



Convergence of online gaming and gambling – emerging issues

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**Presentation to the Victorian Responsible Gambling Foundation
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Group discussion #1

1. Can you define “video gaming”? What are the key elements of video games?
2. Can you define “gambling”? What are the key elements of video games?
3. How do they overlap? What do they have in common?

Gambling

Gambling means:

- (1) staking or risking something of value
- (2) upon the outcome of a contest of chance or a future contingent event not under the person's control or influence,
- (3) upon an agreement or understanding that the person or someone else will receive something of value in the event of a certain outcome

Gambling

To determine whether loot boxes constitute gambling, we must first define gambling. Griffiths⁹ specifies five characteristics common to most gambling activities, and that distinguish gambling from other risk-taking behaviour:

- (1) The exchange of money or valuable goods.
- (2) An unknown future event determines the exchange.
- (3) Chance at least partly determines the outcome.
- (4) Non-participation can avoid incurring losses.
- (5) “Winners gain at the sole expense of losers” (p. 1 in ref. ⁶).

A sixth characteristic that is important to consider is whether the winnings can be converted in some way into real-world money — that is, ‘cashed out’.

Defining video gaming

Gaming:

- (1) interactive activity with rule-governed outcomes
- (2) decision-making and strategy
- (3) Rewards players for 'correct' input with fixed or random virtual rewards including game items, status or ranking, or virtual currency
- (4) Good players 'win', bad players 'lose' – due to skill, decisions, reflexes, some luck

A Short and Simple Definition of What a Videogame Is

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ABSTRACT

Videogames have been studied seriously only for a few years. So, we can wonder how we could use the recent academic works to approach new design methods. This article proposes a first step: a short and simple definition of what a videogame is, this definition being connected with existing academic works about *game*, *play*, *interactivity*, and *narrative*. The definition is: *videogame* is a *game* which we *play* thanks to an *audiovisual apparatus* and which can be based on a *story*. The article also shows what the videogame heritage teaches us about what a videogame is.

Keywords

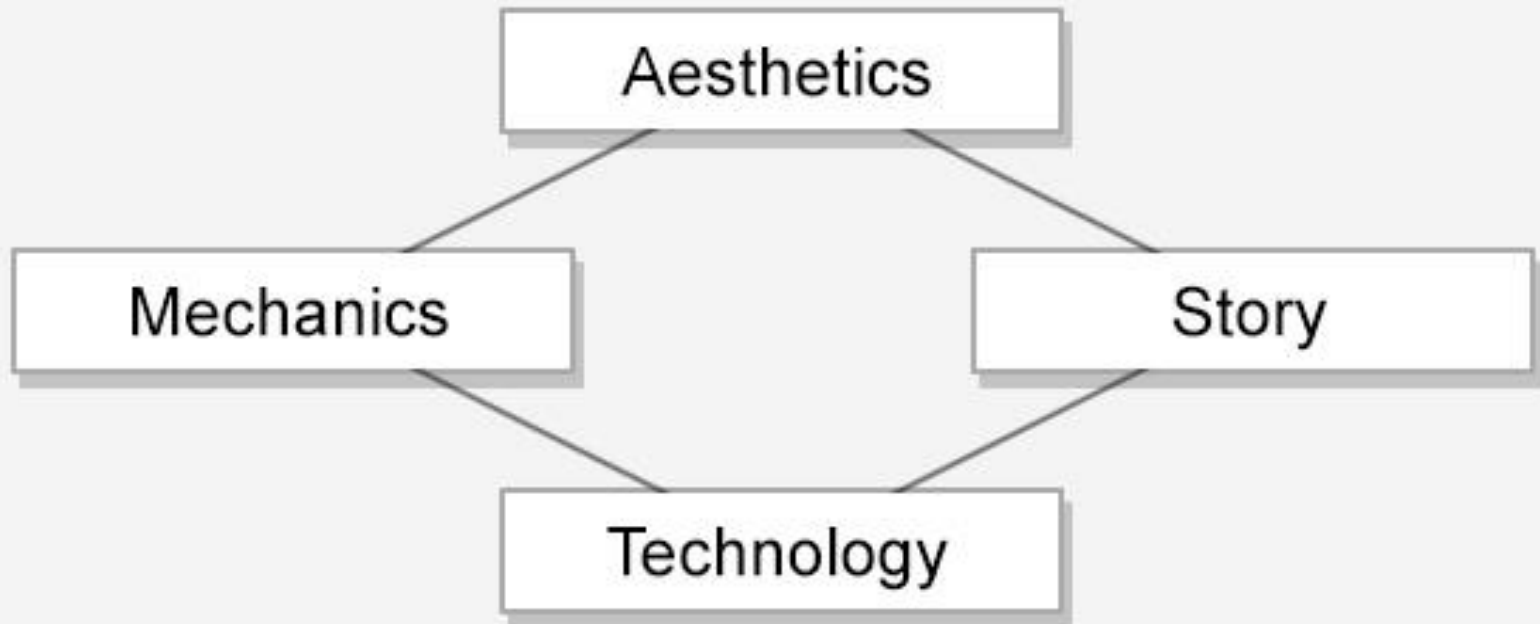
Videogame, definition.

INTRODUCTION

Why should we define the term *videogame*? Because we have reasons to study videogames. What are these reasons? James Newman gives us an answer:

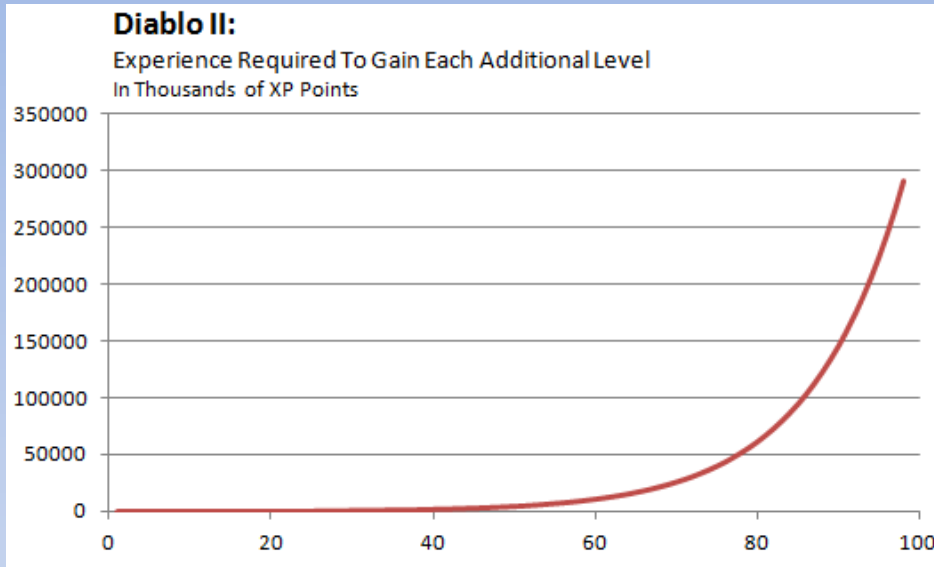
“While scholars identify a range of social, cultural, economic, political and technological factors that suggest the need for a (re)consideration of videogames by students of media, culture and technology, here, it is useful to briefly examine just three reasons why videogames demand to be treated seriously: the size of the videogames industry; the popularity of videogames; videogames as an example of human-computer interaction [21]

Fundamental elements of video games

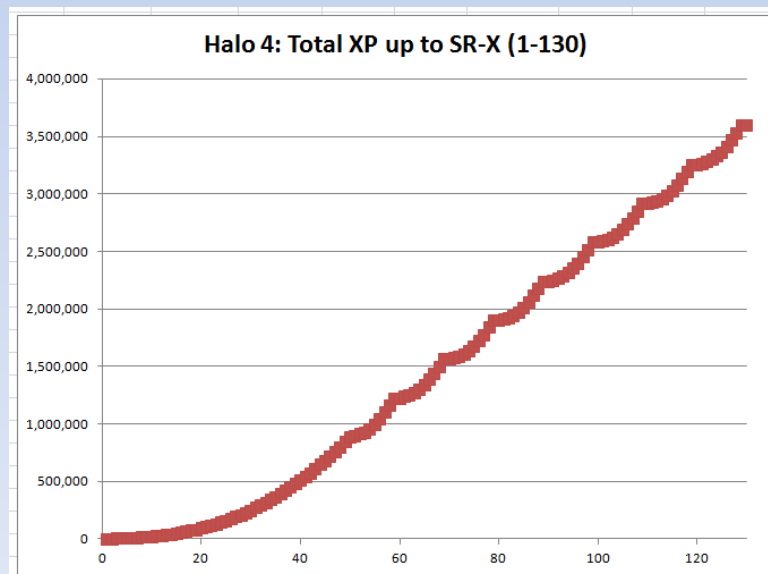


Money has been less essential to the *act of play*

Game design to increase player commitment



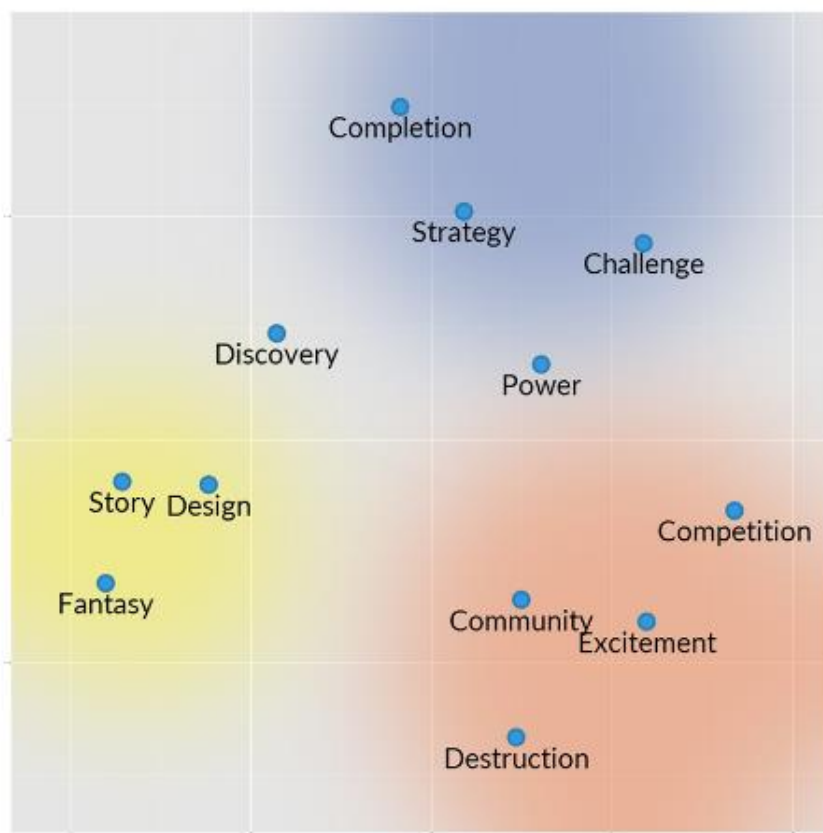
“Building up skills means doing the same stuff over and over, like working a repetitive second job”
(M, 35)



“The best sword in the game is hard to come by. But that’s good and bad, bad because I don’t get a sword really quickly but that’s good because everyone else doesn’t”
(M, 17)

2015 study of over 140,000 gamers

MAP OF GAMING MOTIVATIONS



The 3 High-Level Clusters

1. Action-Social
2. Mastery-Achievement
3. Immersion-Creativity

Bridges

- Discovery is a bridge between Immersion-Creativity and Mastery-Achievement.
- Power is a bridge between Action-Social and Mastery-Achievement.

At a high-level, 3 clusters of motivations emerged.

- In the bottom-right orange cluster, there's an **Action-Social** cluster that combines the interest in fast-paced gameplay with player interaction.
- In the left yellow cluster, there's an **Immersion-Creativity** cluster that combines the interest in narrative, expression, and world exploration.
- In the top blue clusters, there's a **Mastery-Achievement** cluster that combines the appeal of strategic gameplay, taking on challenges, and becoming powerful.

ATTACHMENT TO DIGITAL VIRTUAL POSSESSIONS IN VIDEOGAMES

Rebecca Watkins and Mike Molesworth

ABSTRACT

Purpose – To extend our understanding of consumers' relationships with their growing collections of digital virtual goods by exploring adult videogamers' attachments to their digital virtual possessions within videogames.

Methodology – Phenomenological interviews with 35 adult videogamers, primarily conducted in participants' homes and lasting on average two hours.

Findings – Our participants were able to possess and form emotional attachments to 'irreplaceable' digital virtual goods within videogames despite the goods' immaterial nature and their own lack of legal ownership. The processes via which these attachments developed mirror our

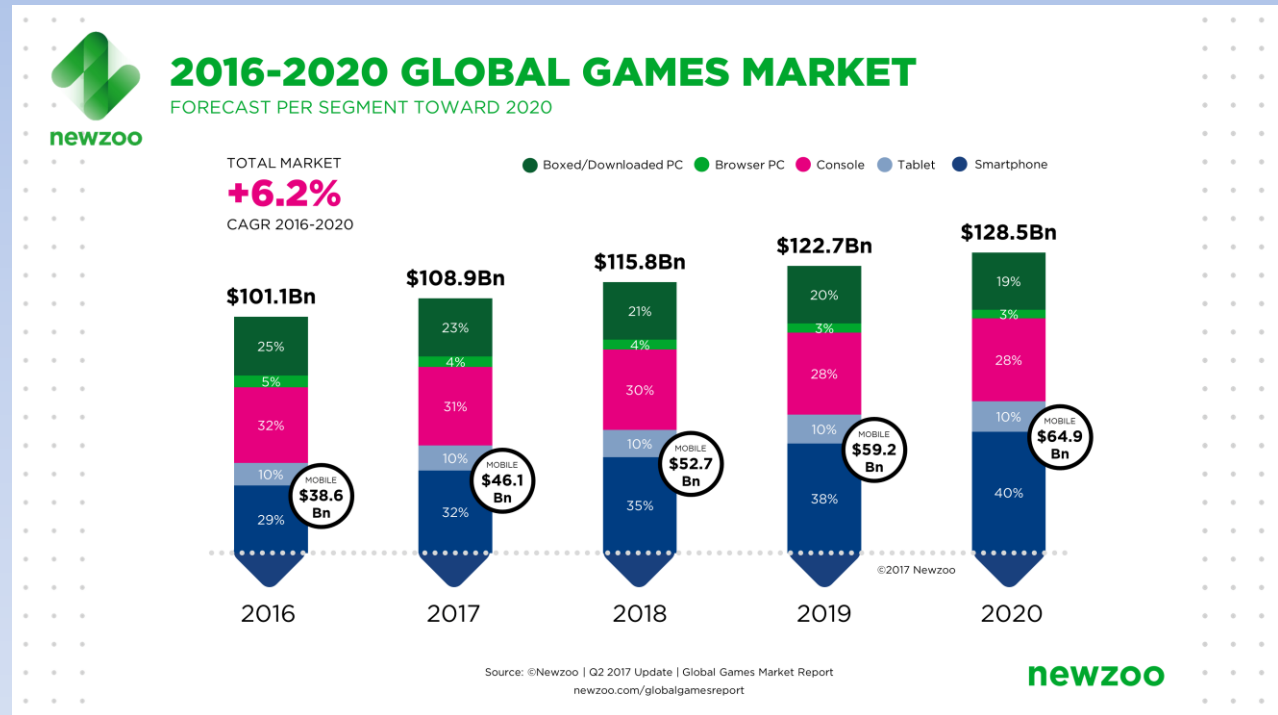
Business models in games

Customer accessibility types

- Free-to-play
- Pay-to-play

Revenue models

- Coin-operated
- Retail
- Digital distribution
- Advertising or 'IGA'
- Subscriptions
- Micro-transaction
- Player-to-player trading



The global market is growing and smartphone games forecasted to dominate

Gaming elements

The term '**video game**' refers broadly to an **interactive** form of digital entertainment. Players use a game's **control** scheme (e.g., keyboard, controller, or motion sensors) to **manipulate images** on a visual display to reach an outcome usually defined as **success or failure**.

Games differ according to **genre** (e.g., shooting, role-playing, and strategy), platforms (e.g., personal computer, smartphone), modes (e.g., single-player, competing against other players), online connectivity (i.e., playing online or offline), and objectives (e.g., defeating an opponent using violence, persuasion, or stealth tactics). The player may win or advance, or lose.

Many modern games offer **unlimited experiences of winning and losing**, as well as complex **narratives** and **characters**, large open **worlds** to explore, and opportunities to **socialize** with other players. Games are designed to provide players with opportunities to experience different emotions, satisfy psychological **needs**, or **pass time** and **escape reality**.

Gaming

1. An interactive form of digital entertainment
2. Players use a game's control scheme (e.g., keyboard, controller, or motion sensors)
3. Manipulate images on a visual display
4. Reach an outcome usually defined as success, progress, or failure
5. Story and characters
6. Socialisation

How are games changing?

- Game structural design is becoming increasingly complex and expensive
- Games are becoming more monetised, socially integrated and immersive due to market forces
- Game profitability influenced by in-app purchasing (IAP)
- Games have portability due to smartphones and other devices





Young people's use of gaming technologies and related devices



Group discussion #2

- How many devices do you own?
- What is “normal” digital technology use?
Anywhere you don’t use technology?
- What is “age-appropriate” digital technology use? What influences your decision on this?
- Has 24/7 access become socially “expected”?

2013 Australian data



9 in 10 teenagers have internet access in the **home**.



Nearly 100% with a home internet connection have **broadband**.



69% of teenagers with a mobile phone used a **smartphone**.



74% use a **computer** to go online.



23% go online with a **tablet**.

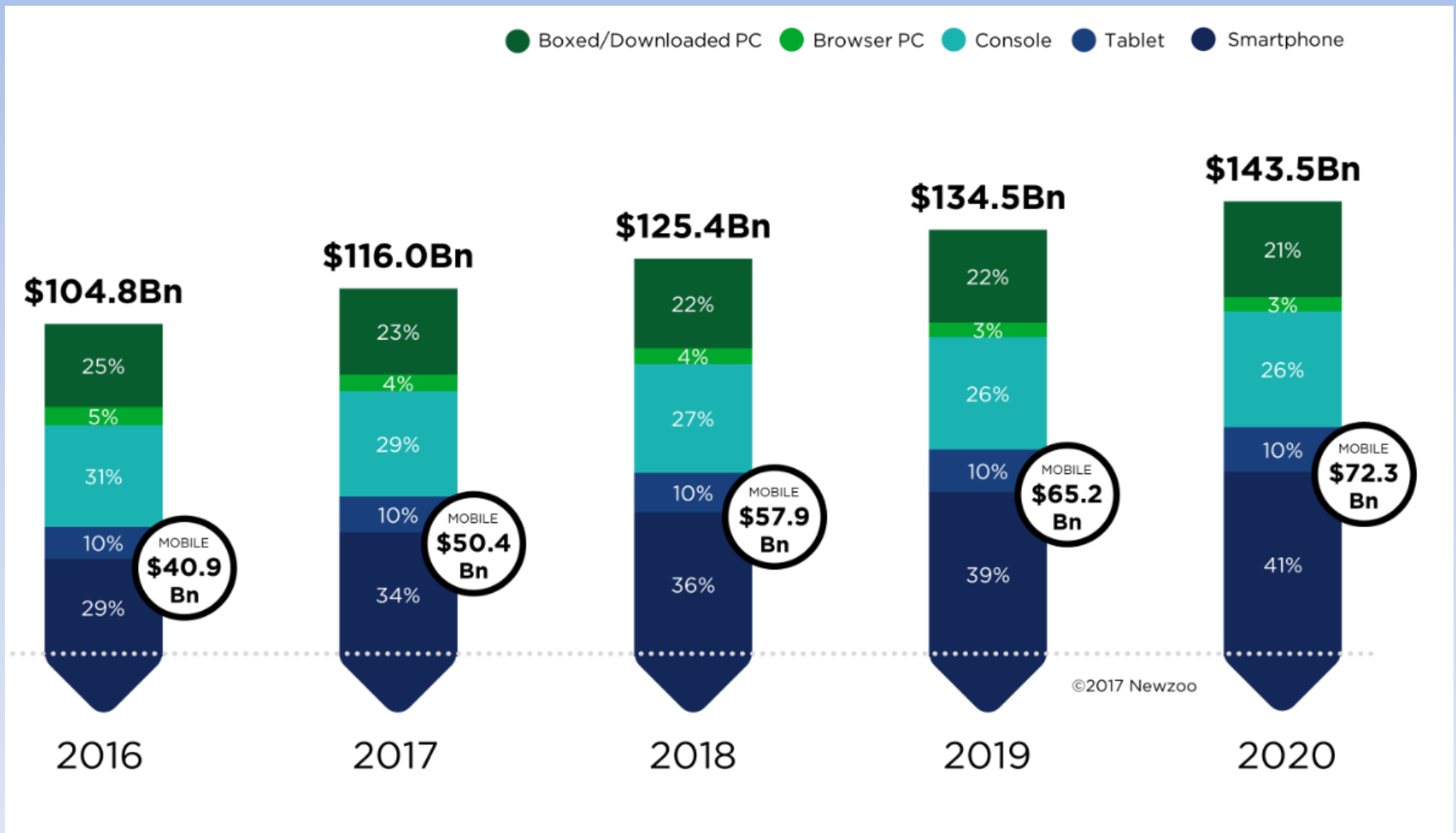


56% use their **mobile** phone to go online.

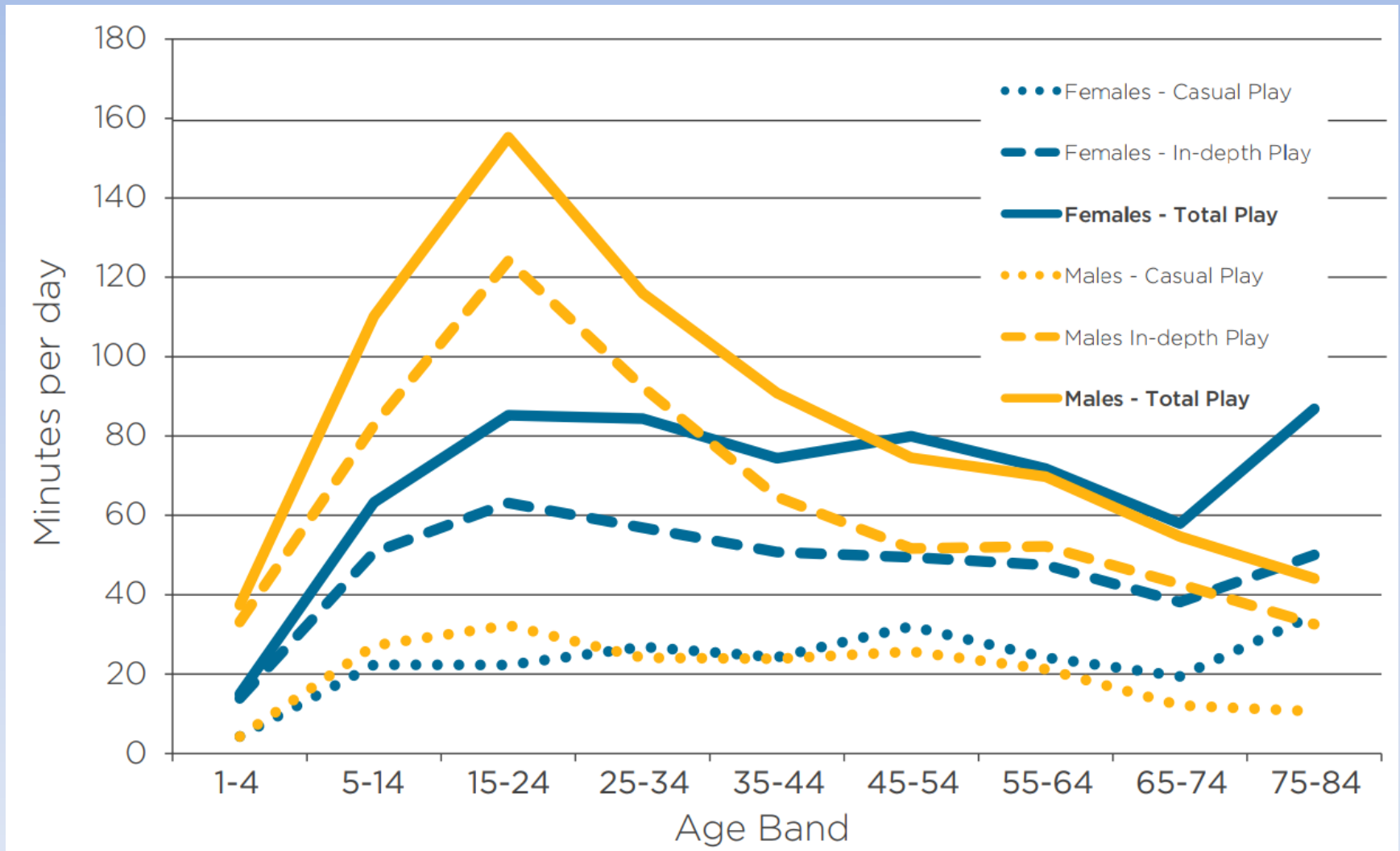


72% go online **more than** once a day.

Rise and rise of the gaming industry



Adolescent gaming in Australia (2017)



Executive Summary

99.41% of all players are 18 years and older.

58.87% of all players are **Female**.

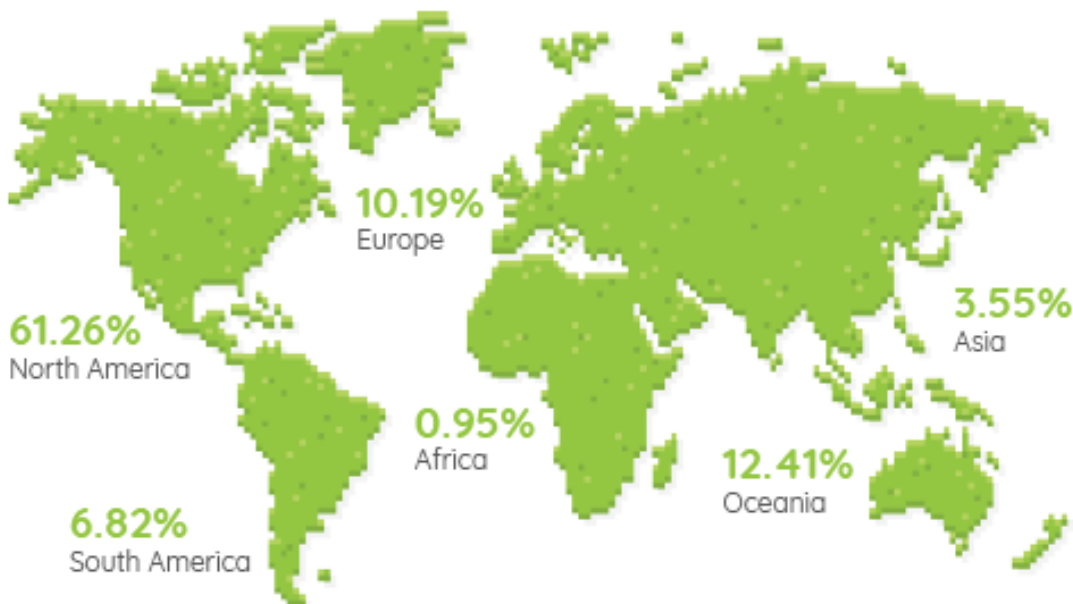
0.17%
of all players in The USA are **aged 13-17**.

0.010%
of players **aged 13-17** spend money in-game.

64.95%
of all players in North America are **Female**.

63.95%
of all players in Europe are **Male**.

Player Distribution



5.03%
of all players **spend money in-game**.

\$5.97 per person per week
is the average amount spent by **Spending players** on in-app expenditures.

UK Gambling Commission, Dec 2017

Gambling advertising and social media

- 80% of young people have seen gambling adverts on TV, 70% on social media and 66% on other websites
- 10% follow gambling companies on social media

Online participation

- 3% of 11-16 year olds have ever spent their own money on online gambling (no change since 2016) while 7% have gambled online using a parent's account
- 11% have ever played free gambling-style social games online
- 11% have ever bet with in-game items when playing computer or app-based games

Problem gambling and gambling-related harm

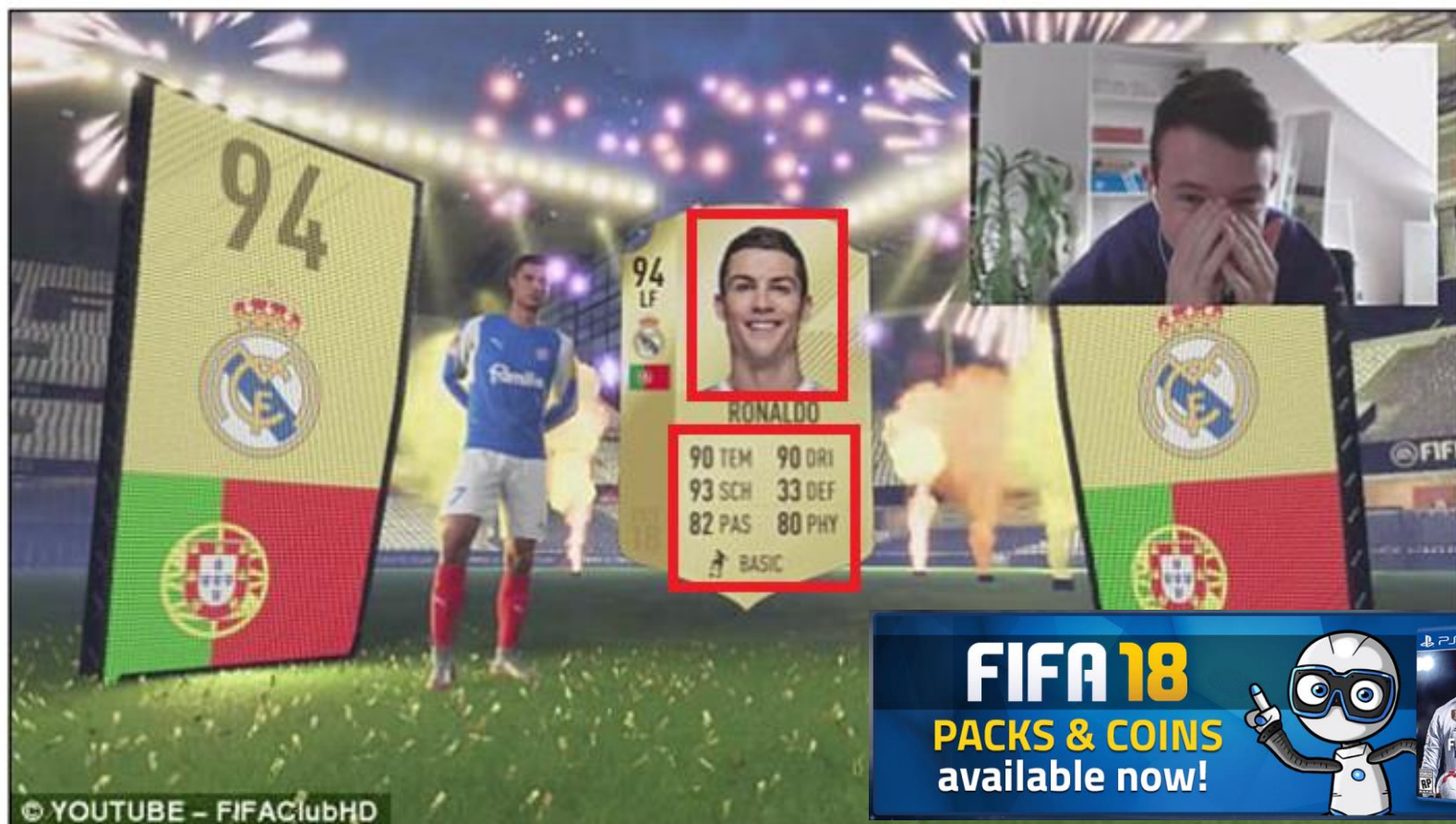
- 0.9% of 11-16 year olds are classified as 'problem' gamblers, 1.3% as 'at risk' and 15.5% as non-problem gamblers¹
- 39% of young people stated that their parents had discussed the problems that gambling can lead to with them

- Sample: 2,881 adolescents 11-16 years

Group discussion #3

- Have you ever spent money on something virtual or immaterial? Do you remember why?
- Why do people care about virtual items?
- Hypothetical Q: How much would you pay for 100 *new* photos from your childhood?

FIFA 18 Ultimate Team player left in tears after packing Cristiano Ronaldo



Cristiano Ronaldo sells for the staggering amount of around 1.8million coins on Ultimate Team

Most expensive microtransaction?

Downloadable Content

This content requires the base game [EVE Online](#) on Steam in order to play.

Buy EVE Online: 15400 PLEX



\$499.99 USD

Add to Cart

This product is not eligible for refund. [Learn more](#)

Players tend to make relatively small purchases but there is often an incentive for larger purchases



Decision-making biases in gaming

- Problem gamers tend to differ from controls on neurocognitive **tasks of attention, processing, and decision-making**
- Pre-existing biases are *strengthened with repeated use*
- Problem gamers show:
 - **biases in how they interpret and process game-related information** (Decker & Gay, 2011);
 - **poorer decisions under risky conditions** (Yao et al., 2015);
 - **fail to account for objective probabilities** (Wang et al., 2017);
 - **less able to delay gratification for a larger reward** (Pawlikowski & Brand, 2011)

Co-Occurrence of Addictive Behaviours: Personality Factors Related to Substance Use, Gambling and Computer Gaming

Birte Walther Matthis Morgenstern Reiner Hanewinkel

Institute for Therapy and Health Research, Kiel, Germany

- Study of **five different addictive disorders**
 - Gambling, gaming, and use of tobacco, alcohol and cannabis
- Sample of 2,553 people aged 12 to 25 years
- **Impulsivity was the only co-occurring personality factor**
- Problematic gaming features: irritability/aggression, social anxiety, attention deficit issues, low self-esteem

The neurobiology of gaming self-concept

Behavioral Neuroscience
2015, Vol. 129, No. 1, 8–17

© 2014 American Psychological Association
0735-7044/15/\$12.00 <http://dx.doi.org/10.1037/bne0000025>

Avatar's Neurobiological Traces in the Self-Concept of Massively Multiplayer Online Role-Playing Game (MMORPG) Addicts

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Holger Hill
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Madlen Sell, Iris Reinhard, Sabine Vollstädt-Klein, Falk Kiefer, Karl Mann, and Tagrid Leménager
Heidelberg University

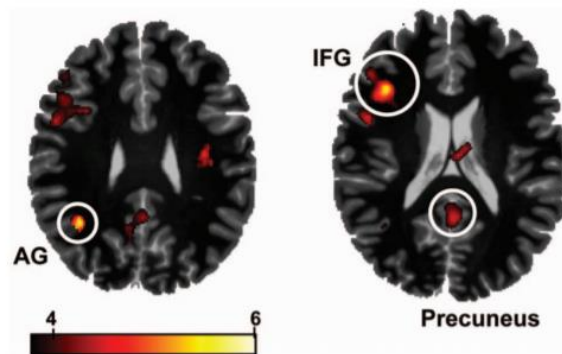


Figure 3. Between-groups comparison for the contrast *avatar > ideal*, showing significantly higher brain activations in addicted MMORPG players during avatar-related reflection relative to ideal in the left AG (left image, $z = 29$), the left IFG (right image, $z = 20$; among others); brain-extracted χ -square template in MNI space with SPM contrast image-overlay: $p_{\text{uncorr}} < .001$, $T = 3.39$, $\#_{\text{voxel}} \geq 10$. See the online article for the color version of this figure.

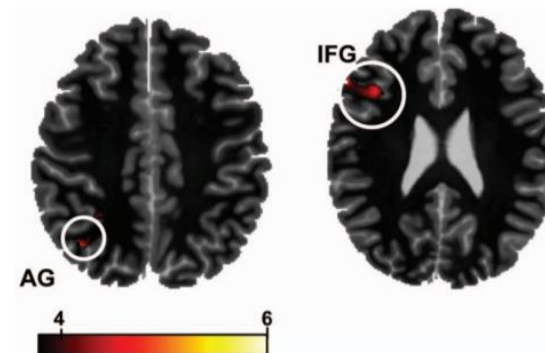



Figure 2. Axial view of brain activations in addicted- relative to nonaddicted MMORPG players for the contrast *avatar > self* in the left IFG (right image, $z = 25$) as well as in the left AG as our ROI (left image, $z = 45$); brain-extracted χ -square template in MNI space with SPM contrast image-overlay: $p_{\text{uncorr}} < .001$, $T = 3.39$, $\#_{\text{voxel}} \geq 10$. See the online article for the color version of this figure.


'Loot boxes'





Pay real money for cosmetic items



Overwatch™ - 24 Halloween Loot Boxes

 Overwatch™ - 24 Halloween Loot Boxes is currently not available.





Description

Celebrate Halloween with some frightening treats for your heroes during a new event: Overwatch Halloween Terror!

Trick out your collection by picking up Halloween Loot Boxes, available for a limited time*. Every Loot Box contains up to four cosmetic items, including at least one Halloween skin, spray, highlight intro, emote, victory pose, player...

Pay real money for in-game advantages

LOOTBOXEN IN STAR WARS BATTLEFRONT 2



Someone Spent \$15,000 On Mass Effect Multiplayer Cards

"You need to understand the amount of money that's at play with microtransactions," says former BioWare developer Manveer Heir.

2 LOOTBOXEN

11 LOOTBOXEN

24 LOOTBOXEN

50 LOOTBOXEN

PAY TO WIN ???

EPIC WARS

ZÄHLUNGSMETHODEN


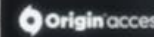
Rewards for watching others buy loot crates



Darth Vader takes 40 hours to unlock in Battlefront II and fans are not happy



BUY NEW
\$99.95

		
STAR WARS™ Battlefront™ II: 2100 Crystals	STAR WARS™ Battlefront™ II: 4400 Crystals	STAR WARS™ Battlefront™ II: 12000 Crystals
 \$10.00 \$17.99	 \$30.00 \$35.99	 \$60.00 \$89.99

Darth Vader = 60,000 'crystals'
or > \$250



Contents lists available at ScienceDirect

Addictive Behaviors

journal homepage: www.elsevier.com/locate/addictbeh



Free-to-play: About addicted Whales, at risk Dolphins and healthy Minnows. Monetization design and Internet Gaming Disorder



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- Survey of 3,967 children in Germany
- Expenditure on games was associated with IGD
- ‘Whales’ spent 16+ euros per month

Video game loot boxes are psychologically akin to gambling

Video games are increasingly exposing young players to randomized in-game reward mechanisms, purchasable for real money — so-called loot boxes. Do loot boxes constitute a form of gambling?

Aaron Drummond and James D. Sauer

Playing video games is a common pastime in industrialized nations, with 65% of US homes including at least one gamer¹. To increase the longevity and profitability of their products, video game developers are, with increasing frequency, incorporating purchasable randomized rewards — commonly referred to as ‘loot boxes’ — in their games². Consumers and, more recently, policymakers are becoming increasingly concerned that these randomized reward mechanisms may constitute a form of unregulated gambling targeting minors^{3,4}. Here, we examine the structural and psychological features of loot boxes to evaluate similarities to gambling. Whether (and which) loot boxes may be deemed illegal is a matter determined by the laws of individual countries.

‘Loot box’ is a catch-all term for a digital container of randomized rewards. Essentially, a loot box contains one or more random rewards that alter the game in some



Credit: Image courtesy of Aaron Drummond

Table 1 | Gambling features in the 22 video games containing loot boxes in 2016–2017

Game	ESRB rating	Exchange of money	Unknown future event	Chance involved	Avoid losses if opt out	Competitive advantage	Can cash out
<i>Assassins Creed Origins</i>	17+	✓	✓	✓	✓	✓ ^a	X
<i>Battlefield 1</i>	17+	✓	✓	✓	✓	X	X
<i>Call of Duty: Infinite Warfare</i>	17+	✓	✓	✓	✓	✓	X
<i>Call of Duty: WWII</i>	17+	✓	✓	✓	✓	X	X
<i>Destiny 2</i>	13+	✓	✓	✓	✓	X	X
<i>FIFA 17</i>	E	✓	✓	✓	✓	✓	✓
<i>FIFA 18</i>	E	✓	✓	✓	✓	✓	✓
<i>For Honor</i>	17+	✓	✓	✓	✓	✓	X
<i>Forza Motorsport 7</i>	E	X ^b	✓	✓	✓	✓	X
<i>Gears of War 4</i>	17+	✓	✓	✓	✓	X	X
<i>Halo Wars 2</i>	13+	✓	✓	✓	✓	✓	X
<i>Injustice 2</i>	13+	X	✓	✓	✓	✓	X
<i>Lawbreakers</i>	17+	✓	✓	✓	✓	X	X
<i>Madden NFL 17</i>	E	✓	✓	✓	✓	✓	✓
<i>Madden NFL 18</i>	E	✓	✓	✓	✓	✓	✓
<i>Mass Effect Andromeda</i>	17+	✓	✓	✓	✓	✓ ^a	X
<i>Middle Earth: Shadow of War</i>	17+	X ^c	✓	✓	✓	✓ ^a	X
<i>NBA 2K18</i>	10+	✓	X	X	✓	X	X
<i>Need for Speed Payback</i>	13+	✓	✓	✓	✓	✓	X
<i>Overwatch</i>	13+	✓	✓	✓	✓	X	X
<i>PlayerUnknown's Battlegrounds</i>	13+	✓	✓	✓	✓	X	✓
<i>Star Wars Battlefront II</i>	13+	X ^c	✓	✓	✓	✓	X

E, everyone. ^aThese games are single player or cooperative, but loot boxes can provide competitive advantage against the game and make players more powerful than friends or team mates. ^bTurn 10 Studios (the publisher of *Forza Motorsport 7*) have announced they will be adding the ability to purchase loot boxes with money soon. ^cOriginally included, but shut down at time of writing due to consumer backlash.

Forsker skal spille dataspill for 50.000 kroner

Såkalte «loot-bokser» regnes ikke som pengespill i Norge. Nå skal en forsker ved UiB bidra til å finne ut om regelverket må endres.



Ingrid Aarekol

Journalist

Publisert 26. apr. kl. 16:51

Oppdatert 26. apr. kl. 17:13

LOOT-BOKS: Mekanismene som skjer når man åpner en eske, minner om det som skjer på en spillautomat, mener forsker. Her vurderer en spiller ulike forundringsbokser i spillet Overwatch.

FOTO: MARKUS VANGEN / NRK



FIFA

Posts



Posted by u/TapeTen 19 days ago 3

2.6k



FUT FUT pack opening research project: €3800 later

Fellow redditors!

Some of you may remember a post doing the rounds on here a while back, about a researcher opening packs for science. That's me! So, I've now opened €3800 worth of packs and have published my findings and views on the whole thing at GREF 2018, a conference for the European gambling regulators.

I thought it was a good idea to share the raw data with everyone here, so that anyone who wants can have a look at them and see for themselves how it all panned out.

Here's the gist of it:

Starting in February, ending (for now) in May, I've spent 453650 Fifa points (worth approx €3800 when purchasing bundles of 12000 points only).

I've opened 651 packs and catalogued every single item, and checked the value of all items against fubtin.com at the time of opening.

In total, I pulled 9961 items, of which 6992 were player cards, and 4483 were rare gold cards

70 "in-form" cards (TOTW / TOTS / Hero etc) were pulled - mostly ones of little value, with a couple of notable exceptions.

0 icon cards were pulled.

That's right, 0 icon cards were pulled.

The "top 9" rare gold cards, rated 91-94 (Cristiano Ronaldo), were pulled exactly 0 times. That's right! 0 times.

By comparing the distribution of pulled rare gold cards in terms of their rating, it was evident that cards are not drawn "randomly" from the category "rare gold cards", but are skewed towards less valuable ones. About 10% of rare gold cards in FUT are rated 85-89, and about 1% of rare gold cards are rated 90 or more, but only 1.6% and 0.02% of packed players were from these rating brackets, respectively.

Observations

1. Companies are **testing the boundaries** of what is acceptable monetisation in games
2. Companies want players to **equate monetisation with positive emotions** in games
3. Online games can be unstable and adjustable 'products', becoming more like a **'service'**
4. 'Loot boxes' are **not always easy to classify**

Quick audience poll

Do you think loot boxes are a form of gambling?

a. YES

b. NO

c. UNSURE

Why don't 'loot boxes' meet the definition of gambling?

- (1) staking or risking something of value
- (2) upon the outcome of a contest of chance or a future contingent event not under the person's control or influence,
- (3) upon an agreement or understanding that the person or someone else will receive something of value in the event of a certain outcome

“Predatory” monetisation

Predatory monetisation schemes typically involve in-game purchasing systems that **disguise or withhold the true long-term cost** of the activity until players are already financially and psychologically committed. Such schemes are designed to **encourage repeated player spending using tactics** or elements that may involve, either singularly or in combination:

- limited or misleading disclosure of the product;
- false or misleading randomness of outcomes
- intrusive and unavoidable solicitations;
- systems that manipulate reward outcomes to reinforce purchasing behaviors over skilful or strategic play.







Such strategies may exploit **inequalities in information** between purchaser and provider such as when the industry uses knowledge of the player’s game-related preferences, available funds, and/or playing and spending habits, to **present offers predetermined to maximize the likelihood of eliciting player spending**.

Group discussion #4

1. Should loot boxes be age-restricted?
2. Are there any lessons from online gambling regulation that may be applied to loot boxes?
3. How can loot boxes be more “responsible?”

**Adolescent exposure to new
online gambling products that
intersect with gaming**

Virtual goods: “Skins”

<p>AK-47 Howl Field-Tested Contraband Rifle</p>  <p>\$380.00 ✓ Suggested Price: \$355.00</p> <p>Inspect Add to Cart GO</p> <p>Wear: 24.135%</p>	<p>AK-47 Vulcan Factory New Covert Rifle</p>  <p>\$48.00 22% OFF ✓ Suggested Price: \$61.23</p> <p>Inspect Add to Cart GO</p> <p>Wear: 5.523%</p>	<p>★ My Bayonet Boreal Forest Well-Worn ★ Covert Knife</p>  <p>\$76.00 ✓ Suggested Price: \$79.24</p> <p>Inspect Add to Cart GO</p> <p>Wear: 38.505%</p>
<p>★ Shadow Daggers Case Hardened Well-Worn ★ Covert Knife</p>  <p>\$59.00 ✓ Suggested Price: \$63.54</p> <p>Inspect Add to Cart GO</p> <p>Wear: 42.656%</p>	<p>AWP Dragon Lore Factory New Covert Sniper Rifle</p>  <p>\$1,799.99 ✓ Suggested Price: \$1,350.00</p> <p>Inspect Add to Cart GO</p>	<p>StatTrak™ Galil AR Sandstorm Field-Tested StatTrak™ Mil-Spec Grade Rifle</p>  <p>\$26.32 ✓ Suggested Price: \$3.29</p> <p>Inspect Add to Cart GO</p>

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Skins Gambling

A multi-gaming realtime experience

Create an account

Join our awesome community

Display name

Email

☐ I have read and accept [terms of service](#)

☐ I am over **18 years-old**

CREATE MY ACCOUNT

Already have an account? [Log in](#)

YouTube / Twitch promotions

Overwatch

<https://www.youtube.com/watch?v=d3MsoCa8MEM>

CSGO

<https://www.youtube.com/watch?v=kPygWpReOGE>

How to trade skins post 7 day ban

<https://www.youtube.com/watch?v=5m0jeThrLGU>

Australian Youtuber/Twitch Streamer - 488k followers

<https://twitter.com/LachlanYT>

Paid Sponsored Loot box opening

<https://www.youtube.com/watch?v=3UuDLbi7rT8>

Sponsored PUBG opening

<https://www.youtube.com/watch?v=-NLNEWRIAPA>

Skip to 10:30

CSGO Skins – News headlines in 2016

Counter-Strike skins gambling: Australian teens risking thousands through video game

Washington state orders Valve to end 'Counter-Strike' gambling

Valve Issues Cease And Desist Letter To 23 *Counter-Strike* Gambling Sites

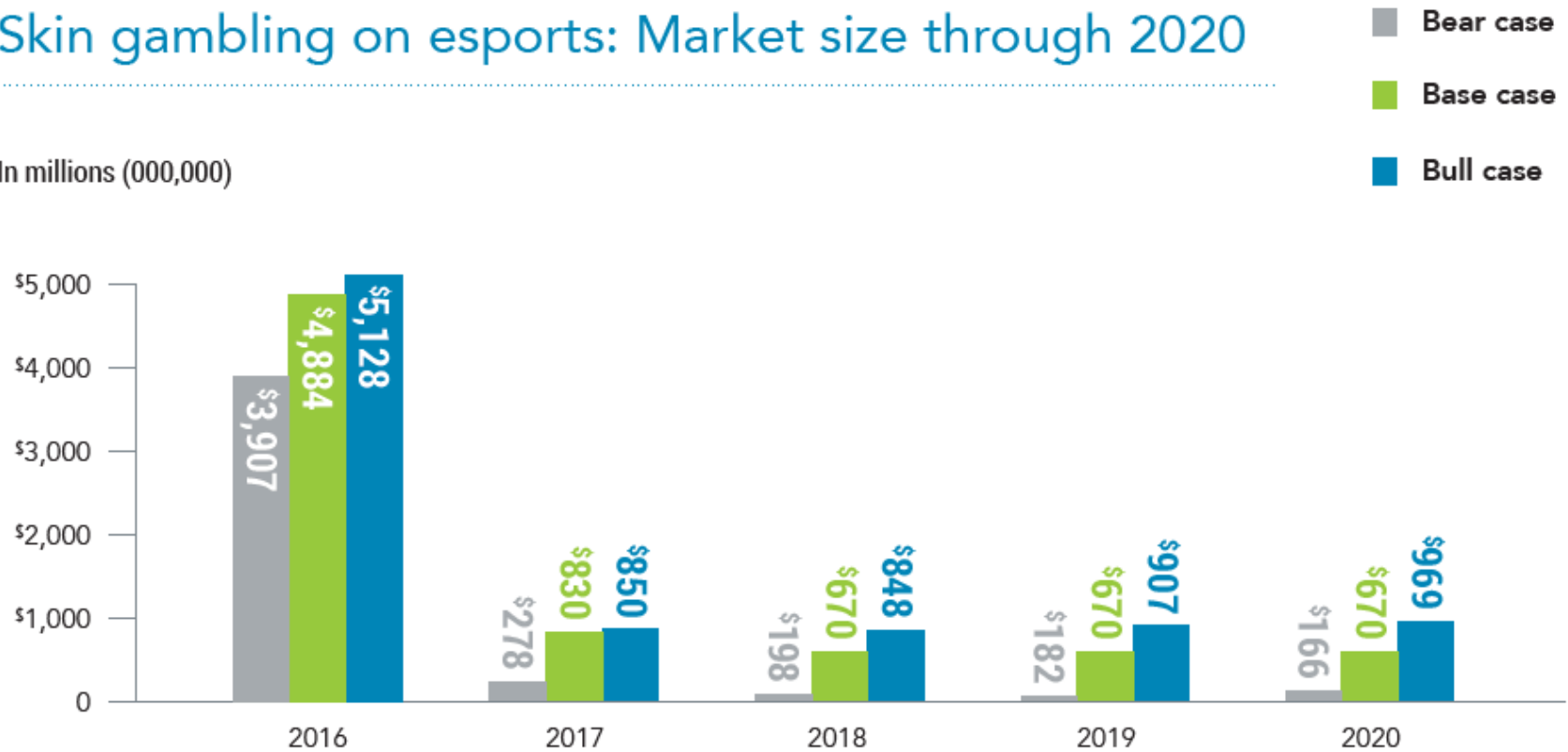
Counter-Strike YouTubers revealed as owners of gambling site they promoted

YouTubers Behind *Counter-Strike* Gambling Scandal Get Sued

Market uncertainty due to trade restrictions

Skin gambling on esports: Market size through 2020

In millions (000,000)



Source: Narus Advisors / Eilers & Krejcik Gaming

Research Spotlight: Gaming-gambling links

Study 1 – Dussault et al. 2017

Transition from playing with simulated gambling games to gambling with real money: a longitudinal study in adolescence

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ABSTRACT

Digital technology advances have supported an expansion of gambling activities, which is notable via the advent of simulated gambling games. Simulated gambling reproduces 'real' gambling activities, which enables the users to gamble without investing money. According to research evidence, a certain number of adolescents are playing with these games, but until now little has been known about how they could facilitate the migration to gambling with real money. Using a longitudinal design with a one-year interval period, the goal of this study was to assess the potential transition between playing with simulated gambling and the initiation to gambling with real money. The final sample was constituted of 1220 adolescents (age range = 14 to 18 y.o.) who had never played with real money at the first measurement time. At the second measurement time, 28.8% of the participants had gambled for the first time with real money. Logistic regressions revealed that the predictive association between simulated gambling and gambling with real money only holds for adolescents who transitioned from simulated poker to poker with real money. These findings highlight the need for regulation and monitoring on Internet gambling poker sites, as well as further

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Simulated gambling games;
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longitudinal; poker




General exposure is common

- In Germany, **one in every two school pupils** aged 11–19 years has had experience of simulated gambling opportunities
- Simulated internet gambling is currently a **reality of life** for many adolescents, above all due to its **widespread presence within video games.**

Study conclusions

Our results suggested that even when controlling for many variables, **playing a simulated version and the initiation of gambling with real money are prospectively related**. More precisely, participants who played a simulated version were, one year later, more inclined to have initiated in a gambling activity involving real money. When assessing the factors impacting the initiation of specific gambling activities with real money, our results suggested that differential patterns exist according to gender, age and the utilization of simulated versions. Indeed, our results suggested that **girls are more likely to play scratch games, while boys are more likely to play poker or bet on sporting activities**. In addition, our results suggested that older adolescents are more inclined to have played scratch games, while younger adolescents preferred to bet on sporting activities. While playing on a simulated version does not seem to be linked to the introduction to sports-related betting or to scratch games, it appeared to be significantly linked to playing poker with real money. In fact, along with gender, **practising poker on simulated versions was the only variable that was found to be associated with playing poker with real money**.

Do Simulated Gambling Activities Predict Gambling with Real Money During Adolescence? Empirical Findings from a Longitudinal Study

Tobias Hayer¹  · Jens Kalke² · Gerhard Meyer¹  · Tim Brosowski¹ 

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Abstract As technology has developed, the international gambling market has changed markedly in recent years. The supply of internet-based gambling opportunities has become ever more significant. At the same time, the introduction of new gambling opportunities always brings a demand for evidence-based scientific evaluation, with regard to the associated risks of addiction. Simulated internet gambling, which is the focus of this study, represents a relatively new product group located at the interface between gambling and computer gaming. Concerns have been raised in scientific literature, especially with regard to the adolescent age group, as to whether participation in simulated internet gambling directly promotes recruitment to the world of monetary gambling, as defined in the gateway hypothesis. The research design was based on a standardized, representative longitudinal survey (over a 1-year period) with a total of 1178 school pupils from Northern Germany ($M = 13.6$ years; 47.5% male). It must be borne in mind that 12% of the adolescents belonged to the subgroup of “onset gamblers” and first reported experience with monetary gambling at the second stage of surveying. Logistic regression analysis demonstrates that this migration process is fostered by (1) participation from home in simulated gambling on social networks and (2) significant exposure to advertising (relating to both simulated and monetary gambling). Within the subgroup of simulated internet gamblers, variables such as particular patterns of use (including breadth and depth of involvement with simulated internet gambling, certain motives for participation, and microtransactions) do not serve as significant predictors. Despite this, important needs for action for the purposes of prevention and research can be identified.

Keywords Simulated gambling · Longitudinal study · Adolescence · School survey · Predictors · Gambling onset

Study 2 –
Hayer et al.
2018

1178
adolescents

“Overall, the results show that a significant minority of the pupils questioned can be identified as being **onset gamblers** during the period of the survey and that—alongside exposure to advertising and above and beyond other variables—the **consumption of a particular form of simulated internet gambling (on social networks, from home)**. The second factor is the key role played by **exposure to advertising for simulated or real games of chance**, as operationalized by perceptions of its frequency, in the initial decision to gamble for real money.”


Study 3 – Hollingshead et al. 2016

The Social Casino Gaming-Gambling Link: Motivation for Playing Social Casino Games Determines Whether Self-Reported Gambling Increases or Decreases Among Disordered Gamblers

Abstract

Engagement with social casino games (i.e., free online casino-like games available on social networking sites) has been found to be a risk factor for increased gambling behaviours (Kim, Wohl, Salmon, Gupta, & Derevensky, 2015). However, this may not be true for all social casino gamers. In the current research, we tested the idea that motivation to play social casino games will predict changes in self-reported gambling behaviours among disordered gamblers. Results showed that disordered gamblers ($N = 140$) who were motivated to play social casino games for the social connection it provides or for skill building reported an increase in their gambling. Conversely, playing in order to cope with negative life events or for excitement was not predictive of gambling. However, gamblers who reported playing social casino games to reduce cravings to gamble reported an overall decrease in gambling. The implications of social casino games as a potential harm reduction strategy for *some* disordered gamblers are discussed.

Are Video Games a Gateway to Gambling? A Longitudinal Study Based on a Representative Norwegian Sample

Helge Molde¹  · Bjørn Holmøy¹ · Aleksander Garvik Merkesdal¹ ·
Torbjørn Torsheim² · Rune Aune Mentzoni² · Daniel Hanns³ · Dominic Sagoe² ·
Ståle Pallesen²

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Abstract The scope and variety of video games and monetary gambling opportunities are expanding rapidly. In many ways, these forms of entertainment are converging on digital and online video games and gambling sites. However, little is known about the relationship between video gaming and gambling. The present study explored the possibility of a directional relationship between measures of problem gaming and problem gambling, while also controlling for the influence of sex and age. In contrast to most previous investigations which are based on cross-sectional designs and non-representative samples, the present study utilized a longitudinal design conducted over 2 years (2013, 2015) and comprising 4601 participants (males 47.2%, age range 16–74) drawn from a random sample from the general population. Video gaming and gambling were assessed using the Gaming Addiction Scale for Adolescents and the Canadian Problem Gambling Index, respectively. Using an autoregressive cross-lagged structural equation model, we found a positive relationship between scores on problematic gaming and later scores on problematic gambling, whereas we found no evidence of the reverse relationship. Hence, video gaming problems appear to be a gateway behavior to problematic gambling behavior. In future research, one should continue to monitor the possible reciprocal behavioral influences between gambling and video gaming.

Keywords Gambling · Video gaming · Longitudinal · Representative sample · Cross-lagged

Study 4 – Molde et al. 2018

Molde (2018) study conclusions

2-year follow up study of 4601 adolescents

“Perhaps most interestingly, our results show that scores on the gaming problem scale at wave 1 predicted the scores on the gambling problem scale at wave 2, but there was no evidence of the reverse relationship. This suggests that video gaming constituted a risk factor for gambling 2 years later.”

Social casino games (SCGs)



Playtika

- *Slotomania, Caesars Casino, World Series of Poker*



zynga

- *Zynga Poker, Hit it Rich! Slots, Wizard of Oz Slots*



- *Big Fish Casino, Jackpot City, Vegas Party Slots*

Top 100 games on Facebook

Computers in Human Behavior 57 (2016) 48–53



Contents lists available at [ScienceDirect](#)

Computers in Human Behavior

journal homepage: www.elsevier.com/locate/comphumbeh



Full length article

Gambling content in Facebook games: A common phenomenon?

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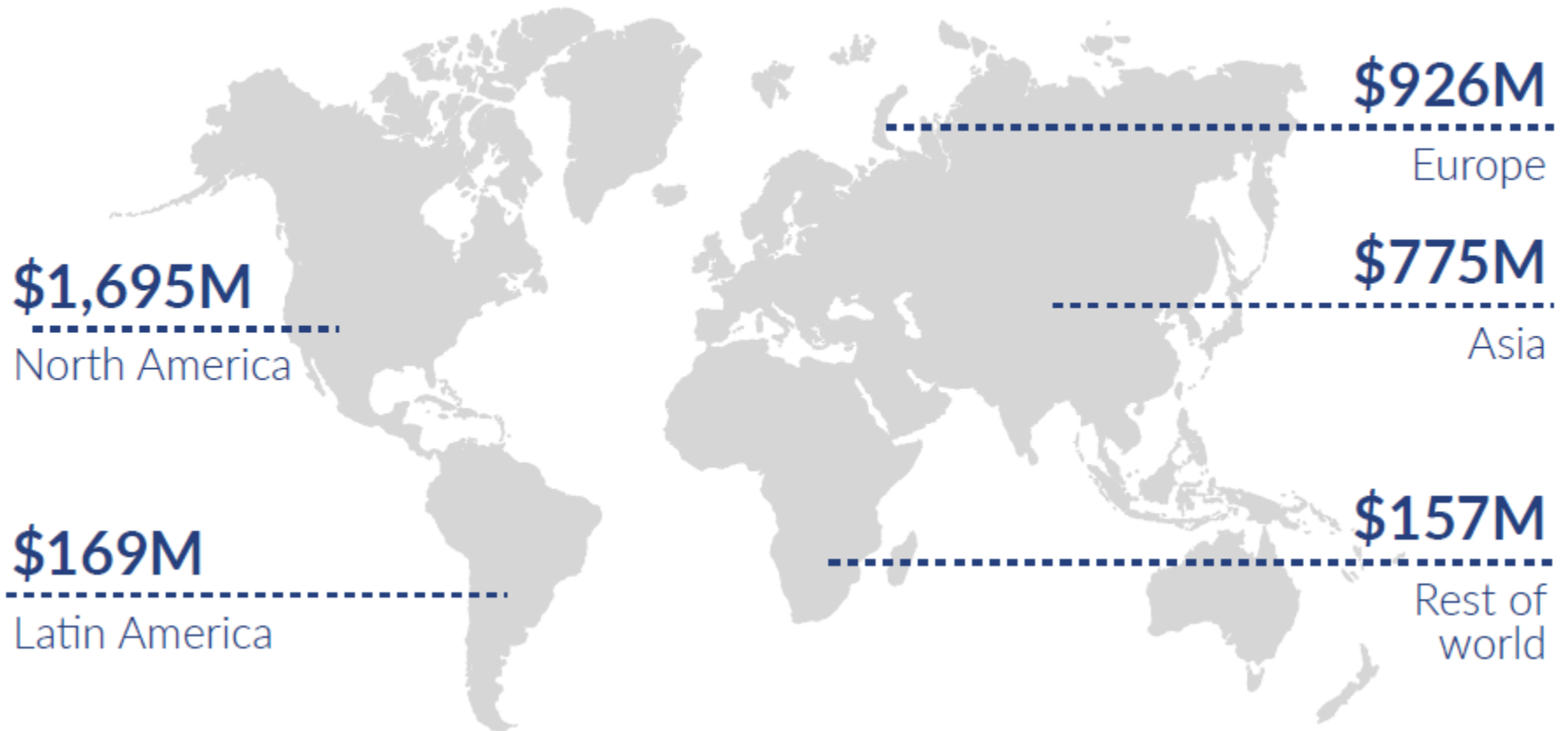
ABSTRACT

Some Facebook games are offered by developers who also offer gambling games, possibly indicating that gambling content (GC) could be found in their Facebook games. This study measures the presence of GC in Facebook games and documents their presentation. It verifies whether GC is more present in games offered by developers offering gambling games as well. The 100 most popular Facebook games were played for 10 min and recorded for content analysis purposes. GC was detected and classified into standard gambling simulation, non-standard gambling simulation, and gambling references. The results indicate that 54% of Facebook games present GC. The GC most often used alluded to slot machines (22%). Facebook games which offer GC are not associated with gambling game developers. However, when gambling references are found, they were most often in games offered by gambling developers. GC as a medium for familiarization with gambling is discussed.

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54% of games on Facebook have **gambling elements** and these games tend to be owned by gambling operators

SCG revenue by region



4 of the 10 top publishers owned by gambling operators

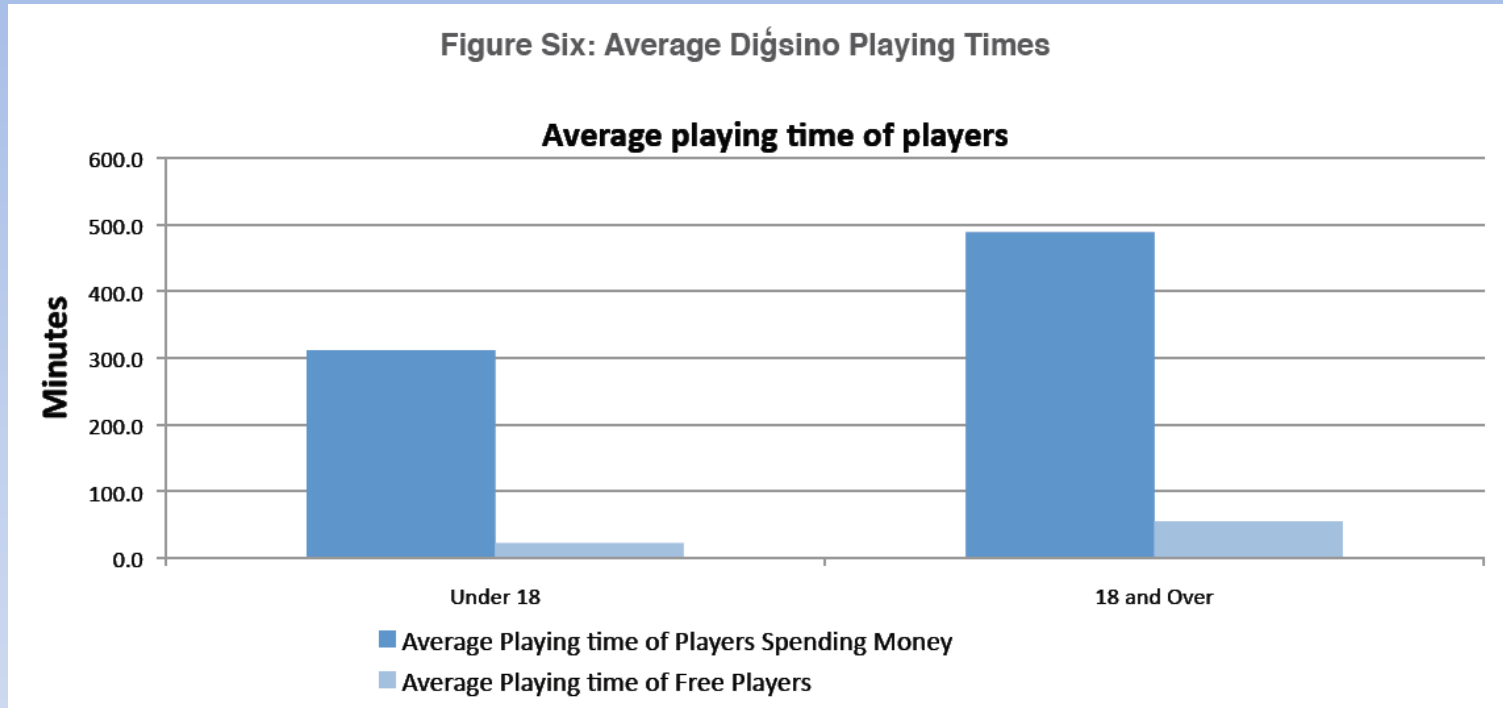
2015 Industry study of 12 million players

Indeed, there were only 505 paying players under the age of 18. Thus, only 0.004% of the total Digisino player numbers were paying players under the ages of 18 years. The 505 paying players under 18 represent 0.56% of the total number of youth Digisino players. In policy and practical terms, the pay to play youth segment is insignificant.

	PAY TO PLAY	FREE PLAY	TOTAL PLAY
<18 years	505	90,150	90,665
18+ years	327,810	11,849,650	12,177,460

Digisino expenditure would be about 30% of an average teen's income. While 30% is a sizeable percentage of income, it is Harvest Strategy's opinion that because many youth have low overheads as most of their domestic needs are met, this percentage of expenditure would seem affordable¹⁰.

Under 18s who spend \$\$\$ play about 10min per day



In context, adults paying to play spent approximately 1.09% of the overall minutes available in May 2014 paying to play, and youth aged less than 18 years spent approximately 0.7% of the overall minutes available in May paying to play. The number of minutes spent playing Dig'sino games does not appear high relative to the available time.

43,200 min in 1 month

300 min / 43,200 = 0.7%

Study: Young people who spend money on SCGs

- Sample of 155 adolescents (Qualtrics)
 - 130 SCG players, 78 non-paying, 52 paying
- Those who spent money on SCGs:
 - Played more often
 - Higher psychological distress
 - Higher PGSI scores
 - Playing for escape and stress relief

FULL-LENGTH REPORT

Journal of Behavioral Addictions
DOI: 10.1556/2006.5.2016.067

The cost of virtual wins: An examination of gambling-related risks in youth who spend money on social casino games

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(Received: August 9, 2016; revised manuscript received: September 2, 2016; accepted: September 3, 2016)

Who Pays to Play Freemium Games? The Profiles and Motivations of Players Who Make Purchases Within Social Casino Games

SALLY M. GAINSBURY^{1*}, DANIEL L. KING², ALEX M. T. RUSSELL¹ and PAUL DELFABBRO²

Survey of 261 paying SCG users:

- “increase enjoyment” (n=57, 21.8%);
- “to take advantage of a special offer” (n=54, 20.7%);
- “to get ahead in the game” (n=51, 19.5%);
- “impulse decision to continue play” (n=48, 18.4%);
- “because the game isn’t fun otherwise” (n=46, 17.6%);
- “to purchase gifts for friends” (n=44, 16.9%);
- “waiting for or earning credits” (n=43, 16.5%).

Do people migrate from SCGs to gambling?



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Computers in Human Behavior

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Full length article

Migration from social casino games to gambling: Motivations and characteristics of gamers who gamble



Sally M. Gainsbury ^{a, *}, Alex M.T. Russell ^a, Daniel L. King ^b, Paul Delfabbro ^b, Nerilee Hing ^c

- A survey of 521 adults who play SCGs
- **Almost 20%** gambled with money as a result of SCG use
- **Almost 10%** reported SCG use had increased their gambling
- Main motivation was desire to win money

ORIGINAL PAPER

Do Social Casino Gamers Migrate to Online Gambling? An Assessment of Migration Rate and Potential Predictors

**Hyoun S. Kim • Michael J. A. Wohl • Melissa M. Salmon •
Rina Gupta • Jeffrey Derevensky**

- Longitudinal study of 409 players of SCGs
- 6 months later...
 - **26% had migrated to online gambling**
- Best predictor of migration was spending money on microtransactions (8x greater)

Psychoeducation for teens

- Games can be seen as ‘non-commercial’ because they are critically praised art
- But games are designed to make money for developers and publishers
- Games will be more profitable if
 - increase and maintain their player install base,
 - players making in-game purchases
 - promote the games
- Game items are engineered to foster beliefs that fuse with self-identity and social status

Emerging regulation

Video game loot boxes declared illegal under Belgium gambling laws

🕒 26 April 2018

f t m ✉ Share



Video game loot boxes are "in violation of gambling legislation", according to the Belgium Gaming Commission.

Failure to comply may lead to a fine of €800,000 (£697,000) and up to five years in prison for the publishers.

Belgium Gambling Commission

- 2018 recommendations

With regard to distributors and game developers (EA, etc.):

- Clear indication of the chances of winning for the various item values.
- Permit complete control of the random number generators used for the loot boxes by the Gaming Commission's Technical Assessments team.
- Provision of the data of players and payments.
- Introduction of a financial ceiling for the monetary amount that can be spent on loot boxes.
- The presence of paid loot boxes may not impede or disadvantage a normal game without paid loot boxes.
- A game symbol 'gambling' is needed (e.g.: "contains gambling").

Belgium Gambling Commission

- 2018 recommendations

With regard to the regulator:

- Update the Gaming Commission so that parents and children can be better informed about and protected against gambling addiction and so that more research can take place on the presence of gambling elements in (free) video games. It must be possible to inspect video games for the presence of problematic gambling elements in the event of a complaint against them or as a matter of course. This will serve both to put into perspective the gambling element (video games where elements of chance are not problematic) and protect players (making clear to players and parents which video games are not suitable for minors).
- Specific permits must be developed for games of chance in video games.
- Principal ban on minors purchasing games with paid loot boxes.
- Age verification in supermarkets when purchasing codes or gift cards for video games. Minors may not make payments associated with video games that are not suitable for minors.

Limitations of current legislation

- Some jurisdictions do not recognise:
 - the wagering of skins and other virtual items
 - some types and methods digital transfers of payment (e.g., cryptocurrency, virtual goods)
 - Do not recognise operators/operations as a gambling business
- Applies to sports but not esports
- Paying only for access not wagering

NOT gambling – can't win money



ADDISONS

Focus Papers

Online Social Games – The Australian Position

Date : 16 October 2013

Author/s : Jamie Nettleton, Karina Chong

Online Social Games are not gambling

The supply and promotion of an online or “interactive” gambling service is prohibited expressly by the IGA. To fall within the scope of an interactive gambling service, the “game” must:

1. Be a game of chance or of mixed chance and skill; and
2. Involve consideration; and
3. Be played for money or anything else of value.

Concerns about Online Social Games

Online social games are legal in Australia. However, concern has been expressed about certain online social games that feature a casino-style or gambling-like content.

Over the past few years, Senator Nick Xenophon has stated that online social games constitute gambling and are therefore prohibited by the *Interactive Gambling Act 2001* (Cth) (the **IGA**). Senator Xenophon has stated that these games are “*identical to poker machines and they are easily accessible by young people – habituating them to electronic gambling, particularly poker machines.*”³ Accordingly, it is necessary to consider the legal status of these games by reference to the current legal framework.

Many issues to consider

- Representation of products and services
- Classification of these products
- Consumer protection measures
- Age restrictions and enforcements
- Fostering responsible spending
- Identification of vulnerable players
- Licences for operators
- Benefits for the community

Age rating



Mature/Adult
Coarse Language
More

In-app purchases

AU\$10.65 – AU\$59.95

The limits of transparency

China's new law forces Dota, League of Legends, and other games to reveal odds of scoring good loot

by Chaim Gartenberg | @cgartenberg | May 2, 2017, 1:38pm EDT

- Requirement of operators to share the odds
- Could also share:
 - Money requirement as game progresses
 - Time requirement for % completion
- But could this make it things worse?

Final thoughts on convergence

- Video games are becoming monetised in ways that can make them more exploitative of some players
- More research evidence on gaming-gambling links
- Is 'financial payout' necessary for regulation?
 - Secondary markets for virtual items
 - Predatory or exploitative features
- Maybe the term '*gambling*' is too constraining?

Thank you!



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INTERNET GAMING DISORDER

THEORY, ASSESSMENT, TREATMENT, AND PREVENTION

DANIEL KING AND PAUL DELFABBRO

