Technical Report

Exploring Social Gambling: *Scoping, Classification and Evidence Review*

Commissioned by:
Gambling Commission

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Scoping, Classification and Evidence Review

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Aims and Scope

- The Gambling Commission in Great Britain has commissioned this report to provide an overview of what we currently know about 'social gambling', and widen the discussion of potential implications for risk, harm and responsible play in relation to gaming and gambling behaviour.

- The aim of this report is to speculate on the level of concern we might have regarding consumer risk in relation to 'social gambling.' In doing so, this report is intended to help form the basis to initiate debate around a new and under-researched social issue; assist in setting a scientific research agenda; and, where appropriate, highlight concerns about any potential areas that need to be considered in terms of precautionary regulation. This report does not present a set of empirical research findings regarding 'social gambling' but rather gathers information to improve stakeholder understanding.

Introduction

- Social gaming is a growing market. Over 80% of UK households have access to the Internet (Ofcom 2012), and research has suggested that around 24% of Internet users worldwide play social games every week (PopCap Games, 2010).

- Social games are an important way to generate revenue, with many products operating under the Freemium model, meaning that while most of the content is free to access and play, users can choose to pay to access further features and content. Social gambling games are a significant part of the social gaming industry with around 50 million monthly users and 12% of social gaming revenues generated by gambling type games (H2 Gambling Capital, 2012).

- Convergence between remote gambling and social gambling is a key trend in the gambling industry. As such, regulators are examining the current framework to ensure clarity regarding the terms and definitions we use to refer to different forms of game currently referred to as 'social gambling'.

Social Gambling Classification

- The field is lacking an adequate classification or typology of social gambling games. Social gambling is at present an ambiguous term which currently lacks conceptual clarity. Better terminology and understanding regarding this product is critical as it will help stakeholders to a) identify *a priori* the games which should receive fresh consideration in terms of their distinctive features and b) provide a basis for grappling with issues of consumer protection.

- We identified nine different types of social gambling as follows: Online Gambling; SNS Real Money Gambling; App Real Money Gambling; Online Social Gambling;

Console-based Gambling; Virtual World Gambling; SNS Freemium Gambling; App Freemium Gambling; and SNS Gaming. Each of these types are described in detail and we provide examples to clarify our definitions.

- Constructing a mutually exclusive and useful classification was complex in the case of social games given their rapid evolution and the likelihood that the term 'social gambling' has been used as a catch-all for most technologically innovative games, and that such a label has not always been about the social capabilities. The groupings suggested in this report are a simplistic but exhaustive description of games currently associated with a 'social' label. Games included share at least one of two characteristics in common: a) varying degrees of provision of social game features and/or b) operate under the Freemium model.

Distinctive Game Characteristics

- Through the scoping exercise is was confirmed that a sub-set of distinctive and evolving game features now existed which offered players the opportunity to interact in either synchrony or asynchrony with friends, family, game opponents, fellow players or even strangers. The basis of this interaction usually centres around the particular game which we interpret as offering the player an opportunity satisfy social and competitive needs while simultaneously enhancing the marketing function of the game provider by increasing awareness and facilitating player acquisition. These social characteristics include but are not limited to: the 'like' function; options to 'invite' friends; an 'ask' function which permits sharing of items of value or in-game credits; leader-boards; in-game chat capabilities; and links to social networks.

- The Freemium model is an evolving payment method which enables players to access the core product (the game) for free. Acquired players are then encouraged to pay for additional game content or privileges (referred to as micro-transactions).

Social Characteristics: Implications for Risk

- Psychological research suggests that the presence of others when carrying out tasks may improve performance, particularly when the task is easy or more familiar. Specifically, in terms of gambling tasks, the presence of others in gambling environments has been demonstrated to increase the intensity of gambling behaviour. However, this social impact may be different outside of a gambling setting. In the current context social networks, for example, may be comprised more of non-gamblers or non-regular gamblers, which could have an inhibitory effect on gambling behaviour due to possible negative evaluation of gambling by others who may have less or no involvement in the activity.

- It has been argued that the ability to win money as a result of gambling has been overemphasised in the research literature as a positive reward, and that there are other features of gambling which are also found to be rewarding, such as social rewards. Gaming research suggests that a primary motivation for participation in

video games may be to demonstrate skill and to compete within one's peer group to enhance social status. Social characteristics of social gambling may increase motivation to participate due to the opportunity to display ones gaming skills to others via social networks.

- Social elements may, however, act as an inhibitory factor for social gambling participation, as users may find the social characteristics detract from the overall game play due to delay and interruption. It may be that looking at player motivations can inform queries around the risk of social gambling in relation to gambling-related harm.

- There is a complex relationship between attitudes and behaviour; however it has been shown in adolescents that the perception of social norms directly influences attitudes towards and participation in substance-related risk behaviour. It is possible that adolescents will develop positive attitudes towards gambling if intrinsic motivation is facilitated through group inclusion via participation or psychosocial needs development, such as establishing ones identity through ones peer group. However, it must be stressed that a positive attitude towards gambling and its relationship with actual gambling behaviour is complex and one cannot infer a causal relationship between the two.

- Repeated exposure to social gambling that provides social reinforcement may help to promote positive attitudes towards, and expectations of, gambling. It is also possible that the individual may become desensitised to the risk inherent in the activity because of the formation of gambling-related schemata in response to repeated exposure to gambling-related activities that may be associated with lower levels of harm or negative consequences (e.g., playing for free or with a more generous payback percentage). However, caution is needed when interpreting the above, as it is unclear to what extent desensitisation is necessarily negative.

- Responsible gambling social marketing using social media may be more effective as a preventative tool emphasising responsible gambling as a social norm, rather than as an intervention for problem gambling. Social media may be a valuable tool of knowledge management because it is a rapid, highly accessible means for companies to disseminate information to large groups at minimal cost and there is substantial evidence demonstrating that social marketing is effective in raising awareness and promoting behavioural change regarding health risks. In this way, the pervasive nature, and the broad reach, of social media can be used to promote a culture of responsible play rather than simply maximising player acquisition and revenue generation.

Freemium: Implications for Risk

- If a virtual economy in which individuals retain currency (and objects of value) is not regulated or bound by imposed restrictions, there is scope to affect the value of

players' capital. For example, the operator of the Freemium game may significantly increase the provision of free virtual currency to other players on an ad-hoc basis, and therefore devalue the capital of the original player. This has implications from a general consumer protection perspective – it is the responsibility of any vendor of products or services to ensure that consumers are well-informed and know what they are buying. Also, such practices may stimulate the purchase of more capital in order to re-instate the value of one's assets by accumulation.

- Where winnings in social gambling games are 'virtual' and only cost the operator an initial development outlay, this may encourage games with longer winning sequences, bigger prizes and possibly an overall net positive outcome. Such experiences could be a cause for concern as it may lead players to migrate onto real money gambling where they may have unrealistic expectations and may persevere longer during losing periods to get their money back.

- Chasing losses is considered to be an important risk factor for impaired control and the development and maintenance of problem gambling and is driven by need for financial reparation. Consequently, financial harm as a result of chasing may be less likely under the Freemium model where players are not permitted to win real money.

- One must consider whether the current absence of regulation for gambling games using Freemium is a cause for concern, when considered relative to other virtual representations of behaviour deemed inappropriate for minors. For example, improper sexual behaviour within virtual environments, although potentially less distressing than real world experiences, is still reported to be psychologically unpleasant for victims. We currently have no real understanding of the potential impact of losing virtual items of value in a social gambling context and therefore this should be priority for research.

- Some researchers contend that gaming simulations provide valuable learning environments for educational topics and that individuals can learn the outcome of decision making processes within specific *in vivo* social structures, and that therefore the simulated games are inherently more rewarding. Thus, it may be worth exploring if there is scope for Freemium gambling to be effectively applied as learning tool about the potential outcomes of gambling.

- Another concern is the possibility of exchanging desirable in-game items of value for monetary gain in 'Virtual World Gambling' scenarios which may create a bona-fide gambling opportunity where adolescents can expend time and effort attempting to obtain in-game credits through available activities with chance based outcomes, with the aim to exchange such credits for real money.

- With reference to adolescents, there may be concern and uncertainty that such exposure will create the 'normalisation' of gambling amongst this subgroup. Participation in gambling-like experiences where real money is not exchanged may be relatively harmless at face value, however as demonstrated previously free-play

participation is predictive of monetary participation and there is a clear positive relationship between age of gambling onset and adolescent problematic gambling severity. While such correlational evidence is inconclusive this clearly needs further attention.

Other Potential Risk Factors

- Given the increasing convergence between online games and gambling, it could be argued that the real risk for harm from Freemium-style gambling is the potential for excessive participation leading to the individual experiencing negative consequences similar to the symptoms of online game addiction. Rewarding features may exist within such gambling activities beyond financial elements that may stimulate excessive and harmful participation, with specific reference to social rewards such as engaging in competition and social enhancement.

- To the best of our knowledge, no jurisdiction currently executes strict enforcement of age restrictions on SNS Gaming or Freemium Gambling on social media websites, although the terms and conditions of certain Freemium Gambling games suggests that players should be over a certain age or have an adults consent to play. One of the ways in which SNS Real Money Gambling games advertise is by targeting those users who have played Freemium Gambling games. It is likely that many of those being targeted by advertising for real money gambling games therefore are under the age of 18, despite their user profile saying otherwise. They may also be targeted by other gambling advertisers who link to real money online gambling opportunities on external sites.

Current and Planned Research

- Currently, only two projects have been identified which look specifically at social gambling and both are at a very early stage. The Victorian Government closed a tender at the end of 2012 for a research study with a national (Australian) focus, to explore the literature and complete an 'environmental scan' of how the gambling industry promotes gambling opportunities using social media, including who is targeted and how access to the gambling product is provided.

- The Ontario Problem Gambling Research Centre (OPGRC) has funded a study which aims to investigate the risks which may be associated with social media gambling for young people aged 18 to 24, including the impact of such games on the progression and maintenance of gambling and gambling problems.

Data Analysis

- A survey of 21 organisations that provide counselling for problem gamblers was carried out to gain a basic understanding of whether and in what context social

gambling has been discussed with their clients. Around half of responding clinicians said that 'a few' of their clients had played social gambling games and gambling-related Apps. Both social gambling games and gambling-related Apps were reported as potentially contributing to harm for some but also potentially mitigating harm for others.

- Secondary analysis of the Youth Tracking Survey suggests that in excess of 300,000 youth aged 12-15 are regularly engaging in social gambling. There was evidence of overlapping interest in broader gambling and SNS Freemium gambling and, notably, taking part in SNS Freemium gambling was already more prevalent than playing other free gambling games. Understanding this co-occurrence of behaviours is useful since this means there is an easily identifiable subset of youth who engage in a range of gambling behaviours who may benefit from education strategies relating to gambling. Knowing that those who play SNS Freemium gambling games are, typically, engaged in other forms of gambling is useful as it provides an opportunity to (potentially) use this platform for social marketing purposes.

Social Gaming, Social Gambling – A Question of Perspective

- In trying to better understand consumer protection issues around social gambling, it will be essential to understand the context in which social gambling games are offered and undertaken. Specifically this relates to understanding the jurisdictional issues regarding the provision and regulation of other forms of gambling and also to broader cultural perspectives of both games and gambling. There is also a need to draw analogies (for example between social gambling and video games) with caution and to consider how the contexts of such analogies vary when assessing them. It is also important to understand how players themselves think about these games, whether they are aware of differences between virtual money and real money gambling and understand why they engage.

Conclusions

- Stricter age verification measures should be adopted where children are permitted to engage in gambling-related content, even where real money is not involved, if indeed real money gambling is being advertised using this medium. Children and adolescents should not be exposed to inappropriate gambling-related marketing material of any description but particularly some of what we would regard as harder forms of advertising (e.g., big wins and deposit bonuses). Social media has enabled gambling to become more integrated into our social worlds and those of our children. However, it is currently unclear exactly to what extent we should be concerned.

- Some games and features should be closely monitored and comprehensively researched. These relate to issues of increased accessibility through social media and removal of cost of entry. Social influence, particularly among children and adolescents should also receive special consideration. However, social gambling

may also have the potential to satisfy some leisure needs without the need to lose real money and/or may promote a more adaptive approach to gambling and gaming as a leisure activity by better promoting the social element and enabling better social controls.

- It is important that research in this field is conducted rather than relying on what we think we know about it from the field of traditional gambling studies. Consumer behaviour in relation to social gaming and social gambling may be counterintuitive and inferences based on pre-existing gambling may not apply. Innovation and increasing convergence between gambling and gaming mean that arguments herein are likely to be soon out of date. It is vital to consider upcoming trends, but is also useful to consider whether this will still be an 'issue' in the medium to long term when considering regulatory changes/amendments.

Future Research

- Our recommendations for further research include continued and improved measurement of social gaming and gambling through the NLC's youth tracking survey; longitudinal data collection with youth, either qualitative, quantitative or both; In-depth qualitative work with youth who play social media gambling games; quantitative measurement of behaviour among adults through the Commission's omnibus study; In-depth qualitative work with problem gamblers; consultation with social media gaming operators to explore whether objective data about player profiles and behaviour can be shared and exploring options for empirical investigation are many of the speculative points made in this report.

Background to the Report

This report has been commissioned by the Gambling Commission in Great Britain to provide them and their stakeholders with an overview of what we currently know about what is broadly described as 'social gambling', and a discussion of potential implications for risk, harm and responsible play in relation to gaming and gambling behaviour.

The aims of this report are to:

1. Present a scoping exercise to identify and describe available products and services under what is broadly described as 'social gambling', including identifying and defining relevant terms (e.g., social media, social gambling, virtual currency, apps etc.).
2. Consider the available evidence base including academic and grey literature relevant to social gambling in order to consider:
    a. Distinctive game characteristics and their potential relationship with gambling-related harm and/or player protection and;
    b. The sociological context from which we might consider these issues;
3. Give an overview of what research is being done elsewhere.
4. Provide a secondary data analysis of the most recent NLC Young People Omnibus Survey (November, 2012 in Great Britain) focussing on 'social gambling' items**.**
5. Design, execute and analyse a brief survey with problem gambling clinicians focussing on clients' reporting and experiences of social gambling (November – December, 2012 in Great Britain).
6. Give brief recommendations regarding appropriate data collection and methods which could be used for future research.

While the aim of this report is to draw on evidence wherever possible, it extends the discussion by offering some speculation driven in part by empirical evidence in other related areas of academic study. This report does not aim to present a definitive set of findings regarding what is broadly described as 'social gambling' but rather to act as a starting point to initiate debate around a new and under-researched social issue; assist in setting a scientific research agenda; and, where appropriate, highlight concerns about any potential areas that needs to be considered in terms of precautionary regulation.

It is important to note that a wide range of risk factors (e.g., rapid and continuous play) in relation to gaming and/or gambling may also apply to what is broadly described as 'social gambling'. However, such risk factors are beyond the scope of this report and are considered elsewhere in the existing academic literature. This report focusses primarily on game characteristics which are considered to be distinctive to social gambling.

Terms and Definitions

For the purpose of this report the following definitions of key terms apply:

Social Media: The broad range of internet based platforms on which users can create and share their own content online, including but not limited to social networking, blogs, bookmarking, photo and video sharing.

Social Networking Site (SNS): A website that provides a virtual community, allowing users to create their own profiles or personal homepage and to develop an online network by linking with other users of that site.

Activities:

Gaming: Participation in an electronic/digital game either on a games console, personal computer or other internet-enabled device.

Social Gaming: Participation in structured activities that have contextual roles through which users can engage with one another. This term has been applied broadly to any online game with a social element e.g. Second Life, FarmVille.

Social Media Gaming: Participation in gaming via social networking sites e.g. playing FarmVille on Facebook. Features of social media games include being: turn based with more than one player; casual; based on social platforms which act to give players an identity.

Social Gambling: A term which has been applied to a broad range of real gambling or gambling-like activities with social elements online.

Social Media Gambling: Gambling with real money via social networking sites e.g. Bingo Friendzy on Facebook

Remote Gambling: A term generally used to refer to gambling which does not take place within licensed gambling premises, e.g., gambling via devices such as computers, mobile phones or Smart TVs to access gambling via telephony or the internet.

Online Gambling: A type of remote gambling which utilises the internet.

Mobile Gambling: A type of remote gambling traditionally carried out on mobile telephone devices but increasingly also on Smartphones or tablets.

Devices and Software:

Console: A specialised computer used to play video games e.g. PlayStation, Xbox.

Tablet: A general-purpose computer contained in a single panel with the distinguishing characteristic of a touch screen as the input device.

Smartphone: A mobile phone with advanced functions such as built in apps, internet access and extra capability such as media players, cameras and video cameras and GPS navigation.

App: An abbreviation for application. An app is a piece of software which can run via the Internet, on a computer, smartphone, tablet or other electronic device.

Platform: An underlying computer system on which software can run. Facebook is an example of a platform on which app-developers run their game software.

Virtual Goods: Commodities available for free or for sale that exist only online in digitised form. Can include virtual 'currencies' and virtual objects.

Virtual Gift: A virtual good given by one user of an online space to another user of that space. Can be given or shared as part of social game play.

Other:

Freemium: A business model in which users of the service (in this context, game) usually play for free but are encouraged to pay: for extended game play; to compete with others/status; to express themselves; to give virtual gifts; and to obtain virtual goods which are valuable due to their scarcity.

Microtransaction: Also referred to as in-app billing or in-app purchasing, a term used to describe the purchase of virtual goods via micropayments.

Introduction

The internet is central to how people in Great Britain find information, communicate and seek entertainment (Ofcom, 2012). Social media has a prolific influence in modern society, having grown over the past decade from the seeds of personal web pages, internet chat rooms and online forums into the array of social networking, blogging and media sharing websites we see across the internet today. The growth of the technology which supports social media has both advanced, and has been advanced, by a shift in internet use which has been termed 'Web 2.0' (O'Reilly, 2005). Web 2.0 suggests a distinct and separate form of internet capability and usage, shifting from passive viewing of online content developed by few, usually expert, web authors, to interactive, user-generated content which can be uploaded, shared and transformed by many web users regardless of expertise. Friends Reunited, launched in 2000, was one of the first social networking sites (SNS) to make a large impact in the UK (BBC, 2005), followed by sites such as Facebook, MySpace, LinkedIn and Twitter. Online life is now no longer separate to offline. Not only do social networks allow online groups a further way to socialise, communicate or otherwise engage, but events occurring online are now newsworthy in their own right. For instance, in 2012, Great Britain saw numerous arrests and court cases brought over conversations held online. Facebook now has over 1 billion monthly active users worldwide and in the UK has 25.7 million unique visits per month (Ofcom 2012). Table 1 shows the top three most commonly used SNS by launch date and number of global users and UK users.

Table 1: Most used social media sites by global and UK users and launch date.

Site	Global User Accounts	UK User Accounts	Launched
www.facebook.com	983,437,000	33,700,000	February 2004
www.twitter.com	500,000,000	10,000,000	July 2006
www.youtube.com	300,000,000	-	February 2005

Four out of five UK (c.80%) households now have access to the internet at home (Ofcom 2012) which is an increase from 64% five years ago (Ofcom 2007). After Google Search, Facebook and YouTube are the most popular sites accessed via laptop or desktop computer in the UK with 190.4 million hours spent online on 'member communities', or 6.5 hours per user per month (see Table 2: UKOM/Neilsen 2012).

Table 2: Time spent on selected categories of websites and applications on desktop and laptop computers. Source: UKOM/Neilsen home and work panel, month of March 2012.

Website Category	Total Time (millions of hours)	Time per user (hours)
Member communities	190.4	6.5
Online Games	72.7	4.4
Email	51.7	2.1
Videos/films	43.3	1.8
Classifieds/auctions	37.7	2.0
Instant messaging	35.6	2.0
General interest portals and communities	34.0	1.0
Search	33.1	0.9
Mass merchandiser	23.7	1.0

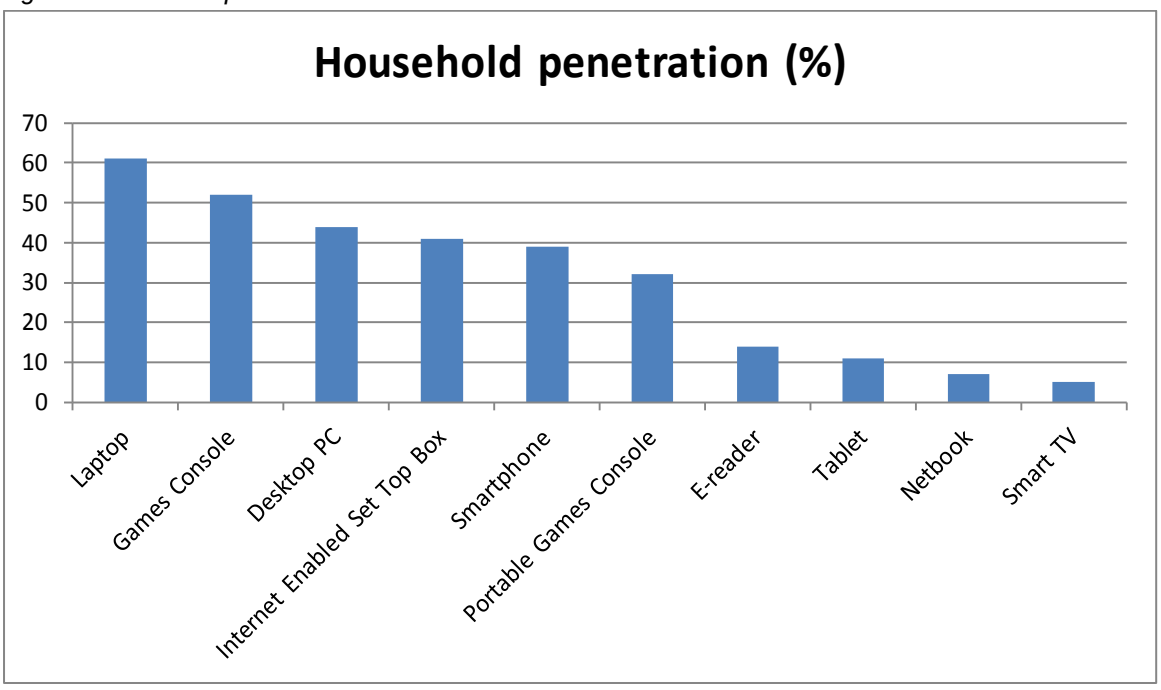
Half (50%) of UK households use social networking sites every week (UKOM/Neilsen, 2012), and access was greater amongst younger respondents (78% of those aged 15-24). Around 12% of the world's population plays a social game every month. The vast majority (83%) of social gamers play games via Facebook (Church-Sanders, 2011) and developers have started to solely concentrate on Facebook as a platform for their games, rather than building them to operate across a number of platforms at greater cost. More than 24% of internet users play social games on a regular basis (PopCap Games, 2010). Table 3 shows social gamers by age according to region (worldwide and UK). In the UK, social gamers are most likely to be aged between 30 and 39. However, this source did not explore gaming by those aged under 18 and we have been unable to find any reliable data which does.

Table 3: Social gamers by age according to region Source:Digital Boom/PopCap, 2011.

Age	% Worldwide	% UK
18-21	6	9
22-29	14	22
30-39	21	25
40-49	20	22
50-59	22	15
Over 60	16	8

39% of adults in the UK now have smartphones (Ofcom 2012), representing just under half (43%) of mobile phone users. More than 40% of smartphone users feel that their smartphone is their most important means of access to the internet, and revenue from social gaming on mobile devices accounts for 20% of all social gaming revenue. Figure 1 shows the percentage of UK households which own internet enabled devices.

Figure 1: Ownership of internet enabled devices. Source:Ofcom 2012



Social Gaming Genres

Social games take many different forms, and as technology and tastes change new games are being launched every day. On SNS, social games are an important way to generate revenue: for example Facebook takes a standard 30% cut of all revenue generated from in-game microtransactions carried out on its platform, although the future of this model is uncertain. Zynga, for example, has recently launched its own games platform, Zynga.com, to host social games in what has been seen as a move to create more independence from Facebook. Church-Sanders (2011) proposed that there were likely to be at least 100 million regular social gamers worldwide at the time she conducted her research, and suggested 8 different genres of social networking game (see table 4).

Table 4: Social Networking Games by Genre. Adapted from Church-Sanders, 2011

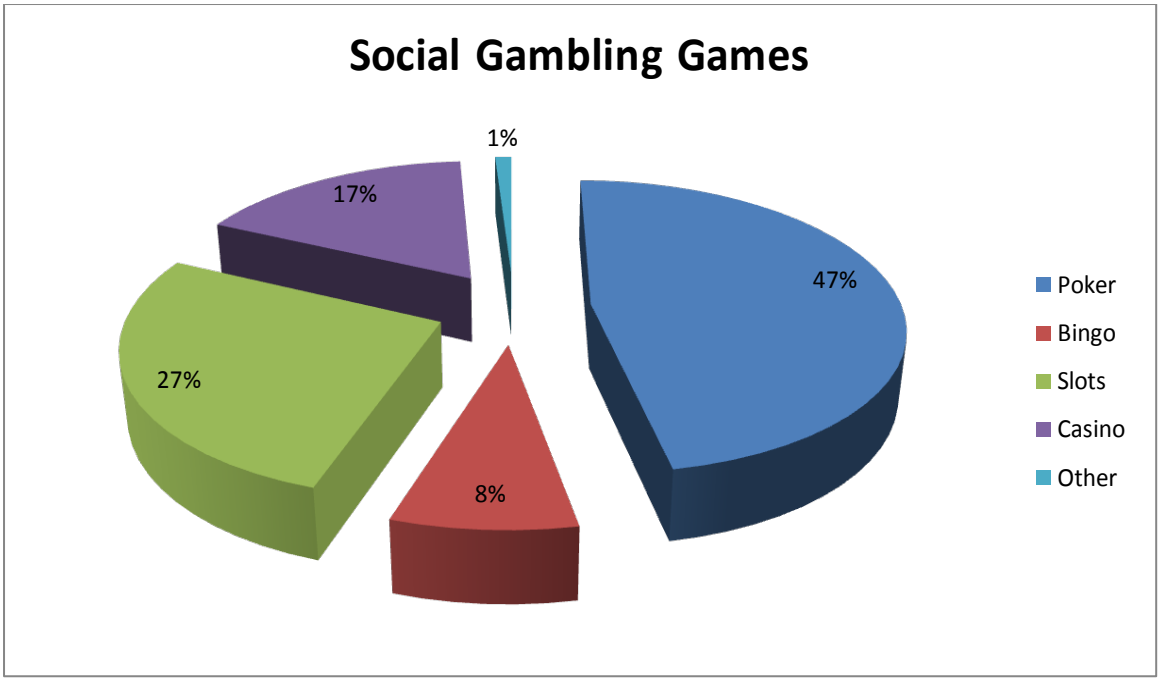
Genre	Features	Examples
Role playing games	Use the social graph (a player's social connections) as part of the game	Parking Wars, PackRat, Mobsters, Fashion Wars, Mafia Wars, Vampire Wars, Spymaster
Management/nurturing games	Main gameplay involves socializing or social activities like trading or growing	YoVille, Pet Society, FarmVille, Cupcake Corner, CityVille
Turn-based card, board and parlour games	Played within a social context or with friends	Farkel Pro, Monopoly
Virtual currency gambling	Games which would otherwise be played in a gambling context	Texas Hold'Em Poker, Bingo, Slots
Competitive casual games	Often word-based with friends only leaderboards	Words with Friends, Scramble, Scrabble
Dating and Flirting	Aim to meet (or dump) people	Friends for Sale, Human Pets, Chump Dump
Sports games	Based on real-life sporting activities	Premier Football, Tennis Mafia, FIFA Superstars
Virtual jokes	Gimmicky games that tend to be popular when initially launched then fade in popularity	Pillow Fight, Kickmania, Water Gun Fight

Social Gambling

It is clear that while perhaps useful for the wider social gaming market to have a broad classification of social networking games, this classification does not adequately describe the range of gambling type opportunities available via social media. Revenue from social gambling accounts for 12% of social gaming revenue (SuperData Research, 2012). The numbers of those who participate in social gambling worldwide is now more than triple that of online gambling (Morgan Stanley, 2012). Online gambling for real money has around 50 million monthly participants (H2 Gambling Capital, 2012) whereas social gambling has 173

million - 20% of all social gaming and equal to 2.6% of the world's population. Figure 2 shows the types of social gambling games available worldwide: poker is the dominant game.

Figure 2: Genres of social gambling games by percentage of total social gambling industry size. Source: Morgan Stanley Research 2012.



A 5% conversion rate from social gambling to real money gambling could result in a 15% growth in this sector. However, it is important to note that the numbers of people participating in social gambling does not suggest that revenue in the sector is also greater. Most social gambling operators work under the Freemium model, whereby some 98% of participants never spend any money during play. Social gambling revenue is $1.7 billion worldwide whereas revenue from real money gambling is currently around $35 billion (Morgan Stanley, 2012).

Convergence between remote gambling and social gambling is a key trend in the gambling industry. Determining whether social gambling meets the regulatory definition of gambling, or whether further regulation to include this is warranted, is a key priority for regulators and it is critically important to both the social gaming and online gambling industry to receive urgent direction. Proponents of regulation suggest that social gambling has the potential to teach and encourage real gambling, and voice concerns that users may have the potential to turn virtual currency into real money via 'black market' virtual currency sales. However, opponents have suggested that motivations for social gambling and real money gambling are very different: motivations for the former may include social aspects, entertainment, and prestige; the latter may include the potential size of return, frequency of return with a high payout (Morgan Stanley, 2012). It is likely to be important to consider both who plays social games, why, and with what impact, when considering the case for or against regulation.

When the Gambling Act (2007) was made law, no one could have predicted the changes we would see in the way gambling is offered online. As such, regulators are currently examining

the current framework to ensure clarity regarding the terms and definitions we use to refer to different forms of social gambling. A key aim of this report, therefore, is to provide an initial classification under which to consider social gambling in the UK.

Social Gambling Classification

In the previous chapter we outlined the key issues around social gambling. It is clear that an adequate classification or typology of social gambling games has not yet been proposed. Social gambling is at present an ambiguous term, and has been used to describe many qualitatively different forms of social gambling in isolation. We feel that this has and may continue to lead to confusion in the industry, and see it as a critical piece of work to identify and begin to utilise appropriate, descriptive and unambiguous terminology.

Having undertaken a scoping exercise to understand the forms of gambling available in the UK which might be considered social gambling, we have devised a classification which is presented and described in Table 5. We suggest that this classification could act as a framework under which to explore social gambling and as a basis for determining future research into the risks and protective factors which may be inherent in each different form of social gambling.

Table 5: Social Gambling Classification

Category	Description	Host/Platform	Nature of Social Interaction	Real Money Rewards	Examples
Online Gambling	Online casinos, bingo, sports betting and poker sites that accept real money wagers and pay out real money prizes	Online gambling websites	Limited – mainly chat functions not generally related to the outcome of the gamble but increasing use of social media to market and to target users	Yes	Paddypower.com, Betfair.com, foxybingo.co.uk
SNS Real Money Gambling	Real money gambling available via non gambling specific social networks for which players pay to participate and real money prizes are available	Mainstream Social Network	'Like' function (Facebook) Invite friends Mini-games Community discussion pages/forums Chat Challenges/tournaments	Yes	Bingo Friendzy, offered by Gamesys, and Bingo Appy from 888 Holdings Ltd are currently the only real money gambling options available to UK customers via Facebook.. More titles are likely to be added to Facebook in the coming months.
App Real Money Gambling	Real money gambling available via apps for which players pay to participate and real money prizes are available	App-based devices such as smartphones and tablets	Link to social network Invite friends Share virtual goods Chat	Yes	Roller Casino – Paddy Power;
Online Social Gambling	Social networking sites specifically developed to offer particular forms of commercial gambling	Gambling specific social networks	Connections made within game via social gambling network, ability to share achievements, challenge others, exchange betting tips and invite friends to join.	Yes	BetDash developed by PaddyPower
Console Based Gambling[1]	Betting on the outcome of video games via internet connections. The player wagers money on their own performance in the video game.	Console with internet connectivity	Peer-to-peer and within game OR peer-to-peer via a 3rd party host Links to social network (Facebook. Twitter, email etc) Invite friends Challenges/ tournaments	Yes	Xbox Live – competing in tournaments and wagering on their outcome via internet connection on the console Virgin Gaming offers a platform via which players can engage in tournaments and

Category	Description	Host/Platform	Nature of Social Interaction	Real Money Rewards	Examples
					challenges and can exchange money.
Virtual World Gambling[1]	Wagering virtual goods (which may be converted into real money) on the outcome of in-game or real world events	Online virtual world	Within game and peer-to-peer Community discussion forums	No – despite an anecdotal 'black market' via which virtual goods which can be exchanged for real money	Second Life - policy prohibits gambling for money's worth in Second Life however anecdotally it does occur
SNS Freemium Gambling	Free to play gambling style games available on social networks, which resemble real money gambling and encourage microtransactions to enhance or extend gameplay	Mainstream Social Networking Sites (e.g. Facebook)	'Like' function (Facebook) Invite friends Share virtual goods Mini-games 'Ask' for virtual goods Community discussion pages/forums Chat Challenges/tournaments	No	DoubleDown Casino, Bet Tycoon, Texas Hold'Em Poker
App Freemium Gambling	Free to play gambling style games available via apps which resemble real money gambling and encourage microtransactions to enhance or extend gameplay	App-based devices such as smartphones and tablets	Link to social network Invite friends Share virtual goods Chat	No	Pharoah's Slots
SNS Gaming	Social network gaming which has optional gambling elements as a small part of game play	Mainstream Social Networking Sites (e.g. Facebook)	'Like' function (Facebook) Invite friends Share virtual goods Mini-games 'Ask' for virtual goods Community discussion pages/forums	No	e.g CityVille – primarily a nurturing/building game with a potential gambling element (gambling elements such as Jackpot City slots within part of the game)

[1] Some Console Based and Virtual World Gambling takes place in environments where users are interacting directly with each other to arrange wagers, rather than through a third party regulated gambling operator making a profit from the transaction. It could be argued that this is akin to unregulated informal gambling found in real life.

Having presented our social gambling classification, we now discuss some of these terms in greater detail and provide examples to clarify their definition.

Online Gambling

The 'Online Gambling' category includes all traditional online gambling such as online casino, poker, bingo and sports betting, which is regulated as a gambling product. This is included in the social gambling classification due to the increasing convergence between gambling and social gambling, not least the use of SNS platforms as a means to provide real money gambling games. Social elements in online gambling tend not to impact on gameplay and are limited to chat between players and having a player profile which allows players to portray a particular image to other users, particularly in poker.

SNS Real Money Gambling

SNS real money gambling are games offered by gambling operators who are regulated by the Gambling Commission to provide real money gambling. Players must be over 18 and subject to robust age verification procedures, and must pay to participate. Real money prizes can be won, and games are very similar to those offered in traditional online gambling. The first such games to be released in the UK were Bingo Friendzy/Slots Friendzy run by GameSys and launched in August 2012. A second operator, 888.com, has been signed up to provide real money gambling offerings via Facebook, (Wauters, 2012) and has recently launched a bingo and slots game on Facebook called Bingo Appy.

App Real Money Gambling

App real money gambling games are developed by real money, regulated gambling operators. These real money gambling apps may or may not include social elements, and are downloaded onto smartphones and tablets and accessed directly via their own interface. Players must be over 18 and subject to robust age verification procedures, and must pay to participate.

Online Social Gambling

Online social gambling refers to social networking sites offered to specifically cater for gamblers. The sites allow gamblers to create profiles and build an online network, and critically also provide the mechanism for free or real money gambling to take place within that network. Online social gambling allows players to share their bets via the social network, to challenge others to beat them and also to engage in tournaments.

A recently launched example of online social gambling is Betdash which has been released by Paddy Power. Bet Dash challenges players to turn £100,000 in virtual currency into £1 million in virtual currency in 10 days, by betting on sporting events. Players can also stake real money on the outcome of the game. The more real money staked by the player, the more money they may win if they do well in their virtual bets.

Console Based Gambling

Console based gambling is betting on the outcome of video games via internet connections. This type of gambling may be informal, organised within peer groups and without a third party operator to host the transaction, akin to unregulated informal gambling offline. This may occur amongst existing friendship groups who may use traditional methods for the transfer of funds (i.e. in-person handover, or using banking systems). Console-based gambling may also be facilitated by a third party external operator who hosts the transaction, and puts players together for tournaments or challenges via their 'gamer tag' or in-game screen name. One such operator is Virgin Gaming which hosts a free to join network via which players can challenge their friends or other unknown gamers to individual games or join multiplayer tournaments, which they pay to join or wager on the outcome. The winners of these challenges win real money prizes paid out via the operator.

Virtual World Gambling

Within virtual worlds (such as Second Life) there are a number of different types of gambling (King et al, 2012). There may be actual casinos at which players can gamble using in-game currency. Players may wager against each other on the outcome of in-game events. The game itself may include chance based activities with virtual prizes, and there are also random loot and auction sales. An example of virtual world gambling can be found in Runescape, which has an optional activity available to all players in-game called 'Squeal of Fortune'. Players spin the wheel to win virtual prizes, which may include rare and highly valued virtual goods, and the outcomes of the spins are notified to other players. Although virtual world gamers are able to buy items of worth with in-game currency, there are not thought to be any significant examples of gambling for money's worth within virtual worlds.

SNS Freemium Gambling

SNS Freemium gambling games are free to play gambling style games which are available on mainstream SNS (i.e. Facebook, Bebo, MySpace) which resemble real money gambling, and which encourage microtransactions to enhance or extend gameplay. This category does not include gambling games which are hosted on SNS specifically set up to facilitate gambling (e.g. BetDash).

SNS Freemium gambling games usually operate in the same way as real money gambling games but with virtual currency as a replacement for real money. SNS Freemium gambling games are not required to operate the same payout ratios or odds as real money gambling games, and are not required to offer any responsible gambling messages or limits. Many SNS Freemium gambling games encourage microtransactions in numerous ways. The DoubleDown casino lobby on Facebook has tabs to play each of the games and a tab to buy more chips. Often there are no age limits set on these games so people of any age can buy virtual currency via debit or credit cards, via money transfer services such as PayPal or by using their mobile phones. Critically, there is no way to obtain a financial reward from playing

SNS Freemium gambling games, although virtual currency and virtual goods may be offered as winnings.

App Freemium Gambling

App Freemium gambling games are similar to SNS Freemium gambling games except that they are not accessed via an SNS, they are downloaded onto smartphones and tablets and accessed directly via their own interface. These gambling style games resemble real money gambling, and encourage microtransactions to enhance or extend gameplay. App Freemium gambling games usually operate in the same way as real money gambling games but with virtual currency as a replacement for real money. App Freemium gambling games are not required to operate the same payout ratios or odds as real money gambling games, and are not required to offer any responsible gambling messages or limits. Many App Freemium gambling games encourage microtransactions. The social element to App Freemium gambling is via links to share achievements on social networking sites.

SNS Gaming

In this social gambling classification, SNS Gaming is playing games on mainstream SNS (i.e. Facebook, Bebo, MySpace) in which the game is not specifically about gambling, but within which there are optional gambling elements. These gambling elements must directly represent real life gambling games and are often chance based games such as slot machines or wheel of fortune. Within our social gambling classification, SNS gaming does NOT refer to games which have no gambling elements such as FarmVille. A good example of SNS gaming in our classification is CityVille, a nurturing/management game in which the aim is to build and run a city. One option within the game is to use CityCash (the in-game virtual currency) to play on a slot machine called Jackpot City. The slot machine is only accessible to players who have bought or earned CityCash (purchased with real money or earned by participating in online surveys). The slot machine gives the player the chance to win virtual goods or coins with which to improve their city. This is not a compulsory element of game play and the game is therefore not included under the classification of SNS gambling.

Summary

The classification we have proposed is necessarily descriptive, and we feel it is a strong starting point for further discussion and research in this area. It acts to clarify terminology and allow us to consider separately the risk and protective factors which may be inherent in each. This is important because the differences in the nature of the platform and type of social gambling offering are likely to have different impacts on these factors.

Distinctive Game Characteristics

Having discussed the range of social gambling products available in the UK and suggested some terms through which to refer to these, it is important to consider what associated game features are new or distinctive. Two clear and distinctive sets of features were identified and these include 'social characteristics' and 'payment characteristics' and these are discussed in detail below.

Social Characteristics

Alongside standard digital game play features there are a number of features which make the product 'social'. This section describes the typical social features available in SNS and App Freemium Gaming, Freemium Gambling and Real Money Gambling products.

Given that over 80% of all social games are offered via Facebook, we have concentrated on this platform for a description of social features in SNS games. However other platforms employ similar mechanisms which harness the players' social network, therefore many of the features described here will apply cross-platform.

'Like' Game

Throughout most games provided via or linked to the Facebook platform, there is the option to press the 'like' button – a thumbs up icon developed by Facebook for users to show interest in a particular item, such as a photo, status update, or in this case a game. 'Liking' a publically available item allows it to be seen by other Facebook users in the players' friend network. 'Liking' a game may also entitle the user to extra in-game rewards, for example those who have 'liked' the game may get larger daily bonuses.

The use of the incentivised 'like' button allows for the game to be advertised within the user's social network for free, and as such is a mechanism often used by game developers. Facebook's paid-for advertising products also allow for targeting and promotion of 'likes', enabling the game developer to pay to ensure that users with certain characteristics (e.g. those who match a defined demographic, who play certain games, or who have certain interests) are shown the 'like' prominently in their newsfeed.

Invite friends

Players are regularly given the option to invite users within their social network to play the game too. This enables the game to send specifically worded invitations to users often saying how much their friend enjoys playing the game and that they want them to join in too.

The option to invite friends to play is also available within SNS Real Money Gambling games, however the friends invited must have a profile showing they are aged over 18.

The invitation may also include special offers incentivising new users to take part, such as extra virtual goods or chips for both the original user and the invited user. This is often called 'share'.

Gifting to friends allows for the game to be advertised and new users incentivised by friends offering free chips or virtual goods. Social referencing may be strong, meaning users may be more likely to play if they feel their friend has chosen them for the offer. In some games the option to gift items to a friend is part of the game play, and can be made to look as though the friend is playing the game at the same time. Many games give the player the option to share information or game play items with their entire friend network, using a checkbox system whereby the user can choose which of their friends to communicate with by selecting their profile from a list.

Bingo Friendzy/Slots Friendzy (the Bingo and Slots SNS Real Money Gambling game from Gamesys/Jackpot Joy) operates a model by which winnings are increased for those who add their friends. The increases can be large, with a £1 standard win being worth £1.20 for those who have added one friend and up to £2 for those who have added 3 or more friends.

Ask

Some games enable the player to see whether any friends in their social network already play the game and to ask them for in-game goods, such as extra chips in poker or coins for slot games.

Mini games

Some games offer 'mini games' – games which can be played either alongside or separate from the main game play. An example of this is the slot games which may be offered alongside bingo games on both Freemium and real money gambling sites. Jackpot Joy Slots has a mini game option that offers a social element. This game is interesting as it appears to take you to an external site to play the mini game with friends, although the games on offer continue to operate under the Freemium model.

Community

Many Facebook games also have discussion pages where game users can discuss the game with each other and with the game developers themselves. Often these pages give regular users special incentives and bonuses and announce game developments and new game offerings here first.

Some games have options which allow players to access external discussion forums, which take users to discussion forums hosted externally where players can talk about the game and trade virtual goods.

Challenge/tournament

Some games offer the option to create or join a team in order to win certain jackpots or to create a tournament or leader-board. These teams may be made up of either the players

own social network friends, or from other users who already play the game but are unknown to the player. Some games enable the player to invite friends to play, grow a larger team which can then compete together to try to win bigger jackpots and earn bigger 'rewards'.

Chat

Many bingo and poker Freemium games have chat options similar to those available in real money online gambling, allowing the player to chat with others currently playing the game, as well as the option to gift them virtual goods (such as lucky charms). There is no indication that other users become part of the players social network, the chat function is limited to sharing usernames only and works in real time with those currently playing that game.

Link to Social Network

App based games are not directly linked to social networks and therefore their social elements are somewhat reduced. However many apps are available both on Facebook and as downloads for app based devices and therefore allow a user to log in using Facebook (or twitter) which enables the account to be shared across platforms ensuring that any chips/coins/bonuses earned via Facebook are also available on the app and vice versa.

Games may also be shared across social networks which do not act as a platform for that game (e.g. Twitter) or via personal email. These mechanisms share links to download the game as a stand-alone App rather than over the Facebook platform.

Logging in to an SNS profile via the app also allows for achievements and bonuses to be shared with Facebook friends and for team games to be played for higher rewards. It may be that an intrinsic reward of such game play is increased social status attributed to in-game achievements, therefore the link to SNS is important despite the fact that the gambling does not occur within the SNS itself.

However when SNS log in is declined, social functions are limited, with some games only offering in game chat with other current game users or no social functionality at all.

Evolving Payment Characteristics: Freemium

The Freemium model describes a method of monetisation used by game developers in which users of a game are able to access the core product (the game) for free, but are strongly encouraged to pay for additional game components. Payments are usually made in the form of microtransactions for items or experiences, such as: virtual goods which can be gifted to others or may be coveted due to their scarcity; extended game play and further levels; to increase their standing or power within a game; or to express themselves. The Freemium model is a new aspect to payment characteristics (Parke and Griffiths, 2007) in gambling.

Freemium games are an important way for SNS, as well as game developers themselves, to generate revenue. Whilst there are over 173 million regular social gamers worldwide (Morgan-Stanley, 2012), it has been estimated that only around 3-5% pay for in-game virtual goods. Of those who spend money on virtual goods, 56% will make a second purchase, and 25% will make three or more purchases (Church-Sanders, 2011). Some of these players may be high spending "whales that spend hundreds or thousands of dollars per month" (Nick Berry, President, Data Genetics, in Church-Sanders, 2011, pg 70). The yearly average revenue per user (ARPU) from social media games is estimated to be $2.60, and is forecasted to rise to around $3.70 by 2015. Facebook take a standard 30% cut of all revenue generated from in-game microtransactions. Despite this levy, there are significant benefits for operators to develop games that are hosted on SNS – third party platforms makes hosting easy and cheap, and give access to a much wider audience than would be possible to generate should they opt for a stand-alone game.

In order to understand the implications of evolving social and payment characteristics on risk and protective factors in relation to gambling and gambling related harm, it is important to look to the existing literature in this emerging field and related areas.

Risk and Protective Factors

Having classified the relevant games and identified and described the most distinctive game features, we will now consider, using relevant theory where applicable, what the potential implications may be for consumer well-being with specific reference to problem gambling.

Social Facilitation and Inhibition of Gambling Initiation, Persistence and Intensity

Psychological research has shown that human performance in some situations is improved in the presence of others (Triplett, 1898). It may be that the mere presence of others is sufficient to increase arousal which in turn leads to better learning and increased effort among those performing (Zajonc, 1965). Another possible explanation is that negative public evaluation may evoke evaluation apprehension (Henchy and Glass, 1968) which may in turn act as added incentive to improve performance. Although counterintuitive, there is also evidence that the presence of others may distract the individual performing the task which in some situations can actually boost performance by refocusing and narrowing attention to the task at hand (Baron, Moore and Saunders, 1978). In relation to the above explanations, it is thought that performance is improved or 'facilitated' for easier or more familiar tasks but 'inhibited' for more complex or foreign tasks.

The impact of the presence of others in a gambling context has also been considered. In the existing research literature, there is support for the notion that the presence of others in gambling environments increases gambling intensity in some way (Cole, Barrett and Griffiths, 2011; Rockloff and Dyer, 2007; Rockoff, Greer and Fay, 2011). Rockloff and Dyer (2007) suggested that a social presence may modify gambling behaviour in a variety of ways: motivating players to persevere in looking for a win despite accumulating losses in order to avoid being evaluating as 'loser' by other gamblers; engaging gamblers in more competitive gambling behaviour; or by generating positive perceptions about the probability of winning (based on auditory and/or visual cues).

The distinguishing factor regarding social characteristics in social gambling described in this report is that the presence of others (synchronous or asynchronous) is more likely to include those who are less involved in gambling or who do not gamble at all since they are present via social networking environments (e.g., Facebook) rather than the gambling environments initially considered by previous research on this topic (Cole, Barrett and Griffiths, 2011; Rockloff and Dyer, 2007; Rockoff, Greer and Fay, 2011). This now means that these games are often played socially and publicly (within the bounds of people's friendship groups). There are questions about what this might mean for behaviour. Therefore, one must consider the potential impact of negative evaluation from less-involved or non-gamblers of participation in social gambling games. In this context, the evaluation may be less about the performance in the gambling related task, and more about whether they engage in gambling-related activity, and to what extent.

Anecdotally, one of the authors of this report received messages of concern when their friends and family noticed 'considerable activity' on gambling related applications on Facebook (which was a result of background research for this report!). As demonstrated in

Figure 3, an individual's gambling related activity is potentially available to contacts in a social network.

Figure 3: Gambling activity accessible to contacts in social network

Accordingly, contrary to previous research focussing on gambling environments, the presence of less-involved or non-gamblers through social media may actually have an inhibitory effect on gambling behaviour. This potentially may occur as a result from eithera combination of negative evaluation of involvement in gambling-related activity or protective checks from concerned contacts. However, see also the section below: 'increased exposure to gambling-related media' for consideration on how such exposure may also shape social norms. Also, this point relates specifically to social influences on a broader social network (e.g., Facebook). There may be a facilitation effect from fellow players directly on the platform (e.g., the game being played).

Social Rewards as Added Benefit

A prominent question regarding the impact of social characteristics is whether they offer additional rewards in comparison to traditional forms of gambling, and whether such added benefit is likely influence gambling behaviour and/or cognition. King et al. (2009) argued that 'simulated' gambling is likely to facilitate peer influence given the high speed, text-rich multiuser environment of such media. Social Networking has been observed to be the fourth most prevalent form of online behaviour after personal email, general interest and general web browsing sites, and accounts for approximately 10% of time spent online (Disalvo, 2010). Social networking sites are argued to be socially reinforcing as they provide a series of mini social rewards that require minimal effort to obtain, and ostensibly provide instant gratification (Donath, 2007). Evidently, Social Networking Sites provide a highly popular, easily accessible and interactive platform for the transmission of social rewards associated with gambling.

The value of the ability to interact socially while gambling is not well understood. It has been argued that the monetary rewards as a positive reinforcer of gambling is overemphasised in the research literature (Orford, Sproston, Erens, White & Mitchel, 2003) and that the social rewards are more central to motivation for most gamblers (Kinnunen, 2011). However, most research literature points to social rewards being secondary to other motivations such as excitement, escape and financial reward (e.g., Walker, 1992; Neigbors et al., 2002; Lloyd et al, 2010; Wardle et al, 2011). Research into online gaming (traditionally known as video games) has demonstrated that a primary motivation for participation relates to opportunities afforded in online gaming to demonstrate favourable characteristics such as skill and to compete within one's peer group to enhance social status (Chen, 2010; Pryzybylski,

Weinstein, Muruyama, Lynch & Ryan, 2012). Because of this, there is scope to suggest that the enhanced social characteristics of gambling may provide an opportunity for individuals to engage in the intrinsically rewarding process of externally delineating their social identity. Essentially, social gambling games are model environments to demonstrate characteristics of one's ideal self, such as courage, because of the lack of inhibiting social and physical factors (Rigby & Ryan, 2011). Early social psychology theory states that psychological well-being, and self-esteem in particular, is enhanced through improving congruence between one's actual and ideal self (Roger & Dymond, 1954). In other words, success in virtual environments can help develop self-esteem and self-identity in a similar way to success in real environments.

It could be argued that social characteristics may increase motivation to participate, given the opportunity provided to externally display one's skill level and personal characteristics within one's social peer group. Such features of social gambling may provide the opportunity to engage in relatively harm-free risk behaviour, and satiate competitive drives in social domains that can satisfy the social needs of the individual. The immediate potential for gambling related harm in this regard is not clear however. There is potential, for repeated exposure to gambling to create positive gambling schemata (attitudes, expectancies and desensitisation), and the concern is whether this schemata may lead to problems either in social gambling or extend to other forms of gambling. However, it may also be the case that such activity satisfies certain social needs at lower cost in a more effective way than other forms of gambling, or indeed, other forms of leisure activity.

Social Rewards Attenuating the Gambling Function

Taking the above argument further, it may be the case that by adding these social characteristics, those gamblers who are primarily motivated by other needs, such as fun, excitement, escape, and financial reward, will be less inclined to engage in this form of gambling as these needs may be satisfied to a lesser extent due to the trade off in game structure which is required to promote the social elements discussed in this report. For example, if a player derives enjoyment from the arousal of a fast paced, engrossing game then it may be the case that the delays and interruptions caused by social communications (sharing achievements, chat or inviting friends) and endorsing the game (e.g., using the like function) may actually reduce the potential of the actual gambling game to arouse or engage that particular kind of player. However, it may be the case that asynchronous forms of game (i.e., that encourage social activity at a time different to the gambling activity) may address both needs.

These points are clearly speculative but warrant consideration for a social gambling research agenda. It also provokes the question of whether level of risk is to some extent dependent on the consumers own specific motivation for playing (e.g., would this be less risky to players seeking excitement and financial reward but more risky to those with a more social or competitive orientation to playing these kinds of games). It also opens up the possibility that such social characteristics may attract a new type of gambler/gamer. It could be that the potential of previous gambling games with more limited social characteristics were not sufficient to satisfy the social needs of would-be social gamblers. For example, 'play-for-free'

or ‘practice mode’ games have been available for a while but it may be precisely the lack of social characteristics (and lack of accessibility) which has restricted their popularity. What needs to be explored as a priority is whether social characteristics satisfy new player motivations, augment existing player motivations, or both. Are these games further segmenting existing gamblers or are they attracting new consumers who have not until now been interested in gambling-related content?

Shaping Positive Attitudes to Gambling

Although culture is a structural phenomenon that is difficult to adequately conceptualise, it is widely understood to pertain to shared patterns of meaning in terms of social cognition, behaviour and experience (Betancourt & Lopez, 1993). Essentially, it is accepted that while risk is an inevitable part of everyday life, one’s approach and response to risk in terms of evaluation and decision making is directly influenced by the cultural meaning systems within a group (Abt & McGurrin, 1992; Raylu & Oei, 2004). Within a culture, meaning in relation to risk is transmitted via the social grouping including friends, family and relatives (Daghestani, Elenz & Crayton, 1996) and also through participation and tolerance of specific behaviours such as gambling (Raylu & Oei, 2004). Although the relationship between attitudes and behaviour is complex, one must assess the potential impact on attitudes to gambling when considering the impact of enhanced social characteristics of gambling.

With specific reference to adolescents it is evident that attitudes towards, and participation in, substance-related risk behaviours is directly influenced by perceived social norms (Dishion, 2000; Lakon & Valente, 2012) and maintained by mechanisms such as modelling (Bandura, 1977). It is also influenced more indirectly via negative social feedback (Fisher & Misovich, 1990), comparison of attitudes to others within a group (Marsden & Friedkin, 1994) and creating expectations of behaviour (Rimal & Real, 2003). Bandura (1977) outlined within the Social Learning Theory that in a process of modelling, individuals observe and retain the behaviours visible in their social context and replicate the behaviour if motivation is available in the form of reinforcement. Within the context of the enhanced social characteristics of gambling it is probable that adolescents may adopt positive attitudes towards gambling if intrinsic motivation is facilitated through group inclusion via participation (e.g. ‘inviting friends’ or sharing achievements though leader boards or tournaments) or psychosocial needs satisfaction such as establishing identity within one’s peer group. It is important to point out that a positive attitude towards gambling and its relationship with actual gambling behaviour is complex, and that even where a positive correlation exists, one cannot infer a causal relationship between the two. It is also important to acknowledge that this is not the only source that could influence attitudes, it will form part of a range of peer and macro influences (e.g., parents or advertising) and it could be that positive attitudes may not necessarily be problematic where those engaging adopt a sensible, informed and controlled approach.

Increased Exposure to Gambling-Related Media

Expanding further upon the impact of perceived social norms transmitted through digital and social media on attitudes towards gambling and behaviour, it is advisable to evaluate the

nature of the attitudes being transmitted. If attitudes are predominantly pro-gambling with the potential harms being ignored or misrepresented within social gambling (even non-monetary formats) there may be cause for concern. Both correlational and longitudinal studies have found some evidence for a positive relationship between exposure and usage of *risk-glorifying media* and subsequent risk taking behaviour (Beullens, Roe & van den Bulck, 2008; Fischer, Kubitzki, Guter & Frey, 2007; Fischer, Vingilis, Greitmeyer & Vogrincic, 2011; Wills, Sargent, Gibbons, Gerrard & Stoolmiller, 2009). Furthermore, experimental analyses consistently show a causal relationship between exposure to media that rewards risk (e.g. racing video games) and the individual's propensity to take risks measured from both behavioural and cognitive levels (Fischer et al., 2007; Vingilis, 2009). Moreover, Fischer et al. (2009) indicated that the increase in risk-taking inclinations expanded beyond the specific domain of the media exposure. However, further research is required to measure the temporal structure of the effect of exposure to risk glorifying media. Put simply, the majority of experimental studies of this phenomenon measure the causal effect within relatively short time frames, therefore it is unknown whether risk-taking inclinations are effected beyond a 24 hour period (Fischer et al., 2011). It is also worth noting that various forms of risk are inherently different and therefore such findings may not generalise to gambling-type behaviours.

A theoretical framework which may be applied in this context is the General Learning Model (GLM; Buckley & Anderson, 2006), which is an extension of the General Aggression Model (GAM; Bushman & Anderson, 2000). The GAM postulates that any factors that increase aggression are mediated by internal factors of the individual such as their cognition, emotion and physiological arousal level. The GLM expanded on the theory by proposing that a similar cyclical learning mechanism occurs when exposed to other situational domains beyond aggression. Essentially, when exposed to situational cues, how the individual will respond and ultimately learn from a specific situation is affected by a combination of their internal state such existing cognition and attitudes, and the effect of the situational factors on the individual such as increasing arousal (Barlett, Anderson & Swing, 2009). It is argued that the learning process is enhanced when the situation (in this case media) requires active involvement from the participant, in contrast to passive situations. To relate this theoretical framework to the current context, it is reasonable to conclude that repeated exposure to social gambling that provides social reinforcement and induces arousal is likely to promote positive attitudes towards, and expectations of, gambling. Furthermore, it is probable that the individual will experience desensitisation to the risk inherent in the activity because of the formation of gambling-related schemata in response to repeated exposure to gambling-related activities that may be associated with lower levels of harm or negative consequences (playing for free or with a more generous payback percentage). However, again caution is needed when interpreting the above. It is unclear to what extent desensitisation is necessarily negative. Is it only a concern if play extends to real money gambling? Or only a concern if play leads to problem gambling? These are questions that have not yet been clarified in the research literature.

Gambling Communities and Collaborative Mind-sets

According to Brooks (2007), the purpose of gambling specific social networking sites is to enhance the player's experience by creating a more rewarding, relaxing environment enabling members to read expert blogs and learn about gambling, increase awareness of available gambling-related offers, and interact and familiarise themselves with peer gamblers. Several of these gambling specific social networking sites are compatible with more mainstream networks such as Facebook, meaning that one can share and 'advertise' their bets within their social group (Brooks, 2007). Research has demonstrated that online community participation can affect consumer behaviour (Kozinets, 2002) in addition to information processing and learning (Algesheimer, Dholakia & Hermann, 2005; Turkle, 2011). Zhu, Dholakia, Chen and Algesheimer (2012) argued that online communities promote risk taking tendencies in economic decisions via the creation of collaborative mind-sets. Such mind-sets are developed through repeated interaction across members promoting shared understandings (Hara, 2009), and it is argued that attitudes to risk are directly influenced by one's group membership and the cultural values of that group (Sitkin & Pablo, 1992). Dholakia and Bargozzi (2004) outlined that participants begin to identify with the online community, and begin to internalise the shared beliefs of the group. The existence of such online communities including substantial commercial gambling marketing, and widespread disclosure of personal betting behaviour, may further develop and maintain positive attitudes and expectancies of gambling.

Social Marketing for Responsible Gambling within Social Networking Sites

Johnson (2011) outlined that Social Networking is a valuable tool of knowledge management because it is a rapid, highly accessible means for companies to disseminate information to large groups at minimal cost. As mentioned previously, it is evident that Social Networking Sites affect member attitudes towards risk behaviours, such as nicotine use, through the presentation of social norms and social feedback (Lakon & Valente, 2012). Conversely, from a social marketing perspective it may be possible to use Social Networking as an opportunity to promote awareness of, and encourage, responsible gambling behaviour. There is substantial evidence demonstrating that social marketing is effective in raising awareness and promoting behavioural change regarding health risks (Gordon, McDermott, Stead & Angus, 2006; Stead, Gordon, Angus & McDermott, 2007).

Gordon and Moodie (2009) proposed that gambling would be compatible for social marketing applications, because in terms of structure and context it is comparable to other health risk behaviours that social marketing has been effective against. Essentially, similar to alcohol and nicotine use, gambling is widely prevalent and socially acceptable, participated in by both adults and adolescents, and is strongly marketed yet tightly regulated. Williams, West and Simpson (2007) concluded that, with consumer input into development, social marketing may be effective in building long-term relationships with gamblers and therefore enable a more robust long-term approach to responsible gambling awareness and behaviour change. Powell and Tapp (2009) identified that in order to maximise one's

chances of stimulating long-term behavioural change one must develop strong long-term relationships with the population.

The potential to use social networks connected with simulated gambling as a mechanism for responsible gambling social marketing is likely to be determined upon the ability to demonstrate that responsible gambling awareness is synonymous with self-interest in terms of harm avoidance. In order to establish credibility and relevance for potential users, it will be pivotal to effectively segment specific subpopulations in terms of demographics and gambling preference, and directly address competition against the responsible gambling message such as advertisements promoting gambling behaviour (Gordon & Moodie, 2009). Finally, exchange is a key element of social marketing (Hill, 2001), and therefore effective social marketing in these social networks will require attention to be drawn to the tangible and intangible benefits of gambling responsibly

Korn, Murray, Morrison, Reynolds and Skinner (2006) described an early example of social marketing of responsible gambling for adolescents with youthbet.net, which is a website which creates responsible gambling awareness via a multitude of engaging, interactive games. Rather than being designed by responsible gambling professionals, emphasis was placed on the targeted user i.e. adolescents in terms of determining the structure and the content of the site, as customer orientation is a fundamental element of social marketing (Andreasen, 2006). Ultimately, adolescents were motivated to actively engage with the social network as it met their needs and interests.

In conclusion, as Powell and Tapp (2009) acknowledged, problem gamblers often have limited economic and social capacity and gambling readily offers a thrilling escape from everyday monotony. As a result, health promotion by itself is unlikely to be effective in terms of behavioural intervention. Therefore, responsible gambling social marketing is likely to be most effective as a preventative tool emphasising responsible gambling as a social norm, rather than as an intervention for problem gambling.

Freemium: Implications for Risk

Judgement and Value in the Virtual Economy

Given the novelty and intangible nature of virtual rewards, and virtual currency in particular, there is a danger of naively dismissing the ostensible value that online participants place on such items. It is argued that the mechanism that creates value for terrestrial items within Western culture is duplicated in relation to virtual items; namely the perceived status and scarcity of the object, in addition to emotional attachment towards the object (Greengard, 2011; Hamari & Lehdonvirta, 2010). As a result, it may be prudent to conceptualise the opportunity to obtain and win virtual currency and virtual objects through games of chance and skill, as tantamount to traditional gambling, albeit at comparatively low levels.

In response to this, the case for regulating the gaming market that operates using virtual currency, and virtual objects of value, is increased. Essentially, given that the virtual economy in which individuals retain currency (and objects of value) is not regulated or bound

by imposed restrictions (Chambers, 2011), there is scope to affect the value of players' capital. For example, within a Freemium virtual gambling activity, a player may have accumulated substantial virtual winnings through a combination of skill and good fortune. The operator of the Freemium game may significantly increase the provision of free virtual currency to other players on an ad-hoc basis, and therefore, by default, devaluing the capital of the original player. As a result, it is probable in this instance that participants may perceive the devaluation of their capital as incurring losses, which may stimulate either more risk-taking within the virtual gambling environment or the purchase of more capital in order to re-instate the value of one's assets by accumulation.

Finally, in relation to the virtual economy and platform in which Freemium social gambling occurs, it is practical consider the factors which are likely to influence levels and patterns of expenditure across participants. Virtual currency is a recent phenomenon, and therefore a large proportion of potential customers are unlikely to have experienced using virtual currency. In situations where individuals are faced with new technology and systems that they are not experienced with, their behaviour is socially influenced (Miyazaki & Fernandez, 2001). Put simply, in order to reduce anxiety in response to new technological phenomena, particularly when it comes to expenditure, individuals observe and replicate the behaviour of their peers. As a result, Freemium gambling activities that highlight and promote the gaming activity of one's peers within social networking sites are at a clear advantage in attracting new customers. In addition, research also suggests that rather than continually actively seeking to maximise value, an individual's future spending choices are primarily determined by past expenditure (Ouellete & Wood, 1998). Therefore, it may be the case that Freemium game providers, who have a significant presence on social networking sites, are likely to have substantial customer retention. Customer emphasis on selecting sites that are popular within their social network, and where they have played previously, may create an opportunity for such operators to increase player expenditure requirements without experiencing proportional negative effects in terms of customer retention.

Freemium and Payback Percentage

Payback percentage is defined as the 'value of prizes redistributed to players of the same game as a proportion of the total amount wagered over the long-term'. If Freemium gambling offers non-monetary rewards and do not yet offer cash prizes there is ample scope for the payback percentage to be over 100%. This would yield longer winning sequences, bigger prizes and possibly an overall net positive outcome in terms of credits depending on the games volatility. Concern about how representative gambling-like games are of real gambling modes where real money is staked is not a new phenomenon. Some commentators have expressed unease about the such games offering higher payout rates, extended winning sequences and bigger prizes relative to real gambling activities as such experiences may lead players to migrate onto real money gambling where they may have unrealistic expectations and may persevere longer during losing periods to get their money back (Sevigny et al., 2005; Griffiths and Parke, 2010). It could also be the case that younger, potentially more naïve, consumers may misinterpret that gambling is a legitimate way to earn income rather than simply a leisure activity.

It is notable that some academics have argued that, in real money gambling at least, a higher payback percentage "*may ultimately create more problem gamblers because of its propensity to expose novice gamblers to these early big wins"* (Harrigan and Dixon, 2010, p.12). While the consequences of early big wins on various aspects of real money gambling remains unclear, the actual impact of big 'virtual' wins is even less clear but warrants further empirical investigation. However, Harrigan and Dixon do make an interesting observation that the co-existence of multiple versions of the same game with different payback percentages may facilitate illusions of control and increased risk for problem gambling. Both of these hypotheses could also be the focus further empirical investigation.

Freemium and Chasing Behaviour

Chasing can be simply described as continued gambling where the primary motivation is to win back past gambling losses. This could apply to such behaviour within a particular session, or across different sessions occurring on different days. Chasing losses is considered to be an important risk factor for impaired control and the development and maintenance of problem gambling and is driven by need for financial reparation (Lesieur 1979, 1984; Dickerson, Hinchy & Fabre 1987; Corless & Dickerson 1989). Consequently, financial harm as a result of chasing may be less likely. This is not usually permitted under the Freemium model as players are not permitted to win real money. Importantly, if losing money causes a negative cognitive, emotional state that impairs control (Corless & Dickerson 1989) then it is not clear to what extent that would apply in Freemium play. It may also be the case that gambling for non-monetary reinforcers such as social rewards may be less likely to induce arousal (see Anderson and Brown, 1984) and impair control when gambling compared to gambling for money. We suggest that these postulations may offer useful initial lines of empirical enquiry when exploring differences between social and other forms of gambling.

How real is 'Virtual'?

Virtual money, chips or coins in various types of social gambling can either represent a) real money or b) something which is considered to have no monetary value beyond the virtual world in which exists (e.g., play money) but is still a necessary component for describing or rewarding the performance in a game. It is the latter for which it is difficult to evaluate the potential for risk or harm in the real world.

It is important reflect on whether the current absence of regulation for gambling games using Freemium is a cause for concern, when considered relative to other virtual representations of behaviour deemed inappropriate for minors. For example, improper sexual behaviour within a virtual environment, although potentially less distressing than a real world experience, is reported to be psychologically unpleasant for the victim (Chambers, 2011). While it is clear that the experience of sexual harassment is vastly different to the experience of gambling, the point being made is that a social issue should not be summarily dismissed in a regulatory context simply because it takes place in virtual world as there may still be real world psychological impacts from participation (Chambers, 2011). However, it must be acknowledged that the psychological impact of losing in this context could be minimal and

tantamount to the negative affectivity one may experience when losing within other games of skill, such as within video games.

Castronova (2001) argues that the interactivity, physicality and persistence of virtual games elevate these to having a real world dimension. For example, the behaviour of one individual influences the behaviour, experience and emotions of others in the real world and not just in the virtual realm. Virtual gambling games retain their physicality through their interface (i.e., PC, tablet or mobile device), and within these gambling activities the physical laws of reality are retained. Similarly, other commentators argue that games are not actually virtual, as they are driven by reality and consequently reality is affected by the games (Chambers, 2011; Knock, 2008). Thus, it may be more accurate to conceptualise virtual games as a continuum of reality rather than as an alternative reality.

Freemium Gambling as a Mechanism to Inhibit Problem Gambling

Before assertions can be made regarding the probability of Freemium gambling being a risk factor for gambling-related harm, it is prudent to evaluate the possibility that it may be an effective tool in the reduction of harm. For example, the role of gaming simulations within educational processes as a mechanism to stimulate learning is gaining momentum as a research domain (Barnett & Archambault, 2010). Bonk and Dennen (2005) contend that gaming simulations provide valuable learning environments for educational topics, such as business and politics, because it can artificially produce complex structures and systems where an individual can observe cause and effect in relation to a range of decision making processes. It is noted that an individual can learn the outcome of decision making processes within specific *in vivo* social structures, however within a simulated game an individual is not inhibited in their exploration by the potential to experience harm (Gee, 2008). Additionally, it is argued that the simulated games are inherently rewarding via processes of interaction, on-going feedback and prompt gratification, and therefore in comparison to more traditional passive learning structures, individuals are more likely to be motivated to participate and actively learn (Barnett & Archambault, 2010).

Within the current context, it is reasonable to conclude that there is scope for Freemium gambling to be effectively applied as learning tool in regards the potential outcomes of gambling for both adolescents and adults. Fundamentally, the viability of using Freemium gambling as an educational tool for responsible gambling is inextricably tied to the concept of regulation. Given the aforementioned possibility that simulated gambling creates positive gambling attitudes and expectancies via the high level of prevalence and social acceptability, it could be suggested that Freemium gambling should maintain a realistic, and identical where possible, game structure as monetary gambling. Gambling is an inherently risky activity, given that commercial gambling operates with an outcome expectancy below 1, and therefore as a result the individual over a continued period of time will incur losses. To avoid the development of cognitive biases based on probability error (Ladouceur & Walker, 1996) or illusion of control (Langer, 1975), and limit resistance to behavioural extinction within a variable schedule of reinforcement through an enriched acquisition period (Levitz, 1971), it is crucial that Freemium gambling activities are not enhanced in terms of probability of winning. Put simply, individuals by participating in Freemium gambling would learn the realistic

behavioural consequences of gambling participation, and this should inform decision making in monetary gambling.

However, there are two significant caveats. It is unlikely that forms of Freemium gambling would operate using probabilities similar to their monetary counterparts simply because repeated losing is unlikely to create a rewarding and engaging game. Furthermore, the centrality of winning and economic reward as a positive reinforcer of gambling may be overstated (Orford, Sproston, Erens, White & Mitchell, 2003), and an individual may find reinforcement in alternative outcomes from gambling such as heightened arousal and competition. As a result, it may be that for Freemium gambling to be an effective tool in educating individuals regarding the harms of excessive gambling, specific gambling programmes must be designed for the sole purpose of responsible gambling education rather than as a ludic pursuit. This is likely to have implications for motivating participation.

Limited Regulation of Freemium and Virtual World Gambling for Adolescents

In general, online gambling operations have been relatively effective in limiting gambling participation of minors via age verification systems, which can often supersede age verification restrictions in traditional bricks and mortar gambling environments in the UK in terms of robustness. However, as yet it is unclear to what extent Facebook have been effective in restricting adolescent participation within their first monetary gambling simulation activity for UK users, Bingo & Slots Friendzy. Gamesys, the game developer, refuted claims of the possibility of underage gambling because the site required credit-card use and scanned copies of photographic ID such as a driving license; however, it would be relatively straightforward for an adolescent to use photographic ID of someone who did meet the age requirements (Olsen, 2012). Bingo & Slots Friendzy faced further criticism with the assertion that their gambling activity has been specifically developed to appeal to adolescents, with specific reference to the graphics employed including colourful toy avatars and icons. Again, Gamesys refuted the criticism stating that there were multiple gaming applications that were popular with adults and had similar avatars and themes, and moreover, this gambling application would not be visible to individuals under the legal age via Facebook's age-gating and geo-location technology (Olsen, 2012). The issue of age verification becomes increasingly more complex in relation to Freemium gambling (for both SNS and Apps). Freemium payment has, to date, avoided regulation because gambling is rigidly defined as requiring the possibility to win and lose money (Ronamai, 2012). Ronamai (2012) tentatively proposed that Freemium payment has, to date, avoided regulation because gambling is rigidly defined as requiring the possibility to win and lose money.

Virtual World gambling is prevalent across multiple forms of online gaming such as Massively Multiplayer Online Role Playing Games (MMORPGs). King et al (2010; 2012) highlighted that online games provide optional opportunities to risk in-game credits in gambling activities for items of value within the game environment, and that the highly valued items offered encourage users to take such risks within the game format. Superficially at least, this non-monetary gambling situation appears to be relatively harmless, however although these activities initially are free, further play can be purchased with real currency and the processes required to build up in-game credit are associated with problem

gambling criteria such as pre-occupation and reduced control. Karlsen (2011) argued that engaging in activities within MMORPGs to build in-game credit can be tantamount to the entrapment cognitive bias (Rogers, 1998) in problem gambling, where players are motivated to engage in continuous, excessive participation through fear of missing out on in-game items of value which can provide social rewards such as status.

Another primary concern in this regard is the possibility of exchanging desirable in-game items of value for monetary gain. For example, World of Warcraft and Project Entropedia in-game currency can be legitimately exchanged for real currency, therefore creating a bona-fide gambling opportunity where adolescents can expend time and effort attempting to obtain in-game credits through available activities with chance based outcomes, with the aim to exchange such credits for real money (Castronova, 2005). A similar mechanism was available through the online game Second Life before such transactions were prohibited via the introduction of various Online Wagering Acts within the US in 2007 (King et al., 2010).

Early Onset of Gambling Behaviour as a Risk Factor for Gambling-Related Harm

With reference to adolescents, perhaps the most prominent concern regarding the proliferation of non-monetary simulated gambling, in terms of both interactive and thematic content, is the possibility that such exposure will create the normalisation of gambling amongst this subgroup. Participation in non-monetary simulated gambling may be relatively harmless at face value, however as demonstrated previously participation is predictive of monetary gambling (Ipsos MORI, 2009; King et al., 2012), and there is a clear positive relationship between age of gambling onset and adolescent problematic gambling severity (Rahman, Pilver, Desai, Steinberg, Rugle, Krishnan-Sarin & Potenza, 2012).

Adolescence is a developmental stage that has specific vulnerability to excessive appetitive disorders such as addiction, where youth display substantial impulsivity and risk taking propensities (Auger, Cantinotti & O'Loughlin, 2010; Chambers, Taylor & Potenza, 2003, Steinberg, 2008). Research indicates that there are a range of factors that influence the probability of an adolescent participating in gambling activities, including accessibility and social acceptance (Lloyd, Doll, Hawton, Dutton, Geddes, Goodwin et al., 2010; Wilber & Potenza, 2006). Putting this finding into the context of the proliferation of simulated gambling content, the high adolescent exposure to digital media and parental lack of concern with adolescent gambling (King et al., 2010) it is possible that simulated gambling, even non-monetary forms, may be a pathway to adolescent problem gambling.

Nower & Blaszczynski (2004) have proposed that specific psychological and social patterns are recognised pathways in problem gambling including being a peer in a group that integrates gambling into their social activities and needing to escape negative psychological states. Gupta and Derevensky (2008) have identified that adolescent problem gamblers often report that they gamble to escape problems such as experiences of social isolation and experiencing negative mood states. The evident social acceptance and peer approval of simulated gambling, and limited age verification regulation, could increase the probability of adolescents using such media as a coping mechanism, prior to the development of adaptive responses, to escape negative emotions and experiences (King et al., 2010).

Beyond the use of simulated gambling as a coping mechanism for negative mood states, it is probable that there will be other significant factors that promote high levels of adolescent participation. Simulated gambling, particularly when embedded within online games, often presents the activity as having substantial skill components through which players can affect the outcome of the gambling event (Monaghan, Derevensky & Sklar, 2008). Furthermore, non-monetary simulated gambling activities are highly social, via mechanisms such as XboxLive and other social networking sites, meaning that despite not being able to win money, there remain high levels of competition and social rewards available, motivating continued play (King et al., 2010). The perception that chance-based gambling simulations have skill components, and the readily available social rewards, , are likely to be motivating factors for adult populations and not just adolescents. However, particular concern is provided to adolescent populations because it is probable that such early exposure may affect development of initial understandings and conceptualisations of gambling, and affect behavioural approaches during the introduction of monetary gambling. Put simply, it is questionable whether adolescents will approach monetary gambling with an advisable amount of caution. Again, this may be an issue of perspective. Young people may view these specific products as games and real money gambling as different sort of proposition. This is a key research question.

Other Potential Risk Factors

Convergence of Gambling and Gaming

It is evident that there is an increasing overlap between the structural and situational characteristics between gambling and video games (Wood, Gupta, Derevensky & Griffiths, 2004). Griffiths (1991) highlighted several co-existing characteristics such as player-technology interaction, reward provision via a variable schedule of reinforcement, and the capacity to accumulate credits. Griffiths (1995) extended this further by stating that gamers and gamblers ostensibly share the same objective; both aiming to maximise the duration of the session and level of performance.

It has been noted that there are several positive psychosocial benefits to participating in online games including pleasurable subjective feelings such as excitement and achievement (Voderer, Klimmt & Ritterfield, 2004), experience of flow via meeting challenges (Sherry, 2004), social interaction (Bluemink et al., 2010), exploring self-identity (Pryzybylski et al., 2012) and expressions of self-determination such as competence and autonomy (Pryzybylski, Ryan & Rigby, 2009). However, conversely, it has been observed that excessive participation in online games can develop into an addictive disorder (Hsu, Wen & Wu, 2009; van Rooij, Schoenmakers, Vermulst, van den Eijnden & van de Mheen, 2010), with players of MMORPGs being most at risk (Council on Science and Public Health, 2007; Lee, Ko, Song, Kwon, Lee, Nam et al., 2007).

Griffiths (2008) stated that game addiction contains the same components as other behavioural addictions such as: salience, tolerance, withdrawal, mood modification and

harm. Longman, O'Connor and Obst (2009) observed that 10% of their sample of online game players participated for an average of 63 hours per week and as a result experienced multiple negative symptoms such as pre-occupation and loss of control. Additionally, it has been found that excessive and disordered online game playing severely impacts educational, occupational and social roles negatively (Grusser, Thalemann & Griffiths, 2007; Wan & Chiou, 2006). Given the increasing convergence between online games and gambling (King et al., 2010), it could be argued that the real risk for harm of non-monetary simulated gambling is the potential for excessive participation leading to the individual experiencing negative consequences similar to the symptoms of online game addiction. As previously discussed, there are a wide range of rewarding features within simulated gambling activities beyond financial elements that may stimulate excessive and harmful participation, with specific reference to social rewards such as engaging in competition and social enhancement (King, et al., 2010).

Advertising and Age Verification

In the UK the Data Protection Act does not give clarity about the age of consent for online information, or contain any specific recommendations pertaining to the use of children's data online. The United States of Congress enacted the Children's Online Privacy Protection Act (COPPA) in 1998, the primary purpose of which is to ensure parents have control of data which is collected from children online. A key aspect of this requires that anyone aged 12 or under is required to obtain verifiable parental consent before allowing children to sign up for products or services online. However, most social networking sites are not bound by the restrictions of COPPA as they state they only allow users aged 13 or above to create user profiles. Therefore there is no requirement for verifiable parental consent to be obtained for users over the age of 13. Despite this, research has shown that an estimated 7.5 million children aged under 12 are on Facebook (Consumer Reports, 2011) and Livingstone et al (2011) found that in Europe 38% of 9-12 year olds have a profile on an SNS. These young people will have lied about their age in order to gain access to the site, and as such there is likely to be a growing cohort of Facebook users who are in fact younger than their Facebook profile suggests.

Currently only two real money gambling applications can be found on Facebook, although there are likely to be others following soon. While real money game play is regulated and licensed by the Gambling Commission, and as such strict age verification procedures must be carried out prior to allowing a user to play, there are less stringent checks on age when it comes to advertising. While the terms imposed by Facebook on developers include provision that the game must not be advertised to Facebook users under the age of 18, as described above Facebook's own age verification procedures do not allow for surety that a user is the age they say they are when they sign up. To the best of our knowledge, no jurisdiction currently restricts or regulates SNS Gaming or Freemium Gambling, although the terms and conditions on certain Freemium Gambling games suggests that players should be over a certain age or have an adults consent to play. One of the ways in which SNS Real Money Gambling games advertise is by targeting those users who have played Freemium Gambling games. It is likely that many of those being targeted by real money gambling games therefore are under the age of 18, despite their user profile saying otherwise. They may also

be targeted by other gambling advertisers who link to real money online gambling opportunities on external sites.

Current and Planned Research

As part of this review we have explored what research, if any, is being carried out into social gambling worldwide, by whom, and with what findings. We have spoken to those within the field who may be undertaking research into social gaming and gambling using our personal contacts and the industry email-based discussion list Gambling Issues International, as well as searching for relevant information online. Currently, only two projects have been identified which look specifically at this issue and both are at a very early stage (see below).

Australia – A research study relating to the use of social media in gambling

Gambling Research Australia closed a tender at the end of 2012 for a research study with a national (Australian) focus, to explore the literature and complete an 'environmental scan' of how the gambling industry promotes gambling opportunities using social media, including who is targeted and how access to the gambling product is provided. The study will also identify and describe the availability of both monetary and non-monetary gambling opportunities via social media, mobile platforms and gaming consoles, the transition to and from traditional forms of gambling and gambling associated with social media, and look at the future direction of gambling via social media.

Ontario, Canada – Play-for-Fun to Play-for-Pay: Identifying Factors that Transition Young Adults from Social Network Gaming to Online Gambling

The Ontario Problem Gambling Research Centre (OPGRC) has recently funded this project which is currently in progress and is due to last for two years, The study aims to investigate the risks which may be associated with social media gambling for young people aged 18 to 24, including the impact of such games on the progression and maintenance of gambling and gambling problems.

Other Findings

As identified, there is currently a paucity of research evidence on this topic. To help fill this gap, two research studies were undertaken as part of this project. The first was a consultation of problem gambling clinicians to assess the extent to which they are aware of social gambling behaviour is (or has become) an issue among their clientele. The second was secondary analysis of the National Lottery Commission's youth tracking survey to examine how many youth aged 11-16 took part in social gambling and the extent to which this behaviour overlapped with other forms of gambling. Summaries of main findings are presented below.

Problem Gambling Clinicians Survey

To date we are unaware of any studies which have explored a potential relationship between social gambling behaviour and problem gamblers currently in treatment. As part of this scoping exercise we sent out a survey to 21 organisations that provide counselling for problem gamblers in Great Britain to gain a basic understanding of whether social gambling has been discussed with their clients and in what context. The exact number of counsellors to which the questionnaire was sent cannot be determined as each organisation was asked to distribute it to all staff who work with problem gamblers, however, we had 19 individual responses. A brief summary of the findings are presented below. The survey and more detailed findings can be found in Appendices 1 and 2.

Just less than a third (31.6%) of clinicians reported that in the past year, none of their clients had reported participating in social gambling games. However, over half (52.6%) said that 'a few' of their clients had, and 3 of the 19 participants (15.8%) said that around half of their clients had reported past year participation. We asked the same questions about gambling-related Apps. Only one participant reported that around half of their clients played these games, with eight (47.1%) saying no clients had reported playing Apps and eight (47.1%) saying that 'a few' had. Both social gambling games and gambling-related Apps were being reported as both potentially contributing to, and potentially mitigating harm in a problem gambling population (for more details see Appendix A).

Evidence from the NLC Youth Tracking Survey 2012

Secondary analysis of the Youth Tracking Survey showed that around 1 in 6 boys aged 11-16 and 1 in 16 girls had participated in SNS Freemium gambling in the past 7 days, with Facebook being the most popular platform through which these games were accessed. Past week participation typically captures regular play though some youth who had tried this activity for the first time, or had more sporadic patterns of play may be included. Therefore, we cautiously estimate that somewhere in excess of 300,000 youth aged 12-15 are regularly engaging in these activities.

Past week participation rates did not vary by age meaning that Freemium gambling was just as popular among younger adolescents as it was among older adolescents. Around 1 in 10 youth aged 11-12 had played these games in the past week suggesting that age of onset for

engaging in this activity could be even younger for some children. This warrants further investigation.

Among boys, rates of participation were higher among those with poorer academic attainment and among those attending schools in rural areas. Such patterns were not observed for girls. Boys were also more likely to have also engaged in other forms of gambling activities than girls. This suggests that patterns of play, factors associated with play and integration of SNS Freemium gambling with other forms of gambling are experienced differently for boys and for girls.

This evidence highlights that there may be important differences in the way boys and girls integrate SNS Freemium gambling within their broader repertoire of leisure and recreation activities. There also may be different reasons as to why they take part in these activities. For example, why are participation rates higher among boys in rural areas but not girls? If this was related solely to lack of other leisure opportunities, one would expect to see a similar pattern for boys and girls. This highlights the need to explore how engagement in SNS Freemium gambling is integrated with and/or substituted for other forms of leisure, recreation, and for some, other gambling activities. Following on from this, the need to take a broader perspective, including focus on attitudinal, structural and situational factors, is emphasised by findings that both parental permissiveness and living in single parent households were highly predictive of engaging in SNS Freemium gambling. In short, the broader environment in which youth live and are schooled, who they live with and the attitudes of their social network are all likely to be important in understanding who engages with this activity and in understanding why they engage.

Finally, this data showed that those who played SNS Freemium gambling products are typically engaged with other forms of gambling or play other free gambling games. Perhaps unsurprisingly, the strongest correlations between SNS Freemium gambling and other forms of gambling were those activities that were also conducted online (i.e., other online gambling, online instant wins) or were similar activities to those offered by SNS Freemium gambling (i.e., playing cards with friends for money). It is therefore possible that, for some, engagement in SNS Freemium gambling replicates an activity enjoyed in the physical environment.

Overall, this study showed clear evidence of overlapping interest in broader gambling and SNS Freemium gambling and, notably, taking part in SNS Freemium gambling is already more prevalent than playing other free gambling games (8%). From a responsible gambling perspective, and particularly when thinking about education and prevention initiatives, knowledge of this co-occurrence of behaviours is useful. This means there is an easily identifiable subset of youth who engage in a range of gambling behaviours who may benefit from education strategies relating to gambling. Knowing that those who play SNS Freemium gambling games are, typically, engaged in other forms of gambling is useful as it provides an opportunity to potentially use this platform for social marketing purposes.

However, whilst the youth gambling survey and the more recent youth tracking data demonstrate that this overlapping interest was the majority behaviour, around 1 in 4 male

and 2 in 5 female SNS Freemium gamblers had *only* played these games. This pattern was broadly evident for all age groups and it would be of interest to see if, how and when interest in other gambling products begins among this group.

This study was based on cross-sectional data and so can only highlight associations and not causal mechanisms or pathways. However, some notable patterns are evident, including the correspondence between SNS Freemium gambling and other forms of gambling, the popularity of SNS Freemium gambling among the youngest age groups and the different profile of SNS Freemium gamblers among boys and girls. All of these warrant further in-depth investigation.

Social Gaming, Social Gambling – A Question of Perspective

When seeking to assess the potential range of risks and benefits associated with social gambling games, it is important to think about how one defines the issue, what perspective it is approached from and how the activity itself is conceptualised. If, as Shaffer and Korn (1999) state, the way one defines an issue governs what one does about it, then further thought needs to be given to how we view this activity and consideration of a range of perspectives is required.

The perspective taken is important for conceptualising the (potential) risks associated with social gambling. This is particularly pertinent when thinking what, if any, impact this may have on the experience of gambling-related harm more broadly. In short, our understanding of the potential risks associated with social gambling may vary depending on whether you view these activities as games, as gambling, or a combination of the two.

For example,approaching this from a gaming perspective situates the emergence of social gambling within broader trends for using the internet and social media for play. As Turkle (2011) describes, the internet can be a playful space where people experiment with identities and these are explored, expressed and manifest in gaming cultures. Those using a gaming studies perspective may see the emergence of social gambling games as a broader reflection of changing cultural attitudes and behaviours towards gambling-style products. Hjorth (2011) has noted that historically the development of games, and their popularity, reflects interests, attitudes and cultures at prevailing times. See, for example, the development and popularity of the Game of Life in the early 1960's replicating normative values about marriage, children and work. Looking at the development and popularity of social gambling games from this perspective situates them within a broader transition observed in the latter part of the twentieth century and continued in the twenty first whereby gambling developed into a more mainstream and acceptable leisure activity. Certainly, the growth in the popularity of poker can be traced back to before the inception of Zynga. This lends some support to the theory that the development of these games is a reflection of broader changes in attitudes towards and consumption of poker-style activities.

Viewing the development of these activities in this way situates these games within a broader cultural context, whereby they are another form of expression of deeper social changes. The question about the level of risk associated with them then focuses on what contribution or impact these games make *within* this overall spectrum of change. There are also valid questions about how able people are to differentiate between gaming environments and 'real world' environments. This latter point is important and is discussed more fully below.

Seeing the development of social gambling as part of a broader phenomenon of change suggests that greater focus should be given to how this fits within the wider gambling landscape and what level of contribution this may make to the determinants of gambling behaviour and, related to this, gambling-related harm. This perspective also suggests that specific cultural and jurisdictional contexts should be considered when thinking about impact. For example, the impact upon determinants of gambling within a jurisdiction that has a more

prohibitive approach to gambling is likely to be different from jurisdictions with a more laissez faire approach. Furthermore, there may be key differences in the audiences for social gambling games among various jurisdictions and this too may be related to how people view activity. For example, in the USA, some people may use Zynga Poker as a viable alternative to real money gambling as this is not legally available. In the UK, where online gambling is readily available, those who choose to play these games may do so for different reasons and may view the activity as a different type of product (i.e., as more of a game than gambling). Anecdotal evidence from the industry suggests that there are some key differences between countries. Personal communication with providers has suggested that the UK market for social gambling games is one of the most difficult to monetize which they believe is due to the ready availability of 'real' money gambling. Further research is needed to understand how social gambling games are integrated with 'real' money gambling in Great Britain and to better understand how and why people engage with these games and what they think of them.

An alternative perspective to consider (among many) is that these are gambling activities situated within an emerging onlinegaming culture. Some of the issues noted above are pertinent here, especially British specific considerations of how this may be integrated with gambling more broadly. This perspective encourages focus on considerations from the field of gambling studies when seeking to examine the contribution of this activity to determinants of gambling behaviour. Whilst we acknowledge that gambling studies is a broad and multi-disciplinary subject area, research has been typically dominated by psychologists. This has led to focus on issues from a more individual-led perspective, whereby activities are examined for their structural characteristics and how this may impact on behaviour, and issues relating to operant conditioning, the relationship between impulsivity and other personality traits and gambling (among others) are considered. In relation to broader environmental factors, themes tend to focus on issues of accessibility and availability of gambling and their impact. Though there is some focus on social determinants of gambling and gambling related-harm, the evidence base is sparse. This is important to recognise when viewing social gambling games from a gambling-studies perspective as it typically means approaching examination of impact from particular viewpoints.

Therefore, viewing these activities from this perspective focuses attention on the impact on the individual, the extent to which these games could reinforce and condition behaviours and how their broad availability and accessibility may change attitudes and normative values towards the types of activities they represent. The extent to which these activities may be related to the determinants of gambling behaviour largely relies on how people view these products, how they interact with them and what, if any, transitions are made between engagement in this activity and engagement in 'real' money gambling. Here, key questions centre on whether people view this as a fairly accurate representation of real money gambling but with use of virtual currency instead or whether people view these activities as games which have lesser basis in reality. Understanding these issues and the balance of these views among those playing these games will give us deeper insight into the relative risks (or otherwise) that these activities pose.

Some of this debate draws on broader considerations of the relationship between people and technology. Previous generations have debated the impact of video games upon real life events or even of broader technological developments upon health and wellbeing. For example, some people believed the telephone would cause deafness, that television would lead to increases in anti-social behaviour or that certain video games would cause increases in crime and violence. However, Hjorth (2011) notes that this brand of technological determinism is too simplistic and states that life for policy makers would be simpler if only these simplistic mechanisms proved to be true. For Hjorth, a broader theoretical position is needed which recognises the complex interactions between individuals, technology and the feedback loops between them. This is the social constructionist approach in which users shape the medium as much as the medium shapes users, leaving more room for individual agency within a broader techno-culture.

Hjorth's view provides a more well-rounded account of the relationship between individuals and technology and allows room for other determinants and mechanisms to play a part in shaping society and culture. However, the analogy between social gambling and video games has often been used without recognising a fundamental difference between the products. With video gaming, consideration is given to how behaviour in the digital environment may affect behaviour in the physical world. There is no online 'real' alternative. Therefore, the debate essentially relates to transfer of behaviour between digital and physical realms with the attendant issues and complexities that accompany this.

The examination of social gambling games is arguably more complex because the equivalent 'real world' activity is present within both physical and digital environments. Considerations are not solely focused on whether playing games in a certain way online will affect offline behaviour. There is also the potential for transitions *within* digital environments by moving from a website with virtual currency to a website with real currency. The aesthetic qualities, the games, the environment in which they are accessed are all similar and could potentially blur divisions between gaming and gambling. This poses important questions about what understanding people have of the differences between these products and how they view both, especially when the environmental context of engagement is very similar. This makes the issues relating to risks and benefits of social gambling games more nuanced and, arguably, render analogies with video gaming less useful.

In summary, there is a need to understand the context in which social gambling games are offered and undertaken. This relates to understanding specific jurisdictional issues regarding the provision and regulation of other forms of gambling and also to broader cultural perspectives of both games and gambling. There is also a need to draw analogies with caution and to consider how the contexts of such analogies vary when assessing them. Social gambling games and their situation within an online platform alongside (in Britain, at least) similar forms of real money gambling represents a more complex and nuanced situation than simply looking at transference of behaviours between digital and physical environments. Finally, there is a need to understand how players themselves think about these games, whether they are aware of differences between virtual money and real money gambling and why they engage. Developing a grounded theory approach whereby

participants highlight their experiences, beliefs and attitudes is likely to productive in helping to assess the impact of these activities upon determinants of gambling behaviour.

Identities, Networks and Platform – Some Considerations

A further complexity when considering the (potential) impact of social gambling games is not just whether these are games or gambling activities but derives from the platforms in which they are accessed and played. There is considerable debate about how to view the internet itself, whether it represents a place, a medium, a technology, a network and so on. Arguably, social media represents a microcosm of these debates. It can be viewed as a place for people to exchange and socialise, a place for play. It can be seen as medium for exchange of information between different actors or a medium for organisation. It can be viewed as technology with attendant issues relating to access, control and ownership of information. It is largely described as a community, though as Cavanagh (2010) notes, there has been relatively little examination of whether this fits with traditional notions of communities. The fact that social gambling games are embedded within this platform therefore raises a different range of considerations.

As noted earlier, Turkle has described the internet as a playful space in which people can experiment with and explore various identities. Much of her research focuses on identity experimentation within games-based virtual realities (like second life). However, she also notes that social media platforms such as facebook also allow similar experimentation with identity. Her work with adolescents in Massachusetts, USA, highlights the level of attention and detail given to shaping and cultivating one's profile. This online representation therefore represents the identity the owner wishes to project or, in some cases, thinks that others want to see and represents a form of experimentation with identity formation. That social gambling is embedded within a platform that may encourage this type of experimentation raises the potential that, for certain groups, engagement in social gambling games could be linked to this. We know from research with other gamblers that people experiment with gambling for different reasons and construct different identities around this, such as wanting to be seen as skilled, wanting to impress, wanting to compete (Wardle et al, 2011). It is not inconceivable that certain groups do the same with social gambling games and want to project identities such as being skilful, being expert and so on to others. In fact, the features of social gambling games are set up to encourage this, with leader-boards and opportunities to post messages about play to others.

However, Turkle's argument has attracted some criticisms. Specifically Cavanagh (2010) has argued that she over-represents the use of the internet for identity experimentation stating that 'reputation' online is of paramount importance. This is the case with certain features of the online world – for example ebay sellers rely on their reputation to sell goods. However, this does not negate the fact that multiple and nuanced identities can be constructed online and that some people inevitably consider their intended audience when developing and managing online profiles.

There may also be a difference between groups of people and how they construct, manage and edit their profiles. The most obvious example is between youth and adolescence and older age cohorts. Both may be concerned with reputation but this may manifest itself in different ways. For example, among youth projecting an image of being an expert gambler may be more acceptable than among older adults whose network may comprise of a

generation with different attitudes towards gambling and gaming. Therefore, the extent to which people make use of the specific social media elements that accompany these games may well be related to issues of reputation and identity and this may manifest itself in different ways.

Further consideration should be given to exploring this as some concerns raised about social media gambling games relate to issues of 'contagion' within social networks. In social network research, the term 'contagion' refers to a range of mechanisms by which behaviours, normative values or attitudes spreads within groups. Social media and the games embedded within them are designed to take advantage of such 'contagion' by offering rewards for recommending friends, seeking to publicise that people like a particular product and so on. Christakis and Fowler (2009) have noted the considerable breadth of influence of social networks, arguing their case for the three degrees of influence rule (that influence can extend to your friend's friends friend and vice versa). Using the example of obesity, they illustrate this point by showing how changes in someone's values (towards weight) can be felt further down the friendship chain and how micro social networks are an important component in driving changes in attitudes and behaviours (the mechanisms which underpin this are behavioural imitation and normative values).

Social media is specifically set up to facilitate this swift transfer of information, attitudes and behaviours between linked 'network' members. In the case of social gambling games, the contagion mechanisms are likely to have aspects of both behavioural imitation (will the fact that my friends do and/or have recommended this make me more likely engage?) and impact on normative values (many people in my network like these activities, does this change what I think about them?). If Christakis and Fowler were able to trace the spread of obesity within social networks in the physical world and demonstrate how these are connected, one may theorise that similar patterns and mechanisms may be observed in relation to social gambling games. Furthermore, the spread may be swifter because of the platform through which information is exchanged. However, this theory relies on understanding whether people are making use of these features and sharing information about their engagement in social gambling games in this way. As noted above, some people may not do this because they of reputational concerns. Other may be more likely to do so as it projects a certain identity. Some may value privacy or feel that this does not add anything to their experience. This is a relatively unexplored area and therefore the potential risk (or otherwise) this poses for the transfer of normative values or behavioural imitation between people within networks is unknown and should be subject to further consideration.

Conclusions

Prior to considering the implications of this report it is important to reiterate that its content lacks a substantive empirical basis primarily because very little directly relevant evidence currently exists. Rather, its purpose is to generate debate around this fast evolving social issue which is yet to receive appropriate academic and clinical attention. Further, it is intended to help inform research agendas on gambling behaviour generally and problem gambling more specifically, and where appropriate, highlight concerns about any potential areas that need to be considered as a priority in terms of precautionary regulation.

Although we have been able to classify a loose hierarchy of different categories of social gambling by taking a common sense approach to what looks more or less like traditional, real money gambling, we know little about the correlation with potential risk or harm and the classification should not be used as such. While it may be difficult to make a shift from using 'social gambling' as an umbrella term, it is vital that terms and definitions used by the academic and regulatory community have clarity to which we hope our classification makes a useful contribution.

We believe the classification presented herein is only a first step in understanding such games. Further work is most likely needed to consider a more appropriate terminology and classification which might be better influenced by commercial and legal definitions as these settle and become more widely agreed. We believe that this report is helpful in that it identifies gambling games which may be considered as forms of ‘social gambling’ and we have reflected on their distinctive game features in order to better understand the consumer experience and begin to consider possible risk and protective factors associated with this new and rapidly evolving leisure activity.

In this report we have speculated at length on the potential impact of both social and Freemium game features on consumer well-being, primarily from a problem gambling perspective. As stated, such arguments must be explored empirically before taking policy-related or commercial decisions. We would argue that only two ‘sure things’ regarding consumer well-being emerge from our scoping exercise and these are discussed below.

The first is that stricter age verification measures should be adopted where children are permitted to engage in gambling-related content, even where real money is not involved, if indeed real money gambling is being advertised using this medium. If not, the door will be left wide open for children and adolescents to be exposed to gambling-related marketing material that we consider to be highly inappropriate (e.g., promoting the potential to win large real money jackpots; opportunity to earn real money deposit bonuses with potentially confusing small print). If operator demographic data is based on Facebook data which may be flawed in terms of age verification, it is important not to rely on this as evidence not to focus on youth. Investigation should also be made about what level of information operators have about the age profile of their users. If they rely on age data recorded through Facebook, which is known to not always, be accurate, then it would be useful to have population based estimates to look at this in greater detail and to estimate use among younger age groups.

The second is that, whether various stakeholders in this debate like it or not, the status of gambling has again been augmented, this time by virtue of its presence in social media. Gambling is now becoming more integrated into our social worlds and those of our children. However, in our opinion at least, we are a long way off being able to accurately assess to what extent we should be concerned. As a consequence, a first priority should be to better promote a healthy and controlled approach to gambling and gaming to those who are drawn to it as a form of leisure. While much has been achieved in the last decade regarding responsible gambling and consumer education, efforts must be increased at least in line with the increase in accessibility and number of media now offering gambling-related content. Specific guidance regarding how this should be done is beyond the remit of this current report.

The games and features identified in this report present clear areas that justifiably raise concerns that should be closely monitored and comprehensively researched. These relate to issues of increased accessibility through social media and removal of cost of entry. Social influence, particularly among children and adolescents, should also receive special consideration. However, social gambling may also have the potential to satisfy some leisure needs without the need to lose real money, and/or may promote a more adaptive approach to gambling and gaming as a leisure activity by better promoting the social element and enabling better social controls. Again, such speculation is our attempt to map the issues worth discussing further and requires further empirical examination.

Much also depends on the intentions of the games operator; whether these games are intended as a form of entertainment in their own right or are they designed to boost player acquisition for real money gambling. The applicability of the risk and protective factors listed in this report will likely vary depending on such intentions.

The survey of problem gambling treatment providers shows that in some circumstances, social gambling is a cause for clinical concern. Triggering urges to gamble and presence of promotional material were some of the reasons endorsed for why social gambling may pose a risk to problem gamblers in treatment. This area needs prompt investigation to ensure appropriate harm mitigation and treatment strategies are in place for these clients. However, there is an issue around where funding for such intervention should come from, given that problem gambling treatment is funded largely indirectly from the regulated gambling industry. Again, there are some features which may have positive clinical implications (e.g., satisfying needs without having to spend real money) and these should also be examined.

Evidence from the youth tracking survey examined in this report suggests that somewhere in excess of 300,000 youth aged 12-15 are regularly engaging in these activities and that there is overlapping interest in broader gambling and SNS Freemium gambling. It will be important to better understand the co-occurrence of behaviours since this means there is an easily identifiable subset of youth who engage in a range of gambling behaviours who may benefit from education strategies relating to gambling. Knowing that those who play SNS Freemium

gambling games are, typically, engaged in other forms of gambling is useful as it provides an opportunity to potentially use this platform for social marketing purposes.

Finally, it is important that research in this field is conducted rather than relying on what we *think* we know about it from the field of traditional gambling studies. Consumer behaviour in relation to social gaming and social gambling may be counterintuitive and inferences based on pre-existing gambling may not apply. Innovation and increasing convergence between gambling and gaming may mean that arguments herein are likely to be soon out of date. It is vital to consider upcoming trends, but is also useful to consider whether this will still be an 'issue' in the medium to long term when considering regulatory changes/amendments.

Future Research

In this section we, suggest some recommendations for future research drawing on the evidence presented within this report. These recommendations can be summarised under three main headings. These are:

- Transitions
- Integration
- Conceptualisation

These three areas are not mutually exclusive and cut across each other. These issues are discussed below. Our research recommendations are based on what we believe is practical and achievable based on likely available resources, and therefore our suggestions are limited by this understanding.

Transitions

A key issue raised within this report is the extent to which social media gambling may lead people to transition from this type of game to 'real' money forms of gambling. We would argue that understanding this potential among youth is the most pertinent issue. However, we also note that the process of transition may be bi-directional: that engagement in 'real' money gambling may lead to interest in similar games played for virtual currency. Here, there are overlaps with our second theme, integration, and understanding how these two behaviours may co-exist. Finally, explicit recognition should be made that, for some, there may be no transition. This may be related to how people conceptualise these types of behaviours or the potential that these games offer for some to engage with 'risk-taking' behaviour in an environment with relatively few monetary consequences. That said, the main issues of transition are firstly of chronology, tracing which came first, and secondly of careful articulation of the potential mechanisms which may propagate or mitigate the risk of gambling-related harm associated with these trajectories under different circumstances.

Integration

Evidence produced for this report showed that both youth and some problem gamblers engage in both behaviours. Understanding how, when and why these behaviours are integrated is important as this is likely to affect outcomes. For example, a problem gambler playing social media gambling games as a means to help control their 'real' money gambling may mitigate the risk of harm, and this points to the potential of using this form of game within responsible gambling strategies. However, there is also the potential that some people may iterate back and forth and that outcomes on social media influence their desire to play for 'real' money. This is more of a concern in terms of propagating the potential for gambling related-harm. Understanding patterns of integrative and iterative behaviour is also related to if and how people draw conceptual boundaries between the two behaviours. Understanding motives for integration, how they vary and under what circumstances is therefore another important component in helping us to under what, if any, risks are associated with social media gambling.

Conceptualisation

This report has approached this topic area from a theoretical perspective to consider the issues. What is missing is the voice of people who actually use these forms of games. More detailed understanding is needed of how people conceptualise these forms of activities. Do they seem them as virtual games with few 'real' world parallels (i.e., the ability to play casino games with a $1 million in the bank is, for most, an unlikely real world parallel) or do they view them as being much more closely aligned to 'real' world products. In short, are they games, or are they gambling? What is the difference between the two in the minds of players? Understanding these issues in greater depth is important as these views and values are likely to underpin if and how people transition between and integrate these products with 'real' money gambling. If they are viewed as much more closely aligned to real world products, then there is greater cause for concern about how the characteristics of these games vary from the real world products.

Research recommendations

Youth

At a minimum we would recommend that the Gambling Commission continue to monitor both types of behaviours among youth and, if possible, introduce more detailed questions into their youth tracking survey about social media gambling. The best possible solution would be to collect data about behaviours from youth longitudinally. This could either be qualitative or quantitative in design. A qualitative design would have benefits in that in-depth data relating to conceptualisation could also be collected. However, a quantitative design would give broader information about the magnitude of the issues. There are a number of ways to collect longitudinal data more cost effectively than funding an entirely new study. For example, The Millennium Cohort Study is currently consulting about questionnaire content for its next sweep. Participants will be aged 14 at next data collection; an appropriate age group to administer questions about gambling and social media gambling. Other questions could be placed in household based surveys and responses to these questions used to design a follow-up study, or given that around one in 6 youth engage in some form of gambling or social media gambling, a follow-up study from already conducted household based studies could be designed.

We would also recommend that in-depth qualitative work be undertaken with youth to gain deeper insight into how youth view these products and if and how they integrate these with other forms of gambling. This could be conducted by sampling from social media sites. A detailed package of methodological work looking at how to use social media in social research robustly and ethically is currently being funding by the ESRC. The 'New Social Media, New Social Science' research node is being led by NatCen Social Research, Sage and the Oxford Internet Institute. We would recommend that the Gambling Commission consult with this group if they are interested in pursuing this further.

Adults

We would recommend that some monitoring of co-occurrence of behaviours is undertaken to provide estimates of what proportion of the British population actually engage in social media gambling and what the level of overlap is with 'real' money gambling. Further segmentation

analysis should be conducted to better understand the profile of sub groups (i.e., those who play social media gambling alone, integrators etc) and, if possible, for those who integrate behaviours some measurement of gambling-related harm should be collected. In the first instance, this could be included within the Gambling Commission's omnibus study, though the methodological limitations of this study should be recognised.

Furthermore, the consultation with clinicians provided some interesting insights. Qualitative work with problem gamblers themselves would add deeper insight to the issues raised and enable data on all three themes to be collected.

General

Most of the speculative arguments made in this report require initial or further empirical investigation (e.g., the role of chasing in Freemium games; the facilitating or inhibitory effect of social influence from non-gamblers in social media platforms etc.). We would also recommend exploring with social media gaming providers the extent to which they may be willing to share data on players. There is little objective data in the public domain about the number of British people who play these activities or what their profile is. For example, gaming literature suggest that certain social media games are most popular among women and those aged 35 and over and that these are the demographic groups for whom participation is growing (Hjorth, 2011). However, we have also seen that some social media gambling games are popular among youth. Until we know more about the profile of these users and have good descriptive information about how they play these games (for example, how long they play for, how often they play, whether they use social media functions such as recommending games to friends, whether they monetise or not) it is extremely difficult to quantify what the potential risks or benefits of this activity may be. We would recommend engaging with operators to explore whether this objective data could be shared. Further consideration of how industry data could be used is included in Appendix D of this report.

In summary, our research recommendations are:

a) Continued and, if possible, improved measurement of both behaviours through the NLC's youth tracking survey
b) Longitudinal data collection with youth, either qualitative, quantitative or both. At minimum, the Gambling Commission should look at the Millennium Cohort consultation
c) In-depth qualitative work with youth who play social media gambling games
d) Quantitative measurement of behaviour among adults through the Commission's omnibus study
e) In-depth qualitative work with problem gamblers.
f) Consultation with social media gaming operators to explore whether objective data about player profiles and behaviour can be shared.

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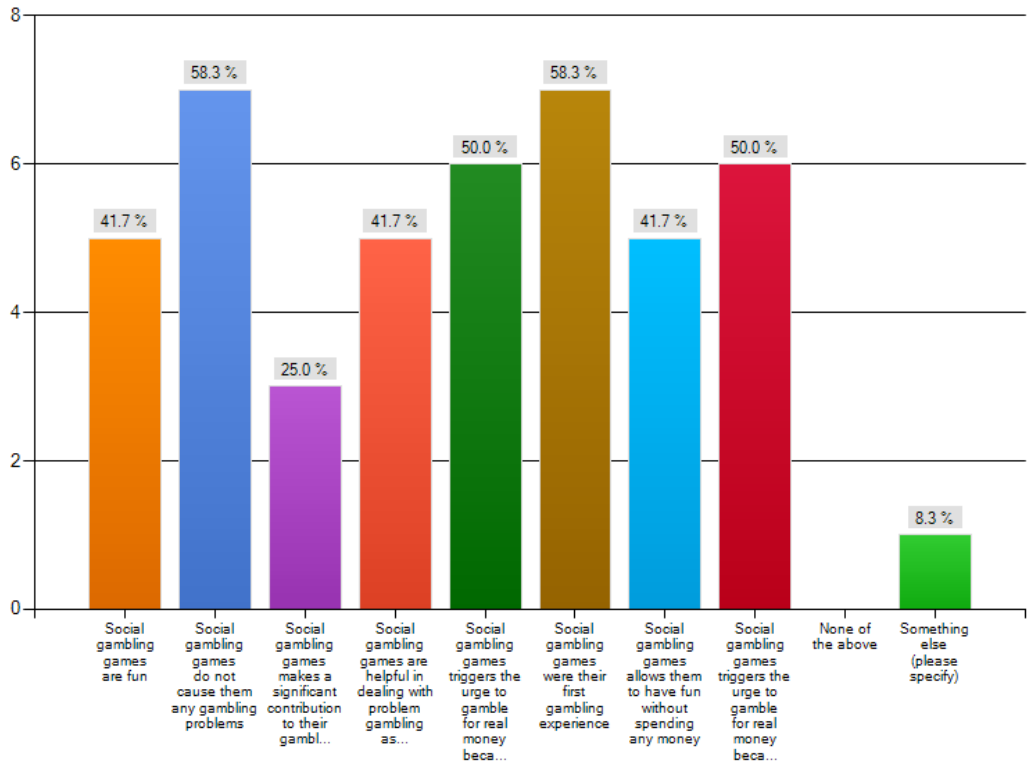
Appendix A: Problem Gambling Clinicians Survey Results

To date we are unaware of any studies which have explored a potential relationship between social gambling behaviour and problem gamblers currently in treatment. As part of this scoping exercise we sent out a survey to 21 organisations that provide counselling for problem gamblers in Great Britain to gain a basic understanding of whether social gambling has been discussed with their clients and in what context. The exact number of counsellors to which the questionnaire was sent cannot be determined as each organisation was asked to distribute it to all staff who work with problem gamblers, however, we had 19 individual responses. The survey can be found in Appendix B.

Social Gambling

Just less than a third (31.6%) of participants reported that in the past year, none of their clients had reported participating in social gambling games[2]. However, over half (52.6%) said that 'a few' of their clients had, and 3 participants (15.8%) said that around half of their clients had reported past year participation.

Figure A1: Social gambling propositions mentioned by clients (tick all that apply question)



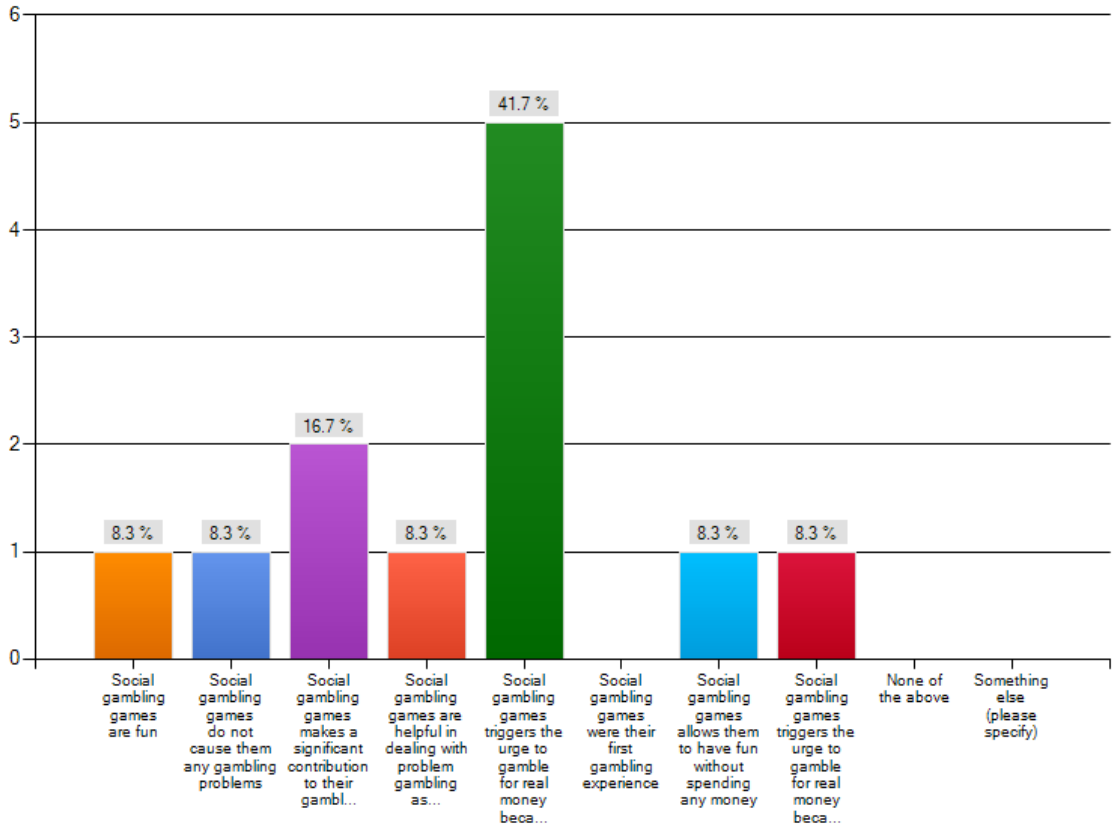
We asked those that reported having clients who played social gambling games to say what those clients had mentioned when talking about these games. Figure A1 shows that 58.3%

[2] In order to include findings from this survey in the current report, the survey had to be constructed prior to the scoping and classification exercise. Consequently, terms used in this survey are broad and do not directly match the more specific terms resulting from the scoping and classification exercise. Social gambling games were defined

had heard that social gambling games did not cause clients any gambling problems, and the same percentage had reported that social gambling games were their clients' first gambling experience. Half of participants had stated that clients report that social gambling games triggered their urges to gamble, and 25% said that they had clients who felt that social gambling games had made a significant contribution to their gambling problem. Interestingly around 40% of participants endorsed propositions that suggested that social gambling had a positive impact on their client as they could 'have fun' without spending money and it helped them deal with problem gambling '*as they could engage without any financial cost to them'*.

Out of the twelve clinicians responding to the question "*Which of these experiences are mentioned most often*", two-thirds reported a negative response (e.g., it triggered urges to gamble for real money) and one-third reported some kind of positive response (e.g., allowed clients to engage without losing money). The common response by clinicians (41.7%) was "*social gambling games triggers the urge to gamble for real money because they win more than when gambling for real money*". The next most common response was "*Social gambling games makes a significant contribution to their gambling problems*" with 16.7% of participants.

Figure A2: Social gambling propositions mentioned most often by clients (tick only one)



In an open ended question we asked participants to comment with anything they felt relevant to this area. Five participants responded, with one saying that social gambling games were unlikely to be problematic and were "*more like video games*" (Participant 2), and the other

responses reflecting more negative views although lacking enough explanation to be particularly useful:

"not sure social gambling would sub for playing for money with problem gamblers - it's more like video games"

"The style of the gambling games are very similar to cash style games. Easily confused."

"Like so called social drugs, Alcohol/cannabis, social gambling can be a gateway for those with obsessive tendencies."

"Some people reporting that they like to get high wins then brag on Facebook profile"

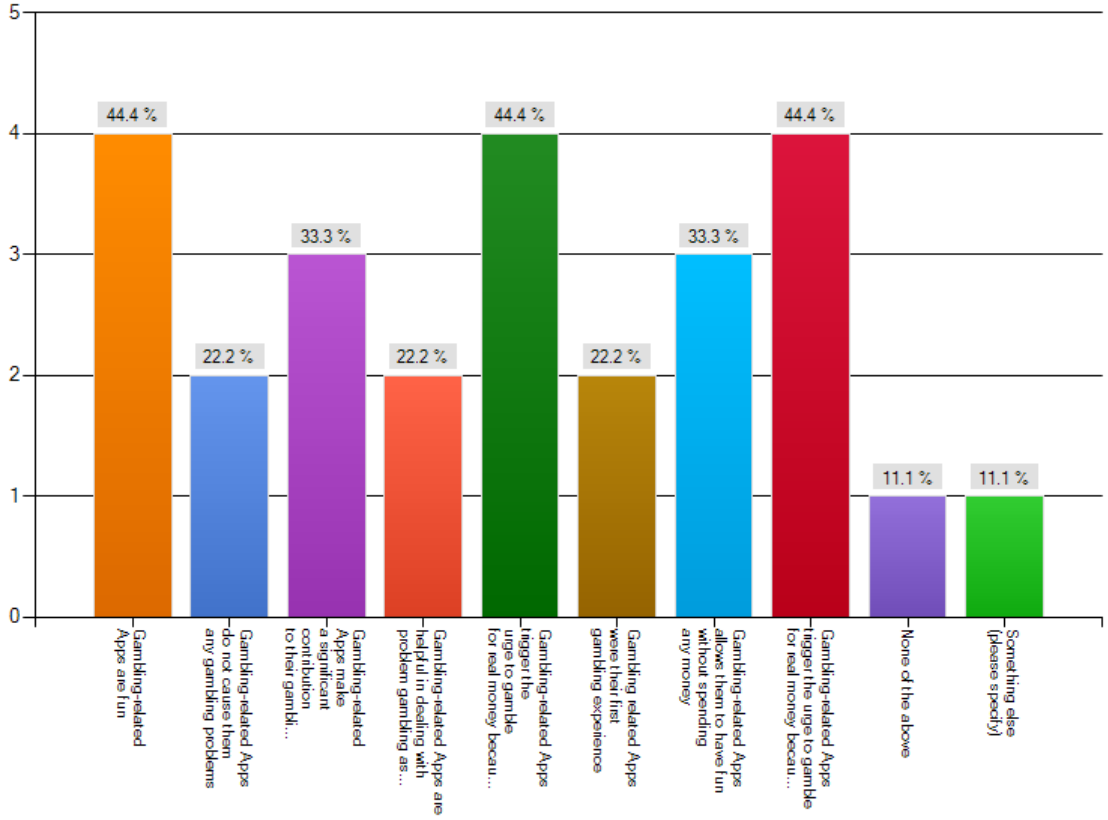
"I have noticed the online gamblers often started this way...using the free money offered. Some problem gamblers still use them to stop them spending real money."

Gambling Apps

We asked the same questions about gambling-related Apps. Only one participant reported that around half of their clients played these games, with eight (47.1%) saying no one had reported playing Apps and eight (47.1%) saying that 'a few' had. We asked those that reported having clients who played gambling-related Apps to say what those clients had mentioned when talking about these games. Figure A3 shows that the most common propositions across clinicians were that gambling related Apps were fun, triggered the urge to gamble for real money because they win more on Apps and trigger the urge to gamble with real money due to heavy gambling advertising. But again there was some support that App gambling could have a positive impact on problem gambling (although these were endorsed to lesser extent than for social gambling games).

The most popular proposition endorsed, out of the eight clinicians responding to the question *"Which of these experiences are mentioned most often*" was that *"gambling related Apps make a significant contribution to their gambling problems*". As demonstrated in Figure A4, five respondents endorsed a risky proposition (e.g., *it triggered urges to gamble for real money)* and three reported a potentially protective option (e.g., *allowed clients to engage without losing money*).

Figure A3: App gambling propositions mentioned by clients (tick all that apply question)

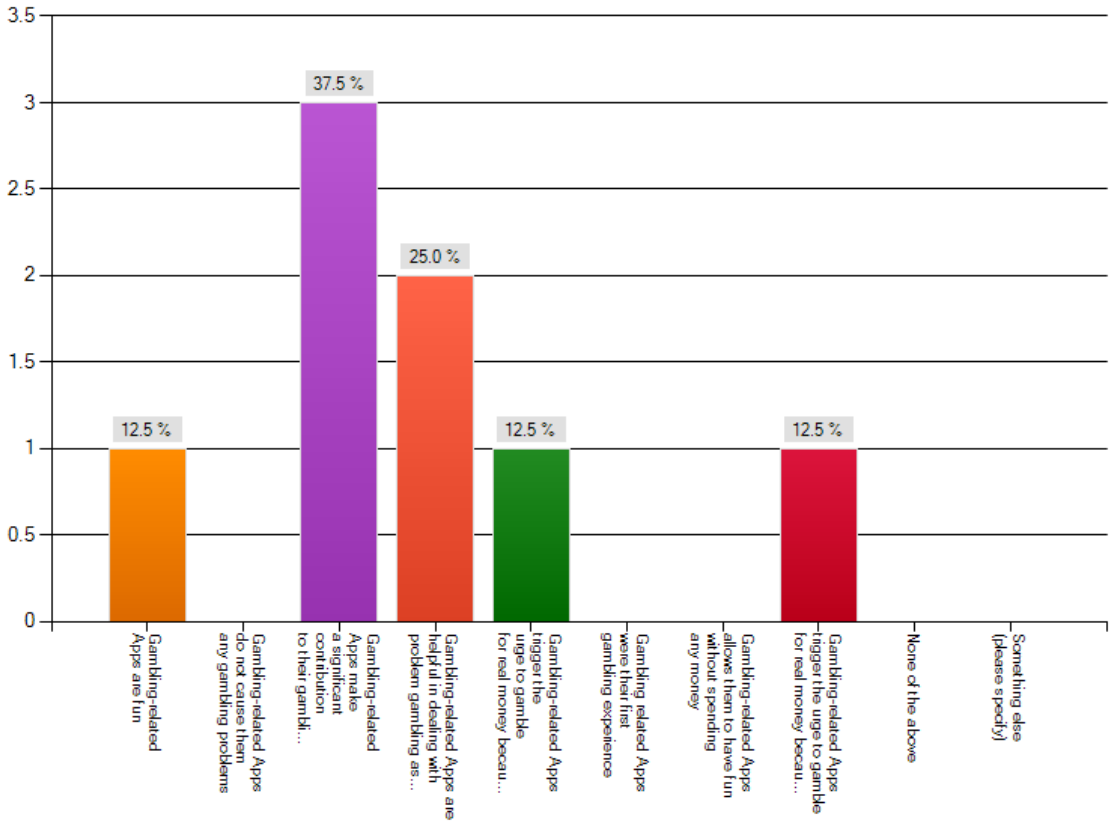


Only two participants added further detail in the open ended question about gambling related Apps:

"Gambling Apps are often a way problem gamblers can hide gambling from family and friends"

"Some people... like to get high wins then brag on [their] Facebook profile" (as stated in social gambling section)

Figure A4: App gambling propositions mentioned most often by clients (tick only one)



Conclusions

Despite the small sample size and exploratory nature of this study, the results suggest that both social gambling games and gambling-related Apps are being reported as both potentially contributing to, and potentially mitigating harm in a problem gambling population. Although risky propositions in relation to social gambling tended to be endorsed more frequently than more protective propositions, given the small and potentially biased sampling approach the relative proportions cannot be interpreted meaningfully.

Given the fact that problem gamblers engage in a large range of activities (Vaughan Williams et al, 2008; Williams et al., 2007) social gambling doesn't seem to feature prominently in the problem gamblers repertoire of behaviours. It is likely that clinicians with no experience of social gambling being discussed in treatment did not participate in survey – if so, frequencies of problem gamblers will likely be even lower.

It is important to note that the reliability of these findings is likely to be poor. There were effectively two layers of self-report data (i.e., recall client to clinician, recall clinician to researcher). Nonetheless, a range of risky and protective propositions have been identified highlighting the multi-faceted nature of both social and App gambling.

Appendix B: Problem Gambling Clinicians Survey

We have been asked by the Gambling Commission to undertake a comprehensive review of social gambling in Great Britain. As part of this review we are keen to hear from those who work with clients who have gambling problems to determine whether your clients report social gambling and if so, what do they report?

Social gambling is any type of gambling-like game which is played via social media, but which doesn't necessarily require real money to play. A well-known example is Zynga Texas Hold'Em Poker which is played via Facebook. We are also interested in gambling 'Apps' used on smart phones (e.g., iPhone) or tablets (e.g., iPad) that do not involve gambling for real money.

Please answer the following short questionnaire as completely and honestly as possible. Our findings will form part of the report we intend to submit to the Gambling Commission.

1. In the past year, how many of your clients have told you that they participated in social gambling games?

- I don't know what these are
- None
- A few
- Around half
- Most
- All

2. Which of the following, if any, have your clients mentioned when talking about social gambling games? Please tick all that apply.

- Social gambling games are fun
- Social gambling games do not cause them any gambling problems
- Social gambling games makes a significant contribution to their gambling problems
- Social gambling games are helpful in dealing with problem gambling as they could engage without any actual financial cost to them
- Social gambling games triggers the urge to gamble for real money because they win more than when gambling for real money
- Social gambling games were their first gambling experience
- Social gambling games allows them to have fun without spending any money
- Social gambling games triggers the urge to gamble for real money because of a heavy presence of gambling-related advertising in social media
- None of the above
- Something else (please specify)

3. Which of these experiences are mentioned most often?

- Social gambling games are fun
- Social gambling games do not cause them any gambling problems
- Social gambling games makes a significant contribution to their gambling problems
- Social gambling games are helpful in dealing with problem gambling as they could engage without any actual financial cost to them

- Social gambling games triggers the urge to gamble for real money because they win more than when gambling for real money
- Social gambling games were their first gambling experience
- Social gambling games allows them to have fun without spending any money
- Social gambling games triggers the urge to gamble for real money because of a heavy presence of gambling-related advertising in social media
- None of the above
- Something else (please specify)

4. Please let us know anything else you think is relevant about social gambling games and problem gambling.

5. In the past year, how many of your clients told you that they participated in gambling-related Apps that did not involve money?

- I don't know what these are
- None
- A few
- Around half
- Most
- All

6. Which of the following, if any, have your clients mentioned when talking about Gambling-related apps that don't involve real money? Please tick all that apply.

- Gambling-related Apps are fun
- Gambling-related Apps do not cause them any gambling problems
- Gambling-related Apps make a significant contribution to their gambling problems
- Gambling-related Apps are helpful in dealing with problem gambling as they could engage without any actual financial cost to them
- Gambling- related Apps trigger the urge to gamble for real money because they win more than when gambling for real money
- Gambling related Apps were their first gambling experience
- Gambling- related Apps allows them to have fun without spending any money
- Gambling-related Apps trigger the urge to gamble for real money because of a heavy presence of gambling-related advertising in social media
- None of the above
- Something else (please specify)

7. Which of these experiences are mentioned most often?

- Gambling-related Apps are fun
- Gambling-related Apps do not cause them any gambling problems
- Gambling-related Apps make a significant contribution to their gambling problems
- Gambling-related Apps are helpful in dealing with problem gambling as they could engage without any actual financial cost to them
- Gambling- related Apps trigger the urge to gamble for real money because they win more than when gambling for real money
- Gambling related Apps were their first gambling experience
- Gambling- related Apps allows them to have fun without spending any money
- Gambling-related Apps trigger the urge to gamble for real money because of a heavy presence of gambling-related advertising in social media
- None of the above
- Something else (please specify)

8. Please let us know anything else that you think is relevant about gambling-related Apps that do not involve real money and problem gambling.

Appendix C: Evidence from the NLC Youth Tracking Survey 2012

Introduction

The National Lottery Commission Youth Tracking Survey (YTS) is an annual survey of youth aged 11-16[3] examining participation in gambling among this age group. Data are collected through IPSOS MORI's young person's omnibus and every year around 2800 young people take part. See Ipsos Mori (2012) for full details of the study methodology.

In 2012, new questions were developed to capture more detail on social media gaming on gambling style games. All youth aged 11-16 were asked to answer the following:

Have you played any of these free or practice gambling games on the internet in the past 7 days?

1. No, I have not played any free or practice gambling games
2. Bebo gambling games (e.g. Blackjack, Roulette, Poker or Bingo)
3. Facebook gambling games (e.g. Blackjack, Roulette, Poker or Bingo)
4. MySpace gambling games (e.g. Blackjack, Roulette, Poker or Bingo)
5. Free online blackjack
6. Free online bingo
7. Free online roulette
8. Free online poker websites (e.g. Zynga poker)
9. Any other free or practice gambling games on the internet
10. Don't know

This question allows the prevalence of past week participation in each activity to be calculated. Participation in any form of social networking site (SNS) Freemium gambling (i.e., Freemium gambling products accessed via Bebo, Facebook or MySpace) can also be computed. In defining participation in any SNS Freemium gambling, those who played free online poker websites, such as Zynga, have been excluded (if they did this activity only). At the time that data were collected Zynga was not exclusively accessed by or linked to Facebook accounts. Therefore, we can not be confident that participation in this activity was sufficiently similar to gambling games accessed via SNS platforms. In the analysis that follows, we have therefore adopted a cautious approach to defining youth engagement in SNS Freemium gambling and only included activities where social media was specifically mentioned in the category description. We appreciate that approach may marginally under-represent actual prevalence rates.

Participation in an activity in the past seven days is typically viewed as a reasonable proxy for regular participation. However, it is possible that some youth who had tried this activity for the first time are included within this group as are those with more sporadic patterns of participation. This should be borne in mind when reviewing results.

[3] Typically participants were aged 11-15. However, there were some Year 11 pupils who were 16 at time of interview included in the survey.

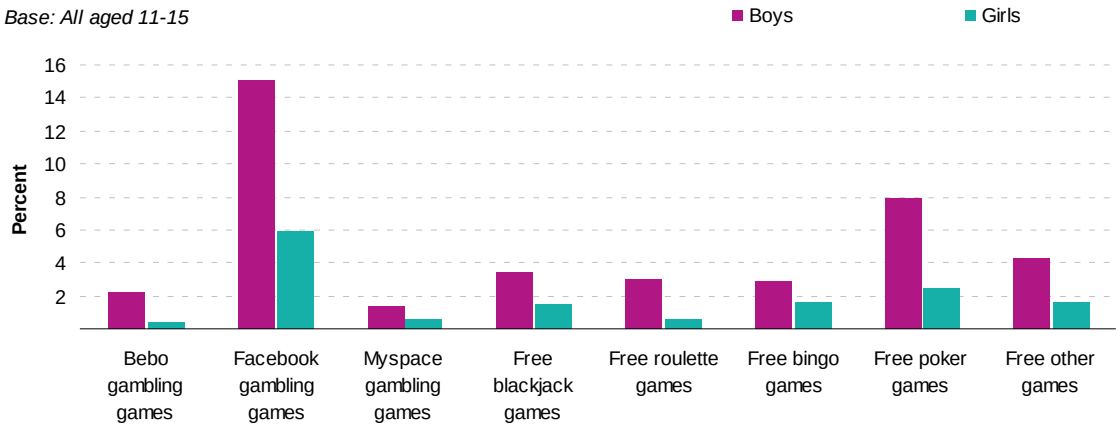
In the sections that follow, we firstly present rates of participation in SNS Freemium gambling by a variety of demographic and economic characteristics. We then examine the profile of SNS Freemium gamblers, specifically focusing on their levels of engagement with other gambling activities. Finally, we model the factors predicting engagement in SNS Freemium games.

Participation in SNS Freemium gambling, by age and sex

Overall, 11% of youth aged 11-16 had participated in some form of SNS Freemium gambling in the past 7 days. This means that at least c.300,000 youth aged 12-15[4] are typically engaged with this activity.

Rates were higher among boys (16%) than girls (6%) and boys were more likely than girls to have taken part in each of the different forms of SNS Freemium gambling or free games presented (See Figure C1)

Figure C1: Past week participation in SNS Freemium gambling and free play gambling games, by sex



Interestingly, rates of participation did not vary significantly by age group and SNS Freemium gambling was just as popular among those aged 11-12 (10%) as those aged 15-16 (12%).

As can be seen from Figure C1, playing gambling games through Facebook was the most popular form of access to these products. Only 1% of youth had played these games through Bebo and Myspace respectively, whereas 10% had played these games via Facebook. This is likely to be a reflection of the relative popularity and market share of Facebook over other platforms.

After playing gambling style games on Facebook, the next most popular activity was playing free poker games on platforms such as Zynga. 8% of boys and 3% of girls had played poker for free in the seven days prior to interview.

[4] Population estimates have been calculated using the mid-2011 population estimates for England and Wales. These estimates have been produced for those aged 12-15 rather than 11-16 as the study design only included a subset of 16 year olds who were in academic year 15 at the time of interview and, likewise, only included those who were still aged 11 in academic year 10 at the time of interview. This means the true prevalence of past week participation in SNS Freemium gambling among all 11 year olds and all 16 year olds is uncertain.

Table C1: Participation in SNS Freemium gambling and free games, by age and sex

All aged 11-16				*2012*
Sex	**Age group**			
	11-12	13-14	15-16	**Total**
	%	%	%	%
Boys				
Played gambling games on Bebo	2	2	4	2
Played gambling games on Facebook	14	14	18	15
Played gambling games on Myspace	2	1	2	1
Played gambling games on any social media platform	*15*	*15*	*18*	*16*
Played free blackjack games	2	3	7	4
Played free roulette	2	2	5	3
Played free bingo	3	3	3	3
Played free poker	7	7	10	8
Played other free games	4	3	7	4
Girls				
Played gambling games on Bebo	0	1	0	0
Played gambling games on Facebook	5	6	6	6
Played gambling games on Myspace	0	1	-	1
Played gambling games on any social media platform	*6*	*6*	*6*	*6*
Played free blackjack games	2	1	1	2
Played free roulette	1	0	1	1
Played free bingo	1	2	1	2
Played free poker	3	2	2	3
Played other free games	2	2	0	2
All				
Played gambling games on Bebo	1	1	2	1
Played gambling games on Facebook	9	11	12	10
Played gambling games on Myspace	1	1	1	1
Played gambling games on any social media platform	*10*	*11*	*12*	*11*
Played free blackjack games	2	2	4	3
Played free roulette	1	2	3	2
Played free bingo	2	2	2	2
Played free poker	5	5	6	5
Played other free games	3	2	4	3
Bases (weighted)				
Boys	*430*	*507*	*333*	*1270*
Girls	*517*	*450*	*322*	*1289*
All	*949*	*961*	*659*	*2569*
Bases (unweighted)				
Boys	*321*	*592*	*305*	*1218*
Girls	*439*	*573*	*337*	*1349*
All	*762*	*1170*	*646*	*2578*

Participation in SNS Freemium gambling, by demographic and socio-economic characteristics

Participation in SNS Freemium gambling varied according to a range of socio-economic and demographic characteristics. These data are show in Tables C2 to C8 and key findings are summarised here.

Firstly, participation in SNS Freemium gambling varied by ethnic group, with rates being higher among those who defined themselves as 'White'. Estimates varied from 18% among youth who reported that they were White to less than 8% for those who were Asian, Black or of other ethnic origin. This, perhaps, is not surprising given that non-White ethnic groups tend to be less engaged with gambling more generally (Forrest & Wardle, 2011).

Table C2: Participation in any SNS Freemium gambling, by ethnic group and sex

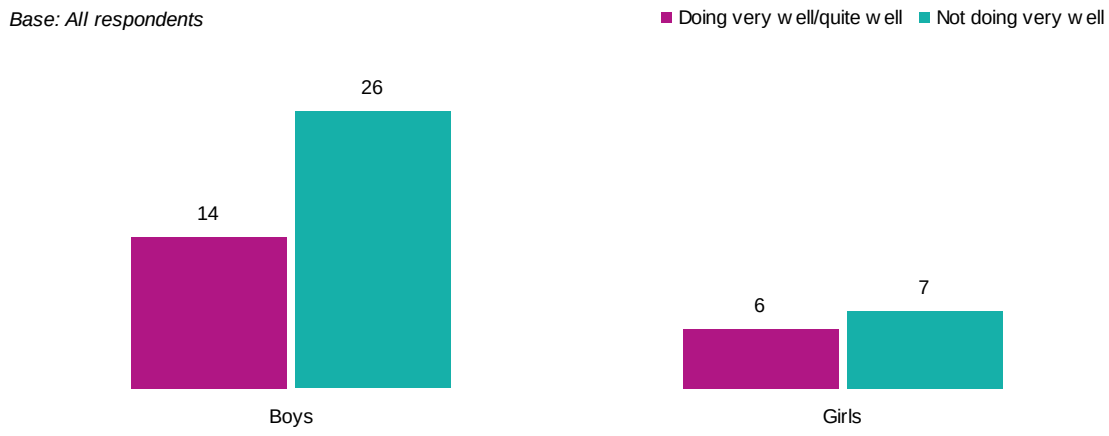
All aged 11-16				*2012*
Sex	**Ethnic group**			
	White	Asian	Black	Other
	%	%	%	%
Boys	18	8	8	7
Girls	7	3	2	8
All	12	5	5	8
Bases (weighted)				
Boys	*985*	*52*	*148*	*79*
Girls	*988*	*68*	*146*	*80*
All	*1977*	*121*	*294*	*160*
Bases (unweighted)				
Boys	*964*	*46*	*134*	*69*
Girls	*1050*	*62*	*149*	*83*
All	*2018*	*109*	*284*	*153*

Self-perceived academic achievement was associated with participation in SNS Freemium gambling but only for boys. Among boys, rates of participation in these games were nearly two times higher among those who reported that they didn't feel they were doing well at school (26%) than those who were doing well or fairly well (14%). Among girls, the estimates did not vary (See Figure C2).

Table C3: Participation in any SNS Freemium gambling, by household composition and sex

All aged 11-16				*2012*
Sex	**Household composition**			
	Single parent, no siblings	Single parent, siblings	Two parents, no siblings	Two parents, siblings
	%	%	%	%
Boys	22	22	14	13
Girls	10	11	5	4
All	16	16	9	9
Bases (weighted)				
Boys	83	197	96	861
Girls	77	203	115	857
All	160	399	212	1723
Bases (unweighted)				
Boys	84	184	107	811
Girls	88	209	121	895
All	172	393	229	1711

Figure C2: Participation in SNS Freemium gambling, by academic achievement and sex

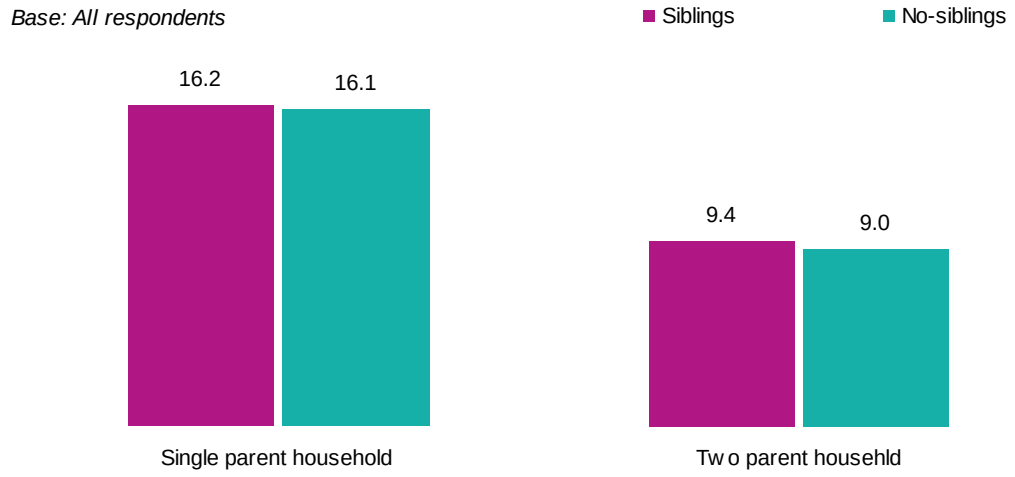


A number of different questions were asked which allow us to examine how intra-household and parental factors may be correlated with behaviour. Firstly, household composition can be constructed, examining whether one or both parents were present in the main household of residence and whether the participant also lived with siblings. Questions were asked about how many parents were in paid work and a Family Affluence Scale computed (see Ipsos Mori (2012) for more details).

Of these factors, only household composition was significantly associated with participation in SNS Freemium gambling. Prevalence rates were higher among those children who lived in single parent households (16%) than those who lived in households with both parents (9%). Interestingly, there were no differences relating to whether siblings were also present

in the household; the main differentiating factor was the number of parents present (see Figure C3).

Figure C3: Participation in SNS Freemium gambling in the past week, by household composition



Finally, two factors looked at how the geographic location of the participant's school may be associated with behaviour. These were whether the school was in a deprived area or not, using the Index of Multiple Deprivation, and whether the school was in an urban or rural location. Only the latter was significantly associated with participation in SNS Freemium gambling and, interestingly, only among boys. For boys, participation rates were significantly higher among those attending schools in rural locations (21%) than those in urban locations (15%).

Profile of SNS Freemium gamblers

Engagement with other forms of gambling activity

Participation in SNS Freemium gambling was high among youth who had also gambled[5] in the past week (30%) and was even higher among those who had played free gambling games in the past week (60%). This demonstrates a great deal of correspondence between these behaviours. The profile of SNS Freemium gamblers and their participation in other gambling activities and free gambling games is shown Figure C4.

[5] Here gambling includes spending money on the lotteries, scratchcards, slot machines, betting privately, betting with bookmakers, gambling online or gambling in a casino. See Ipsos Mori (2012) for further details.

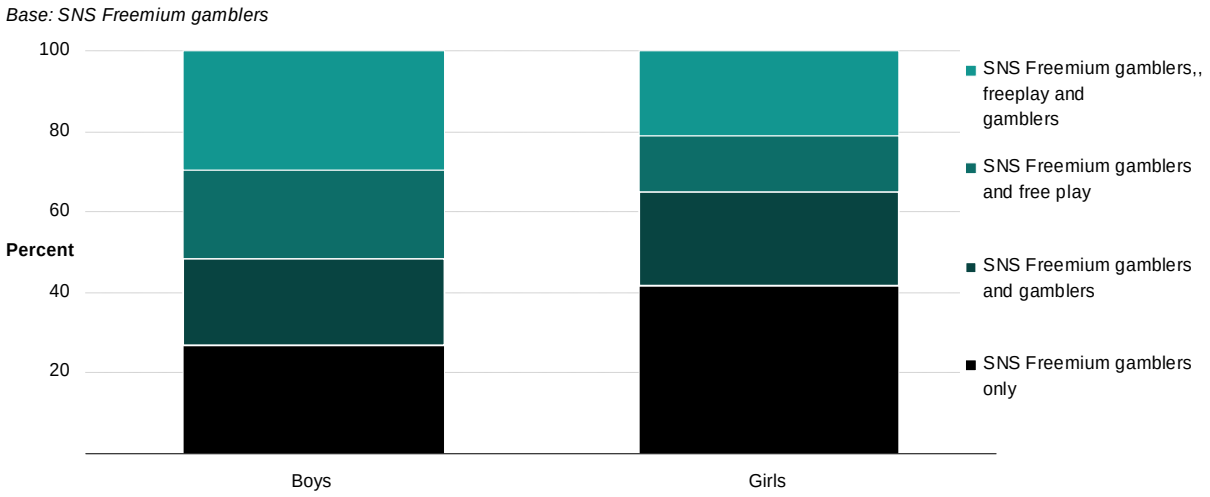
Table C4: Participation in any SNS Freemium gambling, by family affluence scale and sex

All aged 11-16			*2012*
Sex	**Family affluence scale**		
	High	Medium	Low
	%	%	%
Boys	16	16	14
Girls	5	7	7
All	10	11	10
Bases (weighted)			
Boys	*636*	*445*	*162*
Girls	*642*	*443*	*174*
All	*1284*	*890*	*336*
Bases (unweighted)			
Boys	*599*	*438*	*152*
Girls	*669*	*467*	*184*
All	*1273*	*907*	*336*

Table C5: Participation in any SNS Freemium gambling, by parental working status and sex

All aged 11-16			*2012*
Sex	**Parental working status**		
	Two parents work	One parent works	Neither parent works
	%	%	%
Boys	16	13	20
Girls	5	6	8
All	11	10	14
Bases (weighted)			
Boys	*791*	*364*	*115*
Girls	*780*	*371*	*138*
All	*1577*	*736*	*256*
Bases (unweighted)			
Boys	*759*	*344*	*115*
Girls	*811*	*389*	*149*
All	*1576*	*735*	*267*

Figure C4: Profile of SNS Freemium gamblers and their participation in other gambling activities and free gambling games



Firstly, there was a difference in profile between male and female SNS Freemium gamblers. Only around one quarter (27%) of male SNS Freemium gamblers (27%) had only done this activity. The rest had also gambled (21%), played free gambling games (22%) or engaged in all three activities (30%).

Among girls, a larger proportion had only played SNS Freemium gambling games in the past week (42%), though similar proportions of female and male SNS Freemium gamblers had also gambled for real money in the past week (23%). The main difference between male and female SNS Freemium gamblers seems to be play of free gambling games, which were less popular among female SNS Freemium gamblers than male SNS Freemium gamblers.

That said, the majority of SNS Freemium gamblers, both male and female, also engaged in some other form of gambling game or had gambled for money in the past seven days.

Table C4 shows how prevalent these groupings of behaviours were at a population level. Overall, 75% of youth aged 11-16 had not played SNS Freemium gambling games, free gambling games or gambled in the past week. 17% had taken part in one of the three activities, with gambling being the most popular (11%). Around 2% of youth had taken part in two out of three activities and 3% had taken part in all three activities in the past week. This indicates that there are minority of youth who are very engaged with gambling and gambling-style games and who, potentially, warrant further investigation.

The prevalence of these groups varied significantly by sex, with boys being more engaged with any of the three activities. Over 1 in 3 boys (35%) had either played SNS Freemium gambling games, free gambling games or gambled in the past week whereas only 1 in 6 (14%) girls reported the same. Likewise, 5% of boys had engaged in all three activities compared with 1% of girls.

Interestingly, among girls these estimates did not vary significantly with age; 9% of those aged 11-12 had gambled in the past year and this remained the same among those aged 15-16. Likewise, only 1% of each age group had participated in all three activities in the past year.

Among boys, there was evidence of a somewhat differentiated pattern by age, even though prevalence rates of being a past week only gambler or past week only SNS Freemium gambler were largely similar. Where differences were observed was in the proportion of boys who engaged in all three activities, rising from 4% among those aged 11-12 to 8% among those aged 15-16. If this group represents those most engaged with gambling and gambling-style games, then it seems that for boys this engagement increases with age whereas as similar (and somewhat smaller) proportions of girls display this level of engagement at any given age.

Correlations between gambling activities and SNS Freemium gambling

To look at what types of gambling activities SNS Freemium gamblers may be involved in, a series of tetrachoric correlations were produced. Tetrachoric correlations are used to examine associations between binary data. In this report they were used to produce a correlation coefficient between participation in SNS Freemium gambling and participation in other forms of gambling. A correlation of greater than 0.5 represents a strong association, between 0.3-0.49 a weak association and less than 0.3 no association.

The correlations coefficients are shown in the table below.

Participation in:	Correlation coefficient with SNS Freemium gambling:
Lotto	0.27
National Lottery Scratchcards	0.38
National Lottery instant win games	0.50
Other National Lottery games	0.44
Fruit machines	0.51
Gaming machines at a betting shop	0.43
Betting at a betting shop	0.48
Bingo at a bingo club	0.47
Casino games in a casino	0.54
Placing a private bet for money	0.46
Playing cards for money with friends	0.55
Online gambling	0.69
The Health Lottery	0.41
Any other gambling	0.57

Participation in SNS Freemium gambling was highly correlated with: playing National Lottery instant win games online, playing casino games in a casino, playing cards for money with family or friends, playing fruit machines, online gambling on poker, casino games, betting or bingo and participation in other forms of gambling.

These associations are, perhaps, not surprising as they either represent many of the same sorts of activities that SNS Freemium gambling offers or are activities which are hosted online. For example, the highest correlation observed was 0.69 between SNS Freemium gambling and online gambling.

Factors predicting participation in SNS Freemium gambling

The previous sections have shown a number of interesting associations between SNS Freemium gambling and certain demographic and behavioural characteristics. To examine this in more detail, a logistic regression model was produced to examine the factors associated with being SNS Freemium gambler. This technique simultaneously adjusts for all factors in the model and, holding all else constant, identifies the range of variables that are significantly associated with the outcome. This is particularly useful as associations evident within cross tabulations, whilst providing interesting observations, may actually mask different patterns. For example, it could be that academic achievement is highly correlated with gambling and therefore the observed association between academic achievement and SNS Freemium gambling is being driven less by academic achievement and more by this underlying association. Logistic regression allows us to take this into account.

The following factors were entered into the model: age, sex, household composition, parental employment, Urban/rural school location, academic achievement, family affluence, ethnicity, whether participated in free gambling games, number of gambling activities undertaken and parental permissiveness.

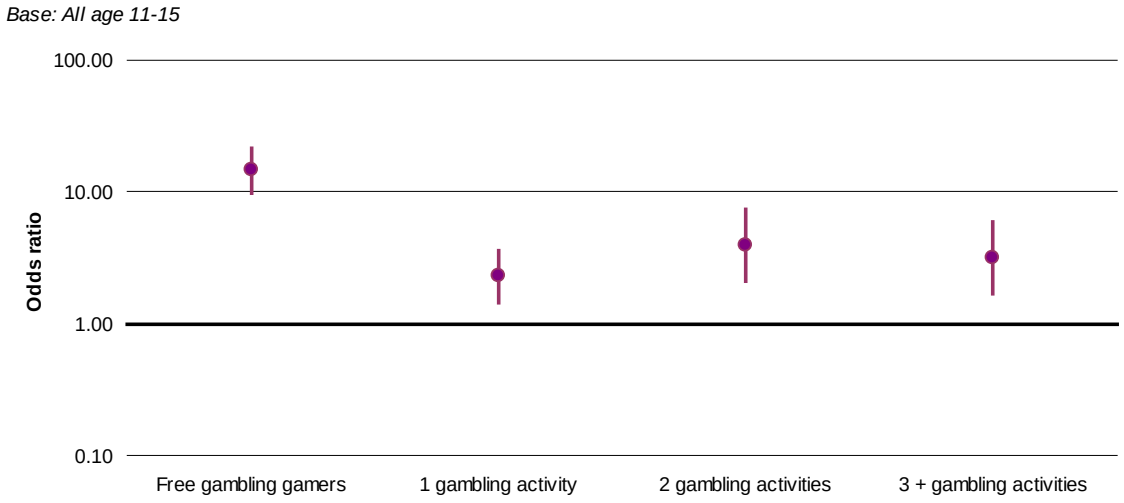
Parental permissiveness was computed based on responses to a variety of questions. These included whether the parent had allowed the child to participate in any form of gambling, including online, whether the parent had bought tickets for the National Lottery for the child or been present with them when they had bought tickets for the National Lottery or otherwise given permission.

Sex, ethnicity, household composition, urban/rural residency, parental permissiveness, participation in free gambling games and the number of gambling activities undertaken in the past week were all significantly associated with SNS Freemium gambling.

The odds of being a SNS Freemium gambler were 0.52 times lower among girls than boys and were 0.46 times lower among non-White ethnic groups than White ethnic groups.

Those in single parent households (regardless of whether siblings were also present) had higher odds of being SNS Freemium gambler than those in households with two parents and those with parents who had a permissive attitude towards gambling were more likely to be SNS Freemium gamblers. The odds were 1.81 times higher among those with permissive parents than those with non-permissive parents. The odds were also higher among those living in rural areas (1.51).

Figure C5: Odd ratios for SNS Freemium gambling, by participation in free gambling games and number of gambling activities undertaken in past 7 days[6]



As Figure C5 shows, the odds of being a SNS Freemium gambler were higher among those who took part in at least one form of gambling activity in the past 7 days and were higher among those who had taken part in a greater number of gambling activities. For example, the odds were 3.17 times higher among those who had taken part in 3 or more gambling activities in the past seven days. Perhaps unsurprisingly given the overlap in behaviours observed earlier, the highest odds of being a SNS Freemium gambler were observed among those had taken part in free gambling games in the past seven days, with odds being 15 times higher among this group.

Taking this together suggests that SNS Freemium gamblers are more likely to be male, from white ethnic groups, from single parent households, have parents with a more permissive attitude to underage gambling and to be schooled in rural areas. They are also more likely to participate in gambling and to have played free gambling games in the past seven days.

Summary

This data shows that around 1 in 6 boys aged 11-16 and 1 in 16 girls had participated in SNS Freemium gambling in the past 7 days, with Facebook being the most popular platform through which these games were accessed. Past week participation typically captures regular play though some youth who had tried this activity for the first time, or had more sporadic patterns of play may be included. Therefore, we cautiously estimate that somewhere in excess of 300,000 youth aged 12-15 are regularly engaging in these activities.

Past week participation rates did not vary by age, meaning that Freemium gambling is just as popular among younger adolescents as it is among older adolescents. Around 1 in 10

[6] This chart shows the Odds Ratio and confidence interval for each category. Categories are significantly different from the reference group if the confidence interval does not straddle 1. Odds greater than one mean that the odds of being a SNS Freemium gambler are higher, odds lower than 1 mean that the odds of being a SNS Freemium gambler are lower.

youth aged 11-12 had played these games in the past week suggesting that age of onset for engaging in this activity could be even younger for some children. This warrants further investigation.

This analysis has also highlighted some key differences between boys and girls. This is largely in relation participation rates, with boys being much more likely than girls to be Freemium gamblers. However, the range of factors associated with participation differed for boys and girls. Among boys, rates of participation were higher among those with poorer academic attainment and among those attending schools in rural areas. Boys were more likely to have also engaged in other forms of gambling activities than girls. This suggests that patterns of play, factors associated with play and integration of SNS Freemium gambling with other forms of gambling are experienced differently for boys and for girls. To some extent, this is not surprising. It is generally acknowledged that interest in gambling develops later among girls than boys and the differences observed may be a function of this.

That said, there may be important differences in the way boys and girls integrate SNS Freemium gambling within their broader repertoire of leisure and recreation activities and also different reasons as to why they take part in these activities. For example, why are participation rates higher among boys in rural areas but not girls? If this was related solely to lack of other leisure opportunities, one would expect to see a similar pattern for boys and girls. This highlights the need to explore how engagement in SNS Freemium gambling is integrated with and/or substituted for other forms of leisure, recreation, and for some, other gambling activities. Following on from this, the need to take a broader perspective, including focus on attitudinal, structural and situational factors, is emphasised by findings that both parental permissiveness and living in single parent households were highly predictive of engaging in SNS Freemium gambling. In short, the broader environment in which youth live and are schooled, who they live with and the attitudes of their social network are all important in understanding who engages with this activity and in understanding why they engage.

Finally, this data shows that those who played SNS Freemium gambling products are typically engaged with other forms of gambling or play other free gambling games. Perhaps unsurprisingly, the strongest correlations between SNS Freemium gambling and other forms of gambling were those activities that were also conducted online (i.e., other online gambling, online instant wins) or were similar activities to those offered by SNS Freemium gambling (i.e., playing cards with friends for money). It's therefore possible that, for some, engagement in SNS Freemium gambling replicates an activity enjoyed in the physical environment.
This data shows clear evidence of overlapping interest in broader gambling and SNS Freemium gambling and, notably, taking part in SNS Freemium gambling is already more prevalent than playing other free gambling games (8%). Data from the 2008/2009 youth gambling survey further confirms this overlap. This included a question about use of Facebook poker in the past 7 days and showed that 54% of those playing this had also gambled in the past week. Around 30% of Facebook poker players had taken part in two or more activities in the past week and 6% of Facebook poker players were categorised as problem gamblers. This was the same proportion of problem gamblers observed among all

past week gamblers. This both highlights the strong correspondence between SNS Freemium gambling and broader gambling behaviour but also that gamblers who engaged with certain types of SNS gambling games had higher rates of problem gambling than those who did not. Some caution should be made when interpreting this, this does not mean that SNS Freemium gambling causes problems but rather that a specific subset of youth gamblers, who are very engaged in gambling, also take part in SNS Freemium gambling and are more likely to experience problems with their gambling behaviour.

From a responsible gambling perspective, and particularly when thinking about education and prevention initiatives, knowledge of this co-occurrence of behaviours is useful. This means there is an easily identifiably subset of youth who engage in a range of gambling behaviours who may benefit from education strategies relating to gambling. Knowing that those who play SNS Freemium gambling games are, typically, engaged in other forms of gambling is useful as it provides an opportunity to potentially use this platform for social marketing purposes.

However, whilst the youth gambling survey and the more recent youth tracking data demonstrate that this overlapping interest was the majority behaviour, around 1 in 4 male and 2 in 5 female SNS Freemium gamblers had *only* played these games. This pattern was broadly evident for all age groups and it would be of interest to see if, how and when interest in other gambling products begins among this group.

This is cross-sectional data and so can only highlight associations and not causal mechanisms or pathways. However, this overview has highlighted some notable patterns, including the correspondence between SNS Freemium gambling and other forms of gambling, the popularity of SNS Freemium gambling among the youngest age groups and the different profile of SNS Freemium gamblers among boys and girls. All of these warrant further in-depth investigation.

Table C6: Participation in any SNS Freemium gambling, by Index of Multiple Deprivation (England only) and sex

All aged 11-16			*2012*
Sex	**Index of Multiple Deprivation tertile**		
	1st (Least deprived)	2nd	3rd (Most deprived)
	%	%	%
Boys	13	19	17
Girls	5	6	6
All	9	14	10
Bases (weighted)			
Boys	*512*	*288*	*361*
Girls	*491*	*207*	*508*
All	*1004*	*496*	*874*
Bases (unweighted)			
Boys	*390*	*289*	*330*
Girls	*416*	*224*	*532*
All	*807*	*514*	*868*

Table C7: Participation in any SNS Freemium gambling, by urban/rural location of school and sex

All aged 11-16		*2012*
Sex	**School location**	
	Urban	Rural
	%	%
Boys	15	21
Girls	6	5
All	10	14
Bases (weighted)		
Boys	*1064*	*206*
Girls	*1109*	*179*
All	*2182*	*387*
Bases (unweighted)		
Boys	*972*	*246*
Girls	*1130*	*219*
All	*2111*	*467*

Table C8: Profile of SNS Freemium gamblers, by age and sex

All aged 11-16				*2012*
Sex	**Age group**			
	11-12	13-14	15-16	**Total**
	%	%	%	%
Boys				
SNS Freemium gamblers only	[24]	29	28	27
Gambled and SNS Freemium gambling games	[26]	27	11	21
Played freeplay and SNS Freemium gambling games	[23]	25	17	22
Did all three (gambled, freeplay, SNS Freemium gambling)	[27]	20	43	30
Girls				
SNS Freemium gamblers only	a	[42]	a	42
Gambled and SNS Freemium gambling games	a	[19]	a	23
Played freeplay and SNS Freemium gambling games	a	[17]	a	14
Did all three (gambled, freeplay, SNS Freemium gambling)	a	[21]	a	21
All				
SNS Freemium gamblers only	27	32	33	31
Gambled and SNS Freemium gambling games	26	25	15	23
Played freeplay and SNS Freemium gambling games	21	23	14	20
Did all three (gambled, freeplay, SNS Freemium gambling)	26	20	37	27
Bases (weighted)				
Boys	62	70	61	192
Girls	29	27	16	73
All	91	98	78	267
Bases (unweighted)				
Boys	42	92	55	189
Girls	24	34	23	81
All	66	127	79	272

a Estimates not shown because of small base sizes
[ ] Estimates in square brackets indicate that bases sizes are small and caution should be taken interpreting these results

Table C9: Participation in SNS Freemium gambling, free games and gambling in past 7 days, by age and sex

All aged 11-16				*2012*
Sex	**Age group**			
	11-12	13-14	15-16	**Total**
	%	%	%	%
Boys				
Did not gamble, play SNS Freemium gambling games or free games	68	65	61	65
Gambled only	14	15	15	15
Played free gambling games only	2	3	4	3
SNS Freemium gambling only	4	4	5	4
Gambled and played freeplay games	2	2	1	2
Gambled and played SNS Freemium gambling games	4	4	2	3
Played freeplay and SNS Freemium gambling games	3	4	3	3
Did all three (gambled, freeplay, SNS Freemium gambling)	4	3	8	5
Girls				
Did not gamble, play SNS Freemium gambling games or free games	83	85	84	84
Gambled only	9	7	9	8
Played free gambling games only	1	2	1	1
SNS Freemium gambling only	2	3	3	2
Gambled and played freeplay games	1	1	1	1
Gambled and played SNS Freemium gambling games	2	1	1	1
Played freeplay and SNS Freemium gambling games	1	1	-	1
Did all three (gambled, freeplay, SNS Freemium gambling)	1	1	1	1
All				
Did not gamble, play SNS Freemium gambling games or free games	76	75	72	75
Gambled only	11	11	12	11
Played free gambling games only	1	2	2	2
SNS Freemium gambling only	3	3	4	3
Gambled and played freeplay games	1	1	1	1
Gambled and played SNS Freemium gambling games	3	3	2	2
Played freeplay and SNS Freemium gambling games	2	2	2	2
Did all three (gambled, freeplay, SNS Freemium gambling)	3	2	5	3
Bases (weighted)				
Boys	*414*	*484*	*327*	*1225*
Girls	*503*	*436*	*312*	*1251*
All	*919*	*925*	*642*	*2486*
Bases (unweighted)				
Boys	*310*	*561*	*298*	*1169*
Girls	*426*	*557*	*326*	*1309*
All	*737*	*1123*	*628*	*2488*

*Table C10: Odds of being SNS Freemium gambler by socio-demographic, lifestyle and gambling behaviour characteristics**

All aged 16 and over

Socio-demographic, lifestyle and gambling characteristics	Odds ratio	95% CI - lower	95% CI - upper
Sex (p<0.01)			
Boys	1		
Girls	0.52	0.36	0.73
Not known	2.15	0.50	9.29
Ethnic group (p<0.01)			
White	1		
Non-white	0.46	0.27	0.78
Academic attainment (p=0.056)			
Doing well	1		
Not doing well	1.59	0.99	2.56
Household composition (p<0.01)			
Two parents, no siblings	1		
Single parent, no siblings	1.79	1.00	3.19
Single parent, siblings	1.92	1.30	2.84
Two parents, siblings	0.72	0.40	1.30
Parental permissiveness (p<0.01)			
Not permissive	1		
Permissive	1.81	1.28	2.56
Area of schooling (p<0.05)			
Urban			
Rural	1.54	1.07	2.22
Whether played free gambling games (p<0.01)			
No			
Yes	14.70	9.91	21.80
Number of gambling activities undertaken in past week (p<0.01)			
None	1		
1	2.29	1.45	3.62
2	3.98	2.13	7.45
3 or more	3.17	1.70	5.90

* only variables significant in the final model are shown in the table, with the exception of academic attainment which is at the margins of statistical significance.

Appendix D: Using industry data for research purposes

a) Methodological considerations

There is increasing interest in accessing and using data held by commercial bodies for research purposes (Savage & Burrows, 2007). Using data held by social media operators to examine social media gambling is a potentially fruitful avenue of investigation.

Using industry data to explore consumer behaviour has a number of potential benefits. Firstly, it is objective, recording real behaviour in real time, and is not subject to the sort of recall error or biases of self-reported methods. It also (potentially) offers complete data for a range of individuals and/or behaviours (i.e., those playing games with certain operators) and therefore is not subject to selection or sampling biases. This gives (potentially) greater numbers of individuals to include in research and therefore gives greater power and accuracy of analysis. However, there are a number of limitations which should be borne in mind. This data is silo-based. Data is likely only to be available from individual operators and it is unlikely that it can be linked across operators (theoretically this may possible to achieve by linkage via Facebook account IDs but in practice it is unlikely because of data confidentiality issues). Linked to this, the data does not provided further contextual information about what other types of games or gambling an individual may participate in and to what extent. Furthermore, metrics are limited to those collected by the industry and are likely to be limited to a narrow range of variables – for example, the data will not be able to tell us anything about contextual or environmental influences. Finally, the quality of the data collected should be considered. Whilst records of play patterns are objective, demographic or contextual information may be subject to misreport as it is reliant on data entered by the user (i.e., age and sex for some may not be accurate).

In this respect, the use of industry data offers the potential to give us great depth about a narrow range of behaviours. With explicit recognition that this data provides information about only one aspect of behaviour, we do recommend that scoping be undertaken to explore what data exists and how it could be utilised.

b) Analytic potential

As noted above, we recommend that initial scoping of what data is held by commercial operators be undertaken. What follows are some theorised examples of how data may be used to better understand this phenomenon based on the types of data we expect operators to hold.

Understanding demography

Industry data could be used to explore the demographic profile of participants in social media games. Depending on how data are collected and stored and whether they are linked with social media accounts will vary the level of analysis possible. However, we would anticipate that analysis by age, sex, region (potentially taken by proxy measures of IP addresses) could be performed. This would enable us to trace differences in demographic profile for different product types. If linkages to social media profiles can be made, then the

range of demographic information available to us will be larger (this could include number of friends, employment and relationship status etc). However, there are ethical and data confidentiality issues to be explored and it is uncertain whether this could be achieved in practice.

Understanding different types and patterns of play

We anticipate that sub-group analysis of product type will be possible. For example, within social media games there will be those who have and have not monetised. Furthermore, we should be able to gain objective data about frequency of play, length of sessions and, where appropriate, expenditure which would be informative in describing and contrasting different types of player. Once examined, this could be analysed in conjunction with demographic information to describe the profile of these key player types.

Understanding trajectories

If an on-going relationship was established with certain operators, a system could be set up to explore the behaviour and play of select groups longitudinally. Whilst this would require time and resource investment to set-up and analyse, the potential is that behaviours could be tracked over time. This would allow quantification of different groups of players. For example, this might include those who play consistently at certain levels, those who increase their involvement with these games, those who display variable patterns of play and those who stop play. Once these trajectories are identified then their profile may be explored. Importantly, patterns of play preceding monetisation could be traced. Whilst tracing trajectories of play for certain products would be interesting, further research would be needed to understand if and how these patterns are related to broader gambling behaviour and more specifically risk or harm.

Use of social media features

We assume that some operators will store information about players use of social media features. If so, it would be of interest to understand how many and who makes use of these features. For example, is referring friends, notifying others of wins or play, or engaging with others whilst playing the majority or minority behaviour? If these features are used, who uses them, what is their profile and patterns of play? This is pertinent to debates about the potential impact of these features upon the behaviour of others yet, to date, whether these features are used is largely unknown.

In summary, we suggest a first priority for research is gaining an accurate understanding of the behaviours around these games at a basic, descriptive level (who, where, what) before moving on to understanding causal mechanisms (why, how) or examining risk and its management. Launching straight into the latter, despite its obvious importance, is unwise as it would most likely rely on our limited understanding of traditional gambling behaviour and may waste resources following less fruitful lines of empirical enquiry had a better understanding of the specific behaviour in question been acquired first.