

Compulsive Internet Gambling: A New Form of an Old Clinical Pathology

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ABSTRACT

Online casinos have sprung up practically overnight into a multi-million dollar business, attracting a large number of gamblers worldwide. This article focuses on unique and psychologically significant factors that are involved in Internet gambling behavior, in comparison to traditional gambling procedures. Several of the aspects of Internet gambling, which are believed to facilitate excessive online gambling, are examined here in depth. These include the practical ease of access to online gambling and the anonymity and privacy of gambling from one's own home, as well as other factors. An overview of the graphical interface of several typical virtual casinos shows how seductive and realistic the online casino experience can be. The psychologically derived methods used by Internet casinos to make online gambling attractive, accessible, and easily operated are delineated. A review of the literature related to excessive traditional gambling behavior is used as a basis for analysis of online gambling behavior, in order to assess the extent of virtual gambling. The global nature of the Internet, combined with the limited, if not impossible, ability of local governments to effectively regulate or ban online gambling, will have profound psychological and social consequences. Studies of the effects on the psychological welfare of communities that underwent introduction to traditional casino gambling are reviewed, and evaluation is made about how virtual gambling might have negative social influence worldwide.

INTRODUCTION

GAMBLING IS A VERY POPULAR ACTIVITY. In 1997, over 650 billion dollars was bet, and 50 billion dollars of that was lost, in the United States, on all forms of gambling activity. Gambling remains the most popular form of entertainment in the country.¹ The United States Supreme Court recently ruled that a 65-year-old federal ban on advertising casino gambling was unconstitutional, paving the way for tele-

vision and radio ads to promote gambling sites.² Opportunities to gamble have become much more accessible in recent years. Scratch off tickets, lotto, and keno games are readily available across much of the United States in 24-hour convenience stores. A very similar situation exists in Europe, and many other countries worldwide follow the American and European steps.

The potential size of the new online gambling industry—made possible by the Inter-

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net—is huge. One estimate reported that the online “handle” (the amount wagered) is expected to be 2.3 billion by 2001.³ According to Datamonitor PLC, a market researcher in London, online gambling is expected to grow to \$10 billion in 3 years.⁴ One analyst estimated the current number of Internet gamblers worldwide to be 14.5 million.⁵ The focus here is on the potential for *pathological* Internet gambling and the factors that contribute to this. Clinical psychology is currently uninformed by any empirical research that could be used to set up effective treatment programs for people who’s pathological gambling problems stem from their Internet use.

Gambling addiction experts are just starting to realize that “gaming addictions could reach an unprecedented level now that gaming is accessible over the Internet, because computer users frequently fit the specific personality profile that typifies potential gaming addicts: frequently introverted, mentally preoccupied and obsessive.”⁶ The *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* specifically addresses the issue of access to gambling opportunities, as it concerns pathological gambling. “There may be years of social gambling followed by an abrupt onset [of pathological gambling] that may be precipitated by greater exposure to gambling or by a stressor.”⁷ It must be emphasized that this article is not a moral argument for or against gambling, but rather an attempt to point out where holes exist in our understanding of this new online behavior. This article is a call for basic research to fill these holes. As yet there is no empirical research to show one way or the other if online gambling is increasing the number of pathological gamblers or not. There are reasons to suspect that it is, and these reasons will be delineated here. There have been no studies done to date on the psychological effects of having illegal gambling suddenly available in millions of homes worldwide. A review of research on “traditional” pathological gambling is followed by descriptions of several selected online gambling sites. The characteristics and logistics of online gambling that make it potentially addictive are highlighted.

A BRIEF OVERVIEW OF COMPULSIVE GAMBLING

Addictive gambling—also referred to as compulsive gambling, pathological gambling, or problem gambling—was identified and defined as a psychological disturbance in the 1970s. Pathological gambling is included in the DSM-IV, where it is defined under Axis I (Clinical Disorders-Impulse-Control Disorders Not Elsewhere Classified) as

persistent and recurrent maladaptive gambling behavior that disrupts personal, family, or vocational pursuits. . . . The individual may be preoccupied with gambling (e.g., reliving past gambling experiences, planning the next gambling venture, or thinking of ways to get money with which to gamble). Most people with Pathological Gambling say that they are seeking “action” (an aroused, euphoric state) even more than money. Increasingly larger bets, or greater risks, may be needed to continue to produce the desired level of excitement. Individuals with Pathological Gambling often continue to gamble despite repeated efforts to control, cut back, or stop the behavior. There may be restlessness or irritability when attempting to cut down or stop gambling. The individual may gamble as a way of escaping from problems or to relieve a dysphoric mood. . . . A pattern of “chasing” one’s losses may develop, with an urgent need to keep gambling . . . to undo a loss or a series of losses. The individual may abandon his or her gambling strategy and try to win back losses all at once. Although all gamblers may chase for short periods, it is the long-term chase that is more characteristic of individuals with Pathological Gambling. The individual may lie to family members, therapists, or others to conceal the extent of involvement with gambling. When the individual’s borrowing resources are strained, the person may resort to anti-social behavior . . . to obtain money. The individual may have jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling. The individual may also engage in “bailout” behavior, turning to family or others for help with a desperate financial situation that was caused by gambling.”⁷

Although addictive gambling usually refers to taking part in (legal or illegal) casino games, it is clear from the above definition that it also includes excessive participation in (legal or illegal) lotteries, betting, and any other type of chance games for possible profit.

It should be noted that the labeling of excessive gambling behavior as an "addiction" or a "pathology" has no consensus. Walker,⁸ for instance, argued that despite some similarities between intensive gambling behavior and addictions, there are quite a few differences. He suggested the use of the term "heavy gambling" to describe the phenomenon and advocated a different psychological approach to the problem from the common medical model approach.

Prevalence

There are no exact estimates of the prevalence of gambling addiction. Estimates, in any case, based on definitions, and there is no single, accepted definition of "addictive gambler" that has been employed to estimate the size and severity of the phenomenon; as a result, these estimates have a wide range. Hence, estimates of addictive gambling range from 0.2% to 3.5%^{7,9-11} to over 5%¹² of the adult population. Among younger populations, Lesieur and Klein¹³ found that 5.7% of a New Jersey high school sample showed signs of pathological gambling. In a review article, Shaffer and Hall¹⁴ reported that the prevalence of compulsive gambling among American and Canadian adolescents ranged from 4.4% to 7.4% in different surveys. The National Gambling Impact Study Commission recently reported that 5.5 million people in the United States are "addictive gamblers."¹

The number of casinos has been spreading dramatically. Statistical trends in the United States show that significantly growing numbers of people have become involved in gambling as casinos have moved from a specific local (e.g., Las Vegas) to a common, broad phenomenon,^{15,16} the result of local governments trying to solve their fiscal problems.¹⁷ Moreover, casinos go through globalization—just as many other business and service ven-

tures do¹⁸ and this process directly contributes to increasing numbers of people involved in gambling. More available and legal opportunities would probably eventuate in growing relative as well as absolute numbers of people who are becoming addicted to gambling.

Personal and situational antecedents

Numerous studies have attempted to identify the personal and situational antecedents of compulsive gambling in order to understand the etiology of the problem. Generally, research directions may be divided into (a) personality dispositions and biological characteristics of pathological gamblers, and (b) environmental-situational factors in the proximity of compulsive gamblers. As to personality antecedents, one of the main theoretical arguments advanced is that excessive gambling behavior is the result of a certain personality structure, characterized by a high level of impulsivity (or impulse-control disorder¹⁹) as well as by various psychopathologies related to developmental factors.²⁰ This argument was supported in several studies,^{21,22} but not in others.²³ Another personality-related direction focused on stress and anxiety; based on an extensive review, Coman, Burrows, and Evans,²⁴ for example, found that stress and anxiety are highly correlated with the degree of gambling (from social gambling through problem gambling to pathological gambling). Although not a causality-controlled study, but rather correlational one, Becona, Del-Carmen-Lorenzo, and Fuentes⁹ suggested that pathological gambling may be a result of severe depression. Linden, Pope, and Jonas²⁵ also found depression, as well as general affective disorders, in pathological gamblers. These findings are consistent with an experimental design study that also found depression to be higher in pathological gamblers than in either sex addicts or nonaddicts.²⁶ From a similar perspective, some models refer to pathological gambling as being a result of compulsiveness or of obsessive-compulsive disorder (OCD), which is generally believed to be associated with biologically based determinants.²⁷⁻²⁹

Biological/medical models of compulsive gambling suggest that pathological gambling

should be considered as any addiction (and treated as such); it may also contain a significant heredity factor. This argument has received support in several studies. For instance, Eisen, Lin, Lyons, Scherrer, and Griffith³⁰ found this factor to be quite significant in a large sample of twins. Nevertheless, these researchers could not rule out the rival explanation of common social environment for twins; therefore, they concluded that strong familial factors effected pathological gambling behavior. In general, biological approaches that underline physiological factors relating to compulsive gambling cannot simply detect causality. They cannot conclude whether inherited physiological factors caused (or contributed to) pathological gambling or whether different physiological characteristics resulted from a certain mental state or from excessive behaviors related to the gambling problem. For instance, the finding by Goldstein and Carlton³¹ of differences in hemispheric EEG signals between pathological gamblers and control participants cannot be interpreted as either cause or effect of the pathological gambling syndrome. Carlton and Goldstein,³² however, insisted on the existence of physiological determinants of pathological gambling.

Several theoretical models emphasize situational factors that may cause, or encourage, compulsive gambling. These include arguments that refer to distorted cognitive processes^{33,34} that might have become so as a result of a given situational factors (e.g., great financial incentives, attractive stimuli). A growing number of researchers have been challenging the medical model of pathological gambling and are even reluctant to call the phenomenon an addiction, in contrast to a psychopathology like drug addiction.^{8,35-38} It might prove useful to adopt Murray's³⁹ conception of pathological gambling, which argues that it might be a multiple-determined syndrome. Thus only a comprehensive, rather than a single, theory can more fully explain the phenomenon.

Consequences to self and environment

Compulsive gambling is considered a major disturbance to one's self and surroundings. As with any addictive behavior, the compulsive

behavior becomes predominant in the addict's daily life style and has major consequences for one's family, social circle, and work functioning.⁷ Lorenz and Yaffee⁴⁰ reported a broad range of psychosomatic, emotional, and marital difficulties among compulsive gamblers. Winters, Bengston, Door, and Stinchfield,⁴¹ for example, found that extensive gambling resulted in university students' deterioration in academic grades and involvement with other addictive behaviors. Lesieur, Cross, Frank, and Welch⁴² found that pathological gambling among university students was associated with criminal behaviors and drug use. Like most other addictions (e.g., drugs), an addiction to gambling requires large amounts of money, which in many instances results in the addict's committing crimes and becoming involved in anti-social behaviors^{43,44} and various problems related to work and employment.⁴⁵ In this context, it is interesting to note that Lesieur⁴⁶ reported, on the basis of several surveys in the United States and Canada, that more than 30% of gambling revenues (lotteries, casinos, sports betting, etc.) come from problem and pathological gamblers. Anti-social behavior and a higher consumption of alcohol were associated with gambling frequency among Minnesota school children.⁴⁷ Sullivan⁴⁸ found that compulsive gamblers in New Zealand have a high suicide risk, a trend found in the youth population, too.⁴⁹

In addition, unlike many other addictions, compulsive gambling is commonly associated with a certain location outside the home (e.g., casino, horse track), resulting in a significant disturbance to one's normal life. Abbot, Cramer, and Sherrets¹⁷ and Gaudia⁵⁰ discussed the destructive consequences of pathological gambling for one's spouse and children. Steinberg⁵¹ reported on specific subjects that arose in the treatment of couples in which the husband was a compulsive gambler, including issues relating to power and control, sex, emotional intimacy, anger, and finances. Jacobs, Marston, Singer, and Widaman⁵² found that children of compulsive gamblers developed various adjustment difficulties. It should be added that when trying to quit gambling even gradually, pathological gamblers suffer from numerous withdrawal symptoms—among

them insomnia, headaches, sweating, and chills—in a more severe way than do substance-dependent controls.⁵³ More recently, Lesieur,⁵⁴ in a survey of 394 members of Gamblers Anonymous, found a 28% rate of gambling-related divorce or separation.

Treatment

Just as compulsive gambling has been explained from different perspectives, numerous treatment methods, generally representing respective theoretical etiologies, have been proposed to deal with it (see Griffiths and MacDonald⁵⁵ for a recent review). Quite a few medical treatments, based on the physiological model, have been proposed that have resulted in prescribing drugs. Reports of treatment with carbamazepine,⁵⁶ clomipramine,⁵⁷ and naltrexone⁵⁸ showed that these drugs were successful in stopping gambling behavior, with no relapses for a significant period.

Most therapeutic approaches are, however, psychological in nature, representing the various schools of psychotherapy: behavioristic,⁵⁹ behavioral,^{60,61} cognitive,⁶² cognitive-behavioral,^{63,64} rational-emotive,⁶⁵ psychodynamic,^{66,67} family therapy,⁶⁸ online support,⁶⁹ and Gamblers Anonymous.⁷⁰⁻⁷⁴ As recently noted by Viets-Lopez,⁷⁵ a wide range of therapies have been shown to help compulsive gamblers effectively. An efficient way to choose a treatment approach for a particular client might best be related to the person's specific background, motivations, and problem characteristics. This notion concurs with the idea of matching clients with interventions in treating addictions in general.⁷⁶

PREVIOUS PUBLISHED DISCUSSIONS OF INTERNET GAMBLING

Accessing gambling opportunities from the privacy of one's own home is dramatically different from traditional gambling behaviors. It is the purpose of this article to distinguish the psychological effects of these differences, and to point where these differences may be contributing to pathological gambling. A search for literature that specifically addresses Internet

gambling reveals that there were less than a handful of articles published on this topic. Most of what has been published focuses on the legal aspects of Internet gambling, not the psychological issues that are relevant to the study and treatment of excessive Internet gambling.

The Journal of Gambling Studies published two articles on Internet gambling in 1996. Both articles addressed some of the factors that make online gambling potentially addictive in a manner different from traditional gambling. One article⁷⁷ discussed several factors that influence the subjective experience of any gambler: the set and the setting of the game. The "set" refers to the mindset of a person gambling and his/her expectations and cognitions about gambling. The "setting" is the actual environment in which the gambling takes place. The "game" is the specific gambling activity one chooses to play. The setting is the one factor that is the most different when one gambles from the privacy of one's own home on the Internet. Gambling on the Internet is initially a new experience, even for experienced gamblers. Many people can be expected to have their first gambling experiences provided by their Internet access, not actual visits to casinos. The Internet "may provide many people with their first exposure to the world of gambling and could be argued to be more enticing than previous non-technology [forms of gambling].⁷⁸ Gaming addictions could reach an unprecedented high level now that gambling is accessible over the Internet. Computer users often fit the specific personality profile that typifies pathological gamblers: frequently introverted, mentally preoccupied, and obsessive.⁶

Janower published an overview of the legal and jurisdictional issues involved in Internet gambling.⁷⁹ Regarding the psychology of Internet gambling, Janower expressed concerns that the anonymous nature of Internet gambling will add teenagers and even children to the population that is at risk for pathological gambling. Janower stated that the real problem is that "even if it might be desirable to halt the development of online gaming, it is unlikely that any government can do so." Janower offered some interesting speculation about the possible benefits of gambling over the Internet as opposed to traditional gambling. For exam-

ple, organized crime has less of an opportunity for involvement because the overhead to start up an online casino is so much less that a loan from questionable sources is not required. The exact legal, jurisdictional, and moral issues inherent in Internet gambling are beyond the scope of this article

King recently discussed the manner in which the Internet is providing free and easy access to materials and behaviors that used to be only available at great risk or cost. The article provided an overview of the online gambling experience, and explored how online gambling differs from real casinos. With regard to pathological gambling, King noted that Internet gambling easily allows lying about and hiding involvement in gambling, which are much less of an option in real casino gambling.⁸⁰

Cabot reviewed in depth the various logistical, jurisdictional and legal issues that the new online gambling industry is dealing with. He showed that there is a vast range in how different local and national governments worldwide have traditionally approached the issue of gambling.⁸¹ The review showed what could be expected when governments attempt to ban or regulate Internet gambling. The psychological "set" that a gambler has when gambling on the Internet is partially determined by the social policies of the culture that the person is from.

One of the problems that I have with research on problem gambling is definition, i.e., what exactly is problem gambling? Is it a pathological or social problem? Is it addictive such that those with the problem will seek gambling out as a junkie seeks out drugs? Or is it an impulsive problem, such that the problem occurs when a person is exposed to easy access to gambling opportunities? If it is addictive, the easy availability of Internet gambling probably will not exasperate the problem. If it is impulsive, then it will clearly have a large impact." (Cabot, personal correspondence, July 8, 1998).

Cabot's point in regard to the complexity involved in defining compulsive gambling, and the possible multiple implications related to various definitions reflects a major method-

ological obstacle to the scientific study and clinical applications of problem gambling. Rosecrance⁸² suggested the view that what is generally referred to as "compulsive" or "addictive" gambling is just a problem of "defective gambling strategies" rather than compulsive tendencies. This view, held by laymen and professionals alike, is even magnified in the context of Internet gambling, as gamblers have less opportunity to consult with, learn from, or imitate more experienced gamblers in order to acquire "non-defective" gambling strategies.

No articles have yet covered the precise logistical and multi-media aspects of Internet gambling as it is currently being delivered to millions of homes worldwide. It is only from such a close review that the aspects that can be expected to contribute to pathological Internet gambling can be identified. If Internet gambling is likely to be found to be more addictive than traditional gambling, then it is the differences between traditional gambling and Internet gambling that will account for this.

REAL EXAMPLES OF VIRTUAL CASINOS

Many of the online gambling sites are Web based, and can be accessed by anyone regardless of the type of Internet account they have or the country they live in. Most of the Internet gambling sites require one to download and install the program that generates the graphical interface for that Internet casino. The number of people that are experienced enough to follow the directions to do this has increased rapidly over the last few years. There are now over 30 million Americans that are deemed "technologically savvy," in that they cannot only access and use the Internet but also understand technical aspects of computer use such as downloading and installing programs off the Internet.⁸³ Most Internet casinos use the services of a separate company to handle the actual financial transaction involving a credit card. Corporations such as Cryptologic and Webdollar deal with the billing and crediting to Visa and MasterCard accounts. This adds an element of complexity to gambling on the In-

ternet, but it is not beyond the means of the average Internet user to figure out the instructions and begin to gamble online. For someone who exhibited symptoms of pathological gambling prior to the existence on Internet gambling, the motive to pursue even complicated procedures to gain access to gambling opportunities could be very high.

As the blackjack table comes into view, I hear the dealer's voice say "Hi, I'm Mark, and I'll be your dealer. Good luck." The green felt of the table looks brand new, and the light is brightest at the spot where I place my \$5 red chip. As the cards come out, I hear a voice ask "Drinks anyone?" I see I have been dealt two aces, and my excitement builds quickly. I "split" my hand, doubling my bet, and receive one card on each of the aces. A two and a six. Not good. The dealer draws to an eight and gets a Queen. I have lost both hands. I hear the dealer say "Does this mean I won't get a tip?" While I am thinking about whether to increase my next bet to \$10, I hear in the background "Will the owner of the car with license plate 0505 WE please move it now, or it will be towed." Someone named Edna is paged to the white courtesy telephone. I do bet \$10 this time, and get a natural 20. I win this one. This is gambling. Is this in Las Vegas? No. Is it Monte Carlo? No. It is AtlanticInterbet, an Internet casino operated out of the Caribbean island of Antigua.

After someone installs the AtlanticInterbet software, a 16 meg download (the largest for any sites reviewed here), they have to open an account for real money with Winners Internet Network (WIN). This is a web-based service that handles real money transactions for seven different Internet casinos, including AtlanticInterbet. They are based in Lichtenstine. At each step of the registration process at the WIN site, the person is asked to confirm the information and is advised that all transactions are for real money and are final.

After transferring the deposit at WIN to AtlanticInterbet, you buy chips with the credit. You're now in the casino lobby, and you see a large fountain, a help desk, and stairs leading up to rooms labeled "Blackjack" or "Craps" or "Keno Lounge." Clicking on those signs is one way to enter that room. Once in a room, the

view is from above. For example, in the blackjack room you're down on many blackjack tables with chairs and dealers standing ready. Other players are represented by avatars sitting in chairs and their pseudonyms pop up if you put your mouse over them. You select a chair, and double click on it to sit down and play at that table. This brings up a new window with the actual blackjack table layout and the selection of chips to bet with. AtlanticInterbet offers all major casino table games.

AtlanticInterbet had several features that other sites reviewed here did not. For instance, it has a paid staff that is logged on to the site at all times to offer help and suggestions in real time chat mode. It offers nightly bingo and slot tournaments with first place prizes up to 300 dollars. These tournaments are organized and moderated by the online staff. One competes, over an hour or so, with as many as 20 other people who are logged on and playing in that tournament. The bingo games have a button labeled "Yell bingo" that you click on when you win in that game. The maximum that one can bet in one hand is a modest \$50. The maximum at other Internet casino sites reviewed was much higher. One can chat in public or you can send private messages to other players. How many people actually gamble here? It is hard to say accurately. During this review of this site, 15–20 people were logged on most of the times the site was checked.

InterCasino is one of the older established Internet gambling sites. The graphics in the "lobby" of this site are religious in nature, consisting of a stained glass window, a bible-like book, and candleabras. This suggests that the Internet gambling behavior is acceptable and righteous. It offers sports betting as well as casino gambling. All major national sports games are available on which to bet. Football (both national and college games), baseball, basketball, hockey, boxing, auto racing, tennis and golf, but not horse racing are available at this site. The odds listed for these events are the same as the ones that the Las Vegas oddsmakers list in newspapers nationwide. One can get a printout of the sports bets one makes, and it is very clear on that what the odds are, what the payoff for that bet will be if it wins, and

when the winnings will be credited to one's account.

InterCasino offers the chance to chat with other players, and to see a list of all the players logged on. One of the unanswered questions about Internet gambling is "How many people gambling over the Internet?" The list of current players at InterCasino was checked 16 times over a period of a month. This check was not done in a systematic manner, it included various times of the day and various days of the week. The average number of people logged on to InterCasino and gambling for real money at any one time over the month of June 1999 was 67. The lowest number recorded was 26, on a Monday morning at 9 a.m. EST; the highest was 111 at 9 p.m. EST on a Friday night. These numbers are a drop in the bucket compared to the number of people that gamble in traditional casinos at any time, but it is an indication that Internet casino gambling is becoming an acceptable activity for a growing population.

InterCasino offers the opportunity to gamble at the same table as other patrons. Several of the sites reviewed have this feature. It allows the player to place their bets, in blackjack or roulette, and see the amounts others are betting, and if they are winning or losing. The people sitting at the same table can chat with each other. On these multi-player tables, there is a time limit imposed as to how long one can take to make their bet. If the timer runs out before one has bet, that person is passed over and can not play that hand. This assures continuous play. InterCasino gives players approximately 40 seconds to decide how to play.

InterCasino uses a very common tactic to get people to stay and bet at the site. As one of the announcements available from the "lobby," they have a list of recent big winners. This list is reproduced here to show the psychology of the advertising that Internet gamblers are subjected to. The names of the aliases have been changed to protect those gamblers from unwanted publicity.

Just as we were catching our breath from Sue's \$50,038 win in Let It Ride Poker on Independence Day, July has given us another big winner in John who won \$40,005 today. And

in Let it Ride Poker again nonetheless! Our Let it Ride tables are HOT! If the first week is any indication, July of 1999 will be our best and biggest month since we opened our doors over two years ago. Congratulations Sue and John! Congratulations from InterCasino to the following players who hit it big in a particular game during the month of June!

GAME	ALIAS	WINNINGS
Blackjack	Joe	\$15,570
Video Poker	Guy	\$11,240
Blackjack	Aren	\$11,048
Multi-player Blackjack	soft	\$10,971
Let it Ride Poker	dang	\$9,293

And finally we would like to acknowledge "soft" who was our big winner for the month of June. "soft" won a total of \$20,174 in the month of June and we have given him an additional \$100 in recognition of his fine performance. Just think—you could be next month's big winner!

The view of the lobby is from above. The red carpet has arrows indicating which way to go to play the different games. There is a desk with a woman standing behind it and a computer on it. Clicking on the desk brings up the screen to buy or sell chips. There are people sitting in chairs in the lobby, and a waiter comes by with a tray of drinks. The avatars represent real people who are logged on and can be changed; the choice is between two styles of men and two of women with a large selection of colors for how the avatar is dressed. Avatars move by clicking the mouse where you want them to go, you see them stand up and walk across the room. The chat on this site is by thought balloons. What you type in appears in a text log. People can chat in private by double clicking on each other. This is what it like to gamble at the Avatar Casino, an Internet gambling site that uses software to generate realistic looking images of people walking around, talking to each other and moving their hands to place their bets. The chat is often multi-lingual, with people meeting here and chatting in various foreign languages.

Avatar Casino has a unique promotional scheme that is basically a pyramid scheme. You can earn bonus chips by referring other people

to Avatar Casino. If the people you refer also refer others, you get bonus chips for those people to. Newcomers get a chance to gamble with several thousand in fake chips. The ability to play at an Internet casino site for free is a common way that online casino sites attract real money players. When playing with fake money, the opportunity to play for real money is presented at every possible turn. As an example of how aggressively Internet casinos are marketing themselves, Avatar Casino offers one of the highest pay rates for sponsoring a banner advertisement link that lead to their site. They pay 21 cents for each unique click through.

Different Internet gambling sites have different methods of paying off when someone has won at that site. Avatar Casino returns all money to ones' credit card within 24 hours. Some sites will only return as much as one has charged, the rest is sent in the form of a cashiers check. The ability to have quick access to the money one invested is a powerful incentive for people who have problems with gambling.

Avatar Casino offers table casino games and net poker. The ability to play poker for real money against other people logged on from all over the world raises an interesting possibility. There is nothing to prevent two or more people from communicating to each other on the side, unknown to other players at the table, in an attempt to increase their common winnings. AtlanticInterbet also offers net poker, and has a disclaimer that mentions this possibility. Avatar Casino has no such disclaimer. Neither of these poker rooms were active at the time of this review.

Web-based casino sites that do not require a download are available to a much larger population of Internet users. The millions of people who have accounts with America Online (AOL), Microsoft Net (MSN), and Web TV are not able to use their Internet connection to connect to any server anywhere. The casinos that are web-based can be accessed by people with these kinds of Internet accounts. The first such sites to open had graphics that were simple and there was no multi-media support. Now there are web-based sites that employ the latest Java script technology to create very convincing

simulations of blackjack and other casino games.

Aloha Casino is a web-based casino and sports book. Wagers can be made on all major professional sports. The graphics on the casino games are flat pictures, as opposed to the three dimensional look available on the downloaded casinos. The colors are simple, and the action is slow. The disclaimer that this site has on its rules and policies page is typical of online gambling sties. It says "Laws regarding gambling vary throughout the world and it is the responsibility of players to ensure that they understand and fully comply with any laws or regulations relevant to themselves in their own country or state. All members of Aloha Casino must be at least 18 years of age." There is no way to ensure that someone is really over 18. This site also has the policy that "Wagers over \$2,500.00 for all sporting events are subject to approval by management."

Money Plays casino is a web-based site that claims to have paid out the largest Internet jackpot ever. Their home page lists the persons real name and the town in Florida where this winner was from and states that this person was paid 96 thousand dollars. GalaxiWorld casino is a web-based casino with very good animated Java graphics. More than 1,200 registered players placed \$3.1 million worth of wagers in GalaxiWorld's first month in action.⁸⁴ The motto at GalaxiWorld is "play anywhere anytime." Web-based sites are available from any computer with Internet access. Sites that require a download can only be accessed from the computer on which the file was set up. Stock in GalaxiWorld is traded publicly and they list their NASDAQ symbol prominently on their home page:

Different games are attractive to different people, and pathological gamblers have the equivalent of a "drug of choice," in that they will find a particular game much more to their liking than other games. The world of online gambling offers something for everyone. One site offers bets called "financial wagering bets" where one can bet on fluctuations in the DOW or NASDAQ or "Bet your favorite stocks or even the interest rates." There is now a service that broadcasts live camera action of horse races over the Internet, and allows betting on the outcome. One of

the most popular and acceptable betting activities has traditionally been the "friendly" bets people place on their home team, especially college football. The Internet now offers people everywhere an opportunity to engage in this behavior in an easy and accessible manner that did not exist just a few years ago.

THE POTENTIAL FOR ADDICTIVE INTERNET GAMBLING

By its very nature, gambling imposes the most powerful schedule of rewards on the gambler, intermittent reinforcement. The reward (a win) is dependent on the behavior (betting) but one can never know for sure when the reward will appear. Once established, this form of operant conditioning is the most resilient. This learning schedule, well documented in gambling behavior literature,⁸⁵⁻⁸⁷ prevails in the context of virtual gambling, where access to a casino, on the one hand, and solitary situation, on the other, presumably make learning faster and stronger. This argument has yet to be tested empirically, but anecdotal data and informal interviews, as provided above, clearly support it. It has been argued that people find it difficult at first to regulate activities that are new to them.^{77,79} The very recent development of very easily accessible Internet gambling now places that large portion of the world that had no prior access to gambling opportunities at risk for pathological gambling. People in rural areas, people that have disabilities that prevent them from visiting traditional casinos, and people that are house-bound can now be counted in the population that may develop pathological gambling.

The number of people engaged in pathological gambling increases as people gain access to gambling opportunities. The number of people engaged in pathological Internet gambling will increase even if the overall rate of pathological gambling remains the same. Within this simple statement of facts, is it possible to determine, at this point in time, if the rate of pathological gambling can be expected to increase as well? There are indications that it is increasing. From a purely anecdotal point of

view, it has been the experience of the authors here that when people are told that they now have access to a full casino on their personal computer, there is a kind of shocked recognition that this could be a real problem. A universal recommendation in the treatment for alcoholism is that the problem drinker remove any alcohol from his home and not go into bars. For the pathological gambler, this equates to not hosting any poker parties and not go to casinos. For the actual or potential Internet-connected, pathological gambler, the casino has come to them.

As has been noted above, unlike most other addictions, compulsive gambling is most often associated with a certain location outside the home, causing a significant disturbance to one's normal life. That is no longer necessarily the case. The psychological setting of gambling for real money from the comfort of one's own home (or office) is so different from the setting of a traditional casino that it is hard to even compare the two. Access from home or work increases the chance that the impulse to gamble will be acted upon.

Some people (e.g. politicians and evangelists) may prefer the anonymity of in home gambling. Still others may be physically unable to travel to the casinos or are not of legal age. These small market segments, however, may suffice to create a thriving industry.⁸⁸

Kings Court Casino advertises itself as having been designed to appeal to Internet users who are either more comfortable gambling online or find it more convenient than traditional casinos. This includes the segment of the population who would like to start gambling, but are intimidated by their lack of gambling experience.

Other factors that are likely to make Internet gambling potentially more addictive and hazardous than traditional gambling involve activities made possible through computer technology. Unlike one's experience at a real casino, the computer does not care how long one takes to decide on how much to bet. This is an advantage to novice gamblers, and allows one to spread the gambling activity over an extended period of time while doing other tasks on the

computer. Another example: In traditional roulette, one has to physically replace every chip if one wants to redo the same bet. Computer technology, however, allows online casinos to offer a "redo" button on the screen that when clicked, automatically redoes the last bet, no matter how many chips that involves. These and other (e.g., payment methods) technologically enabled functions make online gambling simple, easy, and attractive. Consequently, it is more potentially addictive.

The urge to gamble may be particularly hard to resist for a traditional problem gambler using the Internet. Not only is the casino in their home, the reasons they acquired a personal computer are still valid. It may not be realistic for them to try to abstain completely from logging on to the Internet. Once one has established an account with an online casino, it can take less than a minute to log on to that site, purchase some chips using a credit card, and start trying to win back one's losses on such games as blackjack or roulette.

OBSERVATIONAL DATA

The Interactive Gaming Council (IGC) is an organization with a mission to "advance common interests in the global interactive gaming industry; to establish fair and responsible trade guidelines and practices that enhance consumer confidence in interactive gaming products and services, and to serve as the industry's public policy advocate and information clearinghouse" (<http://www.igcouncil.org>). IGC members agree to abide by a Code of Conduct that includes suggestions for how to deal with such issues as regulatory compliance accountability, consumer privacy, data protection, and truth in advertising. IGC has also started a Helping Hands program that directs problem gamblers to several websites with information on problem gambling, including a link to the Gamblers Anonymous official website. To determine what percentage of online casinos are willing to address the issue of pathological Internet gambling, 40 sites were randomly selected from the 164 sites on the list of Internet casinos maintained by the Yahoo directory. Results are presented in Table 1.

To the author's knowledge, this was the first systematic overview of what is being offered by online Internet casinos. The results are noteworthy in several areas. It is clear that at this time, most of the online casinos require a software download. The increase in the quality of the audio music and visual graphics that is available when there is a program that resides on the user's computer is very significant. Seventy-five percent of the sites reviewed offered a wide range of casino games. Thirty percent of the sites allowed single bets of over 200 dollars. For the pathological gambler, that are "chasing their losses" this ability to play for very high stakes online makes these sites potentially very problematic. All but 6 of the 40 sites reviewed allowed credit card charges to initiate an account and credited winnings back to that account in a manner that allowed quick access to one's funds. Twelve percent of the sites offered monetary rewards for people that recruited others to gamble at that site. This does not occur in the traditional gambling establishments. Only 25% of the sites indicated that their payback rates and financial solubility was monitored by an independent body. All traditional real life casinos are subject to government regulations and monitoring. Only 13% of reviewed sites were concerned enough about problem gamblers to put a link on their site to the Gamblers Anonymous website.

CONCLUSION

One of the dominant public policies in the United States reflects the underlying social value that the government has a responsibility to "regulate the (gambling) industry to minimize undesirable social consequences."⁸⁸ Advertising casino gambling has, until very recently, been banned in the United States in the presumption that this would reduce pathological gambling problems. Currently, the Internet gambling industry markets itself through Web banner advertisements on numerous attractive websites. The average Internet user is exposed to such advertisements while visiting popular websites such as Alta Vista or CNN. Some controls that help minimize pathological gambling

TABLE 1. RESULTS OF REVIEW OF 40 ONLINE CASINO SITES

<i>Observed factor</i>	<i>Number having this quality</i>
Web-based only	6
Requires a download	34
Offers only five or less casino games	9
Offers more than five casino games	31
Is a sports book only	0
Is a casino and sports book	14
Maximum amount allowed for a single bet	
\$50 or less	0
\$200 or less	7
over \$200	13
Doesn't say on website	20
Maximum one can bet per week	
\$1000 or less	1
\$3000 or less	1
more than \$3,000	8
Doesn't say on website	30
How one cashes out	
Can get money back right away	34
Must wait to receive PIN number by regular mail to withdraw any funds	6
Availability of free (play only) gaming	37
Availability of online chats among gamblers	2
Information allowed on addictive/compulsive gambling	6
Has link to Gamblers Anonymous in a prominent position	6
Has link to Helping Hands in a prominent position	3
Advertises past big winners	7
Offers incentives to recruit other gamblers to that site	5
Degree of attractiveness of site (subjectively defined)	
Poor	3
Fair	24
Above average	10
Excellent	3
Indication that the site is monitored by an independent body	11
Indication that the site is a member of the Interactive Gaming Council	5

are imposed by the traditional gambling industry itself. Imposed by law or local regulations, minors, intoxicated persons, and habitual gamblers are denied casino access at traditional gambling sites. This oversight is missing when the gambling is done at a distance, however. Aside from parental supervision, no absolute methods exist to determine the age of a user who is accessing material over the Internet.⁸¹

Griffiths⁸⁹ recently argued that it is not that the Internet is addictive *per se*, but rather certain Internet functions that satisfy particular human needs that might become addictive. This fundamental change in scope and view of Internet addiction is highly relevant to the issue at hand: online gambling apparently meets people's psychological needs and can cause them to be addicted to using the Internet to perform gambling. However, instead of tackling the heart of the problem—problematic or frus-

trated people's psychological needs—some politicians believe that blaming the Internet and practicing censorship and bans could solve social problems. Other governments are taking the approach that it is better to regulate and tax Internet gambling than to try to ban it. For example, Lasseters Online Casino, authorized by legislators in Australia's Northern Territory and approved by its regulators, opened for business on April 10. With little advertising, the casino attracted more than 3,500 gamblers from 78 countries and collected more than \$2 million in wagers in its first 2 months of operation.⁹⁰

Internet gambling is characterized by unique factors that make it potentially addictive in a manner that is different from the way in which traditional gambling can be addictive. The fully available anonymity of online interactions, high accessibility of gambling from one's own home, and the affordability of Internet connec-

tions for practically every person are the three most salient of these unique, potentially reinforcing, addictive factors. The potential attraction of these factors is summed up in this advertisement for an online poker casino: "Playing poker at Planet Poker is a great way to enjoy the card room experience without the inconvenience of travel, second-hand smoke or intimidating patrons" (<http://www.planetpoker.com/>).

Communications on the Internet are, for the most part, beyond any political control.⁸⁰ Dealing successfully with this anarchy will require individuals world wide to take a higher level of personal responsibility for protecting themselves from unwanted, offensive, or potentially addictive material and online behaviors. Gambling on the Internet is very easy to do. Modern software creates graphical interfaces that allow one to experience the sights and sounds of a live casino, from the privacy of one's own home. The potential for addiction is higher than it is for traditional gambling, based just on this ease of access factor. It is the opinion of the authors that the increased opportunity for people to gamble in areas of the world that did not allow gambling prior to the advent of the Internet will also contribute to a higher rate of pathological Internet gambling.

There is a need for empirical research to determine the specific aspects of Internet gambling that contribute the most to pathological gambling behavior. Treatment protocols must be developed that take into account the fact that many Internet pathological gamblers can not be expected to give up working with a computer that has Internet access. Resources for people to learn about pathological Internet gambling need to be placed on the web. Educational programs, aimed at prevention, that address the potential problems one can encounter due to Internet gambling need to be implemented, especially in schools that teach the teen population.

Gambling is variously and inconsistently considered to be a sin, a vice, a legitimate recreational activity, or a problematic and potentially damaging behavior. However, regardless of one's opinion of gambling, the world is now experiencing incredible increases in the availability of, and involvement in, casino and

sports gambling opportunities. Personal risks and social dangers are inherent with new social activities enabled by the Internet. The humanistic approaches at prevention and treatment are perhaps the only effective and relevant remedies (rather than shaky and unreliable technological solutions or ineffective legislative steps). Under these circumstances, psychology needs to invest in empirical research in order to be prepared to effectively prevent compulsive gambling and help people whose Internet gambling behavior becomes problematic.

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