

# THE CONVERGENCE OF GAMBLING AND VIDEO GAMES

Social Casino Games, Gambling with Virtual Goods  
and Lootboxes



Background document of relevant research, 2018

Prepared by the Institute of Games

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# EXECUTIVE SUMMARY

Gambling and gaming activities have become increasingly recognised as sharing many common features at a structural and aesthetic level. This has led to a convergence of video games and gambling. This document focuses on Social Casino Games, Gambling with Virtual Goods and Lootboxes; three features in gaming that closely resemble gambling. In conclusion, the recommendations articulated in the reviewed papers are listed.

Social Casino Games imitate gambling in look and feel but do not provide the opportunity to win or lose money. Because of this they are not covered by the Victorian Gambling Regulation Act 2003. Researchers are concerned that playing Social Casino Games may:

- Facilitate the transition to gambling due to early exposure to gambling products;
- Lead to unrealistic beliefs about gambling;
- Be addictive themselves.

In contrast to these concerns it has also been argued that Social Casino Games could act as a protective factor and also be useful in the treatment of gambling addiction.

Gambling with Virtual Goods is common when virtual goods can be purchased or won in video games. These virtual goods either alter the cosmetics of the game or give the player some advantage in the game. In some games these virtual goods can be sold again for real money through online marketplaces.

Virtual goods can be used to bet on esports games, on a player's performance or in certain cases virtual goods can be taken to adjunctive websites and gambled with on casino style games.

Lootboxes are a mechanic used in video games to gain virtual goods. A key can be purchased to open the lootbox and the player receives the content of the lootbox. This content is randomised and the value of what's in the lootbox can be more or less than the purchase price. Lootboxes are very popular in video games but recently we've seen the player's community strongly speak out against the use of this mechanic.

The literature on gambling in gaming articulates four recommendations:

- Increase education and prevention campaigns for children and their families.
- Develop clearer consumer protection measures providing accurate information to the player.
- Develop a clearer classification of gambling in video games.
- Where Virtual Goods have real money value gambling should be regulated according to the Gambling Act

## ABOUT THIS BACKGROUND DOCUMENT

The development of this document is part of 'No Gambling in Games'; a prevention project funded by the Victorian Responsible Gambling Foundation. The document was developed to inform and ensure the project is based on evidence. The information will be used to develop communication resources that raise awareness about gambling in video games for parents and gamers.

This background document is not an academic literature review rather a collection of statements and quotes from 23 international research papers and online resources. The full list of papers and online articles reviewed is found as an attachment to this document.

The statements were chosen for their relevance to Social Casino Games and Gambling with Virtual Goods, Lootboxes and Recommendations for Regulation. They were collected and structured in this document to provide an overview of the available evidence to date. We did not interpret or modify any statements.

We encourage the reader to read the academic papers referenced to get a full understanding of how gambling and gaming are converging.

## ABOUT THE INSTITUTE OF GAMES

At the Institute of Games we work to minimise the risks and maximise the opportunities associated with gaming. To find out more, please visit [www.instituteofgames.com](http://www.instituteofgames.com)

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# INTRODUCTION

- Gambling and gaming activities have become increasingly recognised as sharing many common features at a structural and aesthetic level. Gaming is principally defined by its interactivity, skill-based play, and contextual indicators of progression and success. In contrast, gambling is defined by betting and wagering mechanics, predominantly chance-determined outcomes, and monetisation features that involve risk and payout to the player. (King, 2015)
- International surveys indicate that adolescents and young adults are gambling on the Internet at high rates (Griffiths & Wood, 2007; Gupta & Derevensky, 2011; Ipsos MORI, 2006; Jackson, Dowling, Thomas, Bond, & Patton, 2008; Petry & Weinstock, 2007).
- In spite of regulatory prohibitions, adolescents reportedly gain access to Internet gambling sites by intentionally falsifying their age on sites without identification verification and some use their parent's accounts, either with or without permission (Ipsos MORI, 2006).
- Young problem gamblers have been shown to more likely gamble online than non-problem gamblers (Ipsos MORI, 2006; McBride & Derevensky, 2009, 2012; Olason, Kristjansdottir, Einarsdottir, Bjarnarson, & Derevensky, 2011; Petry & Weinstock, 2007).
- There is a growing body of research suggesting that early onset of gambling behaviour in general is a risk factor for problem and gambling-related harm (Derevensky & Gupta, 2004; Shead, Derevensky, & Gupta, 2010; Volberg, Gupta, Griffiths, Olason, & Delfabbro, 2010).
- It has been speculated in both academic and public settings that consistent and repeated exposure to simulated gambling activities may serve to make gambling more familiar and “normal” for individuals. This, in turn, may increase the degree to which gambling is seen as acceptable, attractive and a relatively harmless entertainment option (Albarrán Torres & Goggin, 2014; Binde, 2014; Gainsbury, Hing, Delfabbro, Dewar et al., 2014; King, Delfabbro, & Griffiths, 2009; Moore & Ohtsuka, 1999; Parke et al., 2012).
- Understanding the perceived similarities between games and gambling may help to create policies to reduce the likelihood of consumers migrating from online games to gambling, which may include consumer education campaigns and consumer protection measures. This is particularly important for young people, who are most vulnerable to experiencing gambling-related harms (Derevensky, Gupta, Messerlian, & Gillespie, 2005).
- Research into the convergence of gambling and gaming is in its infancy. Further research is needed to clearly identify the current practices and the impact they're having, particularly on children and young people.

# SOCIAL CASINO GAMES

- Social Casino Games imitate many of the core characteristics of gambling—such as the look, sound and actions—but do not provide an opportunity to bet, win or lose real money. This key point distinguishes them from commercial gambling. Recent years have seen a sharp increase in the availability of these games, leading to increased interest and use. They have received varying labels, including social gambling games, gambling-like games, and free or practice games (Gainsbury, Hing, Delfabbro, Dewar, & King, 2014; Gainsbury, Hing, Delfabbro, & King, 2014; King, Delfabbro, Kaptsis, & Zwaans, 2014; Owens, 2010).
- Social Casino Games generated an estimated \$3.5 billion in revenue in 2015. This is expected to jump to \$4.4 billion in 2017 (Eilers & Krejci Gaming, 2016). Facebook profited \$213 million from social casino games in Q1 of 2013 alone—an amount that comprises the majority of Facebook’s revenue (Martin, 2014).
- Gambling operators have purchased, merged, and partnered with social casino gaming companies (Sapsted, 2013; Schneider, 2012). For example, International Game Technology (a Nevada-based company that designs and manufactures slot machines) purchased Double Down Casino (a social casino gaming company) for \$500 million in 2012 (PR Newswire, 2012). Furthermore, Zynga (a popular supplier of social casino games) merged with Bwin Interactive (an online gambling operator). As a result of these partnerships, the social casino version and their casino counterparts look identical.

## Demographics of Social Casino Games

- 35 million people play social casino games (SuperData Research, 2012). In Australia it has been estimated that a third of adults and just over a fifth of Australian adolescents play social gambling games each year (Gainsbury et al., 2015).
- A survey conducted in the U.S.A found that 33% of youth aged 12–17 play social casino games online and Canadian studies have reported that half of the youth surveyed reported playing social casino games (McBride, Derevensky, & Gupta, 2006).
- Recent Australian studies of adolescents found 13-23% of respondents reported playing games with gambling themes in the past 12 months. Males and older adolescents are more likely to engage in these games. (Gainsbury et al., 2015)
- Social gambling gamers represent a distinct subgroup of gamers. Compared to those who play games that do not include a gambling element, social gambling gamers are more likely to speak a language other than English at home, be single or living with a partner, and work or study full-time (Gainsbury et al., 2015; Gainsbury, Russell, & Hing, 2014).
- While research has previously suggested that electronic forms of gambling are not particularly attractive for young people, these studies pre-date the newer and more pervasive forms of online gambling and the associated marketing for these products. (Thomas, 2016)

- There is evidence that gambling problems among teens are not a particular concern to parents and teachers (Campbell, Derevensky, Meerkamper, & Cutajar, 2011; Derevensky, St-Pierre, Temcheff, & Gupta, 2015).
- One-third of Social Casino Games paying players are young males, while older males represent one-fifth of paying players (Gainsbury, 2015).
- Overall, it was found that the profile of paying players as young, well-educated, and male differs from the typical profile of Social Casino Games and Social Network Games players, which tends to be predominantly composed of older female players (Morgan Stanley, 2012; Wells, 2015).

## Motivations for playing Social Casino Games

- With respect to motivational factors, purchasing behaviour was positively associated with a desire to relieve stress as well as to increase enjoyment, to make the game more fun, and to avoid waiting for or earning credits, rather than to escape boredom. (Gainsbury, 2015)
- Motivations for play can be grouped as being:
  - for fun or entertainment: games are exciting and allow the player to spend time with their friends (or make new ones);
  - a way to relax, relieve boredom or pass the time;
  - a way to relieve negative emotion (e.g., anxiety, depression) and/or escape from problems; and
  - a way to practice for “real money” gambling activities or for the challenge of the competition (Carran & Griffiths, 2015; Derevensky, Gainsbury, Gupta, & Ellery, 2013; Gainsbury et al., 2015; McBride & Derevensky, 2009).
- With the exception of practising, these motivations are very similar to motivations for gambling (Clarke, 2008; Clarke et al., 2007; Schrans, Schellinck, & Walsh, 2001; Thomas, Allen, & Phillips, 2009).
- Current findings indicate that males are more likely than females to use social gambling games as a way to escape from their worries or improve their mood (Derevensky et al., 2013).
- Finally, a small number of children perceived that casino games were popular because they were considered as adult forms of entertainment. For example, a few children described that they thought adults “enjoyed a night out at the casino”, that they had seen casino gambling in movies, and that casinos were a specific place where people went to gamble. (Thomas, 2016).

# The concerns with Social Casino Games

The literature reviewed highlights three main concerns with playing Social Casino Games:

- They may facilitate a transition to real money gambling
- Playing Social Casino Games may lead to false beliefs about gambling
- Social Casino Games can be addictive themselves

## Concern 1: Social Casino Games may facilitate a transition to real money gambling

- There is concern that social casino games are a training ground for gambling games and contribute to the incidence, prevalence, and maintenance of disordered gambling. (Gainsbury, Hing, Delfabbro, Dewar, & King, 2015; Griffiths, King, & Delfabbro, 2012; Kim et al., 2015; King, Delfabbro, Kaptsis, & Zwaans, 2014; Parke et al., 2013).
- As young people are still developing—both physically and psychologically—and pre-disposed to explorative and risk-taking behaviours, exposure to Social Casino Games is argued to make them more likely to then engage in commercial gambling (Floros, Siomos, Fisoun, & Geroukalis, 2013).
- Kim and colleagues (2015), for example, conducted a longitudinal study of social casino gamers who never gambled online and found that 6 months after the initial session, over 26% of social casino gamers reported transitioning to online gambling. This migration can yield consequences, among which are financial, psychological, and familial harms (Fong, 2005; Kim, Salmon, Wohl, & Young, 2016a; Matheson, Wohl, & Anisman, 2009; Petry, Stinson, & Grant, 2005).
- Although no causal relationship has been established, playing a game with perceived gambling elements may initiate the process of normalisation and increase interest in gambling and participation in gambling activities (Kim et al., 2016; Monaghan & Derevensky, 2008).

### Social Casino Games are accessible and available to children

- Social Casino Games are available on Social Networking Sites like Facebook and online stores like iTunes and Google Play Store. A number of gaming operators use Social Networking Sites like *Facebook* as a platform from which to offer gambling for real money (Griffiths, 2013). For instance, in August 2012, *Facebook* hosted its first gambling-for-money game (i.e., *Bingo Friendly* developed by *Gamesys*) – as opposed to gambling-for-points game – that allowed SNS users to win jackpots up to £50,000. (Griffiths, 2015)
- Social media has enabled (and arguably encouraged) children and adolescents to spend money in-game, and there is certainly some anecdotal evidence that the techniques used to monetize social games have impelled a minority of children and adolescents to spend large amounts of money (Gradwell, 2013; Talbot, 2013). (Griffiths, 2015)
- The availability of simulated gambling on smartphones and tablets has generated concern, as the constant availability of gambling-related activities facilitates a deep

integration of gambling or gambling-like activities into everyday life (Albarrán Torres & Goggin, 2014; Griffiths, King, & Delfabbro, 2014).

- Young people use technology more than other generations. They are more likely to be exposed to electronic gambling-related content during their day-to-day activities, particularly if they, their friends or their family engage with simulated or commercial gambling. In addition, increased engagement with simulated gambling activities is likely to result in individuals being exposed to gambling-related advertising on social media and other online media.(Thomas, 2016)

### **Social Casino Games are advertised to children**

- The majority of advertisements on social media platforms advocate for social casino games and one third of advertisements are for online gambling games (Gainsbury, King, Abarbanel, Delfabbro, & Hing, 2015). A recent study found that more than half of the most popular Facebook games contained some sort of gambling content (e.g., Jacques et al., 2016).
- Advertisements on social casino games primarily contain positive messages about gambling. (Gainsbury et al. 2015), for example, found that the messages tended to convey gambling as a glamorous opportunity to win money. Moreover, they found that there was a lack of responsible gambling messaging in the advertisements or words of caution that excessive play may cause problems. As a result, social casino gamers may feel that the gambling version of the game is worth a try.
- Research from the public health field indicates that younger populations are vulnerable to the impacts of gambling marketing and advertising (Derevensky et al., 2010; Friend & Ladd, 2009; Korn, Hurson, & Reynolds, 2005; Messerlian & Derevensky, 2006).
- Research indicates that advertising may have an impact on children's recall of and preference for gambling products, their attitudes towards gambling and their perception that gambling is a normal or common part of sport. (Thomas, 2016)
- The advertisements are hyperlinked to an online gambling site which means the opportunity to gamble is a simple click away.

### **Use of micro-transactions are a predictor of transition to gambling**

- Kim and colleagues (2015) found that the use of micro-transactions was a strong predictor of migration to online gambling. People who indicated having made micro-transactions during the first survey session were approximately 7 times more likely to try gambling for real money. The results suggest that for some gamblers, social casino games increase gambling participation, suggesting that their experience with games affects their perceptions of and attraction to gambling. (Gainsbury, 2016)
- Only 3 to 4% of all social casino gamers make in-game purchases (SuperData, 2015), they account for a significant portion of this industry's revenue (Casual Games Association, 2012).

- Social casino gamers who make micro-transactions are impulsive and sensitive to rewards (Kim et al., 2016).
- King and colleagues (2016) investigated whether adolescents' financial expenditure in SCGs was associated with broader gambling activity, including level of participation, expenditure, and problem gambling symptoms. They found that paying SCG users tended to be employed males who play more frequently and engage in more SCG activities, who report more symptoms of problem gambling and higher psychological distress than non-paying SCG users.
- Paying SCG users reported more frequent engagement and spending in monetary gambling activities, and two-thirds of SCG payers recalled that their SCG use had preceded involvement in financial gambling (King, 2016).

#### **Social Casino Games blurs the lines between gambling and gaming**

- The structural characteristics of social casino games closely mimic those of traditional casino gambling games (Gainsbury, Hing, Delfabbro, & King, 2014). The highly addictive variable ratio reinforcement schedule of reward is also present in both social casino games and gambling games.
- Because social casino gaming is functionally similar to gambling, the incentive to escalate to gambling is high based on basic learning principles.
- Most social casino game users surveyed reported that winning on social casino games was similarly or more exciting than winning at gambling. (Gainsbury, 2016). Some players have commented that it is becoming increasingly difficult to differentiate social casino games from gambling games (Parke et al., 2012).

## Concern 2: Playing Social Casino Games may lead to false beliefs about gambling

- Players are protected from the negative consequences of losing when playing simulated gambling (i.e., they do not lose “real” money), but are rewarded for winning (i.e., with credits, music and so on). This may lead people to behave in a riskier manner when engaging with commercial gambling activities as they have experienced the pleasure of winning without the pain of “real” losses (Saugeres, Thomas, & Moore, 2014).
- Social Casino Games have been shown to have pay-out rates of over 100% (Parke, Wardle, Rigbye & Parke, 2013). Such features may lead adolescents to want to experience similar success with real money. (Griffith, 2015)
- Experimental research has also shown that gambling in «free-play» modes with inflated pay-out rates increases the size of bets made by those gamblers immediately after playing in the «free-play» mode (Frahm, Delfabbro & King, 2014). (Griffiths, 2015)
- As noted by Gainsbury et al. (2015), the outcomes of most social casino games are based on algorithms that inflate the odds of success to enhance player enjoyment, otherwise known as dynamic game balancing.
- The dynamic game balancing of social casino games is likely to promote false beliefs about the odds of winning. Specifically, players are led to believe that they are better (i.e., skilled or lucky) at the game than would occur if the outcomes were truly random. Such misperceptions about their winning ability is particularly problematic in light of advertisements promoting the illusion that the odds of winning on the social casino game are equivalent to the odds of winning on the paid gambling game (Bednarz, Delfabbro, & King, 2013).
- Bednarz and colleagues (2013) found that social casino gamers who migrate to online gambling sites from free-play modes hold greater illusions of control over the outcome of the game, which contributes to gambling behaviour (Langer, 1975; Wohl & Enzle, 2002; Wohl, Stewart, & Young, 2011).
- Around one-third of those who migrated to gambling stated that they had a good chance of winning at gambling as a result of their social casino game play. (Gainsbury, 2016)

## Concern 3: Social Casino Games can be addictive themselves

- Addiction to Internet gaming is not currently identified as a mental disorder in the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*, used by mental health professionals to diagnose mental disorders. However, Internet gaming disorder was identified in *DSM-5* as a condition recommended for further study.
- The potential for Social Casino Games to develop into an addiction and thus undermine the player’s well-being, should not be understated. While empirical investigation into social casino games is in its infancy, we, like others (Derevensky & Gainsbury, 2017), feel that a proactive stance toward regulation and policy are needed to prevent the potential harm of these immensely popular free-play gambling-like games.

## The potential positives of Social Casino Games

- Research suggests that social casino game play may have prophylactic features that reduce the incidence, prevalence, and maintenance of disordered gambling (see Hollingshead, Kim, Wohl, & Derevensky, 2016; LaPlante & Shaffer, 2007; Oman et al., 2004). At present, however, no empirical research has been conducted on the possible prophylactic effects of social casino games on responsible gambling attitudes, beliefs, or behaviours. (Wohl, 2017)
- According to King and Delfabbro (2016), social casino games can act both as a protective and as a risk factor when it comes to priming future online gambling behaviours.
- King and Delfabbro (2016) argue that social casino games may be particularly beneficial for people with minimal exposure to gambling. Specifically, exposure to gambling games via social casino gaming may reduce their allure, which may minimize excessive play once social casino gamers begin to gamble with real money.
- An important finding in recent research by Hollingshead et al. (2016) is that social casino games may serve as proxy for gambling among disordered gamblers. These findings are in line with anecdotal evidence from Gainsbury and colleagues (2015), who reported that some disordered gamblers use social casino games to decrease their gambling.

# GAMBLING WITH VIRTUAL GOODS

## Overview

- Many video games incorporate in-game items to improve the enjoyment and longevity of a game and to provide an alternative means of monetising a game title beyond the traditional up-front purchase price. Individual game mechanics vary, but generally in-game items are acquired through gameplay (randomly or as a reward), exchanged between players or purchased from the game's publisher with real money. (UKGC, 2017)
- Certain virtual goods have a real money value and can be used to wager on the outcome of casino style games or esports matches.
- The ability to convert in-game items into cash, or to trade them (for other items of value), means they attain a real world value and become articles of money or money's worth. Where facilities for gambling are offered using such items, a licence is required in exactly the same manner as would be expected in circumstances where somebody uses or receives casino chips as a method of payment for gambling, which can later be exchanged for cash. (UKGC, 2017)

## Esports betting

- Esports are organised video/online game skill-based competitions in which players and teams compete in leagues and tournaments to win monetary prizes. (Gainsbury, 2017)
- Esports is one of the most rapidly growing sporting products. It is estimated that in 2017, 191 million consumers will watch esports frequently, and another 194 million, occasionally. Esports betting is becoming one of the newest forms of gambling offered by regulated online operators, and land-based casinos are increasingly interested in hosting esports tournaments. In addition, there is a large offshore, unregulated esports gambling market in existence. (Gainsbury, 2017).
- In Australia, esports betting is only available through online gambling sites. (Gainsbury, 2017)
- Esports bettors are younger, more highly educated, had higher incomes and are represented by a greater proportion of females and individuals from Asian ethnic backgrounds. This group additionally reported starting gambling more recently and frequently overall, and expressed a preference to gamble on illegal offshore sites as opposed to domestically-licensed sites. (Gainsbury, 2017)
- An online survey of 501 Australian sports bettors (n=160 esports and sports; n=341 sports only) found that esports bettors participated in significantly more forms of gambling (breadth), and in each form more often (intensity). Esports bettors had significantly higher problem gambling severity scores on a self-report measure. These results are consistent with previous findings that Internet problem gamblers have a high overall gambling involvement. (Gainsbury, 2017)

- In 2016, 6.5 million customers wagered an estimated US\$5.5 billion on esports. This is expected to increase to US\$12.9 billion by 2017. However, the bulk of this market is based on gambling using virtual items on unregulated gambling sites, with the amount of money wagered on esports in 2016 in the vicinity of only US\$649 million. (Gainsbury, 2017)
- At the moment no recognised single governing eSports body exists either at a national or international level. Organisations do exist for specific games, competitions and events, however no one body encompasses all different genres of games and tournaments. This presents a risk of a fragmented and inconsistent approach to integrity matters. (UKGC, 2017)

## Skin Betting

- 'Skins' are in-game items, used within some of the most popular video game titles. They provide cosmetic alterations to a player's weapons, avatar or equipment used in the game and are valued by reference to their rarity, aesthetics, utility and popularity. Prices are subject to constant fluctuation and typically range from under £10 to £300, but with particularly rare items being valued at over £1,000. (UKGC, 2017)
- Skins can be used to gamble on websites adjunctive to the game in which the skins were won or purchased.
- Although the concept of Skins is a recent development, the market for Skin Gambling has grown exponentially in a few years. It is estimated that more than 38 Million people visited the website CSGOlounge.com in March, 2016. Of the total esports gambling market of USD 8 Billion in 2016, around USD 7.4 Billion was through Skin Gambling and only around USD 600 million was gambled through cash. (Calvin Ayre, 2017)
- According to a report by research firms Eilers & Krejci Gaming and Narus Advisors, gamers spent an equivalent of over \$5 billion on Counter-Strike: Global Offensive skin gambling during 2016.
- With growing opportunities to bet on online gaming tournaments (eSports betting) and gamble directly with virtual items (skins betting), it is possible that online gaming introduces users to gambling opportunities (Kim, Wohl, Gupta, & Derevensky, 2016).

## Gambling on adjunctive websites.

- In online video games, gambling may not be programmed into the video game itself. However, the random dynamics and functionality of the game world provides a platform for players to develop their own gambling activities. For example, online video games (e.g. EVE Online and World of Warcraft) feature a form of in-game currency, and enable certain types of player-operated gambling activities. These activities are usually supported through websites adjunctive to the video game (i.e. wagers are placed outside the game), but the gambling activity (i.e. winning and losing) takes place in the game world. (King, 2012)
- Gambling activities include a form of sports betting (e.g. placing bets on the outcome of player duels and battles) and lotteries (e.g. selling raffle tickets for a chance at winning a prize). The relative scarcity of in-game assets, including currency and items, makes them

valuable to the game's community of players. Some players will exchange real money for in-game currency as a way of advancing more quickly in the game. The option to exchange in-game currency and other content (virtual goods) to other players for real world money thus gives these activities a limited, albeit indirect, financial element (Castronova, 2005).

- In spite of the policy and intent to avoid in-game items attaining a real world value, the video game industry has acknowledged that users of their game networks are 'occasionally' exploiting their open nature to offer players opportunities to buy and sell in-game items. (UKGC, 2017)

# LOOT BOXES

- A loot box is a consumable virtual item which can be redeemed to receive a randomised selection of further virtual items, ranging from simple customization options for a player's avatar or character, to game-changing equipment such as weapons and armour.
- A loot box is typically a form of monetisation, with players either buying the boxes directly or receiving the boxes during play and later buying "keys" with which to redeem them.
- Players who acquire loot boxes pay money for an uncertain outcome
- Electronic Arts, a game development studio, said in a GamesIndustry.biz March report that a feature in its sports games, which allows players to buy loot boxes with real or virtual cash, made the company US\$800 million (S\$1 billion) in net revenue annually, a more than 20 per cent year-on-year increase.
- While loot boxes have been available for years, a number of games released in 2017, with varying mechanics of concern in their loot box systems, led to critical review of the practice.
- There have been calls for the Entertainment Software Rating Board (ESRB) to classify them as gambling. In October 2017 the ESRB made the following statement: "ESRB does not consider loot boxes to be gambling. While there's an element of chance in these mechanics, the player is *always* guaranteed to receive in-game content (even if the player unfortunately receives something they don't want). "
- Because of their use of random chance to gain items after committing real-world funds, games using loot boxes may be considered a form of gambling. Games with loot box systems have become subject to regulation in several Asian countries, while questions of the legality of loot boxes are under considerations in Western ones.
- Belgium's Gaming Commission is investigating the matter and is calling for a ban of the use of loot boxes in Europe. Belgium's Minister for Justice said that mixing gambling and gaming is dangerous for the mental health of the child.
- There is no academic consensus about whether loot boxes constitute gambling. Chanel J. Larche, a Ph.D. candidate at the University of Waterloo's Gambling Research Lab, said that because the boxes are so new, the psychological effects of using them has not yet been rigorously studied.

# NEWEST DEVELOPMENTS IN GAMING / GAMBLING

## Virtual Reality Gambling

- According to a 2016 report by Juniper Research, VR gambling wagers are expected to increase 800% in the next five years driven from \$58.5 million in 2016 to \$520 million in 2021, and that VR gambling deployments will revolve around putting the player in an immersive casino experience (Juniper Research, 2016; Kharpal, 2016).
- Many industry insiders see VR gambling as one of the key areas that gambling operators are investing in to 'hook' the Generation Y 'millennials' into gambling. (Griffith, 2017)
- Similarly to Social Casino Games, Virtual Reality Gambling could potentially be used to treat problem gamblers. Some treatment techniques try to desensitize problem gamblers by repeatedly exposing them to gambling situations and not letting the problem gamblers spend money. By developing VR gambling venues, such therapy sessions could take place without the need to actually go to a gambling venue. (Griffith, 2017)

## Hybrid Games

- There are growing concerns that structural boundaries between gambling and gaming may become indistinguishable, such that "hybrid" gambling activities will adopt features of gaming and vice versa (King & Delfabbro, 2016).
- The placement of casual games along with casino, card and poker gambling products suggests that some of the concerns about these games grooming players to be more receptive to gambling may be valid (Derevensky & Gainsbury, 2016; King et al., 2010).
- Users clearly see some connection, although this may be indirect, between casual games and traditional gambling products, which may be related to the increasing similarities in these, including casual games that closely replicate gambling products such as social casino games (Gainsbury, Hing et al., 2014; Kim et al., 2014).
- This is consistent with recent research findings that 54% of the top 100 casual Facebook games contain gambling content (Jacques et al., 2016) and that players migrate between these activities (Gainsbury, Russell, King, Delfabbro, & Hing, 2016; Kim et al., 2014).

# RECOMMENDATIONS

The literature on Gambling in Gaming formulates four recommendations:

- Increase education and prevention campaigns
- Develop clearer consumer protection measures
- Clearer classification of gambling
- Where virtual goods have real money value gambling should be regulated according to the Gambling Act

## Education and Prevention Campaign

- Education and prevention measures should be implemented to counter inaccurate illusions of control in gambling activities with perceived similarities with gaming. (Teichert, 2017)
- Early intervention programmes aim to equip youth with the necessary skills to make sensible and informed decisions about wagering and gambling in general.
- Korn and Shaffer's (1999) public health perspective provides a useful way of conceptualizing the risks posed by new gambling technologies. A key objective of the public health approach to minimizing gambling-related harm is to protect vulnerable persons, including children and adolescents (Korn & Shaffer, 1999).
- Strategies known to be effective include school-based science and mathematics curricula (e.g. teaching probability and odds theory), and programmes that can enhance life skills and resiliency (Hayer, Griffiths, & Meyer, 2005; Messerlian, Derevensky, & Gupta, 2005).
- While some would argue that parents may have some influence over children's decision making, others argue that new media environments mean that after a certain age parents have limited influence in mediating children's preferences for highly attractive products. (Dickins, 2017)
- King summarizes two key issues of social responsibility:
  - (1) the need for parents to be informed about gambling content within electronic media that is inadequately classified and targeted at a youth audience; and
  - (2) further education of young people about the risks of early exposure to simulated gambling activities.
- Australian policymakers – and those elsewhere – should also consider critically the growing presence of gambling in online gaming and social media technologies, particularly as these activities become more monetized (e.g. Bringit.com) and/or promote or otherwise endorse involvement in monetary gambling activities. (King, 2012)

## Clearer Consumer Protection Measures

- The regulation system for simulated gambling games as it currently stands appears inadequate and inconsistent. Strengthening and standardising classification of games and advisory warnings would provide more protections to users. (Dickins, 2016) Regulation currently differs depending on the platform rather than the type of game. (Dickins, 2016)
- The Ipsos MORI report cautioned legislative and regulatory bodies of the necessity to carefully monitor social casino games, suggesting that that regulatory policy may be required to cover such games. (Ipsos Mori, 2006)
- In Australia, the Interactive Gambling Act has suggested that public policy and regulation may be required given gambling simulation normalize gambling behaviour, incorporate unrealistic odds, and may provide a false sense of winning.
- Whether social gambling sites meet the standard legal definitions of gambling, the onus of responsibility for youth should not merely be relegated to parents but also to operators. The industry and regulators will need to play a role. (Dickins, 2016)
- Along with the classification of activities based on the key determinants of chance, consideration, and reward, policy makers and consumers will have to be mindful of the potential for gaming products to act as a gateway to, or otherwise influence gambling. (Teichert et al, 2017)
- "Most paying players agreed that they understood what they were paying for, but a subset of players was uncertain about their purchases. This finding was consistent with other work suggesting that freemium games should be designed in more socially responsible ways, such as making in-game purchases more transparent and informative to all players (Alham et al., 2014).
- Despite the mixed empirical evidence, it is recommended that stricter age verification measures should be adopted for social gaming, particularly where children and adolescents are permitted to engage in gambling-related content, even when real money is not involved (Parke et al., 2013). It is further recommended that age verification should be carried out in any game that requires the spending of money (even if it on virtual assets and items). (Griffiths, 2015)
- The lack of responsible gaming content means consumers do not have accurate information about the games and the potential behavioral issues that may stem from excessive play. Responsible messaging could include a minimum age notice, language indicating where the chances of winning at the social casino are different from winning on a gambling game, and warnings that playing social casino games will not increase a user's chance of winning with gambling products. Provision of accurate, accessible information for informed decision making is a core component of The Reno Model, the commonly used framework for describing responsible gambling practices (Blaszczynski, Ladouceur, & Shaffer, 2004; Albarnel, 2016)

## Clearer Classification of Gambling in Video Games

- According to the Classification (Publications, Films, and Computer Games) Act 1995, all classification decisions take into consideration a number of guiding principles, including: (a) adults should be able to read, hear and see what they want; (b) minors should be protected from material likely to harm or disturb them; (c) everyone should be protected from exposure to unsolicited material that they find offensive; and (d) the need to take account of community concerns.
- Video games that feature drug use associated with incentive and rewards are Refused Classification (RC), and thereby banned from commercial sale in Australia. Although simulated gambling is often associated with rewards and incentives, in Australia it is classified as a 'theme', rather than as an interactive element of the game. (King et al, 2012)
- Other rating systems such as PEGI in Europe include 'gambling' as a separate category like 'sex' and 'violence'.
- Much of the content in video games may not be identified on the game's packaging. This is particularly the case for mature video games with multiple classifiable elements. (King et al, 2012) For example, in 2009 the video game My Sims (Electronic Arts) was classified G with the consumer advice that it contained 'very mild simulated gambling' (OFLC, 2009). The video game features a casino area where players can place bets with coins to play basic card games.
- Reports by the OFLC note several public complaints in regard to simulated gambling in children's video games. For example, in 2000 a complaint was received in regard to gambling content in the video game Pokemon Gold (Nintendo) rated G (suitable for all ages) because it had no consumer warnings regarding its gambling themes (OFLC, 2001). The game featured a slot machine that players could use to win valuable in-game items.
- Some empirical research suggests that greater restriction of mature content in video games may make this material more appealing for youth (i.e. the 'forbidden fruit' effect). (King et al, 2012).

## Gambling with Virtual Goods that have real money value should be regulated according to the Gambling Act.

- One task for regulators may be to determine when certain game rewards are considered equivalent to money due to online trading systems (e.g., Zynga Poker) or special redemption offers (e.g., MyVegas Slots) that grant value to virtual items outside of the context in which they are situated. (King et al, 2015)
- Maintaining public confidence in the integrity of eSports as an entertainment and betting event relies upon those seeking to benefit commercially from it, recognising the inherent

integrity risks and proactively seeking to mitigate them by applying best practice from other sports. In particular a governance structure which provides for:

- ongoing and rigorous assessment of integrity risks;
- arrangements for the monitoring of betting markets for suspicious activity;
- protocols for the receipt and dissemination of intelligence;
- establishment of a participant's code of conduct, including rules on sports and betting integrity matters (e.g. rules on participants' betting and, availability of personal records);
- effective investigation of allegations and availability of disciplinary sanctions to address misconduct;
- proactive player education programmes on integrity risks, and
- transparent and appropriate controls for circumstances where companies with licensed gambling interests enter into commercial agreements with participants, teams or leagues. (UKGC, 2017)

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## ONLINE ARTICLES

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<http://www.vgamerz.com/underage-video-game-gambling-epidemic-growing/>

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<https://theintercept.com/2017/12/08/video-games-loot-boxes-gambling-gaming-star-wars-battlefront-2/>

<http://www.straitstimes.com/singapore/cool-loot-or-gambling-trap>

# APPENDIX 1: FULL LIST OF PAPERS REVIEWED

Virtual addictions: An examination of problematic social casino game use among at-risk gamblers	2015	Sally Gainsbury, Daniel L. King, Alex M.T. Russell, Paul Delfabbro, Nerilee Hing
The Use of Social Media in Gambling	2015	Sally Gainsbury, Daniel King, Paul Delfabbro, Nerilee Hing, Alex Russell, Alex Blaszczyński, Jeffrey Derevensky
Convergence of gambling and gaming in digital media	2015	Sally Gainsbury, Daniel L. King, Dr. Brett Abarbanel, Professor Paul Delfabbro, and Professor Nerilee Hing
Who Pays to Play Freemium Games? The Profiles and Motivations of Players who make purchases within Social Casino Games	2015	Sally Gainsbury, Daniel King, Alex Russel, Paul Delfabbro
Migration from social casino games to gambling: Motivations and characteristics of gamers who gamble	2016	Sally Gainsbury, Alex Russel, Daniel King, Paul Delfabbro, Nerilee Hing
Positioning of online gambling and gaming products from a consumer perspective: A blurring of perceived boundaries	2017	Sally Gainsbury, Thorsten Teichert, Cordelia Mühlbach
Social casino game use in adults with gambling problems	2017	Sally Gainsbury, King, D. L., Russell, A. M. T., Delfabbro, P., & Hing, N.
Intensity and gambling harms: Exploring breadth of gambling involvement among esports bettors	2017	Sally Gainsbury, Abarbanel, B., & Blaszczyński, A.
Game on: Comparison of demographic profiles, consumption behaviours, and gambling site selection criteria of esports and sports bettors	2017	Sally Gainsbury, Abarbanel, B., & Blaszczyński, A.
A review of Australian classification practices for commercial video games featuring simulated gambling	2012	Daniel King , Paul H. Delfabbro, Jeffrey L. Derevensky & Mark D. Griffiths
Adolescent simulated gambling via digital and social media: An emerging problem	2015	Daniel King , Paul H. Delfabbro, Dean Kaptsis, Tara Zwaans
Distinguishing between gaming and gambling activities in addiction research	2015	Daniel King , Sally Gainsbury, Paul Delfabbro, Nerilee Hing, Brett Abarbanel
The cost of virtual wins: An examination of gambling-related risks in youth who spend money on social casino games	2016	Daniel King , Alex Russel, Sally Gainsbury, Paul Delfabbro and Nerilee Hing
Social casino gaming and adolescents: Should we be concerned and is regulation in sight?	2016	Jeffrey Derevensky & Sally Gainsbury
An Examination of the Relationship Between Social Casino Gaming and Gambling: The Bad, The Ugly, and The Good	2017	Michael Wohl, Melissa Salmon, Samantha Hollingshead, Hyoun Kim
Is it gambling or a game? Simulated gambling games: Their use and regulation	2016	Anna Thomas & Marissa Dickins
Factors that influence children’s gambling attitudes and consumption intention: lessons for gambling harm prevention, research, policies and advocacy strategies	2017	Anna Thomas, Hannah Pitt, Amy Bestman, Mike Daube and Jeffrey Derevensky
Gambling and social gambling: An exploratory study of young people's perceptions and behaviour	2015	Mark Griffiths, Malgorzata Carran
Amusement machine playing in childhood and adolescence: a comparative Analysis of video games and fruit machines	1991	Mark Griffiths
Adolescent gambling and gambling-type games on social networking sites: Issues, concerns, and recommendations	2015	Mark Griffiths
The psychosocial impact of gambling in virtual reality	2017	Mark Griffiths
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# THE CONVERGENCE OF GAMBLING AND VIDEO GAMES

Social Casino Games, Gambling with Virtual Goods and Lootboxes

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