ISGA Response to the Proposed New Mandatory Minimum Classifications for Gambling-Like Content in Computer Games

Introduction

1. The International Social Games Association (ISGA) (www.i-sga.org) is a global non-profit industry association established in 2013 to develop and communicate global best practices in social games. The ISGA represents a section of social games businesses, including Playtika, Zynga, Playstudios, Greentube, SciPlay, Pixel United, IGT and Huuuge Games. The ISGA promotes player education through the Smart Mobile Gamers website (www.smartmobilegamers.org), developed with leading digital safety organisations, clinical psychologists and games researchers.

2. The ISGA has a regularly updated set of Best Practice Principles based on the core values of consumer protection, accountability and transparency. Our latest iteration extends the principles in areas such as in-app purchases, advertising practices, privacy compliance and player safeguards (https://www.i-sga.org/best-practice-principles/). The ISGA is committed to working with policymakers in researching the online games sector and has invested in and published independent research based on real player data (www.i-sga.org/research/).

3. Around 55% of video games that Australians play are enjoyed on mobile phones. The mobile games market is a vibrant but also complex global, digital consumer market. Our organisation therefore has a material interest in ensuring effective policy making in this area in all major jurisdictions, including Australia.

4. Since our founding in 2013, the ISGA has frequently assisted regulators around the world, as they have worked through new and highly technical gaming/gambling convergence policy issues. Efforts by the Federal Government to prioritise updates to the National Classification Scheme (the Scheme) are welcome, as is the objective of protecting those most vulnerable in our community, including children, from gambling harms.

5. The ISGA welcomes the opportunity to provide feedback on the draft Guidelines for the Classification of Computer Games 2023. The ISGA shares the goal of providing high levels of consumer protection and trust. The ISGA supports classification as an established and well-understood consumer guide for the suitability of media content, allowing people to make informed choices. Our feedback here is intended to be constructive and ensure that classification continues to be a valuable tool for consumers.

6. The ISGA is concerned that a number of proposals in the draft Guidelines are not evidence based, particularly given that existing research on the association between loot boxes and simulated gambling and harms such as problem gambling are at best inconclusive. We believe that some other aspects of the draft Guidelines will give rise to negative, unintended consequences, including overly broad definitions that will capture and impact a very large swathe of digital games, and a globally unprecedented approach to classification that includes the game monetisation mechanism as a criterion for content classification. The overall impact of this novel and highly expansive

approach is unlikely to align with the more narrow and specific outcomes the Government is seeking.

7. The ISGA urges the government to make the following amendments to the draft, in order to ensure an overall policy outcome that is practical, response to legitimate community concerns, preserves consumer choice, and avoids negative unintended consequences:

    - The ISGA shares the common goal of ensuring the safety of those most vulnerable in our communities, including children. Robust consumer protection, privacy and classification laws already apply to all games available to consumers in Australia. Australian Consumer Law prohibits misleading, deceptive or untransparent conduct in trade or commerce. In 2013, the Australian Competition Commission examined over 340 'freemium' games. The outcome was that it called for the adoption of the UK OFT Principles for Online and App-Based Games.[1]

    - In 2019, the ISGA contributed to the consultation process of the Stevens Report.[2] Whilst we support harmonising the classification system across content genres and understand that classification reform is a major part of the Government's media reform agenda, we strongly advise against the current proposals as they may cause unintended harm to the industry and consumers.

    - Moreover, in recent years, developers and platforms have taken steps to increase transparency and afford consumers more control and protection. This includes the removal of free labels on games with in-app purchases from storefronts, the introduction of a label for 'paid random items,' probability disclosures, changes to age ratings and improving parental control functionality.

    - The ISGA is a global leader in promoting responsible standards and safe play by consumers through our regularly updated 'Best Practice Principles' as referenced above. It is our recommendation that a holistic guidance-based approach, informed by Australia's existing legal framework for video games, bolstered by industry self-regulation and device-level control features, is inherently better suited to the fast-evolving video games industry than more blunt and prescriptive classification measures.

[1] ACCC urges app industry to adopt new principles following 'sweep' of children's game apps. Accessible from: https://www.accc.gov.au/media-release/accc-urges-app-industry-to-adopt-new-principles-following-%E2%80%98sweep%E2%80%99-of-children%E2%80%99s-game-apps Published by the Australian Competition and Consumer Commission, December 2013.
[2] ISGA submission to the Review of Australian Classification Regulation https://www.infrastructure.gov.au/sites/default/files/submissions/isga.pdf February 2020.

Evidence of harms associated with gambling-like products in games is inconclusive

8. The proposals are informed by 'growing evidence of harms', including a literature review[3] commissioned by the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA) in 2022. Additionally, recent evidence from the Australian Institute for Family Studies'[4] is cited as showing a causal link between playing simulated gambling games and the take-up of real-world gambling later in life. We respectfully advise caution regarding the state of existing research into hypothesised links with gambling-related harms for either loot boxes or social casino games.

9. Our strong view is that existing research into links between social casino games (a game genre) or loot boxes (a randomised in-game mechanic) and gambling-related harms does not provide a sufficient evidence base for the classification changes as proposed. Methodological flaws and limitations in the research have been highlighted by leading academics, such as Professor Sally Gainsbury of the University of Sydney[5], or the Rapid Evidence Assessment (REA)[6], which informed the UK Government's landmark response to their recent loot box policy review. Criticisms include, but are not limited to:

    a. overreliance on self-report that may not match transactional data,
    b. non-random and unrepresentative samples,
    c. cross-sectional study that cannot infer causation,
    d. a failure to account for confounds, a narrow application of the Problem Gambling Severity Index (PGSI),
    e. a need to develop valid measures and a disconnect with comparatively stable prevalence data.
    f. It is also the case that peer-reviewed research that does not fit a convergence hypothesis rarely receives commensurate publicity.

10. Furthermore, the findings drawn from the 'Growing up in Australia' research have been roundly refuted by Harvest Advisory and Research (HAR)[7]: *'Based on the available evidence, it is HAR's opinion that 'Growing Up in Australia' cannot and does not present a causal link between games of any or every genre with gambling. In our opinion, the research methods used lack clarity and critical information is missing to let readers for an opinion that would support [their] conclusions. The claim of causality seems embedded in a research technique that is probabilistic and potentially flawed in its use. Nonetheless, this statistical technique is not able to change the research to meet the criteria required to establish causality.'*

[3] Greer, N. et al. (2022). *Harms associated with loot boxes, simulated gambling and other in-game purchases in video games: a review of the evidence*. Australian Gambling Research Centre. Australian Institute of Family Studies.
[4] Sakata, K., & Jenkinson, R. (2022). *What is the link between video gaming and gambling?* (*Growing Up in Australia* Snapshot Series, Issue 7). Melbourne: Australian Institute of Family Studies.
[5] Gaming-Gambling Convergence: Research, Regulation, And Reactions. Accessible from: http://doi.org/10.1089/glr2.2019.2323. Published by Gaming Law Review in March 2019.
[6] Loot boxes and digital gaming: a rapid evidence assessment: A study requested by the UK Department for Digital, Culture, Media and Sport (April 2021). Accessible from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1091282/InGAME_Loot_Box_REA.pdf
[7] Annex 1, p9.

11. Importantly, the study considers that an analytical method can determine a causal relationship. Whereas HAR considers that 'merely using Probit analysis does not establish causality. Other potential influences that were not considered by the study were 'the role of parents, peers, social groups, moving out of home, commencing employment, social media, new technology, advertising, availability and many other variables that could possible impact gambling consumption.' Virtually all regulators and associated bodies that have appraised the state of research on loot boxes and/or social casino games have concluded that academic research is at a nascent stage. For example, the European Parliament has found that 'there is no consensus on a causal link between loot boxes and harmful behaviour.'[89]

Social Casino/Loot Boxes are not gambling

12. The proposed mandatory minimum classification of R18+ for games containing simulated gambling would align with existing age-based restrictions for actual, regulated gambling in Australian jurisdictions. Social casino games offered on mobile devices are very clearly not gambling. No social games available in the Australian market constitute gambling. Under the Interactive Gambling Act 2001 (IGA), three elements define a gambling game – consideration, chance and prize. Social games, including casino-themed social games, contain the element of chance, and they may have consideration, but they never offer a prize. No social casino-style games pay out any money – if they did, this would constitute real-money gambling and the games would be illegal to offer in Australia. A casino-themed mobile game is fundamentally not the same product – nor does it come with the same risks and heavy regulatory requirement – as actual, real money gambling.

13. Regarding loot boxes, reports of the mechanic being regulated under gambling laws in other jurisdictions are greatly exaggerated. Belgium and the Netherlands are commonly described as the two jurisdictions that 'regulated loot boxes' and made them illegal, however this is not accurate. In Belgium, the Belgian Gaming commission published an opinion[10] expressing an interpretation of the existing law. No new regulation or enforcement has taken place since. The opinion has also been criticised, for instance, by the European Parliament, due to the impact on Belgium's digital economy, whereby consumers 'do not have access to the full content of games compared with all other national EU markets.'[11] In the Netherlands, pre-existing gambling legislation was used to ban, via 'administrative order' a specific type of loot box mechanic. This was later

[8] Loot boxes in online games and their effect on consumers, particularly young consumers. Accessible from: https://www.europarl.europa.eu/RegData/etudes/STUD/2020/652727/IPOL_STU(2020)652727_EN.pdf. They were published by the European Parliament in July 2020.
[9] Similarly, the Swedish Consumer Protection Agency's study on loot boxes highlights a lack of causal evidence. Mapping of consumer protection in the event of lottery or casino-like elements in computer games, (September 2019). Accessible from: https://www.konsumentverket.se/contentassets/83509d8dffff48559d44de6546ecc362/kartlaggning-avkonsumentskyddet-vid-lotteri--eller-kasinoliknande-inslag-i-datorspel-fi-2019-01630-ko.pdf.
[10] Research Report on Loot Boxes. Accessible from: https://www.gamingcommission.be/sites/default/files/2021-08/onderzoeksrapport-loot-boxen-Engels-publicatie.pdf Published by the Gaming Commission, April 2018
[11] Loot boxes in Online Games and their effect on consumers, particularly young consumers. Accessible from: https://www.europarl.europa.eu/RegData/etudes/STUD/2020/652727/IPOL_STU(2020)652727_EN.pdf. Published by the European Parliament in July 2020.

reversed by the country's highest court. The classification measures proposed for both social casino and loot boxes are unprecedented globally and are based on weak evidence and a number of flawed assumptions.

Classifying monetisation as content

14. The proposed mandatory minimum classification of M would only apply to games containing loot boxes which can be purchased with real money or other in-game purchases linked to chance. DITRDCA highlights that 'it is not intended to capture chance-based features of games that do not involve monetary transactions'[12]. As such, the classification rating hinges on an assessment of the monetisation mechanic, not the element of chance. This would therefore – for the first time anywhere in the world to the best of our knowledge – include an in-game monetisation mechanic in its assessment of age-appropriateness (classification).

15. It is well established and understood by consumers that media classification is intended to inform them about the age-appropriateness of various content, particularly considering factors such as violence, explicit language, or sexual content. Monetisation mechanics, on the other hand, relate the game's economic model. Blurring the line between content ratings and monetisation smears the purpose of content ratings and could be confusing to consumers.

16. Monetisation models in the mobile gaming industry are varied, and constantly evolving. Examples include upfront purchases, free-to-play with in-app purchases, subscriptions, and cosmetic item sales. Rigidly applying content ratings to some monetisation practices may drive unintended consequences; leading to inaccurate or misleading age categorisations and inconsistent ratings not based in any underlying logic.

17. Robust consumer protection laws already apply to monetisation mechanics, and all other aspects of the games and services that game publishers provide to Australian consumers. This is over and above voluntary industry commitments, which all ISGA members have made, to further increase transparency around payment options and afford consumers more control and protection. The ISGA has for example already committed to removing 'free' labels on games with in-app purchases from storefronts, providing clear probability disclosures, making further changes to age ratings and improving parental control functionality.

18. Instead of rigid mandatory classifications, we see significantly more benefit and much less risk of unintended consequences in a collaborative approach which centres on fostering greater consumer awareness, education (including around existing consumer laws, and parental controls), and improved industry practices. Such an approach has

[12] Proposed new mandatory minimum classifications for gambling-like content in computer games. Accessible from: https://www.infrastructure.gov.au/have-your-say/proposed-new-mandatory-minimum-classifications-gambling-content-computer-games Published by the Australian Department of Infrastructure, Transport, Regional Development, Communications and the Arts, May 2023.

also been put forward by leading Australian academic, Dr Aaron Drummond from the University of Tasmania.[13]

Proposed new definitions

19. *Gambling service* – the ISGA urges the Government to explicitly exclude gambling services from the scope of the guidance, in order to avoid any confusion. A simple sentence stating that 'gambling services are not in scope of this classification guidance' would be effective in providing this clarity.

20. *In-game purchases linked to elements of chance* – Across genres and formats, randomness is absolutely essential to in-game diversity, entertainment, and the overall game play experience. Nearly all games are services which are determined by chance in some way. Throughout, the application of randomness contributes to the stability and enjoyment of gameplay[14]. Differentiating between exploitative practices and well-established chance-based elements that make games enjoyable is crucial.

    Examples of chance-based mechanics that may unintentionally be caught under a mandatory minimum classification as currently proposed include virtual pet simulations. Some games involve the nurturing and raising of virtual pets, wherein players can purchase random items or accessories for their pets. While chance-based elements existing in acquiring these items, the primary focus of these games is caring for and interacting with virtual companions.

    Classifying all virtual pet simulations as M due to chance-based mechanics could unnecessarily limit access for younger players, for whom these games are intended. Another example is a season pass with a random reward at the end which is received upon completing milestones in the game; this may be interpreted as a purchase linked to chance, given that the items awarded at the end are random even though the monetisation mechanic (a purchased pass) is not random.

    We request that this definition is removed.

21. *'Real World Currency'* – The ISGA has concerns that 'digital currency' is a vague and undefined term that could be used to interpret in-game ecosystems or other reward or points systems. To provide clarity and avoid doubt, we suggest including the following:

    > *Real World Money – Physical and digital money, including cryptocurrency, but not including tokens or other items used in a game or game environment that have no real monetary value and cannot readily be redeemed or exchanged for value outside the game environment.*

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[13] During a public hearing as part of the current House of Representatives Standing Committee on Social Policy and Legal Affairs inquiry into online gambling, on the issue of the most effective way to ensure high levels of compliance, Dr. Aaron Drummond from the University of Tasmania said:
"I favour an industry-led response because if we can have industry partnerships that are going to tackle this issue for the most vulnerable gamers – those people who are vulnerable to over-spending – then we can actually make progress on this in a sensible way."

[14] A great example are balancing loops in Mario Kart – see for example, https://www.eurogamer.net/articles/2017-07-21-arms-yabuki-mario-kart-nintendo-interview-birdoplease & https://www.gamasutra.com/view/feature/218696/the_blue_shell_and_its_discontents.php

22. *'Purchased directly or indirectly using real world currency…'* – In our view, this draft language would capture many games unintentionally. In-game purchases exist for several reasons, including consumer choice. Some developers recoup development costs by charging consumers to access the game (upfront fee), others by allowing players to purchase in-game virtual currency with which they can acquire items that enhance their play experience. Others may offer a mix of options, giving the player choices.

23. Additionally, game developers do not necessarily know what virtual in-game currency in a customer's account at any point in time has been purchased, and at what price per unit of currency, what has been earned through gameplay, and what has been gifted to the player by the developer. ISGA members make efforts to inform players about the relative value of their purchases, with transparency being provided in clear and simple terms at the point of purchase. However, it is clear that in this context, the only workable approach is for in-game purchases to be defined to mean only paid loot boxes that are directly purchased with real world money.

24. *Loot Box* – The suggested definition is novel, confusing, and potentially extends far beyond the paid 'loot box' mechanic the Government is focused on. The proposed language around 'functional cards or items or cosmetic or other modifications' is particularly unclear and could lead to either very limited application in practice, or application that is far too broad. Developers would need further guidance to implement, and the language will need frequent updating to keep pace with ongoing innovation and evolving consumer preferences. Instead, the ISGA recommends a more orthodox definition that aligns with the government's intent and will be recognisable and clearly understood by the industry, as follows:

    > *Paid Loot Box – a virtual container, however described, that: a) can be purchased using real world money or acquired using in-game virtual currency that itself had to be purchased; b) provides players with random in-game digital items; and c) does not disclose to the player the specific items contained therein prior to purchase.*

25. *Simulated Gambling* – Video games are not gambling, for many fundamental reasons as previously set out. In addition, in mobile games, in-game items are provided are only ever offered in a 'closed loop', meaning they are not intended to be exchanged for cash, either with the developer, other players or third parties. Moreover, the networks via which games are accessed do not have open functionality to facilitate users trading in-game items with each other for money – this prohibition is also typically reiterated in the Terms of Service that players agree to. The current wording of the proposed definition of simulated gambling is a non-sequitur as, by definition (and Australian law) a game cannot be considered gambling without real money reward. The 'note' refers to 'gambling within games'. Again, it is vital to stress that 'gambling' is regulated under the IGA and in fact would be illegal in Australia in this context. In addition, the phrase 'within games' will likely capture any game that has any recognisable slot mechanic however minor, thus capturing many non-social casino themed games in this definition. The further extension to sports also risks covering games like fantasy football games, the purpose of which is unclear. Instead, the ISGA suggest the following clear and targeted language:

Simulated gambling that: a) resembles or functions like a gambling service; and b) has a closed loop economy where rewards cannot be redeemed for real world currency or traded to other players in-game.

Note: for example, simulated gambling games primarily resemble blackjack, slot machines or roulette table games, typically known as the 'social casino' genre in the video games industry.

The ISGA appreciates the opportunity to contribute to this important consultation and would be pleased to provide further elaboration or information on this submission.

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Annex 1

An **Objective Opinion** of *What is the link between video gaming and gambling?*

by

Sakata, K., & Jenkinson, R. (2022). What is the link between video gaming and gambling? (Growing Up in Australia Snapshot Series, Issue 7). Melbourne: Australian Institute of Family Studies

09.05.2023
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Executive Summary

An **objective opinion** of the submission called ***What is the link between video gaming and gambling?*** (Sakata & Jenkinson 2022) (hereafter called Snapshot #7) was requested from Harvest Advisory and Research (HAR).

Below is a summary of HAR's opinions about the research as documented in Snapshot #7 and the various claims made therein. Following this summary, each of section of Snapshot #7 is reviewed and additional comment is made based on other dimensions of the broader research program *Growing Up in Australia* that may impact the claims made in Snapshot #7.

HAR's Opinion: Snapshot #7's Key Findings

1) Key Finding One: there was no link between adolescents aged 16 to 17 years playing video games daily and gambling when 18 to 19 years.
2) Key Finding Two: it was claimed that young people who played simulated gambling games aged 16 to 17 had a 40% higher probability of spending real money on gambling when 18 and 19.
    a) It is HAR's opinion that the data and analysis associated provided by Snapshot #7 cannot and does not empirically substantiate that any category or genre of video game play causes social game play.
    b) Any claim that this research proves that the category of video gaming (or genre of games) causes gambling should be rejected.
    c) There is no logic or theory to explain how and why the category of video gambling can cause gambling (as typically defined in Australia).
    d) Snapshot #7 seems to contend that a particular analytical technique (probit modelling) can establish causality. Sometimes statistical models are misleadingly called causal models although the research is not structured to establish causality.
3) Key Finding Three: parent gambling and higher levels of alcohol consumption were found to be risk factors that may lead to young adults gambling.
    a) This finding undermines the claim there is a causal relationship between video games of any genre and gambling as it provides a viable alternative reason for teens to commence gambling.
4) Key Finding Four: it is claimed that 2% of Australians aged 16 to 17 years were classified as being at risk or already experiencing gambling related problems. Two years later, it is claimed that 9% of Australians aged 18 to 19 are at risk of, or already experiencing, gambling related problems.
    a) The definition used for the 'at risk' category includes any respondent who answered more than 1 of the CPGI questions positively. This is not how the CPGI was intended and validated for use.
    b) This reclassification seems to have been devised to suit the statistical model and facilitate an inflated category they called 'at risk' (though this was not disclosed).
        i) It is inappropriate to suggest data from Waves 6, 7 and 8 are representative of the

Australian population. Thus, any inference from the analyses should be confined to these samples.

ii) The overall respondent attrition of approximately 40% from Wave 1 to Wave 8 was not reported in Snapshot #7.

iii) This attrition rate is important as such a loss of respondents undermines any claim that the data are representative of the population.

iv) It is misleading to use data from surveys 7 & 8 and claim the findings are representative of the Australian population.

HAR's Opinion: Limitations of Snapshot #7

5) HAR does not believe that the Canadian Problem Gambling Index (CPGI) has been validated for use in video games (and Snapshot #7 does not provide any reason to change this opinion).

6) Readers are not informed if many, or if any, of the 9% classified as at risk or experiencing gambling problems spent money on gambling as usually defined in Australia (or how much they may have spent on gambling). It should not be ruled out that a percentage of alleged problem gamblers may be false positives.

7) There seems to be a lack of mediating and moderating variables in the research and no attention is drawn to any such variables in Snapshot #7. These variables are important when investigating a potential correlational or causal relationship between variables.

   a) Problem gambling is a behavioural disorder with comorbidities often overlapping with various mental ill-health problems. In their discussion of the importance of mediators and moderators, Kim, Kaye & Wright (2001 p63) comment "The inclusion of several variables to explain mental health phenomena is especially appropriate because rarely is one factor the sole cause of mental health problems".

   b) Comorbidities are a potential variable that explains games and gambling consumption, implying the claim of causality is spurious.

8) Gambling and games products possess very different attributes. Snapshot #7 acknowledges that "gaming and gambling are defined as separate activities" (p1).

   a) HAR finds no adequate definition of the two product categories and their differences in any of the materials reviewed, including the materials provided to research participants. Thus, it seems unlikely that underage survey respondents really knew what the questions about an adult-only product category were asking.

   b) Snapshot # 7 unnecessarily conflates games with gambling. This likely results in the misinterpretation of data and a misleading statistical model.

   c) There is no support or reason provided as to why playing another type of game (e.g., betting on racehorses), whether a "simulated gambling" game or not, is a predictor of the consumption of betting on another game (such as poker machines). There is no explanation why this relationship may exist.

   d) HAR does not believe there are any gateway products that predict the consumption of other products in the gambling market.

i) If a predictive relationship doesn't exist in gambling, then why would it exist between two different product categories?

ii) Many gamblers do consume more than one form of gambling product and did so prior to video games; this has not been considered in Snapshot #7.

e) The "simulation" concept used in Snapshot #7 is like comparing apples and oranges; pretending you are eating an orange when you are really eating an apple (as it is all in the fruit category).

The Research Methods and Analysis: Opinion

9) It is HAR's opinion that Snapshot # 7, does not adequately consider the various attributes that differentiate the many types, styles and brand names of games from the many types, styles and brands of gambling.

10) HAR believes that the instructions provided to teenage respondents in relation to eliciting responses about whether and how often they participated in gaming and gambling were unclear and likely to lead to error.

11) It is well known that many gamblers purchase from many different gambling product categories. To the very best of HAR's knowledge, it is not believed that any form of gambling consumption is a predictor of any other form of gambling.

a) It is highly likely that gamers consume many different video games across several genres (not just simulated gambling).

b) As they age, it is also possible that players choose to include real gambling products into the basket of goods and services that they purchase.

c) We are not informed how the researchers deal with the real-world scenario of multiple product purchases.

d) More information needs to be disclosed on each of the sequential probit models to determine exactly what was being tested (and the theory being examined).

e) We also need to know whether and how the analyses contended with the multicollinearity that may arise when consumers play multiple games and/or participate in forms of gambling.

12) HAR believes an alternative hypothesis should be considered, namely that video game play may ameliorate the gambling adoption rate and problem gambling prevalence among neophyte gamblers. A comparison of Snapshot's findings with the literature in the supporting research papers produces interesting potential implications:

a) Approximately 60% to 70% of teenagers and young adults in Australia will have gambled in a given year. By comparison, Snapshot #7 estimates less than 50% of young adults gamble (18 to19 years).

b) Using a rough back of envelope conversion of the CPGI data from the research papers suggests that as many as 20% of adolescents may suffer from some form of risk of problem gambling. By comparison, Snapshot #7 estimates that 9% of Australians aged 18 to 19 are at risk of, or already experiencing, gambling related problems.

13) Based on the available evidence, it is HAR's opinion that Snapshot #7 cannot and does

not present a causal link between games of any or every genre with gambling.

1.0HAR's Brief

1) **To provide an objective opinion** of the submission called ***What is the link between video gaming and gambling?*** by "Growing Up in Australia" (Sakata & Jenkinson 2022) (hereafter called Snapshot #7) that was made to the Australian Senate Inquiry into Loot Boxes and Social Casinos.

2) Consider other submissions, the published literature and other evidence as time permits and if relevant from the research/evidence submitted to (all submissions here) the Australian Senate Inquiry into Loot Boxes and Social Casinos.
   a) This included some of the additional resources pertaining to the LSAC data such as:
      i) The questionnaires
      ii) Data dictionary
      iii) Technical papers
      iv) Data issue papers
      v) Rationale papers.

3) **Limitations of this Opinion:** While Harvest Advisory and Research (HAR) and the author, Dr Rohan Miller, have endeavoured to provide an objective and reliable opinion and believe the material presented herein is accurate, neither HAR nor the author will be liable for any claim by any party acting on such information.

2.0 What is the Link Between Video Gaming and Gambling

4) This is a review of the various sections of ***What is the link Between video gaming and gambling?*** by Sakata & Jenkinson (2022) (hereafter Snapshot #7) that was submitted to the Australian Senate Inquiry into Loot Boxes and Social Casinos and the documentation that underpins this research publication (see 2) a), above.
5) Consumers and stakeholders typically differentiate products and services by attributes. These attributes can consist of a number of diverse dimensions depending on the products being reviewed.
6) The attribute-based approach helps to explain why games and gambling, and the various products within each category, can be differentiated.
    a) Snapshot #7 does acknowledge that "gaming and gambling are defined as separate activities" (p1), but it is HAR's opinion that it does not provide survey respondents or report readers with adequate definition of these difference.
    b) Some of the salient differences between games and gambling are outlined in the definition of gambling.

    Throughout this submission, HAR uses the following definition of gambling:

    Although it is difficult to provide an all-encompassing legal definition of gambling in Australia, generally speaking, gambling is defined as an activity that involves staking money or something of real-world value on the outcome of an event that is determined in full or in part by chance, such as a sporting event or a horse race, with the intent of winning a prize or something else of value (Norrish, Hoskins, Lovecek and Hoskins, 2022).

7) Different forms of gambling have different product attributes that enable various product categories to be distinguished from each other (and there are also attribute differences between products in the same category). Consumers choose to play different games based on their perception of product attributes.
    a) Thus, pokies are bundles of attributes that are fundamentally different to those of sports betting, that are different again to casino table games. These differences can include where the product is consumed, personal vs non-personal interaction, the cost of play/stake, the financial risks, the chances of winning, when the product is consumed, what device, the game theme (e.g., blackjack; poker, roulette) and the environment.
8) For games, attributes that influence consumer decisions may include price/cost/free to play, social basis - friends playing games, visual images, sound, excitement, time to play, theme, brand name, the device you play on, the game play-role (e.g., first/third person, open world, shooter, role play) and server experience, to name a few.
    a) It follows that different games have different attributes, even if they only differ slightly (e.g., Red Dead Redemption 1 varies from Red Dead Redemption 2).
9) HAR believes that the instructions provided to under-age respondents in relation to eliciting responses about whether and how often they participated in gaming and

gambling were unclear and likely to lead to error.

a) For instance, the definition of "simulated gambling" provided in Snapshot #7 is:

Games that structurally resemble traditional gambling activities ('gambling-like' video games) are commonly referred to as 'simulated gambling (p1)

b) HAR opines that there are many fundamental differences between games and gambling and the structural characteristics between the two product categories are completely different. Snapshot #7 does not provide any literature to support its opinion.

10) Apart from the difference between games and gambling found in the definition of gambling, and as discussed elsewhere, it is highly unlikely that the other product attributes associated with "simulated gambling games" are sufficiently similar for consumers to obtain a replicable experience (and replicable patterns of play) to licensed gambling products.

a) The framing of the research in Snapshot #7 reflects the conflation of games into gambling as "simulated". There is insufficient differentiation between the product categories. The "simulation" concept is like pretending you are eating an orange when you are eating an apple (it is all from the fruit category).

b) It is on page 9 that readers are informed "It is important to note that, in this study, engagement in simulated gambling games did not involve spending money".

i) There are many other differentiations between games and gambling not reflected in this "note".

ii) As this point is claimed to be important, HAR submits the difference(s) between games and gambling should have been clearer and more salient to the (teenage research respondents and) readers of this report.

2.1 Report Section: What do we Know?

11) Snapshot #7 acknowledges "gaming and gambling are defined as separate activities" (p1).

a) It is a concern that Snapshot #7 contends that the appearance, interactive features and elements of skill and chance mean that there are games that structurally resemble gambling activities and that these games can be called "simulated gambling".

b) Games and gambling are very different product categories (like apples and oranges) and this needs to be clear and transparent research respondents (especially as they are underage) and the research readers.

c) Snapshot #7 offers no support or evidence to justify its definition of "simulated gambling".

d) The researchers do not share any meaningful consideration of the many attributes that differentiate online video games from online and terrestrial forms of gambling (this is elaborated on elsewhere in the report).

e) It is well known that many gamblers consume many different gambling products. To the very best of HAR's knowledge, it is not believed that any form of gambling is a predictor of any other form of gambling.

i) It is highly likely gamers consume many different video games. As they age, it is also possible that players include real gambling products into the basket of goods and services they purchase.

ii) We are not informed how the researchers deal with the real-world scenario of multiple product purchase. More information needs to be disclosed on each of the sequential probit models to determine exactly what was being tested.

iii) We also need to know whether and how the analyses contended with likely multicollinearity that may arise when consumers play multiple games and or forms of gambling.

f) Snapshot #7 makes the claim that "previous research has found a link between video gaming and gambling". Yet,

i) Snapshot #7 concedes that few studies have examined this relationship:

ii) Snapshot #7 does not identify any of the previous research or research methods whereby the alleged link is considered or justified.

12) Indeed, Snapshot #7 provides no evidence, citations, or justification (or theory) that the claimed link between two different product categories of games and gambling may exist.

13) The suggestion that there is a link between games and gambling that could normalise and encourage monetary gambling in the "what do we know section" is likely to mislead many readers about the veracity and validity of the supposed link between games and gambling. There should be a reference/citation for this claim.

2.2 Report Section: What can we learn?

14) Snapshot #7 presents a very generalized version of the research.

a) Snapshot #7, Footnote 1, recognizes there are different types of gambling products (and questions are asked that are specific to these different types of gambling product by researchers in the Wave 7 and 8 data collection). However, merely listing gambling products does not define gambling.

b) It is highly problematic that Snapshot #7, Footnote 1, provides an incorrect definition of gambling. Gambling is not defined as spending money on the 10 different products as stated in the footnote. Readers are referred to a more appropriate and widely accepted definition of gambling earlier in the report.

i) HAR believes that by misclassifying "gambling", the research lacks validity, and specifically:

(1) Content Validity: the metrics in Footnote 1 are not fully representative of gambling.

(2) Face Validity: the content of the research/data collection does not appear to be suitable for the aims of the research.

15) The three main questions that Snapshot #7 purports to examine are:

i) what are the effects of daily video gaming on real money gambling?

ii) what are the effects of playing "simulated gambling" games on real money

gambling?

iii) what are the other main risk factors associated with gambling among young people?

2.3 Report Section: Key Findings

16) A major problem with all the key findings is that there is a lack of transparency about the data being analyzed and the models being used.

17) Key Finding One: there was no link between adolescents aged 16 to 17 years playing video games daily and gambling when 18 to 19 years.

a) It is our opinion that it is confusing for readers when Snapchat # 7 discusses topics not related to the research question that are bundled in with this key finding. That is, the finding should remain standalone and should not be "diluted" by unrelated considerations.

18) Key Finding Two: young people who played simulated gambling games aged 16 to 17 had a 40% higher probability of spending real money on gambling when 18 and 19.

a) When applied to product categories:

i) There was a higher probability of 29% betting on horse or dog racing,

ii) 29% higher for gambling on casino table games,

iii) 21% higher for betting on sports.

b) HAR is concerned at the way these relationships are reported and because they are specific to a product genre:

i) *HAR are unable to find a horse/dog betting game that has features like real money wagering. Thus, we do not believe there are so called simulated gambling games themed like dog or horse betting.*

ii) It does not seem likely, and it is not explained why, so called "simulated gambling" devoid of any horse/dog betting products (that we can find) can be a predictor of betting on racing products.

iii) Or is the reader expected to believe a different product or generalised "simulated gambling" was associated with this form of gambling?

iv) HAR raises the possibility that there was insufficient guidance given to respondents and thus the data is fundamentally flawed. This issue is discussed elsewhere in this submission.

c) 26% probability increase for casino table games 12% play at 18 to 19 yrs)

d) 21% probability increase for betting on sports (13% play at 18to 9 yrs)

i) *HAR is unable to identify any of the game manufacturers nominated (or any game manufacturer) that produced a sports betting game. Thus, we do not believe there are so called simulated gambling games for sports betting.*

ii) Again, is the reader expected to believe a different product or generalised gambling was associated with this form of gambling? We reiterate the points

above specific to horse/dog wagering.

e) Later in Snapshot #7 (see page 8), it is alleged that there is a causal link between playing simulated gambling games (e.g. from Zynga, Slotomania & etc) when consumers are underage and unlikely to have ever gambled with real money on the different forms of gambling, and real money gambling in later years aged 18 to 19 years.

   i) It is HAR's opinion that any relationship between a genre of video games and gambling is likely to emanate from the clarity of the instructions provided to respondents.

   ii) Included in later discussion is the fact that companies named, such as Zynga, may make a range of popular games, not just the so-called simulated gambling games and this ambiguity can lead to respondent confusion.

19) We know from research Finding One there is no link between video games and gambling. We do not believe there is any reason for there to be a link between simulated gambling games and gambling two years later.

   a) As outlined later, there are too many unaccounted confounds, methodological issues and alternative explanations to accept there is a causal or associated relationship between "simulated gambling games" and gambling.

   b) For these reasons, and the absence of any rationale or theoretical argument, HAR has formed the opinion that the reported relationship between "simulated gambling games" and gambling is likely spurious or the result of researcher error.

20) Key Finding Three: parent gambling and higher levels of alcohol consumption were found to be risk factors for young adults gambling.

   a) This finding seems inconsistent with the claim there is a causal association between a category of video game play and gambling (as this variable seems to represent a strong alternative explanation leading to product consumption). Parents can be a strong influence on their children's behaviour. There is substantial and viable theory relative to this finding.

   b) There seems considerable scope to discuss parental consumption behaviour and the parents' engagement with their children in relation to games, gambling, and other acts of consumption. This opportunity was missed by the researchers. However, such a discussion would weaken the allegation there is a causal association between some simulated gambling games and gambling.

   c) Snapshot #7 focuses on video games (and so-called simulated gambling games) and misses the opportunity to learn more about other influences of gambling adoption (as required by Research question 3). HAR suggests this is a form of bias within the research.

21) Key Finding Four: it is claimed that 2% of Australians aged 16 to 17 years were classified as being at risk or already experiencing gambling related problems. Two years later, it is claimed that 9% of Australians aged 18 to 19 as at risk of, or already experiencing, gambling related problems.

   a) For reasons outlined elsewhere, it is inappropriate to suggest these sample data are

representative of Australians. Thus, any inference about levels of problem gambling should be confined to these samples.

b) It is illegal for minors to gamble or consume the products specified in Footnote 1, in Australia. It is highly possible that the 2% of Australians aged 16 to 17 identified in the survey represent false positives of at-risk gamblers.

22) There seems to be a lack of mediating and moderating variables in the research and no attention is drawn to any such variables in Snapshot #7. These variables are important when investigating a potential correlational or causal relationship between variables.

a) Problem gambling is a behavioural disorder with comorbidities often overlapping with various mental ill-health problems. In their discussion of the importance of mediators and moderators, Kim, Kaye & Wright (2001 p63) comment "The inclusion of several variables to explain mental health phenomena is especially appropriate because rarely is one factor the sole cause of mental health problems".

b) The lack of mediating and moderating variables makes it difficult to determine the direction of any alleged causal relationship and deprives the reader of a greater understanding of the relationships being modelled.

23) The use of words such as "at risk of" and the recategorization of the data is misleading. Rather, it is more appropriate and usual practice to provide readers with the Canadian problem gambling index category scores for each wave. That is, what number/proportion of respondents fall into each category.

a) By reclassifying the various categories of the CPGI into a binomial metric (0, or 1 and above) based on a very low measure, the researchers are fundamentally changing the way the screen was intended to work. Snapshot #7 provides no rationale or justification for doing this and the data transformation is really only mentioned in passing (i.e., there does not seem to be a full account of what was done with the data).

i) If researchers start reclassifying scales, they need to substantiate how and why this is being done. A fuller discussion on the meaning of 'at risk' is required. Particularly as, it has been difficult to prove the concept of pathological progression exists in practice (i.e., at risk gamblers become problem gamblers).

b) HAR does not believe that the Canadian Problem Gambling Index (CPGI) has been validated for use in video games of any description (and Snapshot #7 does not provide any reason to change this opinion).

i) If the CPGI methods are to be used, it would be appropriate to compare the alleged "simulated gambling" game play in wave seven with the same respondents in wave eight and exclude respondents.

ii) It is unknown how many, or if any, of the 9% classified as at risk or experiencing alleged gambling problems consumed gambling products, which ones, where, how much money they spent (and on what product) or whether these data only related to video game play. This potential confound inhibits the validation of causality.

iii) It would be interesting to know the portion of the same respondents in the 2% of 16- to 17-year-old respondents classified at risk (& etc) that classify as

progressing to being classified as at risk (& etc) two years later.

iv) It would be interesting to identify what games the 16t o 17 olds and 18 to19-year-old cohorts play. We are not informed as to whether respondents with "at risk" scores played any so-called simulated gambling games or were confined to other video games.

2.4: Report Section: About Growing up in Australia

24) This section is a footnote that discusses the sample: specifically, that, at recruitment, the data collected was representative of all Australian children. The footnote further discusses the type of information collected over time and acknowledges that it is a unique source providing evidence for policymakers to identify opportunities for early intervention and prevention strategies.

25) HAR believes that the high rate of attrition of survey respondents should have been clearly stated along with the caveat that it is unlikely/unknown whether the data is representative of Australian children. HAR opines that it is unlikely the sample is representative of the population in Waves 6, 7 & 8.

a) This implies that the generalizability of the data should be limited to the sample (especially as Snapshot #7 does not, in our opinion, test theory). A fuller discussion of the data and research methods is discussed elsewhere in HAR's submission.

2.5 Report Section: In focus

26) It is claimed that Snapshot #7 follows children from when they were 12 to 13-year-olds until they were 18 to 19-year-olds. This description seems somewhat misleading as gambling and video gambling with a focus on so-called simulated gambling games seems to have only commenced when respondents were aged 16 to 17 in wave seven, during 2016.

27) Based on our review of the research documentation, HAR considers that the data collected for 12 to 13-year-olds was largely confined to videogame play, and this was used as a control variable in the statistical model that included data from eight years later.

2.6: Report Section: Video Gaming Among Young Australians.

28) Over 90% of respondents aged 12 to 13-years reported playing video games although only approximately 50% of respondents played daily. These video game play data seem to have been collected during Wave 6 in 2012, several years prior to other data being collected.

29) Snapshot#7's Figure 1 provides a schematic of play that summarizes reported play by gender over Waves 6, 7 and 8 for daily and any video game play in the last 12 months.

a) Females reported a drop in estimated video game play from 90% in 2012 to 72% in 2016, and a decline in daily play.

b) It was also reported that the K cohort experienced substantial attrition from 2012 when there were n=3850 to n=2947 in 2016 (a decline of over 23% over the two

waves).

i) The overall attrition of approximately 40% from Wave 1 to Wave 8 was not reported in Snapshot #7. The attrition rate is important as such a loss of respondents undermines any claim the data are representative of the population.

30) It was not reported that, during the waves of data collection, respondents would come and go.

a) We are not informed of the actual shifts of behaviour among respondents in each wave, merely overall figures.

31) There seems a lack of genuine insight or information in this section describing video gaming by respondents. Indeed, it seems remiss not to discuss the relationship of the control variables and provide descriptive analysis for these variables as they may relate to video game play and or gambling.

a) For example, it would have been interesting to learn about the relationship parents have with their children and their children's gambling. For instance, Hing et al (2020) report young people who gamble said they usually gambled with parents (53.7%), other adults (20.7%) and grandparents (19.5%).

b) As indicated elsewhere, HAR opines there are likely other variables with a relationship to the initiation of gambling consumption not considered in the published model.

2.7 Report Section: Gambling Participation among Young Australians

32) Snapshot #7 reports that participation rates in gambling increased from approximately 16% at the age of 16 to 17 to 46% when the respondents were aged 18 to 19.

a) At the age of 18, Australians are legally able to gamble. It is not clear why statistically significant differences are needed in the results from ages 16 and 17, to 18 and 19 across various gambling products. What does this statistical test really prove?

33) According to the notes accompanying Snapshot #7, the Research Rationale[i] identified that:

a) Approximately 60% to 70% of teenagers and young adults in Australia will have gambled in a given year (Delfabbro, King, & Griffiths, 2013; Delfabbro & LeCouteur, 2010; Dowling, Jackson, Thomas, & Frydenberg, 2010; Fabiansson, 2006). Gambling participation rates can be as high as 90% of the adolescent population in high-risk areas, such as those with high socio-economic disadvantage (Moore & Ohtsuka, 2000)[i].

b) Studies have estimated that approximately 3% to 6% of Australian adolescents meet the criteria for problem gambling, compared to approximately 1% to 2% of adults (Australian Council for Education Research (ACER), 2011; Delfabbro & LeCouteur, 2010; Splevins, Mireskandari, Clayton, & Blaszczynski, 2010). A further 5% to 15% of adolescents experience subclinical levels (moderate-risk) of gambling problems (ACER, 2011; Delfabbro & LeCouteur, 2010).

i) HAR believes that the "at risk" category provided in the Snapshot is a

combination of all at risk categories. Thus, it may be that the results reported in the Snapshot are comparatively low.

c) According to the Research notes[i] accompanying Snapshot #7: Studies indicate that gambling with larger amounts of money than the average, and gambling on a number of activities during adolescence and early adulthood puts young people at significant risk for emotional, financial, relationship and career problems, as well as criminal activity (Ariyabuddhiphongs, 2013; Clark & Walker, 2009; Gupta & Derevensky, 2000; Hayatbakhsh et al., 2006; Splevins et al., 2010). Collecting detailed measures of gambling in a longitudinal study like LSAC, including this comprehensive measure of risky gambling behaviour, will assist with gaining a better understanding of patterns and precursors of early gambling behaviours and the associated risks and harms. In addition, measuring parental gambling habits will allow intergenerational patterns of gambling behaviours to be examined.

34) A comparison of the results published in the literature from *Growing Up in Australia's* research notes suggests that the levels of gambling and problem gambling identified through Snapshot #7 are moderate or low.

a) Research cited in the Rationale papers estimated that approximately 3% to 6% of Australian adolescents meet the criteria for problem gambling, compared to approximately 1% to 2% of adults (Australian Council for Education Research (ACER), 2011; Delfabbro & LeCouteur, 2010; Splevins, Mireskandari, Clayton, & Blaszczynski, 2010).

b) A further 5% to 15% of adolescents experience subclinical levels (moderate-risk) of gambling problems (ACER, 2011; Delfabbro & LeCouteur, 2010).

c) Therefore, HAR believes an alternative hypothesis should be considered that video game play may ameliorate the gambling adoption rate and problem gambling prevalence among neophyte gamblers.

35) It is HAR's opinion that Snapshot #7 does not provide a satisfactory explanation of the PGSI's categories, their meaning and how these data should be interpreted – HAR suggest that this is an inappropriate use of data, especially as there is no clear explanation provided to readers.

a) It is only disclosed in a small font/note that "at risk or experiencing problems" is a combination of CPGI categories of Low-risk, Moderate risk and problem gambling scores. HAR believes this has the effect of overstating possible risks to readers.

b) For instance, a "score of 1+ on the PGSI" is bundled together with respondents from other discrete categories: Low-risk gambler (score 1-2): Moderate Risk Gambler (score 3-7); Problem Gambler (score 8 or above). This suggests that possible problem gambling can be categorized binomially based on one response.

c) As discussed elsewhere, Waves 6, 7 and 8 of the Snapshot data are probably no longer representative of the general population. Hence, HAR opines that it is misleading and technically incorrect to state that 54,000 18 to19-year-olds are classified as at risk or already experiencing gambling related problems.

d) The Snapshot #7 data reveals there were approximately 1% of 18 to19-year-olds as possible problem gamblers (HAR states the caveat that this scoring category is not disclosed in the Snapshot so it we only assumed the Problem Gambling metric in Figure 5 and the associated discussion uses the score of 8+).

e) With reference to the estimates of problem gambling produced in the research rationale (see above), Snapshot #7 provides a very low estimate of problem gambling for the 18–19-year-old age demographic.

   i) No attempt is made to contextualize the level of possible problem gambling (+8) score against other estimates of problem gambling from Australia.

2.7 Report Section: The Link between Video Gaming and Real Money Gambling

36) This section of Snapshot #7 provides a summary of results. HAR contends that Snapshot #7 produces results that are difficult to interpret and are deficient in reasons or rationale (theory).

37) As discussed elsewhere, there is approximately 40% attrition from the initial Wave of the research that broadly represented the Australian population, to Wave 8.

a) It is highly doubtful that Waves 7 & 8 of the sample remain representative of the population. HAR can find no evidence in any of the research materials to suggest the sample remains representative of the population.

b) The snapshot is deficient in theory or rationale explaining the results.

c) In the absence of a representative sample and theory that explains the outcomes, these results should not be generalized and must only be interpreted as applying to the sample.

d) HAR cannot find a limitations section in Snapshot #7.

e) Further, HAR's review opines the limitations of the data (as highlighted in this submission) are not adequately stated in the write-up of results. HAR believes this misleads readers into believing there may be a generalized causal relationship between video games (of some type) and gambling throughout the population.

38) The research results are inconsistently stated in Snapshot #7. For instance, there are three different results reported for the possible relationship between daily video gaming and gambling:

a) Key Finding 1 uses the phrase "were not necessarily likely to gamble" if they played video games daily.

b) Figure 6 suggests a statistically significant link that was confined to Sports-betting.

c) It is subsequently reported that "there were no causal effects of daily video gaming on gambling, including sports betting" (p8).

d) On page 8 it is conceded the relationship between playing "simulated gambling games" and gambling when respondents turned 18 as "it is possible that this association is not causal…..it might be that there are common underlying causes (such as personality traits) for both behaviours".

e) In Table 1 (p9), the results of a sequential bivariate probit model suggest playing

simulated gambling games two years earlier is associated with gambling.

f) Later, HAR discusses the use and interpretation of the probit model – HAR opines this adds another layer of confusion to the research reporting.

39) It is perplexing that Snapshot #7 considers that an analytical method can determine a causal relationship. HAR considers that merely using probit analysis does not establish causality.

a) Snapshot #7 does not provide a reference that supports the opinion that probit analysis can provide causal knowledge.

40) The effects of the attrition and sampling bias lead Usback et al (2018) to conclude "care should be taken when using this observed behaviour to infer causal relationships (i.e., that particular characteristics cause non-response)"

a) Snapshot #7 does not indicate sufficient care has been taken to understand the attrition and sampling bias in Waves 7 & 8, or in recognizing the effect these issues may have when claiming causation.

41) **Causal knowledge** is extremely difficult to attain in applied research. It is generally held that there are three requirements for causality:

a) The first is that there needs to be a covariation. Gambling did increase over time.

b) The second should be a sequence in time.

i) A problem with the research underpinning Snapshot #7 is that the sequence occurs two years later (which is a long period of time in the lives of adolescents).

ii) Further, the relevant data for video games and gambling is not collected over sustained time periods that would enable trends to be identified. As data for video games and gambling is only collected for Waves 7 and 8, it is not possible to identify a trend over time, only the differences between two points in time are evident.

c) HAR believes that the third condition is impossible for Snapshot #7 to demonstrate. That is, no other variable should co-vary with X and Y.

i) In Snapshot #7, HAR doubts causality between playing some video games and gambling can be proven as there are valid alternative explanations for young adults commencing gambling. These include:

(1) Respondents turning 18, the legal age to gamble, for the Wave 8 data collection.

(2) Respondents will likely experience other major changes in their lives such as finishing high school, gaining (full or part time) employment and earnings income that can fund discretionary expenditure, and socialising with adults outside their direct family.

(3) It is natural to expect that there will be a marked changes in the respondents' reported consumption of products and services when turning 18. This may include the potential adoption of regulated adult only products such as alcohol, gambling, voting, smoking/vaping, and obtaining vehicle licences.

ii) Respondents will also be able to legally attend and consume products in adult only

venues such as casinos, pubs and clubs in which gambling occurs.

iii) It is also legal to access online products (e.g., sports betting apps, online casino products) when 18 years of age.

iv) History shows gambling consumption has existed throughout the millennia and has been completely independent of video gaming.

d) The papers[i] supporting the Snapshots identify several potential influences that could influence initiating gambling. These include "The role of parents, peers, social groups, moving out of home, commencing employment, social media, new technology, advertising, availability. Many other variables that could possibly impact gambling consumption (e.g. Mizerski et al 2004; Richard 2010; Westerberg et al 2017) were not controlled or adequately analyzed by the researchers."

i) These and other potential variables were not considered in the probit models.

42) The probit modelling does not consider many or any of the variables identified above as associated with gambling consumption. Hence, alternative explanations identified herein and in the background research for Snapshot #7 cannot be ruled out.

43) In terms of the games and gambling metrics used, it must be clarified that the use of these data does not represent longitudinal research. True longitudinal research, or time series research, can only be performed on panel data which consists of repeated measurements of the same variables.

a) As new questions were introduced about games and gambling in Wave 7, and respondents floated in and out of the research, the games and gambling data do not seem to constitute true panel data but are more likely repeated cross-sectional data (Churchill and Iacobucci 2009).

44) HAR does not believe that a probability model (per se) can adequately demonstrate causality, and as outlined earlier, other criteria need to be met.

a) Data (e.g., high quality longitudinal research) or research techniques (e.g. an experiment) need to be specially planned and structured to test for causality.

b) The data is not derived from a suitable experimental design.

c) The Snapshot #7 data comes from two periods of time and does not allow for trends to be identified.

d) Based on the research materials listed earlier that were scrutinized by HAR, it is our opinion that it is simply not possible to sustain the claim video games caused gambling.

45) It is alleged that adolescents who played simulated gambling games had a 40% higher probability of gambling with money as adults.

a) We are not told why this is the case.

b) HAR does not believe there is a link between a type of video game and gambling, and there is no rationale provided as to why this is claimed.

3.0 Other Comments

46) HAR investigated several additional issues pertaining to Snapshot #7.

The Sample: Methodological Considerations

47) The original sample was structured in a manner aspiring to be representative. Due to budgetary, logistical and stakeholder constraints faced by the researchers, the representative aspirations of the first wave were compromised.

48) Some nuances in the sampling techniques that did impact the representativeness and randomness of the sample are stated in the various technical papers. It is concluded that the original wave of the sample is not a completely representative of the population as not every possible combination of observations from the population had an equally likely chance of being drawn.

49) The sample design is "a clustered design, based on postcodes, was chosen as it allows community level effects to be measured and analyzed, and allows for reasonably cost-effective face-to-face interviewing. Every effort was made to ensure that the sample chosen would be as representative as possible of Australia's infants and 4 to 5 year olds" (Soloff, Lawrence and Johnstone 2005).

50) However, the limitations of the sampling methodology include smaller postcodes and remote postcodes being omitted from the study and this resulted in approximately 40 per cent of children in remote areas not being given a chance of selection, and these children were not estimated for in the population estimates produced.

    Further:

    The sample design requirements specified by FaCS were that:
    • "The minimum sample size of each cohort at the first data collection point should be one per cent of the population in each selected age cohort (about 2,500 children);
    • The sample should be representative of all Australian children in each of the selected age cohorts, that is, proportional to the regional distribution of the Australian population;
    • Study informants should include the child's parents and the child (when of an appropriate age); and
    • Over-sampling of sub-populations is not required"

51) HAR makes a conservative *estimate that 6.5% of the potential child population was excluded from the Wave 1 sample* by the researchers' decision to only include one child from multi-child households (based on Medicare card registration) as it was considered multiple children meant additional administrative workload and higher levels of attrition in later waves of data collection. In addition, as the access to address information was less than up-to-date, many surveys did not reach the intended targets.

52) By Wave 7, the number of active participants continued to decrease from wave to wave, because of a failure to maintain contact, participants opting out or children moving out of scope (e.g., moving overseas).

53) Some children are brought back into the sample after missing a wave if contact can be re-established (e.g., if they return from overseas). There were 18,814 families in the original

mail-out sample, of which 16,342 were contacted and 10,090 successfully recruited to participate in the study. Of these 10,090 children recruited in the Wave 1 sample, 6,470 children responded in Wave 7, and 5,820 children responded to all waves.

54) Due to the deficiencies in sampling, the researchers deem it necessary to re-weight the data to try to overcome attrition and systematic bias.

   a) However, the use of sampling weights increases the standard error of estimates above and beyond that which would be expected in simple random sampling. In turn, this must be accounted for in statistical inference techniques as the greater the variation in sample weights, the bigger the design effect will be on standard errors.

55) The models reflect the observed response patterns and then weights developed provide a tool that may be useful for adjusting for changes in sample composition in analysis.

56) HAR do not observe any apparent weighting of the samples based on game play or gambling.

57) By Wave 8, there is a loss of approximately 39% of the original sample. Strictly speaking, inferences should now only be drawn about the sample itself and no amount or weighting technique can adequately overcome the loss of approximately 39% of a sample, especially as there seems to be some sampling issues evident from Wave 1.

58) Regardless of the weighting technique used, it is extremely doubtful the game and gambling play in Waves 7 and 8 are representative of the general population. Moreover, as these metrics are only introduced in Wave 7, it is not possible to trace longitudinal results for validity.

59) It can be strongly argued that because of the sampling issues from Wave 1 and the attrition issues that required the data being re-weighted for other data collected over time, and other various issues (such as the changes in data collection methods), the gambling and gaming data is not representative of the general population.

60) Control variables are usually included but controlled for because they could influence the outcomes. The Control variables are stated as age, gender, things engaged in after leaving school (study or work), weekly income (& etc).

   a) There is no apparent justification provided in Snapshot #7 or the supporting documentation (including the research rationale) for the control variables used in the models.

   b) Other potential control variables mentioned in the various notes are not included in the probit model.

61) Readers are not informed how long it takes an average respondent to complete all of the data for collection. This is a material omission. Each wave seems to consist of many different scales and forms of questions. The longer it takes for the survey to be completed, the greater will be the error in responding to questions.

62) The survey tells potential respondents that “Some electronic games are like gambling but do not involve betting money. Thinking about the last 12 months, since [current], how often have you played free games like these?”

   a) HAR opines that this question is leading respondents by instructing them some games

are like gambling. This relates to our opinion that participants received inadequate instruction for this section of the data collection.

b) As the respondents were aged 16/17 years in Wave 7 and unable to legally gamble, it is merely speculative that the minors really knew what gambling is (per the definition HAR provides earlier).

c) We are not informed which actual games respondents considered to be "like gambling".

d) The researchers named several entities that make games.

   i) They do not clarify that not many of the games these entities produce are NOT "like gambling". Thus, popular games such as *Words with Friends* that do not have features or attributes that resemble a gambling component but are made by (for example) the Zynga brand may reasonably be expected to lead to inaccurate (overstated) recall.

e) The data is likely to be inaccurate as recall is asked over 12 months.

   i) It is exceptionally unlikely that 16/17-year-olds, in general, can accurately recall what games they played in the last twelve months, let alone how often.

   ii) There is no apparent testing of this metric for accuracy.

   iii) More appropriate questions that could be responded to with greater accuracy would use a much tighter time frame, such as in the last 24 hours, or even the last 7 days,

63) It seems problematic, in terms of the model and the subsequent interpretation, that "Access to electronic games in bedroom (aged 12-13)" is included in the probit model. Indeed, the use and interpretation of this variable is possibly misleading as according to the Report Rationale "This question is only asking about 'capacity', not if the child plays electronic games in their bedroom".

64) It is HAR's opinion that Snapshot #7's claim that there is a link between video gaming and gambling is contrary to the vast body of knowledge on games and gambling.

For example, it is well documented that:

a) Research, including the Australian government's Productivity Reports into Gambling (1999 and 2010), numerous state government reports, and other published literature, clearly identify and differentiate various forms of gambling from each other.

b) The various Australian jurisdictions differentiate between different forms of gambling, generally with reference to specific product attributes.

c) Australia's states and territories do not regulate video games as they are not a form of gambling (in which case, it follows there are clear differences between gambling and video games).

d) It is HAR's opinion that there are substantial differences between the various forms of gambling and substantial differences between brands within each category of gambling (e.g., different poker machine brands have different player behaviour).

e) HAR is unaware of any "link" between various forms of gambling or knowledge

whereby one form of gambling can cause another form of gambling to be played.

i) It follows that if there are no apparent links between different gambling categories (and no links within categories), then it is atheoretical and unjustified to claim that there are any links between video game play and commercial gambling.

65) HAR opines that the many forms of gambling available in the Australian market are totally dissimilar and incomparable by attributes such as appearance, the play environment (e.g. home/keyboard versus venue and a physical machine) and play characteristics (e.g. the mathematical models and game characters) to social games.

a) At the least, all terrestrial gambling should be distinguished from any discussion that likens comparison to online games.

b) Loot Boxes and other similar game attributes that may present the occasion for gamers to win something online (but not money) are merely one feature of video gaming.

i) It is HAR's opinion that consumers play video games for a bundle of attributes associated with a game, not merely to access a loot box or some feature that lets them win something other than a prize with no value.

66) Some of the other questions asked in the waves of data collection that may better assist researchers understand the etiology and consumption of video games and or gambling that are in the research include:

a) pc33d This child really enjoys the games and play materials at child care

b) How often do children in your class use computers for the following purposes?

c) tp11d ...For enjoyment (e.g. games)

d) Does [Study Child] own or use a mobile phone?

Exclude mobile phones that are only used for playing games or do not contain a SIM card.

e) How much does [Study Child] enjoy physical activity or exercise?

67) Consistent with our earlier observation that the game play may help to ameliorate gambling and problem gambling prevalence levels, it is possible that playing video games has positive associations that are not considered in Snapshot #7. For example:

a) Wave 2 onwards: According to the Research notes[i] accompanying Snapshot #7, Rationale. "Research has found that 12-year-old students gain most of their computer experience (over 90%) at home (Kirkman, 1993). Having access to a computer at home is advantageous for children for a number of reasons (Fish et al., 2008; Selwyn, 1998). For example, using a computer at home is associated with better cognitive development (Fish et al., 2008). Computer use can have a positive impact on children's knowledge and skills development, provided that parental monitoring and supervision of these activities occurs in the same manner that affects child outcomes in relation to television viewing (Wright, 2001; Zill, Davies, & Daly, 1994). Other research has shown that students using computers at home have much more positive attitudes towards computers (Selwyn, 1998). However, using computers at home also

presents some disadvantages (Kirkman, 1993). For instance, it has been shown that playing games is one of the most common reasons for using a computer at home (Kirkman, 1993). The effects of time spent on computers for children, has not been extensively explored in previous longitudinal studies, thus this is an important area of investigation in LSAC (Australian Institute of Family Studies [AIFS], 2006). By including information on the number of hours that the study child uses a computer at home in LSAC, we can examine the educational, health and social advantages and disadvantages of time spent using a computer at home."

b) Waves 3, 6, 7 Does [Study Child] have access to electronic games at home?

Having access to electronic games can provide both potential benefits and risks for adolescent development. For example, studies have found that the more time adolescents spend playing video games, the less time they spent reading or doing homework (Cummings & Vandewater, 2007; Kline, 2000). However, findings have also indicated that playing video games seems not to interfere with participation in family life, spending time with peers, participation in active sports or school performance (Creasey & Myers, 1986). Including a measure in the LSAC on Study Children's access to video games, along with other measures on time spent playing and parental regulation of video gaming, will assist with gaining a better understanding of problematic and harmful patterns of video-gaming.

c) W 5, 6, 7. Does [Study Child] have the capacity in [his/her] bedroom to play electronic games?

This question is only asking about 'capacity', not if the child plays electronic games in their bedroom.

According to the Research[i] notes accompanying Snapshot #7, Having access to electronic games can provide both potential benefits and risks for adolescent development. For example, studies have found that the more time adolescents spend playing video games, the less time they spent reading or doing homework (Cummings & Vandewater, 2007; Kline, 2000). However, findings have also indicated that playing video games seems not to interfere with participation in family life, spending time with peers, participation in active sports or school performance (Creasey & Myers, 1986). Including a measure in the LSAC on Study Children's access to video games, along with other measures on time spent playing and parental regulation of video gaming, will assist with gaining a better understanding of problematic and harmful patterns of video-gaming.

d) W, 5, 6, 7 Do you have rules for [Study Child] about how much time [he/she] can spend playing electronic games at home?

Do you have rules for [Study Child] about how much time [he/she] can spend playing electronic games at home?

According to the Research note accompanying Snapshot #7, The Kaiser Family Foundation Report showed that in 2008/9 30% of respondents aged 8-18 reported that their parents had rules about how much time they were allowed to spend playing video games.

With video games becoming increasingly popular and available to adolescents, there is concern that large amounts of time spent playing video games can detract from time spent on other, developmentally important activities. Past research has produced conflicting results. Studies have found that the more time adolescents spend playing video games, the less time they spent reading or doing homework (Cummings & Vandewater, 2007; Kline, 2000). However, findings have also indicated that playing video games seems not to interfere with participation in family life, spending time with peers, participation in active sports or school performance (Creasey & Myers, 1986). Including this measure on the amount of time kids spend playing video games in the LSAC, along with the Time Use Diary and a measure of parental regulation of video game time, will assist with gaining a better understanding of both problematic and harmful patterns of video-gaming.

68) The question asking respondents about their "simulated" gambling is, in HAR's opinion, poorly structured and potentially misleading. This has been elaborated on elsewhere:

W7. Some electronic games are like gambling but do not involve betting money. Thinking about the last 12 months, since [current month], how often have you played free games like these?

For example, Zynga Poker, Slottomania, Big Fish Casino.

Such games could be played on social network sites (e.g. Facebook), smartphone or tablet devices or gaming consoles (e.g. PlayStation, Xbox).

0. Never
1. Once or twice a year
2. A few times a year
3. Once a month
4. 2 to 3 times a month
5. Once a week
6. 2 to 3 times a week
7. 4 or more times a week

69) Although it is unexplained in Snapshot #7, the use of a probit model likely means these data are converted to a binomial statistic. Thus, the weighting of 4 or more times a week (and several data points) becomes the same as once or twice a year. This results in a considerable loss of information from the respondents.
    a) It is possible the researchers used the probit model and converted the data as other analytical techniques failed to find statistical relationships between variables (and earlier discussion does indicate several inconsistent findings).
    b) HAR does not believe that any reason or rationale was provided for using the probit model and transforming the data.

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[i] The grouped references throughout the submission have been extracted from the additional resources pertaining to the LSAC

i) The questionnaires
ii) Data dictionary
iii) Technical papers
iv) Data issue papers
v) Rationale papers.