

Internet Gambling: An Overview of Psychosocial Impacts

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Abstract

Technological innovation has always played a role in the development of gambling behaviour, primarily through providing new market opportunities. Early prevalence studies of Internet gambling in the UK, Canada and the US have shown that Internet gambling is not a cause for concern at present. However, this seems likely to change as more people start to use the Internet for leisure activities. After a brief overview of gambling technologies and deregulation issues, this paper examines the impact of technology on gambling by highlighting salient factors in the rise of Internet gambling (i.e., accessibility, affordability, anonymity, convenience, escape immersion/dissociation, disinhibition, event frequency, associability, interactivity, and simulation). The paper also overviews some of the main social impacts surrounding Internet gambling, such as protection of the vulnerable, Internet gambling in the workplace, electronic cash, and unscrupulous operators. Recommendations for Internet gambling operators are also provided.

Key Words: Internet gambling, online gambling, technology impact, social impact, psychosocial impact, addictive behaviour, problem gambling

Internet gambling: Psychosocial impacts

Technological innovation has always played a role in the development of gambling behaviour, primarily through providing new market opportunities (Griffiths, 1999). Early prevalence studies of Internet gambling in the UK, Canada and the US have shown that Internet gambling is not a cause for concern at present (Griffiths, 2001a; Ialomiteanu & Adlaf, 2001; Ladd & Petry, 2002). However, the social costs of Internet gambling are beginning to emerge as countries gradually lose their 'technophobia' and costs of Internet usage decrease (Parke & Griffiths, 2004).

The introduction of the Internet and other remote gambling developments (such as mobile phone gambling, interactive television gambling) is an issue for concern regarding problematic gambling behavior. As technology develops there will be increased scope to manipulate the potentially addictive structural characteristics of gambling activities to increase the appeal and arousal of the games. To date, knowledge and understanding of how the medium of the Internet affects gambling behavior is sparse. Globally speaking, proliferation of Internet access is still an emerging trend and it will take some time before the effects on gambling behavior surface. However, there is strong foundation to speculate on the potential hazards of Internet gambling. For instance, Griffiths (2003)

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has identified the use of virtual cash, unlimited accessibility, and the solitary nature of gambling on the Internet as potential risk factors for problem gambling development.

The impact of gambling technology has been widespread and there are many observed trends around the world that appear to have resulted from technological innovation, e.g., gambling coming out of gambling environments, gambling becoming a more asocial activity, widespread deregulation, and increased opportunities to gamble (Griffiths, 2001b). Furthermore, there are many other factors that form the backdrop to examining the increasing use of technology:

- Governments appear to be fixated on revenue raising.
- Governments and gaming appear to be using every marketing tool to increase revenue.
- Global gambling has grown substantially in the last 10 years and is particularly noteworthy in the area of Internet gambling.
- There appears to be a global expansion strategy.
- Technology is providing 'convenience' gambling.
- Technology may be making gambling more socially acceptable to traditional low frequency gamblers (e.g., women, retired people etc.).

In many countries there appears to be a slow shift from gambling being taken out of gambling environments and into the home and the workplace. Historically, what we have witnessed is a shift from destination resorts (such as Las Vegas and Atlantic City) to individual gaming establishments in most major cities (e.g., betting shops, casinos, amusement arcades, bingo halls). More recently there has been a large increase in single site gambling opportunities (e.g., slot machines in non-gaming venues, lottery tickets sold in mainstream retail outlets), to gambling from home or work (e.g., Internet gambling, i-TV gambling). However, gambling can now be done in a wide variety of retail outlets. It is also clear that the "newer" forms of gambling like Internet gambling and i-TV gambling are activities that are done almost exclusively from non-gambling environments. One major worry about this is that in general, regulation of gambling all but disappears when it is done in non-gambling environments.

Technology and deregulation

Deregulation is now firmly entrenched within the policy of many Governments worldwide. The present situation of stimulating gambling appears to be mirroring the previous initiations of other socially condoned but potentially addictive behaviors like drinking (alcohol) and smoking (nicotine). According to Littler (1996), deregulation of the gambling industry has occurred for a number of reasons. These include:

- Highly successful introduction of national and state lotteries which have not only provided strong competition for the "leisure dollar" but has directly challenged the theoretical basis on which other gambling is regulated.
- Governments' commitment to deregulation in as many areas as possible resulting in laws being passed which allow the least uncontroversial changes to be introduced more easily.
- Worldwide explosion in gambling (particularly casino gaming) which has left many operators feeling they are being left behind in the competition for international players.
- Governments' desire for more revenue from non-essential forms of expenditure, of which gambling is an obvious candidate.

To some extent, technological innovation is helping make deregulation easier to achieve. Technology has brought gambling into the home and the workplace and has opened up a legislative minefield. Two of the fastest growing forms of online gambling

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are in the areas of online poker and online betting exchanges. Griffiths (2005a) has speculated there are three main reasons for the growth in these two particular sectors. Firstly, they provide excellent financial value for the gambler. There is no casino house edge or bookmakers' mark-up on odds. Secondly, gamblers have the potential to win because there is an element of skill in making their bets. Thirdly, gamblers are able to compete directly with and against other gamblers instead of gambling on a pre-programmed slot machine or making a bet on a roulette wheel with fixed odds. However, one of the potential downsides to increased competition is recent research highlighting that problem gamblers are significantly more likely to be competitive when compared to non-problem gamblers (Parke, Griffiths & Irwing, 2004).

Situational and structural characteristics of gambling: Technological implications

In getting people to gamble (and to keep on gambling) the industry uses a variety of marketing method it has at its disposal. These methods mainly fall into two types - situational and structural characteristics (Griffiths, 1993; 1999).

Situational characteristics are those features that facilitate people to gamble in the first place. These are primarily features of the environment and can be considered the situational determinants of gambling. They include such things as the location of the gambling outlet, the number of gambling outlets in a specified area, and the use of advertising in stimulating people to gamble. These variables may be very important in the initial decision to gamble. **Structural characteristics** are those features that are responsible for reinforcement, may satisfy gamblers' needs and may actually facilitate excessive gambling. They include such things as the event frequency of the activity, the payout interval, and light, colour and sound effects.

Technological advance can (and will) have a potentially large impact on the development and maintenance of gambling behavior. By identifying particular situational and structural characteristics it may be possible to see how needs are identified, to see how information about gambling is presented (or perhaps misrepresented) and to see how thoughts about gambling are influenced and distorted. Showing the existence of such relationships has great practical importance. Not only could potentially 'dangerous' forms of gambling be identified, but effective and selective legislation could be formulated.

It is useful to examine these characteristics and dimensions among all types of gambling activity so that they can be described, compared and contrasted using the same parameters. This may help in pinpointing where technology has a role (either directly or indirectly) in gambling acquisition, development and maintenance. For instance, from a technological standpoint, activities such as Internet gambling are changing the nature of situational determinants to gamble and could have a large impact in uptake of gambling services (i.e., technology's role in the situational determinants of gambling will have most impact on acquisition of behavior).

One of the major concerns relating to the increase in gambling opportunities is the potential rise in the number of problem gamblers (i.e., "gambling addicts"). Addictions always result from an interaction and interplay between many factors including the person's biological and/or genetic predisposition, their psychological constitution, their social environment and the nature of the activity itself. However, in the case of gambling, it could be argued that technology and technological advance can themselves be an important contributory factor as we shall see below in examining the salient factors in Internet gambling.

The impact of technology on gambling: Salient factors

To what extent does technology facilitate excessiveness? According to Griffiths (2003), there are a number of factors that make online activities like Internet gambling potentially seductive and/or addictive. Such factors include anonymity, convenience,

escape, dissociation / immersion, accessibility, event frequency, interactivity, disinhibition, simulation, and asociability. Outlined below are some of the main variables that may account for acquisition and maintenance of some online behaviors (adapted from Griffiths, 2003; Parke & Griffiths, 2005). It would also appear that virtual environments have the potential to provide short-term comfort, excitement and/or distraction.

Accessibility - Access to the Internet is now commonplace and widespread, and can be done easily from the home and/or the workplace. Given that prevalence of behaviors is strongly correlated with increased access to the activity, it is not surprising that the development of regular online use is increasing across the population. Increased accessibility may also lead to increased problems. Research into socially acceptable but potentially addictive behaviors (drinking alcohol, gambling etc.) has demonstrated that increased accessibility leads to increased uptake (i.e., regular use) and that this usually leads to an increase in problems - although the increase may not be proportional (Griffiths, 1999). Fundamentally, increased accessibility of gambling activities enables the individual to rationalize involvement in the 'risk-behavior' by removing previously restrictive barriers such as time constraints emanating from occupational and social commitments. With reductions in time required to select, place wagers and collect winnings, gambling as a habitual activity appears more viable, as social and occupational commitments are not necessarily compromised (Parke & Griffiths, 2005).

Affordability - Given the wide accessibility of the Internet, it is now becoming cheaper and cheaper to use the online services on offer. Although very excessive use will still lead to large monthly bills for those who pay by the minute, for most people the cost compared to either a telephone call and/or postage will be cheap to moderate. Furthermore, as access to the Internet increasingly becomes an integral part of our occupational, educational and social lives, free access to the Internet outside the home is becoming more and more prevalent (e.g., workplace, higher education institutions and public libraries), and therefore, to an extent, removing affordability as a primary barrier to engaging in online gambling.

Moreover, Parke and Griffiths (2005) conclude that the overall cost of gambling has been reduced significantly through technological developments, again, effectively rendering affordability less of a restrictive force when it comes to rationalizing involvement in the behavior. For example, the saturation of the online gambling industry has lead to increased competition, and the consumer is benefiting from the ensuing promotional offers and discounts available on gambling outlay. Regarding interactive wagering, the emergence of peer-to-peer gambling through the introduction of betting exchanges has provided the customer with commission free sporting gambling odds, which in effect means the customer needs to risk less money to obtain potential revenue. Finally, ancillary costs of face-to-face gambling, such as parking, tipping and purchasing refreshments, is removed when gambling within the home and therefore the overall cost of gambling is reduced making it more affordable.

Anonymity - The anonymity of the Internet allows users to privately engage in gambling without the fear of stigma. This anonymity may also provide the user with a greater sense of perceived control over the content, tone, and nature of the online experience. Anonymity may also increase feelings of comfort since there is a decreased ability to look for, and thus detect signs of insincerity, disapproval, or judgment in facial expression, as would be typical in face-to-face interactions. For activities such as gambling, this may be a positive benefit particularly when losing as no one will actually see the face of the loser. Parke and Griffiths (2005) believe that anonymity, like increased accessibility, may reduce social barriers to engaging in gambling, particular skill-based gambling activities such as poker that are relatively complex and often possess tacit social etiquette. The potential discomfort of committing a structural or social faux-pas in the gambling environment

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because of inexperience is minimized because the individual's identity remains concealed.

Convenience - Interactive online applications such as e-mail, chat rooms, newsgroups, or role-playing games provide convenient mediums to engage in online behaviors. Online behaviors will usually occur in the familiar and comfortable environment of home or workplace thus reducing the feeling of risk and allowing even more adventurous behaviors which may or may not be potentially addictive. For gamblers, not having to move from their home or their workplace may be of great positive benefit.

Escape - For some, the primary reinforcement to engage in Internet gambling will be the gratification they experience online. However, the experience of Internet gambling itself may be reinforced through a subjectively and/or objectively experienced "high." The pursuit of mood-modifying experiences is characteristic of addictions. The mood-modifying experience has the potential to provide an emotional or mental escape and further serves to reinforce the behavior. Excessive involvement in this escapist activity may lead to addiction. In a qualitative interview based study of 50 problem gamblers, Wood and Griffiths (2005) identified that gambling to escape was the primary motivator for problem gamblers' continued excessive gambling. Online behavior can provide a potent escape from the stresses and strains of real life.

Immersion/Dissociation - The medium of the Internet can provide feelings of dissociation and immersion and may facilitate feelings of escape (see above). Dissociation and immersion can involve lots of different types of feelings. This can include losing track of time, feeling like you're someone else, blacking out, not recalling how you got somewhere or what you did, and being in a trance like state. In extreme forms it may include multi-personality disorders. All of these feelings when gambling on the Internet may lead to longer play either because "time flies when you are having fun" or because the psychological feelings of being in an immersive or dissociative state are reinforcing.

A previous study that compared problem gambling with video game playing in adolescents found that those who had the severest gambling problems were most likely to experience dissociative states both when playing video games and when gambling (Wood, Gupta, Derevensky, & Griffiths, 2004). A further study examining adult video game players (Wood, Griffiths & Parke, 2005) found that experiences of time loss

whilst playing video games were entirely dependent upon the structural characteristics of the game independent of gender, age, or frequency of play. Therefore, as online gambling utilizes the same technology, and many of the same structural characteristics as video games, the potential for online gambling to facilitate dissociative experiences may be far greater than has been the case for traditional forms of gambling (see Wood, Griffiths, Chappell & Davies 2004 for an overview of the

structural characteristics of video games).

Disinhibition - This is clearly one of the Internet's key appeals as there is little doubt that the Internet makes people less inhibited (Joinson, 1998). Online users appear to open up more quickly online and reveal themselves emotionally much faster than in the offline world. Walther (1996) referred to this phenomenon as *Hyperpersonal Communication*. Walther argued that this occurs because of four features of online communication:

- The communicators usually share social categories so will perceive each other as similar (e.g., all online poker players.)
- The message senders can present themselves in a positive light, and so may be more confident.

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- The format of online interaction (e.g., there are no other distractions, users can spend time composing messages, mix social and task messages, users don't waste cognitive resources by answering immediately).
- The communication medium provides a feedback loop whereby initial impressions are built upon and strengthened.

For the gambler, being in a disinhibited state may lead to more money being gambled, particularly if they are motivated to maintain their initial persona (e.g., as a skillful online poker player).

Event frequency - The event frequency of any gambling activity (i.e. the number of opportunities to gamble in a given time period) is a structural characteristic designed and implemented by the gaming operator. The length of time between each gambling event may indeed be critical as to whether some people might develop problems with a particular type of gambling. Obviously gambling activities that offer outcomes every few seconds or minutes (e.g., slot machines) will probably cause greater problems than activities with outcomes less often (e.g., weekly lotteries). The frequency of playing when linked with the two other factors - the result of the gamble (win or loss) and the actual time until winnings are received - exploit certain psychological principles of learning (Skinner, 1953). This process (operant conditioning) conditions habits by rewarding behavior, i.e., through presentation of a reward (e.g., money); thus reinforcement occurs. Rapid event frequency also means that the loss period is brief with little time given over to financial considerations and, more importantly, winnings can be re-gambled almost immediately. Internet gambling has the potential to offer visually exciting effects similar to slot machines and video lottery terminals (two of the most problematic forms of gambling).

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Furthermore, the event frequency can be very rapid, particularly if the gambler is subscribed or visits several sites. Parke and Griffiths (2005) concluded that the high event frequency in skill based games like online poker provides increased motivation to participate in such gambling activities. Online poker, in relative terms, provides significant opportunity for an individual to manipulate the outcome of the gambling event. However, the individual's profitability is still determined to an extent by random probability. The online poker gambler may rationalize that with the increased frequency of participation, deviations from expected probability will be minimized (i.e. bad luck), increasing the effect of skill in determining gambling outcomes over the long term. Because of technological developments, poker gamblers can participate in several games simultaneously, and with reduced time limits for decision making in comparison to traditional poker games. Games are also completed at a substantially faster rate.

Interactivity - The interactivity component of the Internet may also be psychologically rewarding and different from other more passive forms of entertainment (e.g., television). It has been shown the increased personal involvement on a gambling activity can increase the illusion of control (Langer, 1975) that in turn may facilitate increased gambling. The interactive nature of the Internet may therefore provide a convenient way of increasing such personal involvement.

Simulation - Simulations provide an ideal way in which to learn about something and which tends not to have any of the possible negative consequences. However, Internet gambling simulations may have unthought of effects. Many online gambling sites have a practice mode format, where a potential customer can place a pretend bet in order to see and practice the procedure of gambling on that site. Although this activity can not be regarded as actual gambling as there is no 'real' money involved, it can be accessed by minors and possibly attract an underage player into gambling. Also, gambling in practice modes available within the gambling website, may build self-efficacy and

potentially increase perceptions of control in determining gambling outcomes motivating participation in their 'real cash' counterparts within the site (Parke & Griffiths, 2005).

Asociability - One of the consequences of technology and the Internet has been to reduce the fundamentally social nature of gambling to an activity that is essentially asocial. Those who experience problems are more likely to be those playing on their own (e.g., those playing to escape). Retrospectively, most problem gamblers report that at the height of their problem gambling, it is a solitary activity. Gambling in a social setting could potentially provide some kind of "safety net" for over-spenders, i.e., a form of gambling where the primary orientation of gambling is for social reasons with the possibility of some fun and chance to win some money (e.g., bingo). However, it could be speculated that those individuals whose prime motivation was to constantly play just to win money would possibly experience more problems. One of the major influences of technology appears to be the shift from social to asocial forms of gambling. From this it could be speculated that as gambling becomes more technological, gambling problems will increase due to its asocial nature. However, it could also be argued that for some people, the Internet (including online gambling) provides a social outlet that they would not otherwise have. This is particularly true for women who may feel uncomfortable going out on their own, unemployed people, and retired people.

Furthermore, because of the apparent vacuous social component within remote gambling, Parke and Griffiths (2005) emphasize that alternative methods of peer interaction are available within interactive gambling activities that retain the socially reinforcing aspects of the behavior. Individuals can communicate via computer-mediated communication (CMC) within the game itself and even post-gambling through involvement in online gambling web-communities. An increasing trend is for online gambling websites to provide a customer forum to facilitate peer interaction and therefore increase the social element of the game. Some firms even have introduced an Internet radio facility that entertains their customers as they gamble, while simultaneously drawing attention to significant winners within the site. Effectively, the structural design of remote gambling removes the social safety net that is integral to maintaining responsible gambling practice without reducing the socially rewarding aspects inherent in traditional gambling environments (Parke & Griffiths, 2005).

Furthermore, there are many other specific developments that look likely to facilitate uptake of remote gambling services including (i) sophisticated gaming software, (ii) integrated e-cash systems (including multi-currency), (iii) multi-lingual sites, (iv) increased realism (e.g., "real" gambling via webcams, player and dealer avatars), (v) live remote wagering (for both gambling alone and gambling with others), and (vi) improving customer care systems.

Internet addiction and Internet gambling addiction

It has been alleged that social pathologies are beginning to surface in cyberspace, i.e., "technological addictions" (Griffiths, 1995; 1998). Technological addictions can be viewed as a subset of behavioral addictions and feature all the core components of addiction (e.g. salience, euphoria, tolerance, withdrawal, conflict and relapse (see Griffiths, 2005b). Young (1999) claims Internet addiction is a broad term that covers a wide variety of behaviors and impulse control problems, and categorized by five specific subtypes (cybersexual addiction, cyber-relationship addiction, net compulsions, information overload and computer addiction). Griffiths (2000a) has argued that many of these excessive users are not "Internet addicts" but just use the Internet excessively as a medium to fuel other addictions. Put very simply, a gambling addict who engages in their chosen behavior online is not addicted to the Internet. The Internet is just the place where they engage in the behavior. However, in contrast to this, there are case study reports of individuals who appear to be addicted to the Internet itself (Griffiths, 2000b). These are usually people who use Internet chat rooms or play fantasy role playing games—activities that they would not engage in except on the Internet itself. These individuals to

some extent are engaged in text-based virtual realities and take on other social personas and social identities as a way of making themselves feel good about themselves. In these cases, the Internet may provide an alternative reality to the user and allow them feelings of immersion and anonymity that may lead to an altered state of consciousness. This in itself may be highly psychologically and/or physiologically rewarding.

To a gambling addict, the Internet could potentially be a very dangerous medium. For instance, it has been speculated that structural characteristics of the software itself might promote addictive tendencies. Structural characteristics promote interactivity and to some extent define alternative realities to the user and allow feelings of anonymity—features that may be very psychologically rewarding to such individuals. There is no doubt that Internet usage among the general population will continue to increase over the next few years and that if social pathologies exist then there is a need for further research. This area has particular relevance to the area of gambling in the shape of Internet gambling. Despite evidence that both gambling and the Internet can be potentially addictive, there is no evidence (to date) that Internet gambling is ‘doubly addictive’ particularly as the Internet appears to be just a medium to engage in the behavior of choice. What the Internet may do is facilitate social gamblers who use the Internet (rather than Internet users per se) to gamble more excessively than they would have done offline.

Internet gambling: Psychosocial issues

The uptake of gambling depends on many factors. Internet gambling is provided by a network that spans geographical borders and is not discrete. Therefore, Internet gambling is global, accessible and has 24-hour availability. In essence, technological advance in the form of Internet gambling is providing convenience gambling. Theoretically, people can gamble all day every day of the year. This will have implications for the social impact of Internet gambling. Griffiths and Parke (2002) previously outlined some of the main social issues concerning Internet gambling. These are briefly described below.

Protection of the vulnerable – There are many groups of vulnerable individuals (e.g., adolescents, problem gamblers, drug/alcohol abusers, the learning impaired etc.) who in offline gambling would be prevented from gambling by responsible members of the gaming industry. Furthermore, Wood and Griffiths (2005) also identified a number of problem gamblers who had developed specific online gambling problems whilst staying at home because they were either, unemployed, retired or looking after children. However, Internet gambling sites provide little in the way of ‘gate keeping’. In cyberspace how can you be sure that adolescents do not have access to Internet gambling by using a parent’s credit card? How can you be sure that a person does not have access to Internet gambling while under the influence of alcohol or other intoxicating substances? How can you prevent a problem gambler who may have been barred from one Internet gambling site, simply clicking to the next Internet gambling link? These are all serious concerns that both regulatory authorities and Internet gambling service providers will have to take on board.

Internet gambling in the workplace - Internet gambling is one of the newer opportunities for gambling in the workplace. An increasing number of organizations have unlimited Internet access for all employees and many employees have their own computer terminal in their own office which allows such activity to take place without arousing suspicion. Internet gambling is a somewhat solitary activity that can happen without the knowledge of both management and the employee’s co-workers. This has potentially large implications for work efficiency and productivity. This is an issue that employers will have to take seriously and develop effective gambling policies for the workplace environment (see Griffiths, 2002) for an overview of issues concerning Internet gambling in the workplace).

Electronic cash – For most gamblers, it is very likely that the psychological value of electronic cash (e-cash) will be less than “real” cash (and similar to the use of chips or tokens in other gambling situations). Gambling with e-cash may lead to what

psychologists call a "suspension of judgement." The suspension of judgement refers to a structural characteristic that temporarily disrupts the gambler's financial value system and potentially stimulates further gambling (Griffiths, 1993). This is well known by both those in commerce (i.e., people typically spend more on credit and debit cards because it is easier to spend money using plastic), and by the gaming industry. This is the reason that 'chips' are used in casinos and why tokens are used on some slot machines. In essence, chips and tokens "disguise" the money's true value (i.e., decrease the psychological value of the money to be gambled). Tokens and chips are often re-gambled without hesitation as the psychological value is much less than the real value. Evidence would seem to suggest that people will gamble more using e-cash than they would with real cash.

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Increased odds of winning in practice modes – One of the most common ways that gamblers can be facilitated to gamble online is when they try out games in the 'demo', 'practice' or 'free play' mode. Some recent research carried out by Sevigny, Cloutier, Pelletier & Ladouceur (2005) showed it was significantly more commonplace to win while "gambling" on the first few goes on a 'demo' or 'free play' game. They also reported that it was commonplace for gamblers to have extended winning streaks during prolonged periods while playing in the 'demo' modes. Obviously, once gamblers start to play for real with real money, the odds of winning are considerably reduced.

Unscrupulous operators – Many concerns about the rise of Internet gambling concern unscrupulous practices operated by some Internet gambling sites. A major issue concerns the 'trustworthiness' of the site itself. For instance, on a very basic trust level, how can Internet gamblers be sure they will receive any winnings from an unlicensed Internet casino operating out of Antigua or the Dominican Republic? There are, however, other issues of concern including the potentially unscrupulous practices of (i) embedding, (ii) circle jerks and 'pop-ups', (iii) online customer tracking, and (iv) use of trusted non-gambling brands. These are briefly overviewed below.

Embedding – One seemingly common practice is the hidden 'embedding' of certain words on an Internet gambling site's webpage through the use of 'meta-tags'. A meta-tag is a command hidden in the Web page to help search engines categorize sites (i.e., telling the search engine how they want the site indexed). One common way to get extra traffic flowing through a webpage is to embed common words that people might be searching for on the Internet (e.g. 'Disney'). Some Internet gambling sites appear to have used the word 'compulsive gambling' embedded in their webpage. In essence, what such unscrupulous sites are saying is "index my casino site in with the other compulsive gambling sites" so people will 'hit' this site when they are looking for other information related to compulsive gambling. Someone looking for help with a gambling problem will get these sites popping up in front of them. This is a particularly unscrupulous practice which at the moment is perfectly legal.

Circle jerks and 'pop-ups' – Another potentially unscrupulous tactic used by both Internet sex and gambling sites is telescoping windows often referred to as 'circle jerks'. If someone online accesses a particular type of site and tries to get out of it, another box offering a similar type of service will usually 'pop up'. Many people find that they cannot get out of the never-ending loop of sites except by shutting down their computer. Obviously, those sites that use 'circle jerks' hope that a person will be tempted to access a service they are offering while their site is on the screen. This is also related to the continual 'pop ups' that appear while surfing the Internet, offering users free bets in online casinos and tempting those who may not have thought about online gambling before. Pop-ups such as these can also be a big temptation for a recovering problem gambler.

Online customer tracking - Perhaps the most worrying concerns over Internet gambling is the way sites can collect other sorts of data about the gambler. Customer data is the lifeblood of any company. Internet gamblers can provide tracking data that can be used to compile customer profiles. Such data can tell commercial enterprises (such as those in the gambling industry) exactly how customers are spending their time in any given financial transaction (i.e., which games they are gambling on, for how long, and how much money they are spending etc.). This information can help in the retention of customers, and can also link up with existing customer databases and operating loyalty schemes. Companies who have one central repository for all their customer data have an advantage. It can also be accessed by different parts of the business. Many consumers are unknowingly passing on information about themselves that raises serious questions about the gradual erosion of privacy. Customers are being profiled according to how they transact with service providers. Linked loyalty schemes can then track the account from the opening established date.

The technology to sift and assess vast amounts of customer information already exists. Using very sophisticated software, gaming companies can tailor their service to the customer's known interests. When it comes to gambling, there is a very fine line between providing what the customer wants and exploitation. The gaming industry sell products in much the same way that any other business sells things. They are now in the business of brand marketing, direct marketing (via mail with personalized and customized offers) and introducing loyalty schemes (which create the illusion of awareness, recognition and loyalty).

On joining loyalty schemes, players supply lots of information including name, address, telephone number, date of birth, and gender. Those who operate Internet gambling sites will be no different. They will know your favorite game and the amounts you have wagered. Basically they can track the playing patterns of any gambler. They will know more about the gambler's playing behavior than the gamblers themselves. They will be able to send the gambler offers and redemption vouchers, complimentary accounts, etc. The industry claims all of these things are introduced to enhance customer experience. Benefits and rewards to the customer include cash, food and beverages, entertainment and general retail. However, more unscrupulous operators will be able to entice known problem gamblers back onto their premises with tailored freebies (such as the inducement of "free" bets in the case of Internet gambling). The introduction of Internet gambling has come at a price, and that price is an invasion of the gambler's privacy.

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Use of trusted non-gambling brands - Some trusted non-gambling sites now provide links and endorsements to either their own gambling sites, or those of affiliates. For instance, Wood and Griffiths (2005) identified a case of an online problem gambler who had been led to an online gambling site by watching a popular (and trusted) day time television program that promoted its own online gaming site.

Internet gambling in a multi-media world

The rise and challenges of Internet gambling cannot be seen in isolation particularly as there is ever-increasing multi-media integration between the Internet, mobile phones, and interactive television (i-TV). It may be that people are more likely to spend money in particular media. For instance, the Internet can be described as a 'lean forward' medium. This means that the user (who is usually alone) takes an active role in determining what they do. Computers are better at displaying text than television and have a wider range of fine-tuning controls through the mouse and keyboards. This makes them more suitable for complex tasks such as obtaining insurance quotations or travel itineraries. In contrast, the television is a 'lean back' medium where viewers (often as part of a group) are more passive and seek less control over what is going on. The television is better at displaying

moving images than computers. This may have implications for the types of gambling done in particular media.

Furthermore i-TV may also help in one other important area – *trust*. People appear to trust their television even though it is accessing the Internet in the same way as a computer. However, as argued above, i-TV is a “lean back” service. If a person is relaxed sitting back on the sofa, it will make television the key to creating a true mass market for online commercial activity (including gambling). In addition, some i-TV services can be linked to actual television programs (such as betting on horse races). Browsing and buying by i-TV are still in the stage of infancy but look set to expand significantly in the future.

Conclusions

Technology has always played a role in the development of gambling practices and will continue to do so. Analysis of the technological components in gambling activities indicates that situational characteristics impact most on acquisition and that structural characteristics impact most on development and maintenance. Furthermore, the most important of these factors appear to be accessibility of the activity and event frequency. It is when these two characteristics combine that the greatest problems could occur in remote gambling. It can be argued that games that offer a fast, arousing span of play, frequent wins and the opportunity for rapid replay are associated with problem gambling. There is no doubt that frequency of opportunities to gamble (i.e., event frequency) is a major contributory factor in the development of gambling problems (Griffiths, 1999). Addictions are essentially about rewards and the speed of rewards. Therefore, the more potential rewards there are, the more addictive an activity is likely to be. However, there is no precise frequency level of a gambling game at which people become addicted since addiction will be an integrated mix of factors in which frequency is just one factor in the overall equation.

Finally, Internet gambling service providers must be socially responsible on the Web and should adhere to the following guidelines (adapted from Smeaton and Griffiths, 2004).

- **Implement age checks** - There needs to be a system built into debit and credit card transactions that proves an effective check on age.
- **Implement age verification checks** - Any customer wishing to register should have their age verified before their application is accepted. This procedure should be clearly displayed in the registration page, thus ensuring that no-one under age is able to access the member's pages on the site, and have the opportunity to set up an account.
- **Restrict methods of payments** - If age verification checks cannot be carried out on new customers, then methods of payment should be restricted to credit cards only. All other forms of payment such as debit cards, personal and bankers' cheques, wire transfers and postal orders are available to individuals under the age of 18, and therefore could lead to underage online gambling.
- **Set credit limits** - In addition to credit worthiness checks on account holders, limits should be placed on how much they can commit. This can either be a financial limit per session or per day.
- **Include options for self-exclusion** - Customers should have the opportunity to self-exclude themselves from an Internet gambling site. A system that enables them to do this should be in place, and clearly explained. Any self-exclusion scheme should be easy to carry out, and run for at least 6 months.
- **Include references to controlled gambling** - There should be references to the need to keep gambling under control (i.e. risk that is a cautionary note rather than a health warning—and these should be sited where they will be read).
- **Include references to helping agencies/help lines** - The homepage should carry the logo of the preferred social responsibility. This notice should be accompanied with a link to the website of the preferred social responsibility partner.

- **Provide help information** - A notice to where a gambler who is concerned with their own, or someone else's gambling can get help should appear at least twice. Once prominently mentioned in the text of the site, and alongside the menu box on the page where an online customer transfers money into their gambling account.
- **Accreditation by external organization** - Before launching a new product or developing an existing one the company should consult, commercially in confidence, with the lead body involved with the social impact of gambling.
- **Confirmation of bets/right to change mind** - When a bet is placed there should be a confirmation message of the details of the bet just placed, with the option to either confirm or decline the bet, giving the customers the chance to change their mind.
- **Built in pauses and display amount of time they have been gambling** - All gambling opportunities, but especially the rapid and interactive games should have a pause built in at predetermined intervals allowing the gambler to reflect on their desire to continue or withdraw. This is particularly important for those who may find it more difficult to stick to self-imposed limits.
- **No encouragement to re-gamble** - Whilst it is good commercial practice to promote products and provide the customer with information, there should be no encouragement to either re-invest winnings or chase losses. Gamblers should not be enticed to play on; the decision must be their own.
- **Restrict "practice modes"** - Any free practice mode that is offered to the customer must have an appropriate message regarding responsible gambling. Access to practice modes should be prevented for those under the legal age to gamble. Giving access to such simulators could encourage someone underage to seek opportunities to gamble for real money.

Furthermore, Parke and Griffiths (2004) point out that the most effective way to control the effects of the idiosyncratic features of Internet gambling on development of problematic gambling behavior is to provide individuals with a scrutinized, regulated Internet gambling industry. All over the world, the recognition of the inability to prohibit Internet gambling successfully has led various jurisdictions to turn attention to developing harm minimization regulations.

References

- Griffiths, M. D. (1993). Fruit machine gambling: The importance of structural characteristics. *Journal of Gambling Studies*, 9, 101-120.
- Griffiths, M. D. (1995). Technological addictions. *Clinical Psychology Forum*, 76, 14-19.
- Griffiths M. D. (1998). Internet addiction: Does it really exist? In J. Gackenbach (Ed.), *Psychology and the Internet: Intrapersonal, interpersonal and transpersonal applications* (pp.61-75). New York: Academic Press.
- Griffiths, M. D. (1999). Gambling technologies: Prospects for problem gambling. *Journal of Gambling Studies*, 15, 265-283.
- Griffiths, M. D. (2000a). Internet addiction: Time to be taken seriously? *Addiction Research*, 8, 413-418.
- Griffiths, M. D. (2000b). Does internet and computer "addiction" exist? Some case study evidence. *CyberPsychology and Behavior*, 3, 211-218.
- Griffiths, M. D. (2001a). Internet gambling: Preliminary results of the first UK prevalence study, *Journal of Gambling Issues*, 5. Retrieved 13 November 2005 from: http://www.camh.net/vegambling/issue5/research/griffiths_article.html
- Griffiths, M. D. (2001b). Gambling market and supporting services for pathological gamblers in Great Britain. In I. Fuchtschneider & K. Hurrelmann (Eds.), *Glucksspiel in Europa (Gambling in Europe)*, (pp.84-102). Geesthacht: Neuland.
- Griffiths, M. D. (2002). Internet gambling in the workplace. In M. Anandarajan & C. Simmers (Eds.), *Managing Web usage in the workplace: A social, ethical and legal perspective* (pp. 148-167). Hershey, PA: Idea Publishing.

- Griffiths, M. D. (2003). Internet gambling: Issues, concerns and recommendations. *CyberPsychology and Behavior*, 6, 557-568.
- Griffiths, M. D. (2005a). Online betting exchanges: A brief overview. *Youth Gambling International*, 5(2), 1-2.
- Griffiths, M. D. (2005b). A "components" model of addiction within a biopsychosocial framework. *Journal of Substance Use*, 10, 191-197.
- Griffiths, M. D. & Parke, J. (2002). The social impact of internet gambling. *Social Science Computer Review*, 20, 312-320.
- Ialomiteanu, A., & Adlaf, E. (2001). Internet gambling among Ontario adults. *Electronic Journal of Gambling Issues*, 5, Retrieved 13 November 2005 from: http://www.camh.net/egambling/issue5/research/ialomiteanu_adlaf_articale.html
- Joinson, A. (1998). Causes and implications of disinhibited behavior on the Internet. In J.Gackenback, (Ed.), *Psychology and the Internet: Intrapersonal, interpersonal, and transpersonal implications* (pp.43-60). New York: Academic Press.
- Ladd, G. T., & Petry, N. M. (2002). Disordered gambling among university-based medical and dental patients: A focus on internet gambling. *Psychology of Addictive Behaviours*, 16, 76-79.
- Littler, S. (1996). Regulation and the political perception of gambling. *UK Forum on Young People and Gambling Newsletter*, 19, 4-5.
- Parke, A., & Griffiths, M. D. (2004). Why Internet gambling prohibition will ultimately fail. *Gaming Law Review*, 8, 297-301.
- Parke, A., & Griffiths, M. D. (2005, July). Behavioural effects of increased accessibility of remote access gambling in the United Kingdom: A grounded theory theoretical framework. Paper presented at the 6th European Association for the Study of Gambling Conference, Malmo, Sweden.
- Parke, A., Griffiths, M. D., & Irwing, P. (2004). Personality traits in pathological gambling: Sensation seeking, deferment of gratification and competitiveness as risk factors. *Addiction Research and Theory*, 12, 201-212.
- Sevigny, S., Cloutier, M., Pelletier, M., & Ladouceur, R. (2005). Internet gambling: Misleading payout rates during the "demo" period. *Computers In Human Behavior*, 21, 153-158.
- Skinner, B. F. (1953). *Science and human behaviour*. New York: Free Press.
- Smeaton, M., & Griffiths, M. D. (2004). Internet gambling and social responsibility: An exploratory study. *CyberPsychology and Behavior*, 7, 49-57.
- Walther, J. B. (1996). Computer-mediated communication: Impersonal, inter-personal, and hyperpersonal interaction. *Communication Research*, 23, 3-43.
- Wood, R. T. A., & Griffiths, M. D. (2005). *Problem gambling as coping: A qualitative investigation of problem gamblers and their coping strategies*. Report prepared for the Responsibility in Gambling Trust.
- Wood, R. T. A., Griffiths, M. D., Chappell, D., & Davies, M. N. O. (2004). The structural characteristics of video games: A psycho-structural analysis. *CyberPsychology and Behavior*, 7, 1-10.
- Wood, R. T. A., Griffiths, M. D., & Parke, A. (2005). *Experiences of time loss among videogame players: An empirical study*. Manuscript submitted for publication.
- Wood, R. T.A., Gupta, R., Derevensky, J., & Griffiths, M. D. (2004). Video game playing and gambling in adolescents: Common risk factors. *Journal of Child & Adolescent Substance Abuse*, 14, 77-100.
- Young K. (1999). Internet addiction: Evaluation and treatment. *Student British Medical Journal*, 7, 351-352.

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