CHAPTER 6

Gambling Addiction on the Internet

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GAMBLING IS a popular activity across many cultures. Surveys into gambling on a national level have tended to conclude that there are more gamblers than nongamblers, but that most participants gamble infrequently (e.g., Wardle, Sproston, Orford, Erens, Griffiths, Constantine, & Pigott, 2007). Estimates based on survey data from countries all over the world indicate that the majority of people have gambled at some time in their lives (Meyer, Hayer, & Griffiths, 2009; Orford, Sproston, Erens, & Mitchell, 2003). The introduction of remote gambling (e.g., Internet gambling, mobile phone gambling, interactive television gambling) has greatly increased the potential accessibility of gambling all over the world. Government commission studies in a number of countries, including the United States, United Kingdom, Australia, and New Zealand, have all concluded that in general increased gambling availability has led to an increase in problem (pathological) gambling, although the relationship is complex and nonlinear (Abbott, 2007).

Estimates of the number of problem gamblers vary: for example, 0.6% in the United Kingdom, 1.1% to 1.9% in the United States, and 2.3% in Australia (Wardle et al., 2007). These surveys have also indicated that problem gambling is twice as common among males as it is among females, that nonwhites have higher rates than whites, and that those with a poor education are more likely to be pathological gamblers (Abbott et al., 2004; Griffiths, 2007). In 1980, pathological gambling was recognized as a mental disorder in the third edition of the *Diagnostic and Statistical Manual* (*DSM-III*) under the section "Disorders of Impulse Control" along with other illnesses such as kleptomania and pyromania (American Psychiatric Association, 1980). Since then, the criteria for pathological gambling have undergone two revisions (*DSM-III-R* [American Psychiatric Association, 1987] and *DSM-IV* [American Psychiatric Association, 1994]) and are now modeled on more general addiction criteria.

INTERNET GAMBLING

It has been claimed that remote types of gambling have provided the biggest cultural shift in gambling in the past decade (Griffiths, Parke, Wood, & Parke, 2006) and that the introduction of Internet gambling has the potential to lead to increased levels of problematic gambling behavior (Griffiths, 2003; Griffiths & Parke, 2002). To date, knowledge and understanding of how the medium of the Internet affects gambling behavior are 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 a strong foundation to speculate on the potential hazards of Internet gambling. 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, 2006). At the time of writing, there are around 3,000 sites worldwide, with a large number of these located in just a few particular countries such as Antigua and Costa Rica, where there are around 1,000 sites (Griffiths, Wardle, Orford, Sproston, & Erens, 2009).

In many countries there appears to be a slow shift of 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 nongaming venues, lottery tickets sold in mainstream retail outlets) and gambling from home or work (e.g., Internet gambling). It is also clear that the newer forms of gambling like Internet gambling are activities that are done almost exclusively from nongambling environments.

EMPIRICAL STUDIES ON INTERNET GAMBLING

To date, there have been a relatively small number of studies on Internet gambling and even fewer that have examined problem gambling and online gambling addictions. However, a variety of different studies have examined different aspects of Internet gambling. These have included national studies on adult Internet gambling (e.g., Gambling Commission, 2008; Griffiths, 2001; Griffiths, Wardle, et al., 2009); national studies on adolescent Internet gambling (e.g., Griffiths & Wood, 2007); regional studies of Internet gamblers (e.g., Ialomiteanu & Adlaf, 2001; Wood & Williams, 2007); studies on self-selected samples of Internet gamblers (e.g., Griffiths & Barnes, 2008; International Gaming Research Unit, 2007; Matthews, Farnsworth, & Griffiths, 2009; Wood, Griffiths, & Parke, 2007a); studies examining behavioral tracking data of Internet gamblers from online gaming sites (e.g., Broda et al., 2008; LaBrie, Kaplan,

LaPlante, Nelson, & Shaffer, 2008; LaBrie, LaPlante, Nelson, Schumann, & Shaffer, 2007); Internet gambling case studies (Griffiths & Parke, 2007); studies examining very specific forms of gambling such as online poker (Griffiths, Parke, Wood & Rigbye, 2009; Wood et al., 2007a; Wood & Griffiths, 2008); and studies examining Internet gambling and social responsibility features (Griffiths, Wood, & Parke, 2009; Smeaton & Griffiths, 2004).

The first national prevalence survey was published in 2001 when Internet gambling was almost nonexistent. In this study, Griffiths (2001) reported that only 1% of British Internet users were Internet gamblers and all of these were gambling only occasionally (i.e., less than once a week). More recently, a survey by the Gambling Commission (2008) reported that 8.8% of the 8,000 British adults surveyed said they had participated in at least one form of remote gambling (through a computer, mobile phone, or interactive/digital TV) in the previous month with no change in the participation rate from the previous year's survey. Those participating in remote gambling were more likely to be male than female, and were more likely to be aged 18 to 34 years.

The largest survey of Internet gamblers was carried out by the International Gaming Research Unit (2007). A total of 10,865 Internet gamblers completed an online survey (58% male and 42% female), with the majority of respondents being between the ages of 18 and 65 years. Respondents from 96 countries participated, and a broad range of occupations were represented. It was reported that the typical Internet casino player was likely to be female (54.8%), be aged 46 to 55 years (29.5%), play two or three times per week (37%), have played for two to three years (22.4%), play for between one and two hours per session (26.5%), and wager between $30 and $60 per session (18.1%). It was also reported that the typical Internet poker player was likely to be male (73.8%), be aged 26 to 35 years (26.9%), play two or three times per week (26.8%), have played for two to three years (23.6%), and play for between one and two hours per session (33.3%). However, online gambling addiction was not assessed. Despite the size of the survey, it should be noted that the sample was not representative as it comprised a self-selected sample.

In relation to problem gambling, a U.S. survey by Ladd and Petry (2002) was carried out examining gambling among 389 self-selected individuals from university health and dental clinics. The study found that 90% of the sample had gambled within the prior year and that 70% had gambled within the previous two months of the survey. It was also reported that 31 individuals (8%) had gambled on the Internet at some point in their lives and that 14 of them (3.6%) engaged in Internet gambling weekly. Mean scores on the South Oaks Gambling Screen showed that the Internet gamblers had significantly higher scores than the non-Internet gamblers (7.8 compared to 1.8). The authors concluded that Internet gamblers were significantly more likely to be problem gamblers than non-Internet gamblers. However, there were many limitations to the study, the most major being the use of a self-selected sample

in dental waiting rooms. Research carried out by Wood and Williams (2007) on a self-selected sample of Internet gamblers ($n = 1,920$) in North America highlighted a strong relationship between Internet gambling and problem gambling, with 43% of the sample meeting the criteria for either moderate or severe problem gambling.

Griffiths and Barnes (2008) examined some of the differences between Internet gamblers and non-Internet gamblers. A self-selected sample of 473 respondents (213 males and 260 females) aged between 18 and 52 years (mean age = 22 years; SD = 5.7 years) participated in an online survey. Problem gamblers ($n = 26$) were significantly more likely to have gambled on the Internet (77%) than not (23%). Griffiths and Barnes suggested that the structural and situational characteristics of Internet gambling may be having a negative psychosocial impact on Internet gambling. This is most notably because of the increased number of gambling opportunities, convenience, 24-hour access and flexibility, increased event frequencies, smaller intervals between gambles, instant reinforcements, and the ability to forget gambling losses by gambling again immediately.

Wood, Griffiths, and Parke (2007a) examined a self-selected sample of student online poker players using an online survey ($n = 422$). Results showed that online poker playing was undertaken at least twice per week by a third of the participants. Almost one in five of the sample (18%) was defined as a problem gambler using the *DSM-IV* criteria. Findings demonstrated that problem gambling in this population was best predicted by negative mood states after playing, gender swapping while playing (i.e., men pretending to be female when gambling online or women pretending to be male when gambling online), and playing to escape from problems. They also speculated that their data suggested a new type of problem gambler—gamblers who win more than they lose. Here, the negative detriments to the gamblers' lives are caused by the loss of time (e.g., gamblers playing online poker for 14 hours a day and having little time for anything else in their lives).

Matthews, Farnsworth, and Griffiths (2009) carried out a pilot study on 127 student Internet gamblers. In addition to questions asking for basic demographic data, their questionnaire included the Positive and Negative Affect Schedule (PANAS) and the South Oaks Gambling Screen (SOGS). Results showed that approximately one in five online gamblers (19%) was defined as a probable pathological gambler using the SOGS. Among this sample, results also showed that problem gambling was best predicted by negative mood states after gambling online, and negative mood states more generally.

Griffiths, Wardle, et al. (2009) provided the first-ever analysis of a representative national sample of Internet gamblers. Using participant data from the 2007 British Gambling Prevalence Survey ($n = 9,003$ adults aged 16 years and over), all participants who had gambled online, who had bet online, and/or who had used a betting exchange in the prior 12 months ($n = 476$) were compared with all other gamblers who had not gambled via the Internet.

Overall, results showed a number of significant sociodemographic differences between Internet gamblers and non-Internet gamblers. When compared to non-Internet gamblers, Internet gamblers were more likely to be male, relatively young adults, single, well educated, and in professional/managerial employment. Further analysis of *DSM-IV* scores showed that the problem gambling prevalence rate was significantly higher among Internet gamblers (5%) than non-Internet gamblers (0.5%). It was also found that some items on the *DSM-IV* were more heavily endorsed by Internet gamblers, including gambling preoccupation and gambling to escape. Griffiths, Wardle, et al.'s results suggest that the medium of the Internet may be more likely to contribute to problem gambling than gambling in offline environments.

Another UK national prevalence survey examined Internet gambling among adolescents. In a survey of 8,017 children aged between 12 and 15 years old, Griffiths and Wood (2007) reported that 8% of their sample ($n = 621$) had played a National Lottery game on the Internet. Boys were more likely than girls to say they had played National Lottery games on the Internet (10% and 6%, respectively), as were young people who were Asian or black. Not surprisingly, young people classified as problem gamblers (as defined by the *DSM-IV-J*) were more likely than social gamblers to have played a National Lottery game on the Internet (37% compared with 9%). When asked which of a series of statements best describes how they played National Lottery games on the Internet, nearly three in 10 adolescents who played online reported playing free games (29%), one in six reported that the system let them register (18%), slightly fewer played along with their parents (16%), and one in 10 used their parents' online National Lottery account either with their permission (10%) or without it (7%). However, it should be noted that a third of online players said they "couldn't remember" (35%). Overall these findings indicate that, of all young people (and not just players), 2% have played National Lottery games online with their parents or with their permission and 2% have played independently or without their parents. Those who have played independently are most likely to have played free games, with just 0.3% of young people having played National Lottery games on their own for money.

FACTORS INFLUENCING ONLINE GAMBLING ADDICTIONS

The previous section showed that problem gambling online exists. According to Griffiths (2003), there are a number of factors that make online activities like Internet gambling potentially seductive and addictive. Such factors include anonymity, convenience, escape, dissociation/immersion, accessibility, event frequency, interactivity, disinhibition, simulation, and asociability. Outlined next are some of the main variables that may account for acquisition and maintenance of some online behaviors (adapted from Griffiths, 2003; Griffiths, Parke, Wood, & Parke, 2006). It would also appear that virtual environments have the potential to provide short-term comfort, excitement, or distraction.

Accessibility   Access to the Internet is now commonplace and widespread, and can be done easily from the home or the workplace. Increased accessibility may also lead to increased problems. Increased accessibility of gambling activities enables the individual to rationalize involvement in gambling by removing previously restrictive barriers such as time constraints emanating from occupational and social commitments. With reductions in time required to make selections, place wagers, and collect winnings, gambling as a habitual activity appears more viable, as social and occupational commitments are not necessarily compromised (Griffiths et al., 2006).

Affordability   Given the wide accessibility of the Internet, it is now becoming cheaper and cheaper to use the online services on offer. Griffiths et al. (2006) noted that the overall cost of gambling has been reduced significantly through technological developments. For example, the saturation of the online gambling industry has led 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, are 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. Griffiths et al. (2006) believed that anonymity, like increased accessibility, may reduce social barriers to engaging in gambling, particularly 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 because of inexperience is minimized because the individual's identity remains concealed.

Convenience   Interactive online applications 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 that may or may not be potentially addictive. For the gambler, not having to move from the home or the 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 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 (2007b) 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 and Dissociation   The medium of the Internet can provide feelings of dissociation and immersion and may facilitate feelings of escape. Dissociation and immersion can involve lots of different types of feelings, including losing track of time, feelings of being someone else, blacking out, and being in a trancelike state. In extreme forms it may include multiple-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 study that compared problem gambling with video game playing in adolescents found that those who had the most severe gambling problems were most likely to experience dissociative states both when playing video games and when gambling (Wood, Gupta, Derevensky, & Griffiths, 2004). Another study examining adult video game players (Wood, Griffiths, & Parke, 2007b) found that experiences of time loss while 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.

Disinhibition   Disinhibition 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:

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

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

For the gamblers, being in a disinhibited state may lead to more money being gambled, particularly if they are motivated to maintain their initial personas (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 (e.g., slot machines) will probably cause greater problems than activities with outcomes less often (e.g., biweekly 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; that is, through presentation of a reward (e.g., money), 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 regambled 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).

Furthermore, the event frequency can be very rapid, particularly if the gambler is subscribed or visits several sites. Griffiths et al. (2006) 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 that increased personal involvement in a gambling activity can increase the illusion of control (Langer, 1975), which 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 tend not to have any of the possible negative consequences. However, Internet gambling simulations may have effects that were not originally thought of. For instance, 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 cannot 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 web site may build self-efficacy and potentially increase perceptions of control in determining gambling outcomes, motivating participation in the real cash counterparts within the site (Griffiths et al., 2006).

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 was a solitary activity. Gambling in a social setting could potentially provide some kind of safety net for overspenders—a form of gambling where the primary orientation of gambling is for social reasons with the possibility of some fun and a 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.

Because of the apparent vacuous social component within remote gambling, Griffiths et al. (2006) 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 within the game itself and even outside of gambling through involvement in online gambling Web communities. An increasing trend is for online gambling web sites 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 (Griffiths et al., 2006).

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

INTERNET ADDICTION AND INTERNET GAMBLING ADDICTION

For almost 15 years it has been alleged that social pathologies are beginning to surface in cyberspace—that is, 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, mood modification, tolerance, withdrawal symptoms, conflict, and relapse [Griffiths, 2005]). Young (1999) claimed that Internet addiction is a broad term that covers a wide variety of behaviors and impulse control problems and is categorized by five specific subtypes (cybersexual addiction, cyber-relationship addiction, net compulsions, information overload, and computer addiction). Griffiths (2000b) 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, gambling addicts who engage in their chosen behavior online are 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, 2000a). 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 them feel good about themselves. In these cases, the Internet may provide an alternative reality to the users 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 users and allow them feelings of anonymity—features that may be very

psychologically rewarding to such individuals. 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

Internet gambling is global and 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 and consequences for problem gamblers. Griffiths and Parke (2002) previously outlined some of the main social impact issues concerning Internet gambling. These are briefly described next.

PROTECTION OF THE VULNERABLE

There are many groups of vulnerable individuals (e.g., adolescents, problem gamblers, gambling addicts, drug or 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 (2007b) also identified a number of problem gamblers who had developed specific online gambling problems while staying at home because they were either unemployed, retired, or looking after children. However, many Internet gambling sites provide little in the way of protective gatekeeping (Smeaton & Griffiths, 2004). In cyberspace how can a gaming operator be sure that adolescents do not have access to Internet gambling by using an older sibling's credit card? How can an operator be sure that a person does not have access to Internet gambling while under the influence of alcohol or other intoxicating substances? How can an operator prevent a problem gambler who may have been barred from one Internet gambling site from simply clicking to the next Internet gambling link?

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 terminals in their own offices, 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 coworkers.

This has potentially large implications for work efficiency and productivity. It is an issue that employers will have to take seriously, and they will need to 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 judgment*. The suspension of judgment refers to a structural characteristic that temporarily disrupts the gambler's financial value system and potentially stimulates further gambling (Parke & Griffiths, 2007). This is well known by those in commerce (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 regambled 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.

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. Research carried out by Sevigny, Cloutier, Pelletier, and 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 and implications for problem gamblers have to do with 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

embedding, circle jerks and pop-ups, online customer tracking, and use of trusted nongambling brands. These are briefly overviewed next.

Embedding   One seemingly common practice is the hidden embedding of certain words on an Internet gambling site's web page 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 the site operator wants the site indexed). One common way to get extra traffic flowing through a web page is to embed common words that people might be searching for on the Internet (e.g., *Disney*). Some Internet gambling sites appear to have embedded the term *compulsive gambling* in their web pages. In essence, what such unscrupulous sites are saying is "Index my casino site in with compulsive gambling sites" so people will hit this site when they are looking for information related to problem gambling. Those looking for help with a gambling problem will get these sites showing up in front of them. This is a particularly unscrupulous practice that at the moment is perfectly legal and most impacts problem gamblers.

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 the 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 concern over Internet gambling is the way sites can collect other sorts of data about the gambler. 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). 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, which 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 services 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 sells products in much the same way that any other business sells things. These companies 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) (Griffiths, 2007; Griffiths & Wood, 2008).

On joining loyalty schemes, players supply lots of information, including name, address, telephone number, date of birth, and gender (Griffiths & Wood, 2008). Those who operate Internet gambling sites are no different. They will know gamblers' favorite games and the amounts they have wagered. Basically operators can track the playing patterns of any gambler. They will know more about the gamblers' playing behavior than the gamblers themselves. They will be able to send the gamblers offers and redemption vouchers, complimentary accounts, and the like. The industry claims that all of these things are introduced to enhance the 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).

Although there are negatives, behavioral tracking does offer a potential upside for helping problem gamblers by spotting them via their online game play. There are two routes that gaming companies can go in identifying and helping online problem gamblers. First, they could use a social responsibility tool that has already been developed, the most obvious example being PlayScan (Svenska Spel; see Griffiths, Wood, & Parke, 2009; Griffiths, Wood, Parke, & Parke, 2007). The second is to develop a bespoke identification scheme such as the Observer system designed by 888.com. In contrast to offline gambling, behavioral tracking presents an opportunity for gaming operators and researchers to examine the actual and real-time behavior engaged in by gamblers. Furthermore, such tracking technologies may provide implications for future diagnostic criteria for problem gambling if it can be shown that problem gambling can be reliably identified online without the use of established problem gambling screening instruments.

Use of Trusted Nongambling Brands   Some trusted nongambling sites now provide links and endorsements to either their own gambling sites or those of affiliates. For instance, Wood and Griffiths (2007b) identified a case of an online problem gambler who had been led to an online gambling site by watching a popular (and trusted) daytime television program that promoted its own online gaming site.

ONLINE HELP AND TREATMENT
FOR INTERNET GAMBLERS

Although an overview of treatment for problem gamblers is beyond the scope of this chapter, it is worth noting that online treatment interventions may be an effective medium in helping online gambling addicts. Griffiths and Cooper (2003) reviewed the main issues in the area and examined the advantages and disadvantages of online therapy, and the implications for the treatment of problem gamblers. There appear to be three main types of web sites where psychological help for problem gamblers is provided—information and advice sites, web sites of traditional helping agencies (e.g., Gamblers Anonymous), and individual therapists. Despite a number of possible downsides to online therapy (e.g., establishing client rapport, possible client referral problems, confidentiality issues), there are many positive advantages, including convenience, cost-effectiveness for clients, overcoming barriers that may prevent people seeking help in the first place, and overcoming social stigma.

Wood and Griffiths (2007a) reported one of the earliest studies that evaluated the effectiveness of an online help and guidance service for problem gamblers, GamAid. GamAid is an online advisory, guidance, and signposting service whereby the client can either browse the available links and information provided or talk to an online advisor. If the problem gambler connects to an online advisor, then a real-time image of the advisor appears on the client's screen in a small webcam box. Next to the image box is a dialogue box where the client can type messages to the advisor and in which the advisor's replies appear. Although the client can see the advisor, the advisor cannot see the client. The advisor also has the option to provide links to other relevant online services, and these appear on the left-hand side of the client's screen and remain there after the client logs off from the advisor. The links that are given are in response to statements or requests made by the client for specific, and where possible, local services (e.g., a local debt advice service or a local Gamblers Anonymous meeting).

In Wood and Griffiths' study, a total of 80 clients completed an in-depth online evaluation questionnaire, and secondary data were gathered from 413 distinct clients who contacted a GamAid advisor. They reported that the majority of clients who completed the feedback survey were satisfied with the guidance and counseling service. Most participants agreed that GamAid provided information for local services where they could get help, agreed that they had or would follow the links given, felt the advisor was supportive and understood their needs, would consider using the service again, and would recommend the service to others. Being able to see the advisor enabled the client to feel reassured, while at the same time this one-way feature maintained anonymity as the advisor could not see the client.

An interesting aside is the extent to which GamAid was meeting a need not met by other gambling help services. This was examined by looking at the profiles of those clients using GamAid in comparison with the most

similar service currently on offer, that being the UK GamCare telephone help line. The data recorded by GamAid advisors during the evaluation period found that 413 distinct clients contacted an advisor. The types of gambling engaged in and the preferred location for gambling showed little similarity to the data collected in the two British national prevalence surveys to date (Sproston, Erens, & Orford, 2000; Wardle et al., 2007). Unsurprisingly (given the medium of the study), online gambling was the single most popular location for clients to gamble, with 31% of males and 19% of females reporting that they gambled this way. By comparison, the GamCare help line found that only 12% of their male and 7% of their female callers gambled online. Therefore, it could be argued that the GamAid service is the preferred modality for seeking support for online gamblers. This is perhaps not surprising given that online gamblers are likely to have a greater degree of overall competence in using, familiarity with, and access to Internet facilities. Problem gamblers may therefore be more likely to seek help using the medium that they are most comfortable in.

GamAid advisors identified gender for 304 clients, of whom 71% were male and 29% were female. By comparison, the GamCare help line identified that 89% of callers were male and 11% were female. Therefore, it would appear that the GamAid service might be appealing more to women than other comparable services. There are several speculative reasons why this may be the case. For instance, online gambling is gender neutral and may therefore be more appealing to women than more traditional forms of gambling, which (on the whole) are traditionally male-oriented (with the exception of bingo) (Wardle et al., 2007).

It is likely that online gamblers are more likely to seek online support than are offline gamblers. Women may feel more stigmatized as problem gamblers than males and/or be less likely to approach other help services where males dominate (e.g., Gamblers Anonymous). If this is the case, then the high degree of anonymity offered by GamAid may be one of the reasons it is preferred. Most of those who had used another service reported that they preferred GamAid because they specifically wanted online help. Those who had used another service reported that the particular benefits of GamAid were that they were more comfortable talking online than on the phone or face-to-face. They also reported that (in their view) GamAid was easier to access, and the advisors were more caring.

Online therapy is clearly not for all problem gamblers, and those participating should at the very least be comfortable expressing themselves through the written word. In an ideal world, it would not be necessary for those in serious crisis—some of whom could be problem gamblers (where nonverbal cues are vital)—to need to use computer-mediated communication-based forms of help. However, because of the Internet's immediacy, if this kind of therapeutic help is the only avenue available to individuals or the only thing they are comfortable using, then it is almost bound to be used by those with serious crises.

INTERNET GAMBLING IN A MULTIMEDIA WORLD

The rise and challenges of Internet gambling and online gambling addictions cannot be seen in isolation, particularly as there is ever-increasing multimedia integration among 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 users (who are usually alone) take 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 keyboard. 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 the viewer (often as part of a group) is more passive and seeks less control over what is going on. The television is better at displaying moving images than computers are. 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 before, 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 their 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. 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, recognition of the inability to successfully prohibit Internet gambling has led various jurisdictions to turn attention to developing harm-minimization regulations.

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