from the video games that they play – and gambling elements are used in video games to keep players playing beyond when they would otherwise stop.

¹⁶ Results reported by age group and gender.

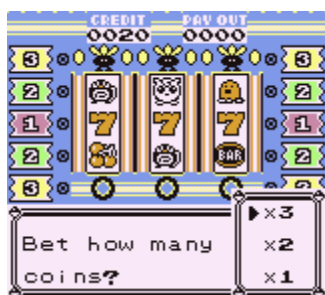
¹⁷ Park (2019) *WHO Says Gaming Disorder Is a Medical Condition*, <https://time.com/5597258/gaming-disorder-icd-11-who/>; WHO (n.d.) *Gaming disorder*, <http://www.who.int/features/qa/gaming-disorder/en/>

Category 2: Simulated gambling

The second category of gambling–gaming crossover is video games with gambling content or themes. What distinguishes these games from actual gambling is that players are playing with and for an in-game currency with no monetary value. The harm, if any, comes from the games’ immersive and addictive qualities, from normalising and romanticising gambling or by making players more vulnerable to becoming problem gamblers.

A fairly innocuous example is the “Game Corner” in the original Pokemon games, released in 1996. Players who reach the Game Corner about halfway through the game can buy “coins” using the main in-game currency, and then wager those coins on poker machines. Players that win enough coins can spend them on virtual items, including some exclusive to the Game Corner. Players can also buy enough coins outright using the main in-game currency to buy the virtual items, bypassing the gambling component.¹⁸

Figure 2: Pokemon Red slot machine



Source: Serebii.net (n.d.) *Pokémon Red & Blue - Game Corner*,
<https://www.serebii.net/rb/gamecorner.shtml>

In the Pokemon games released in 2009, the poker machines were removed for audiences outside of Japan “to comply with PEGI [Pan European Game Information] guidelines concerning gambling”.¹⁹ The games were replaced by a Minesweeper-like game that the player can still wager on.²⁰

The fact that the game developers removed the gambling *theme* (poker machines) but not the gambling *content* (wagering) is interesting. It suggests that the concern was that people

¹⁸ The slot machines are supposedly rigged so that they are less skills-based than they appear, but players who learn the right method will make a profit on average. Crystal_ (2016) *Pokemon R/B/Y - Mechanics and hidden secrets of slot machines*, <https://www.youtube.com/watch?v=u4fjbJnz7O4>; StrategyWiki (n.d.) *Pokémon Red and Blue/Celadon City*, https://strategywiki.org/wiki/Pok%C3%A9mon_Red_and_Blue/Celadon_City

¹⁹ Towell (2009) *European Pokemon Platinum’s missing Game Corner explained*, <https://www.gamesradar.com/european-pokemon-platinums-missing-game-corner-explained/>

²⁰ Bulbapedia (n.d.) *Voltorb Flip*, https://bulbapedia.bulbagarden.net/wiki/Voltorb_Flip

would associate the in-game slot machines with real-world poker machines, rather than that people would get “hooked” on wagering.

The extent of the correlation between gambling behaviour and video game behaviour is contested. Some studies have found a strong correlation. Others have found weak correlations, or even that video game players enjoy gambling less and are better able to identify that a simulated gambling game was based on luck, not skill.²¹

The Victorian Responsible Gambling Foundation conducted a survey of Australians who are self-identified “gamers”. It found that “the link between video gaming and gambling may not be strong”, with no significant correlation between video gaming and gambling. The study did not look specifically at video games with simulated gambling. The authors suggested a longitudinal study or study of the gaming background of problem gamblers as possible next steps in this field.²²

The influence of simulated gambling is disputed. In 2015, a small exploratory study suggests that social casino games (a subset of simulated gambling taking place on or via social media) trigger a desire to gamble for real money in some vulnerable gamblers, but they are a useful distraction for other vulnerable gamblers.²³

In the United Kingdom, 12% of children aged 11–16 years have played simulated gambling games online, mostly slot/fruit machine games, casino games, poker and bingo.²⁴

“Digital convergence” and cross-marketing

A particularly worrying example of simulated gambling is video games that are cross-branded with real-world casinos, poker machines and other gambling. This phenomenon of video games becoming more gambling-like and gambling becoming more game-like is called “digital convergence”.

Gambling operators like Caesars Entertainment, IGT (International Gaming Technology) and Churchill Downs Incorporated have bought online games companies.²⁵ Others have reached

²¹ Forrest et al. (2015) *The Gambling Preferences and Behaviors of a Community Sample of Australian Regular Video Game Players*

²² <https://link.springer.com/article/10.1007/s10899-015-9535-0>

²³ Gainsbury, Hing, Delfabbro, Dewar, & King (2015) *An Exploratory Study of Interrelationships Between Social Casino Gaming, Gambling, and Problem Gambling*,
https://www.researchgate.net/publication/267271433_An_Exploratory_Study_of_Interrelationships_Between_Social_Casino_Gaming_Gambling_and_Problem_Gambling

²⁴ Note that some percentages have had to be converted from portion of those aware of loot boxes (52%) to portion of all 11–16 year olds: Gambling Commission (2019) *Young People and Gambling*, pp. 2, 36, 41–42, <https://www.gamblingcommission.gov.uk/news-action-and-statistics/Statistics-and-research/Levels-of-participation-and-problem-gambling/Young-persons-survey.aspx>

²⁵ Thompson (2015) *Engineers of addiction*

licensing agreements with video games. This results in video games that do not just simulate table games or poker machines *in general*, but simulate specific branded poker machines or offer table games that are branded to particular casinos.

Reasons for gambling operators to provide simulated gambling games include:

- Engagement with customers and potential customers;
- Promotion of brands outside venues;
- To increase customer satisfaction;
- To create revenue from these games;
- To position themselves in a market prior to legalisation of Internet gambling;
- To obtain customer data, including game preferences and play patterns; and
- To try out new and innovative gaming formats.²⁶

Some simulated gambling games offer real-world prizes to be collected from “travel and leisure partners”, including casinos.²⁷ Players may spend real money to buy in-game currency, then wager it to win real-world prizes from actual casinos – including credits on real-world slot machines, which could be used to win cash. In the United Kingdom, the Gambling Commission has found that these “loyalty point” schemes qualify as gambling that requires a licence if loyalty points can be wagered and if they can be traded for goods and services.²⁸

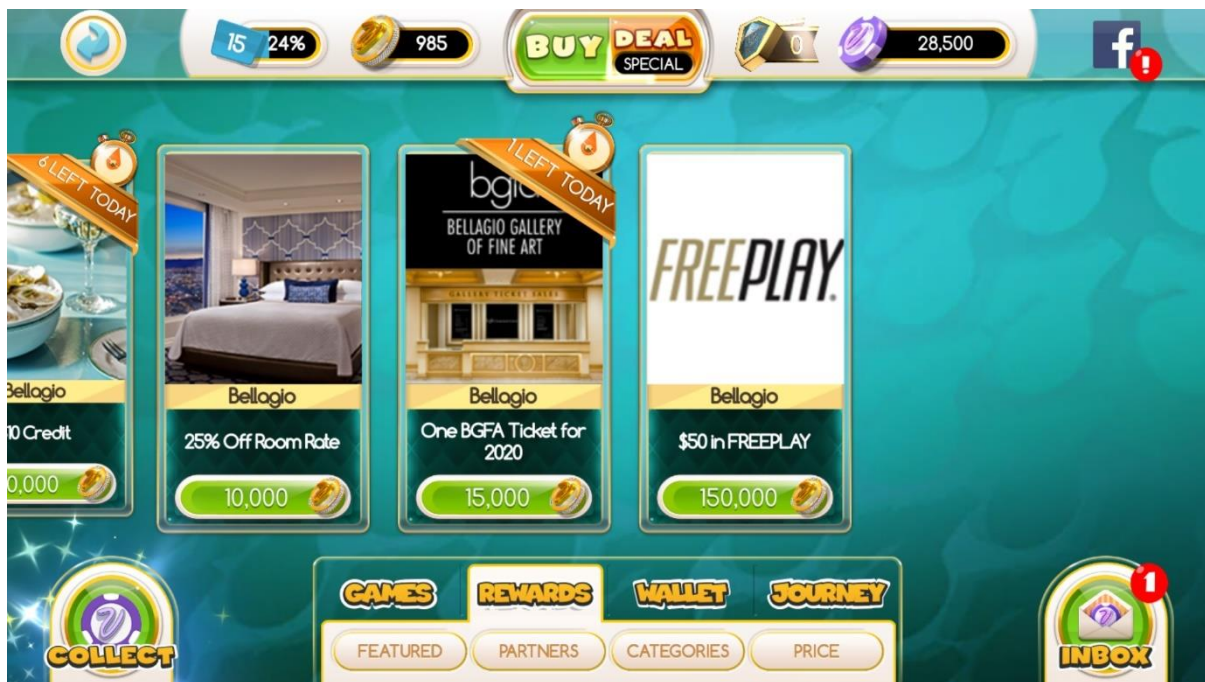
For example, the myVEGAS mobile game offers a number of rewards at the Bellagio Las Vegas Luxury Resort & Casino, including discounted rooms, art gallery tickets and US\$50 in FREEPLAY. FREEPLAY is credit for poker machines; winnings can be converted into real money. Players that want more “chips” (one of the app’s four in-game currencies) can buy more for anywhere between A\$3.19 and \$159.99, along with buying other offers that pop up from time to time.

²⁶ SM Gainsbury, Hing, Delfabbro, & King (2014) *A taxonomy of gambling and casino games via social media and online technologies*, p. 205

²⁷ Torres (2013) *Big money made on social apps as gambling and gaming collide*, <http://theconversation.com/big-money-made-on-social-apps-as-gambling-and-gaming-collide-20546>

²⁸ Gambling Commission (2017) *Digital and virtual currencies: Position paper*, <https://www.gamblingcommission.gov.uk/for-gambling-businesses/Compliance/General-compliance/AML/How-to-comply/Digital-and-virtual-currencies.aspx>

Figure 3: Real-world prizes on myVEGAS mobile game



As well as normalising and romanticising gambling and offering rewards for visiting real-world casinos, these simulated gambling games can also deceive players about gambling odds and rewards. For example, after about 10 minutes playing the Wheel of Fortune Slots mobile game, this author had more than doubled his starting 1.5 million “dollars”, including one spin where he won more than 100 times his initial bet.²⁹ This sensation of effortlessly making money is dangerous if it leads players to assume the same is likely on real poker machines with real money. As gambling expert Sally Gainsbury writes:

gambling with over-inflated payout rates can increase confidence and lead to greater betting in subsequent gambling sessions.³⁰

In Australia, Crown Casino offers PLAYTIME Crown, a game arcade for children that includes gambling-like games. In 2012, then Senator Nick Xenophon called for the arcade (then called Galactic Circus) to be banned on the grounds that it “grooms kids to gamble”.³¹ Addiction specialist Robert Leardi said that certain machines should be removed:

Having coin operated machines for children in the casino might lead to them being conditioned to the experience, win or lose, of operating a poker machine from an

²⁹ Other examples in the academic literature: SM Gainsbury et al. (2014) *A taxonomy of gambling and casino games via social media and online technologies*, p. 202

³⁰ S Gainsbury (2014) *Social casino games can help – or harm – problem gamblers*, <http://theconversation.com/social-casino-games-can-help-or-harm-problem-gamblers-33185>

³¹ Burns (2012) *Arcade games “groom kids to gamble,”* <https://www.news.com.au/national/victoria/arcade-games-grooms-kids-to-gamble-and-should-be-banned-from-crown-senator-nick-xenophon/news-story/748d49a0925a45362c85f96680376967#.u59x7>

early age, therefore yes, I would suggest that coin operated machines which resemble poker machines should not be provided for the use of children.³²

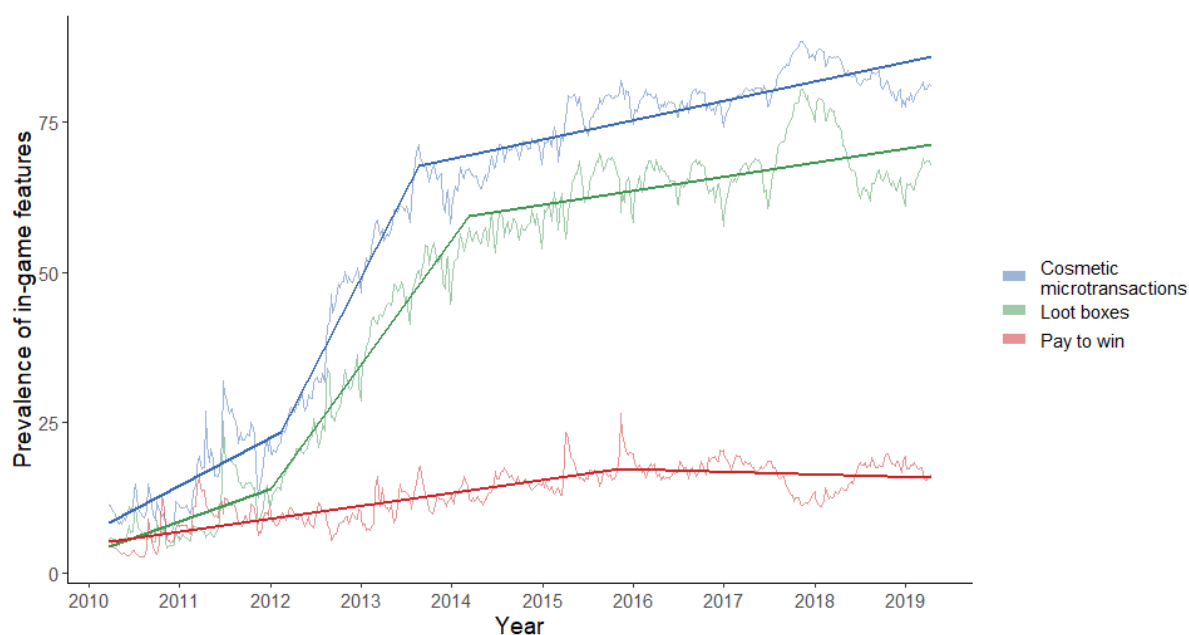
³² Burns (2012) *Arcade games "groom kids to gamble"*

Category 3: Buying chance-based items

An increasing number of games – both high-quality, popular computer and console titles and cheap, niche mobile games – are including loot boxes. Loot boxes are bought with real money and contain random virtual items of varying value (more details in the Introduction). In some games, these items can be traded between players and/or sold for real money.

Loot boxes have become increasingly common. A study of the top-played games between 2010 and 2019 on game platform Steam shows that the share of players playing games with loot boxes increased from 4% to 71%. Micro-transactions are also more prevalent, with the share of players playing games with cosmetic micro-transactions increasing from 8% to 86% and share of players playing games with pay to win micro-transactions increasing from 5% to 18% of top-played games. Only 16% of top-played games contained loot boxes, but these are played by a disproportionate number of players.³³

Table 4: Prevalence of virtual items sold for real money



Source: Zendle et al. (2019) *The changing face of desktop video game monetisation: An exploration of trends in loot boxes, pay to win, and cosmetic microtransactions in the most-played Steam games of 2010-2019*

³³ Zendle, Ballou, & Meyer (2019) *The changing face of desktop video game monetisation: An exploration of trends in loot boxes, pay to win, and cosmetic microtransactions in the most-played Steam games of 2010-2019*, <https://psyarxiv.com/u35kt>

While loot boxes seem shoehorned in to many new games, they are fundamental to some games. For example, *Hearthstone* is a video game based on trading card games. Randomised booster packs of cards are essential for *Hearthstone* to simulate trading card games (though they wouldn't necessarily have to be bought with real money, and in fact there are ways to earn packs without spending money).³⁴

Loot boxes and children

There appears to have been no effort to stop children from buying loot boxes. A study of 22 leading games found “100% allow for (if not actively encourage) underage players to engage with these systems”.³⁵

A study of UK video game players by the UK Gambling Commission found that 23% of those 11–16 years of age have bought loot boxes. Of those buying loot boxes, only 34% used money that had specifically been given to them for that purpose.³⁶

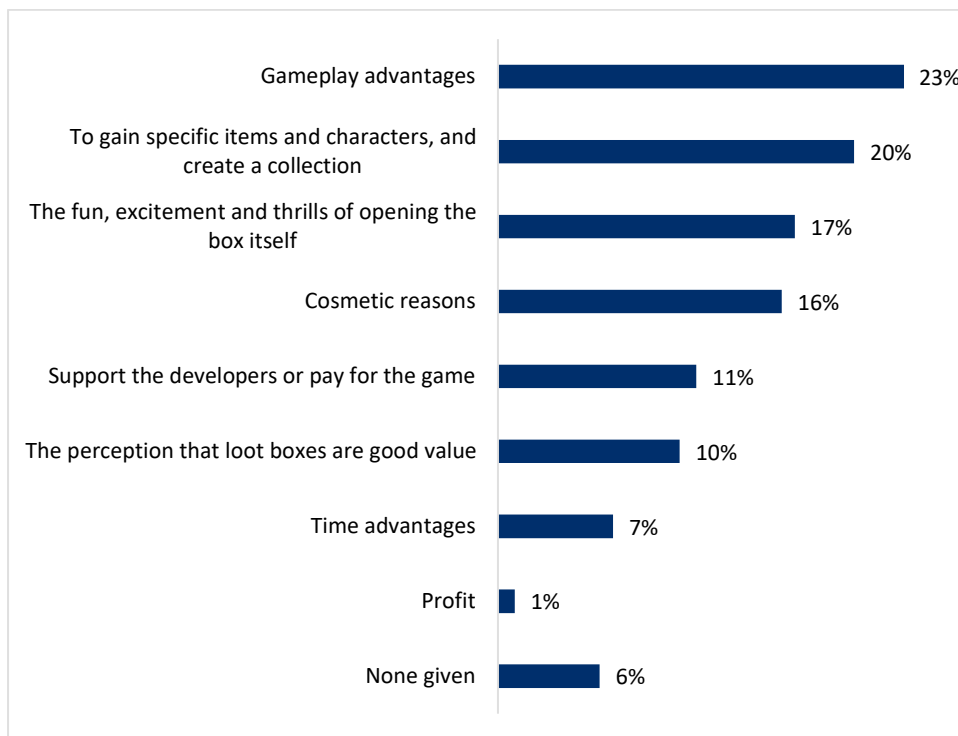
Eight motivations for buying loot boxes were provided by adolescents surveyed by Zendle, Meyer and Over. Leading motivations were gameplay advantages (to “keep up” or “complete”), to gain and collect specific prizes and the thrill of opening the box.

³⁴ Wiltshire (2017) *Behind the addictive psychology and seductive art of loot boxes*

³⁵ Drummond & Sauer (2018) *Video game loot boxes are psychologically akin to gambling*, https://www.researchgate.net/publication/325826254_Video_game_loot_boxes_are_psychologically_akin_to_gambling

³⁶ Note that some percentages have had to be converted from portion of those aware of loot boxes (52%) to portion of all 11–16 year olds: Gambling Commission (2019) *Young People and Gambling*, pp. 2, 36, 41–42

Figure 4: Motivations for buying loot boxes among older adolescents.



Note: Some respondents gave two or three motivations. There was an average of 1.1 responses per respondent (including no response given).

Source: Zendle, Meyer, & Over (2019) *Adolescents and loot boxes: links with problem gambling and motivations for purchase*, p. 13

Loot boxes match the psychological definition of gambling

The gaming industry has talked openly about the relationship between loot boxes and gambling:

The reason these [loot boxes] are famous is they are quite often the ratios used in gambling. The response they tend to get is a very constant and high level response and that's because you don't know how many times you have to respond before you get the reward, so people tend to keep it up." He also added in his presentation that, "We do have to be careful about controlling people, but we do need to make sure that they feel in control"³⁷

³⁷ Digital, Culture, Media and Sport Committee (2019) *Immersive and addictive technologies inquiry*, pp. 27–28, <https://www.parliament.uk/business/committees/committees-a-z/commons-select/digital-culture-media-and-sport-committee/inquiries/parliament-2017/immersive-technologies/>

Other game developers have talked about how making player agency “unclear” and introducing “a little bit of randomness” results in players’ superstition taking hold.³⁸

Academics Drummond and Sauer identify the five psychological features of gambling:

- The exchange of money or valuable goods;
- An unknown future event determines the exchange;
- Chance at least partly determines the outcome;
- Non-participation can avoid incurring losses; and
- Winners gain at the sole expense of losers.³⁹

On this “conservative” definition, only loot boxes that give players a competitive advantage are considered to meet the psychological definition of gambling. Those that give cosmetic benefits do not. Even so, most gambling features are found in most loot boxes from popular games, and all five features are found in about half of games.⁴⁰

A less conservative definition would include cosmetic virtual items as well. Winners of high-value cosmetic items may not gain a competitive advantage, but they gain status advantages and – where a resale market exists – a financial advantage. Conversely, winners of low-value items could have bought those items on the resale market for less than the cost of the loot box.⁴¹

While the ability to cash-out winnings for real money is not a required criterion for the psychological definition of gambling, being able to cash out loot box prizes is of particular concern to those studying problem gambling as it is more psychologically-similar to other forms of gambling.⁴²

The ability to cash-out winnings for real money is found in more than one in five of the games studied.⁴³ Games that allow prizes to be traded between players can produce third-party markets that allow prizes to be cashed out, even if there is no explicit option to do so within the game.⁴⁴

³⁸ Wiltshire (2017) *Behind the addictive psychology and seductive art of loot boxes*

³⁹ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 32–33; Drummond & Sauer (2018) *Video game loot boxes are psychologically akin to gambling*

⁴⁰ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 32–33; Drummond & Sauer (2018) *Video game loot boxes are psychologically akin to gambling*

⁴¹ For more information, see Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 19–30

⁴² Zendle, Meyer, & Over (2019) *Adolescents and loot boxes: links with problem gambling and motivations for purchase*, pp. 3–4

⁴³ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 32–33; Drummond & Sauer (2018) *Video game loot boxes are psychologically akin to gambling*

⁴⁴ See Carter’s taxonomy in Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 24–25

With these gambling features, loot boxes “share important structural and psychological similarities with gambling” and could create a “ripe breeding ground” for problem gambling.⁴⁵ The Netherlands Gaming Authority assesses the “addiction potential” of loot boxes as being between medium and high (comparable to small-scale bingo, blackjack or roulette).⁴⁶

Loot boxes have other features of concern

Academics have identified additional patterns of concern for loot boxes. Many of these overlap with the “slotification” of games described under “Immersive and addictive technologies”. Others that are unique to or especially common in loot boxes are:

- Some loot boxes show ‘near misses’, similar to poker machines that give the appearance that the player almost won or almost won big;
- Some loot boxes can only be bought using an in-game currency, which obscures the player’s actual losses of real money;
- Some games allow players to earn loot boxes through gameplay, as well as purchasing them (giving them a “taste”);
- Limited disclosure of the product;
- Intermittent player agency and “ceremony” (which box to open first, how long to wait in anticipation, a minor chore to get the box to a location it can be opened, etc.)
- Giving different odds to different players without disclosure;
- “Punishing” players who do not purchase loot boxes by matching them more frequently against those that have;
- Rewarding players that have recently purchased loot boxes by matching them with weaker players to exaggerate the benefits of the loot box;
- Collection and use of player data to manipulate the behaviour and presentation of loot boxes to maximise the likelihood of players making purchases; and
- Systems that reinforce purchasing behaviours at the expense of encouraging skilful or strategic play;
- Some loot boxes can be ‘re-invested’ in more loot boxes, which can mimic how some players of poker machines play “to extinction”, re-investing diminishing wins until no funds remain; and
- Some loot box contents are only available for a limited time, creating “FOMO” (fear of missing out).⁴⁷

⁴⁵ Drummond & Sauer (2018) *Video game loot boxes are psychologically akin to gambling*

⁴⁶ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 9–14

⁴⁷ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 32–37, 44–45; Wiltshire (2017) *Behind the addictive psychology and seductive art of loot boxes*; Zendle et al. (2019) *Adolescents and loot boxes: links with problem gambling and motivations for purchase*, pp. 3–4

Evidence of a problem gambling link

Research shows that there is a link between “the amount that gamers spent on loot boxes and the severity of their problem gambling”. The median high-risk gambler who is a gamer spends \$20–\$30 a month on loot crates, compared to \$1–\$5 a month for the median non problem gambler. The link is stronger for loot boxes than for micro-transactions, “suggesting that the gambling-like features of loot boxes are specifically responsible for the observed relationship”. It is not clear whether buying loot boxes is a gateway to problem gambling (in which case loot boxes provide a “breeding ground” for problem gamblers), or problem gamblers find buying loot boxes more attractive than other gamers do (in which case loot boxes exploit existing problem gamblers).⁴⁸

The Gambling Commission asked UK children 11–16 years of age whether they’d played with in-game items before gambling for money or gambled for money before playing with in-game items. Most didn’t know or couldn’t remember, but of those that did know, 34% had played with in-game items first compared to 11% who had gambled first.⁴⁹

In 2019, a large-scale survey of adolescents (those aged 16–18) found a moderate to large link between loot box spending and problem gambling; this is stronger than the link observed in adults.⁵⁰ The researchers conclude:

The more money that older adolescents spent on loot boxes, the greater their problem gambling severity. Older adolescents who spent money on loot boxes displayed more than twice as high measurements of problem gambling than those who did not. Adolescent problem gamblers spent more than five times as much money on loot boxes than those who did not have a problem.⁵¹

Some loot box systems appear to be particularly associated with problem gambling, where three features are present:

- Can cash out;
- Loot boxes show “near misses” of things that gamers could have won; and
- The amount players spend on loot boxes is hidden behind the purchase of in-game currency.⁵²

⁴⁸ Zendle & Cairns (2018) *Video game loot boxes are linked to problem gambling: Results of a large-scale survey*

⁴⁹ Gambling Commission (2019) *Young People and Gambling*, p. 41

⁵⁰ Zendle et al. (2019) *Adolescents and loot boxes: links with problem gambling and motivations for purchase*, p. 17

⁵¹ Zendle et al. (2019) *Adolescents and loot boxes: links with problem gambling and motivations for purchase*, p. 17

⁵² Zendle et al. (2019) *Adolescents and loot boxes: links with problem gambling and motivations for purchase*, p. 5

However, not all loot box system features have been tested, so other features may also be associated with problem gambling.

Not comparable to a lucky dip

Proponents of loot boxes compare them to lucky dips, Kinder Surprise eggs, “blind bags” for comic books with randomised covers, and trading card game booster packs with random cards. In Asia, the business model is also compared to gachapon vending machines that dispense a random toy each time.

Similarly, the Entertainment Software Rating Board (ESRB) says it doesn’t consider loot boxes as gambling because players are “always guaranteed to receive in-game content”. Gaming journalist Heather Alexandra criticises that decision:

Just because you get something, doesn't mean you aren't taking a gamble. I believe the ESRB is making an academic distinction to avoid acknowledging the issue and am sceptical of their assessment given that they were created by the Entertainment Software Association, a trade association dedicated to the business interests of game publishers.⁵³

In their testimony to the Senate inquiry into loot boxes, academics distinguished physical collectibles like Kinder Surprise toys or trading cards from loot boxes in video games on several grounds:

- The context in which the player engages with the mechanism: Players are already highly committed to a video game when the opportunity to buy a loot box presents itself.
- Before purchasing a Kinder Surprise egg or trading cards, “consumers are broadly aware of the value of the item ... this is different to the process of engaging with a loot box”.
- The availability of physical items is much more limited; the rapid and repeated purchase of loot boxes is much easier than the rapid and repeated purchase of, say, Kinder Surprise eggs.⁵⁴

⁵³ Alexandra (2017) *Loot Boxes Are Designed To Exploit Us*

⁵⁴ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 21–22, 39

Category 4: Gambling via games ("skin betting")

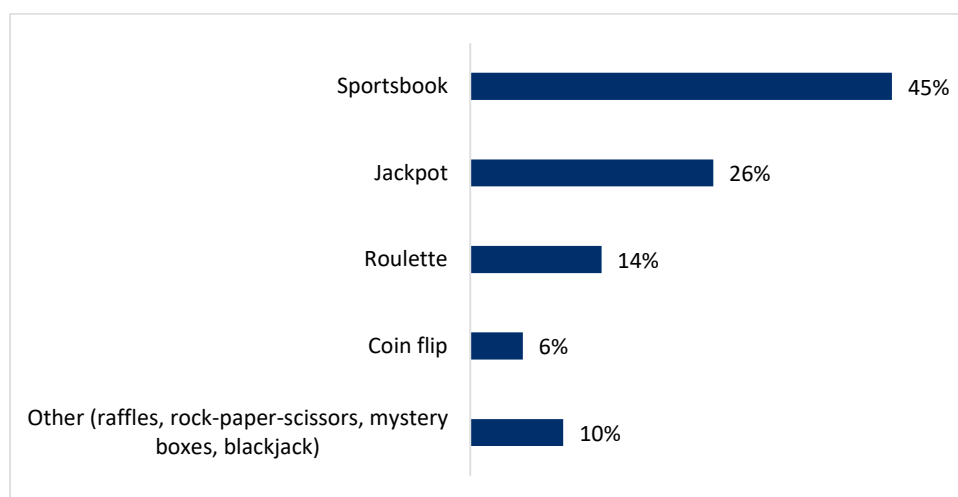
In "skin betting", people use virtual items (most often, cosmetic "skins" that change the appearance of a character or weapon) to place bets on third party sites. Since the virtual items can be bought and sold for real-world money, the effect was that video games were enabling and profiting from online gambling.

Skin betting took off via the game *Counter-Strike: Global Offensive*, by game developer Valve (Valve also owns the video game store Steam and its marketplace for virtual goods). Four factors contributed:

- *Counter-Strike: Global Offensive* is extremely popular among players and esports viewers;
- The game's loot boxes make some skins scarce (and therefore valuable);
- The Steam Community Market allows virtual items to be bought and sold with real money;
- The Steam Trading API allows third parties to manage large-scale item transactions.⁵⁵

About half of skin betting is sportsbooks (mostly esports), but jackpot, roulette, coin flip and other betting also takes place.

Figure 5: Skin betting market by product (mid-2016)



Source: Grove (2016) *Esports & gambling: Where's the action?*,
<https://www.greo.ca/Modules/EvidenceCentre/Details/esports-gambling-wheres-the-action>

⁵⁵ Lahti (2016) *CS:GO's controversial skin gambling, explained*, <https://www.pcgamer.com/csgo-skin-gambling/>

Note: Soon after this evaluation of the market, major game companies and sites cracked down on skin betting. The market may look very different in 2019.

The existence of a new and unregulated gambling market has resulted in clear examples of wrong-doing:

- underage gambling;
- match fixing; and
- players promoting gambling sites they have an interest in (without disclosure).⁵⁶

In the United Kingdom, 3% of those 11–16 years of age have used virtual items to gamble on third-party sites or privately. By comparison, about 7% had ever spent money on any online gambling, and 48% had ever spent money on any gambling activity.⁵⁷

⁵⁶ Lahti (2016) *CS:GO's controversial skin gambling, explained*

⁵⁷ Gambling Commission (2019) *Young People and Gambling*, pp. 2, 18, 36, 41–42

State of play

Several states and countries have regulated or attempted to regulate some aspect of the intersection between gambling and gaming.

Australia

Simulated gambling: Australia's National Classification Scheme considers "simulated gambling" in assigning a rating.⁵⁸

In 2013, then Premier Jay Weatherill called for the regulation of the exposure of children to simulated gambling.⁵⁹ The call did not seem to result in legal changes.

Loot boxes: Regulating gambling is typically the responsibility of the states and territories, but the Commonwealth is responsible for interactive gambling services. State attorneys-general have said that regulation of loot boxes would need to occur at the national level to be effective.⁶⁰

Under the *Interactive Gambling Act 2001*, gambling companies are not permitted to offer or advertise online casinos, in-play sports betting or betting on the outcome of the lottery, among other restrictions.⁶¹

The regulator, the Australian Communications and Media Authority, says that loot boxes have not been regarded as gambling because they are "generally not used for the object of winning money or other valuable items". However, it concedes that the existence of secondary markets makes the situation "not so clear". Even if they are found to be gambling, that does not mean that loot boxes will necessarily be prohibited under the *Interactive Gambling Act*.⁶²

Liquor & Gaming NSW says that loot boxes do not themselves constitute gambling, but where virtual items can be monetised they are "likely to offend NSW gambling laws".⁶³

An analyst at the Victorian Commission for Gambling and Liquor Regulation said that loot boxes do constitute gambling, but the difficulty is with jurisdiction and the regulator's

⁵⁸ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 56–62

⁵⁹ Wills (2013) *Move to protect kids from gambling*, <https://www.adelaidenow.com.au/news/south-australia/premier-jay-weatherill-flags-crackdown-on-online-gambling-that-lures-children-to-play/news-story/94f62c3dc2bb896c746e790d9a5ac302>

⁶⁰ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 15–18

⁶¹ ACMA (2019) *About the Interactive Gambling Act*, <https://www.acma.gov.au/about-interactive-gambling-act>

⁶² Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 15–18

⁶³ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 15–18

powers to investigate. The commission later stated that it is yet to rule on whether loot boxes are unauthorised gambling.⁶⁴

In 2016, then Senator Nick Xenophon proposed a bill that would set a minimum age for players of first-person shooter games that included loot boxes.⁶⁵ The bill did not pass.

In 2019, a Senate committee recommended that the Australian Government undertake a comprehensive review of loot boxes in video games:

This review should commission further research into the potential for gambling-related harms to be experienced as a result of interaction with loot boxes; identify any regulatory or policy gaps which may exist in Australia's regulatory frameworks; examine the adequacy of the Classification Scheme as it relates to video games containing loot boxes; consider if existing consumer protection frameworks adequately address issues unique to loot boxes; and ensure that Australia's approach to the issue is consistent with international counterparts.⁶⁶

Oceania

New Zealand: New Zealand's Gambling Compliance Office stated that loot boxes do not meet the legal definition of gambling.⁶⁷

Asia

China: China requires video games containing loot boxes to disclose the odds of winning particular virtual items.⁶⁸

Japan: Japan requires video games containing loot boxes to disclose the odds of winning particular virtual items.⁶⁹ Japan has also made one form of loot box ("kompu gacha") illegal.⁷⁰

⁶⁴ Chalk (2017) *Australian gambling analyst says loot boxes "constitute gambling" by legal definition (Updated)*, <https://www.pcgamer.com/australian-gambling-analyst-says-loot-boxes-constitute-gambling-by-legal-definition/>; Walker (2017) *Victoria's Gambling Regulator: Loot Boxes "Constitute Gambling,"* <https://www.kotaku.com.au/2017/11/victorias-gambling-regulator-loot-boxes-constitute-gambling/>

⁶⁵ Richardson, Hjorth, & Balmford (2016) *Games and gambling: Xenophon's ill-judged counter strike*, <http://theconversation.com/games-and-gambling-xenophons-ill-judged-counter-strike-63454>

⁶⁶ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, p. 73

⁶⁷ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 9–14

⁶⁸ Alexandra (2017) *Loot Boxes Are Designed To Exploit Us*; Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 9–14

⁶⁹ Alexandra (2017) *Loot Boxes Are Designed To Exploit Us*

⁷⁰ Toto (2012) *Box Gacha: GREE And DeNA Found A Replacement For Kompu Gacha [Social Games] – Kantan Games Inc. CEO Blog*, <https://www.serkantoto.com/2012/11/01/kompu-gacha-package-box-gacha/>

Americas

United States: The United States' Entertainment Software Rating Board (a self-regulatory body) attaches an "in-game purchase" label to physical copies of video games. The label does not distinguish between micro-transactions, DLC and loot boxes.⁷¹

A bipartisan bill, the *Protecting Children from Abusive Games Act*, would ban loot boxes and pay to win mechanics in minor-oriented games, and make it illegal to distribute games with loot boxes and pay to win mechanics to minors.⁷²

State legislators in Hawaii introduced legislation that would prohibit those under 21 years of age purchasing loot crates with real money and that would require video game companies to disclose the odds of winning particular virtual items. The legislation did not pass.⁷³

Europe

Belgium: The Belgian Gaming Commission's Secretariat Peter Naessens has said that paid loot boxes in specific examined video games fit the definition of a game of chance because game, wager, chance and win/loss are present. Naessens' recommendations are discussed under "Possible regulation and oversight", below.⁷⁴

In 2018, Belgium banned loot crates bought with real money from games. Gamers have tended to be supportive of the ban.⁷⁵

Denmark: The Danish Gambling Authority has said that games would require licensing under the Danish *Gambling Act* when there is a deposit, an element of coincidence and a prize "able to translate into financial terms" (including through a third-party).⁷⁶

France: The *Autorité de régulation des jeux en ligne* has found that loot boxes with virtual items that can be directly monetised meet the legal definition of gambling. The legality is "arguable" where the prizes can be transferred out of the platform (e.g. for third-party market skin betting).⁷⁷

⁷¹ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 9–14

⁷² *A bill to regulate certain pay-to-win microtransactions and sales of loot boxes in interactive digital entertainment products, and for other purposes* (Hawley), <https://www.congress.gov/bill/116th-congress/senate-bill/1629/text>

⁷³ Kelly (2019) *How loot boxes hooked gamers and left regulators spinning*, <https://www.theverge.com/2019/2/19/18226852/loot-boxes-gaming-regulation-gambling-free-to-play>

⁷⁴ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 9–14

⁷⁵ BBC News (2019) *What happens when you ban loot boxes in gaming?*, <https://www.bbc.com/news/newsbeat-49674333>

⁷⁶ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 9–14

⁷⁷ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 9–14

Germany: The German Commission for the Protection of Youth in the Media said that some loot boxes may violate the law on direct advertisement appeals to minors.⁷⁸

The Netherlands: The Netherlands Gaming Authority assessed loot boxes in 10 games and found that four contravened Dutch law, where virtual items are transferrable and the opener of the loot box cannot influence the outcome. No licence is available for that style of gambling. The authority also conceptually linked the ban to the prohibition on the mixing of games of skill and games of chance in places with low barriers to entry to minors.⁷⁹

United Kingdom: The UK Gambling Commission said that whether loot boxes meet the definition of gambling depends on whether the virtual items can be considered money or money's worth. Items that cannot be cashed out or used outside of the game will not qualify.⁸⁰

The Isle of Man has stronger protections against illegal and in-game gambling and loot boxes. The Isle of Man requires a gambling licence where there is an element of chance for prizes in money or money's worth and the activity is performed "on Isle of Man infrastructure".⁸¹

In 2019, the UK parliament's Digital, Culture, Media and Sport Committee recommended that the government regulate loot boxes paid for with real money as gambling.⁸²

⁷⁸ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 9–14

⁷⁹ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 9–14

⁸⁰ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 9–14

⁸¹ Hood (2017) *What the UK can learn from the Far East's battle with loot boxes*, <https://www.eurogamer.net/articles/2017-10-19-what-the-uk-can-learn-from-the-far-east-battle-with-loot-boxes>; Zeichner (2017) *Gambling: Video Games: Written question - 106042*, <https://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2017-10-06/106042/>

⁸² Digital, Culture, Media and Sport Committee (2019) *Immersive and addictive technologies inquiry*, p. 34

Possible regulations and oversight

Banning simulated gambling associations with real-world gambling

Companies with real-world gambling licences could be banned from owning video game companies, creating video games or dealing with video game companies. This would stop a number of pernicious practices, including:

- Offering real-world rewards for video game players that require them to collect at casinos;
- Collecting data on player psychology and playing styles from these virtual poker machines, which can inform real-world poker machine design; and
- Offering virtual poker machines with better odds and different payout strategies to the equivalent real-world poker machines.

An alternative would be to restrict this content to those aged 18 and over only.

Regulating loot boxes

A number of changes to loot boxes could be required, either through industry self-regulation or by legislation.

- Loot boxes should be required to display the odds for winning each prize.⁸³ Some of the larger video game publishers are already planning to do this in 2020,⁸⁴ but legal requirements would ensure that it is done by all game publishers and that it is done consistently.
- Loot boxes could allow infinite free “mulligans” until the player receives a virtual item that they are satisfied. If it’s true that “players always receive something of value that enhances their experience”, as claimed by the industry,⁸⁵ then players should be able to keep “re-rolling” until they get a crate that they’re satisfied with. This model is found in some video games, called “redraw gacha”.
- Players could be entitled to a fixed set of prizes from loot boxes. Once a virtual item has been drawn from that set, it cannot be drawn again. This puts a fixed, calculable upper limit on how much a player has to spend to acquire all of the content. It also avoids the “coupon collector’s problem”, that finding missing items in a collection

⁸³ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 64–65

⁸⁴ Miller (2019) *Loot boxes in big games like Call of Duty and Overwatch to publish odds for random items*, <https://www.abc.net.au/news/2019-08-08/loot-box-odds-published-on-playstation-nintendo-switch-xbox/11393936>

⁸⁵ Kelly (2019) *How loot boxes hooked gamers and left regulators spinning*

becomes exponentially more difficult. This model is found in some video games, called “box gacha”.⁸⁶

- All content that is available through loot boxes could also be available from the game developer for a fixed price, based on a multiple of rarity and loot box cost. Then players would not have to “chase” particular desired items.
- Loot box odds could be regulated, for example by limiting the rarest items to one in 10 boxes. This would put an upper limit on the value of items.
- Spending caps on in-game microtransactions, for example no more than A\$10 per day or A\$50 per week.
- Require gaming companies to release data to the public/researchers.⁸⁷
- Fixed odds, so game developers cannot offer different loot box odds to different players based on their playing or spending patterns.
- Require prices to be listed in real money terms, not obfuscated using a virtual currency.
- Where players are “matched” for multiplayer games, the game’s matching algorithm must be public to ensure that the game is not manipulating matching to make loot boxes more attractive.

Gambling style protections

The Australian Institute of Family Studies has recommended public education campaigns and gambling messaging for video game gambling, similar to the campaigns and messaging already used for conventional gambling.⁸⁸

Academics Zendle, Meyer and Over suggest allowing players to voluntarily set limits on how much they can spend on loot boxes,⁸⁹ similar to poker machine spending limits. These limits could be set game-by-game, or across a gaming platform (Google Play Store for Android phones, the Steam store for computers, etc).

Players should also be able to opt-out of prompts to make micro-transactions or buy loot boxes, including blocking the ability to make in-game purchases altogether if so desired (“self-exclusion”).⁹⁰

⁸⁶ De Nucci & Kramarzewski (2018) *Box gacha*, <https://www.oreilly.com/library/view/practical-game-design/9781787121799/a075284d-f9fa-45e6-a7cd-4cd2329b4998.xhtml>

⁸⁷ Digital, Culture, Media and Sport Committee (2019) *Immersive and addictive technologies inquiry*, p. 13

⁸⁸ Australian Institute of Family Studies (2018) *Submission: Gaming micro-transactions for chance-based items*, https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Gamingmicro-transactions/Submissions

⁸⁹ Zendle et al. (2019) *Adolescents and loot boxes: links with problem gambling and motivations for purchase*

⁹⁰ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 44–45, 62–64

The information of how much time a player has spent playing (this session and overall) and how much a player has spent on loot boxes and other micro-transactions should be readily available to them,⁹¹ perhaps even prompted at the time of purchase.

Classifications and protections for minors

Games that contain in-game purchases, simulated gambling and/or the buying of chance-based items should have that clearly labelled, for both physical and online sales.

The Australian Greens have recommended that games that contain loot boxes that meet the psychological definition of gambling be rated MA15+ (where virtual items cannot be monetised) or R18+ (where virtual items can be monetised).⁹² Academics studying the link between adolescent gaming and gambling have made similar recommendations,⁹³ as has the Victorian gambling regulator.⁹⁴

Simulated gambling could be banned in games sold or otherwise provided to children.⁹⁵

In the existing classification scheme, gambling comes under “themes”, while some other types of content are specifically identified, like drug use and violence, with more detailed instructions for how they should be handled. In assessing some of these types of content, the Classification Board treats content “related to incentives and rewards” more strictly. Examples include:

the awarding of additional points; achievement unlocks; new skills or increases in attributes such as strength; making tasks easier to accomplish; accumulating rare forms of game equipment; plot animations and pictures as rewards following an event/action.⁹⁶

Since gambling is not a separate content type, it is not subject to the same detailed breakdown. A distinction between superficial gambling themes and those related to in-game incentives and rewards could be a useful addition to the classification standard. That would distinguish between games with an incidental gambling element, like a “wheel of

⁹¹ Australian Senate (2018) *Gaming micro-transactions for chance-based items*, pp. 44–45

⁹² Australian Senate (2018) *Gaming micro-transactions for chance-based items*, p. 79

⁹³ Zendle et al. (2019) *Adolescents and loot boxes: links with problem gambling and motivations for purchase*

⁹⁴ Walker (2017) *Victoria’s Gambling Regulator: Loot Boxes “Constitute Gambling”*

⁹⁵ Griffiths (2018) *Gambling: “loot boxes” in video games could be conditioning children*, <http://theconversation.com/gambling-loot-boxes-in-video-games-could-be-conditioning-children-107667>

⁹⁶ From the initial classification of *We Happy Few*. Though the classification was repealed, this part remains illustrative of how the Classification Board treats the “related to incentives and rewards” element of the classification guide. Classification Board (2018) *Media release—Classification of the game We Happy Few*, <https://www.classification.gov.au/sites/default/files/2019-08/25may2018-classification-of-game-we-the-happy-few.pdf>

fortune” that players can spin for minor prizes, and those games where gambling plays a substantial roll or is necessary to unlock special content.

An extension could be to ban the advertising to children – or players of unconfirmed age – of games that include gambling elements. In 2019, the Unhealthy Marketing to Kids Forum called for strengthened digital marketing controls to protect kids from online gambling advertising.⁹⁷

For in-game purchases made by children, the game could be required to include a “cooling off” period of a day or a week during which the child could “return” the virtual item and get a refund.

In-game purchases by children could be banned altogether, or banned for loot boxes and other choice-based items.

⁹⁷ Harper (2019) *Researchers claim children are being exposed to gambling, junk food and alcohol ads online*, <https://www.abc.net.au/radionational/programs/lifematters/researchers-claim-children-are-being-exposed-to-gambling,-junk/11222122>; Unhealthy Marketing to Kids Forum (n.d.) *Protecting Australian children from gambling, alcohol and junk food marketing*, <https://www.phaa.net.au/documents/item/3474>,

Conclusion

Gambling content in video games includes apps that simulate real-world poker machines, opportunities to buy in-game currency with real money and then wager that currency, and third-party betting markets where in-game resources are bet on the outcomes of coin flips, roulette spins or esports matches.

There are few if any barriers to children participating in any or all of this gambling content. There is a contradiction between Australia's strict laws against children gambling, and the ready access that children have to gambling themes and even de facto gambling opportunities via video games.

The 2020 classification review is an opportunity to address these missing elements of video game classification. Changes to the classification scheme to better address gambling themes and actual gambling content would make video games lower risk for children, although broader changes are also needed.