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Internet Gambling: Prevalence, Patterns, Problems, and Policy Options

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Final Report prepared for the Ontario Problem Gambling Research Centre; Guelph, Ontario

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Prevalence, Patterns, Problems, and Policy Options

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TABLES

EXECUTIVE SUMMARY

Beginning in the early to mid-1990s, as Internet access expanded into workplaces and private residences, gamblers in Western societies were introduced to a new realm of gambling opportunities, based on the Internet. Each of the traditional forms of gambling, widely available in land-based venues, soon appeared in electronic format over the Internet, and have since been easily accessible to any person with an Internet connection and means of electronically transferring money. Virtually mediated casino games, slot machines, bingos, lotteries, sports wagering, horse race betting, and skill games are all now readily accessible, with new forms of gambling and new ways of remote gambling (e.g., interactive television) continually being added. While Internet gambling is becoming a more socially acceptable and legally available activity, the expansion of Internet gambling is outpacing peoples' understanding of the phenomenon, as well as outpacing many of the laws that are supposed to regulate gambling activity. Consequently, we find ourselves in a situation where we have insufficient knowledge of online gambling, including the characteristics of gamblers, the dynamics of Internet gambling behavior, the potential link between Internet gambling and problem gambling, and the most appropriate regulatory and legislative stance to take with respect to Internet gambling.

In light of persisting ambiguities and gaps in the existing academic and policy literature, the present report comprises one of the most thorough academic examinations of Internet gamblers to date. The first part of the report provides a context for the present investigation by providing a comprehensive review of the history of Internet gambling, the current worldwide situation, regulatory frameworks for Internet gambling in different jurisdictions, and concerns with Internet gambling.

The second part of the report discusses results from two surveys. The first survey is a random digit dial (RDD) Telephone Survey of 8,498 Canadian adults conducted from January 2006 to June 2007 (‘Canadian Telephone Survey’). The second survey is an online self-administered survey of 12,521 adults, from 105 countries, conducted from June to December 2007 (‘International Online Survey’). These surveys collected information about people’s demographic characteristics, land-based gambling behaviour, Internet gambling behaviour, stock market gambling, attitudes toward gambling, motivations for gambling on the Internet, gambling fallacies, and problem gambling as assessed by the Canadian Problem Gambling Index (CPGI). The International Online Survey also served as an intervention, as participants were provided with detailed feedback about their gambling behaviour relative to others, a projection of their yearly expenditures, explanations of why certain beliefs they held were gambling fallacies, their risk for becoming a problem gambler, their current score on the Canadian Problem Gambling Index (CPGI), Internet links to treatment resources, and a demonstration of how their predictive ability for random events is no better than chance, and how there is no relationship between their prediction confidence and prediction success.

The major findings from these two surveys are as follows:

Prevalence Rates

- The past-year adult prevalence rate of gambling in Canada in 2006/2007 is 70.7% with an inter-provincial range of 68.1% in Saskatchewan to 75.4% in Newfoundland. There is no significant difference in the prevalence rate between provinces.
- The past-year adult prevalence rate of CPGI moderate and severe problem gambling in Canada in 2006/2007 is 3.2%, with an inter-provincial range of 1.7% in Quebec to 6.0% in Nova Scotia. The prevalence rate of problem gambling in Quebec is significantly lower than Nova Scotia (6.0%) and British Columbia (4.4%).
- The past-year adult prevalence rate of Internet gambling in Canada in 2006/2007 is 2.1%, or 3.5% when including people who use the Internet to buy and sell high risk stocks, options or futures and/or 'day trade'. The prevalence of Internet gambling in Canada has increased, particularly since 2004 when it was below 1%.
- Internet gambling continues to be among the least common form of gambling among Canadian adult gamblers. Past year participation in each form of gambling is as follows: 92.9% lotteries; 67.5% instant win tickets; 33.9% electronic gambling machines; 10.4% bingo; 8.9% sports betting; 8.1% casino table games; 8.0% betting on games against other people (e.g., poker); 5.1% horse race betting; 3.0% Internet gambling (excluding stocks); 2.8% high risk stocks, options, futures or day trading.

Demographic Profile of Canadian Internet Gamblers

- There are several demographic variables that are characteristic of Canadian Internet gamblers, as well as a few variables that distinguish them from Internet gamblers from other countries.
- Canadian Internet gamblers are predominately male (82.4%) and gender is the demographic variable that is most strongly predictive of being a Canadian Internet gambler.
- The prevalence of Internet gambling amongst gamblers varies between provinces, ranging from 0% in Prince Edward Island to 8.2% in New Brunswick. Province of origin is the demographic variable with the second strongest statistical association to Internet gambling in Canada, with Quebec, Ontario, Saskatchewan, Manitoba, and Alberta having significantly lower rates than provinces such as British Columbia and New Brunswick.
- The large majority of Canadian Internet gamblers are employed full or part-time, but a minority are retired or are students. In Canada, student status is a variable statistically predictive of Internet gambling. Being retired, on sick leave/maternity leave, or unemployed is significantly more characteristic of Canadian Internet gamblers as compared to Internet gamblers from other countries.
- The most common marital status of Canadian Internet gamblers is being single (49.0%), and this marital category is statistically predictive of Internet gambling.
- The ethnic origin of Internet gamblers tends to reflect the Canadian population, with the majority being of European ancestry (70.9%). However, being of Aboriginal ancestry significantly increases the odds of being an Internet gambler by 3.9 times. Aboriginal ancestry is also one of the distinguishing characteristics of Canadian compared to International Internet gamblers.
- Canadian Internet gamblers have a wide range of educational levels, but, on average, they are slightly better educated than most Canadians, and this is a significant predictor of Internet gambling. International Internet gamblers have significantly higher educational achievement relative to Canadian Internet gamblers.

- They have higher household incomes ($74,600) as well as an average household debt ($78,056), that is about $20,000 higher than Non-Internet gamblers. Both of these variables are statistically significant predictors of Internet gambling status. Higher income is also significantly more characteristic of Canadian versus International Internet gamblers.
- All age groups are involved in Internet gambling, but it is more common in younger people (average age of 35.5). Nonetheless, this variable does not statistically differentiate Canadian Internet from Non-Internet gamblers, but is significantly more characteristic of Canadian versus Non-Canadian Internet gamblers.
- Canadian Internet gamblers have relatively high past month rates of substance use (39% for tobacco and 23.3% for illicit drugs), and use of illicit drugs is a statistically associated with Internet gambling. Use of both illicit drugs and use of alcohol are also significantly more characteristic of Canadian versus Non-Canadian Internet gamblers.
- Canadian Internet gamblers tend to have low rates of physical disabilities and/or chronic health problems (6.7%) as well as relatively low rates of mental health problems (4.5%). An absence of physical disability and/or mental health problems is significantly associated with Internet gambling.
- Canadian Internet gamblers are regular users of the Internet and use it more frequently and for more things compared to Non-Internet gamblers.

<u>Demographic Profile of International Internet Gamblers</u>

- International Internet gamblers also have many characteristic demographic features.
- They are also predominately male (78.0%) and, similar to the Canadian study, this is demographic variable that strongly discriminates between Internet and Non-Internet gamblers.
- The prevalence of Internet gambling appears to vary significantly between countries/regions, with higher rates occurring in European countries and the Caribbean, and lower rates in North America, Asia, and Australia and New Zealand. Geographic location was the most powerful demographic variable distinguishing Internet from Non-Internet gamblers.
- Marital status and employment status of International Internet gamblers tends to reflect the distributions found in the general adult population, with most people being married or living common-law and most being employed full-time. Being divorced/separated or living common-law was significantly predictive of being an Internet gambler. Being employed is also significantly associated.
- Most International Internet gamblers in the present study are of European ancestry (80.8%). Non-European ancestry significantly predicts Internet gambling.
- All age groups are represented among International Internet gamblers, but unlike the Canadian data, there is no age group that is overrepresented (average age of International Internet gamblers is 45.7). Nonetheless, younger age was still a significant predictor of Internet gambling in this data set. Only 0.4% of International Internet gamblers reported being under 18, suggesting they comprise a very small proportion of the total online population.
- International Internet gamblers have high past month rates of substance use (44.3% for tobacco and 11.7% for illicit drugs). Any type of substance use is a significant predictor of a person being an Internet gambler.
- Average household income is $60,100 U.S. and average household debt is $76,728 U.S. Higher household income significantly predicted Internet gambling status, but debt did not.

- On average, International Internet gamblers are slightly better educated than most people, with 41.2% having completed college or university. This was not predictive of Internet gambling, however.
- International Internet gamblers reported levels of physical disabilities &/or chronic health problems (14.9%) and mental health problems (10.3%) that were not significantly different from Non-Internet gamblers.

Motivations for Gambling on the Internet

- Both Canadian and International Internet gamblers overwhelmingly identified the 24 hour availability and convenience of Internet gambling to be its main advantage. Secondary advantages include a better game experience; more physically comfortable; lack of crowds; anonymity; better payout rates; less smoke; and being able to smoke.
- Although not explicitly stated, an additional important reason for Internet gambling is that certain forms of gambling (i.e., betting against other people rather than the 'house') are more conducive to an online format.
- Both Canadian and International Internet gamblers identified a wide range of disadvantages with Internet gambling, with some of the more common ones being: difficulty verifying fairness of games; worry about monetary deposits being safe; lack of face-to-face contact; tendency to spend more money; too convenient; illegality; poorer social atmosphere (too isolating); and poorer game experience.
- The main things that influence which Internet site to use for both Canadian and International Internet gamblers are: general reputation of the site; recommendation from friends; better game experience/interface; monetary deposits being safe and wins paid out in timely fashion; and familiarity (i.e., many people do not 'shop around' after they find a site where they can gamble).

Game Play Patterns

- Virtually all Internet gamblers also gamble on several land-based gambling formats, with 4.7 being the average number of total gambling formats engaged in for the Canadian sample and 4.1 for the International sample. Number of gambling formats engaged in is more powerful than any other variable (including the demographic ones) in predicting Internet gambling in both the Canadian and International data sets.
- Furthermore, both Canadian and International Internet gamblers engage in *all* types of gambling more frequently than their land-based counterparts as well as having higher average gambling expenditures relative to Non-Internet gamblers. In Canada, the net monthly gambling expenditure is $541.09 compared to $67.09 for Non-Internet gamblers. Internationally, the figures are $195.14 and $19.26 respectively. Gambling expenditure was significantly more predictive of Internet gambling in the International data set but not in the Canadian data set. Hence, is would seem that Internet gambling is primarily used as an additional form of gambling, added to the repertoire of people who appear to be already heavily involved in gambling.
- Worldwide, including Canada, poker is the most popular online form of gambling.
- More specifically, in Canada, the proportion of Internet gamblers who engage in each type of online gambling is as follows: 59.7% play skill games (mostly poker); 23% play lotteries; 16.7% bet on sports; 7.6% gamble at online casinos; 5.2% bet on horse racing; and 2.4% play online bingo.

- Among International Internet gamblers, 64.0% play skill games (mostly poker); 26.4% gamble at online casinos; 23.2% bet on sports; 12.7% bet on horse or dog racing; 11.1% play lotteries; and 7.4% play online bingo.
- Certain types of online gambling are preferred by one gender over another. Sports betting, horse/dog race betting, and games of skill are overwhelmingly preferred by males, whereas online bingo is preferred by females.
- While Internet gamblers regularly access land-based forms of gambling, they preferentially use the Internet for certain types of gambling more than other types. Canadian Internet gamblers use it preferentially for horse race betting, sports betting, and poker. International Internet gamblers preferentially use it for sports betting, poker, and horse/dog race betting.
- About 93 – 94% of Canadian and International Internet gamblers primarily use their home computer for Internet gambling. Because most Internet gamblers are employed, this also means that the large majority of Internet gambling occurs in the evening.
- The large majority of Internet gamblers report that the fact they are using a credit card or electronic bank transfer, rather than cash, has no impact on their spending.
- A small minority of Canadian Internet gamblers (3 – 4%) and a slightly larger minority of International Internet gamblers (4 – 11%) report that Internet gambling has disrupted either their sleeping or eating habits.
- 20% of Canadian Internet gamblers and 14.0% of International Internet gamblers report using alcohol often or always while gambling and 7% of Canadian Internet gamblers and 3.6% of International Internet gamblers report using illicit drugs often or always while gambling.

Problem Gambling

- The prevalence of problem gambling is 3 to 4 times higher in Internet gamblers compared to Non-Internet gamblers. Having problems with gambling is one of the features that best predicts someone is an Internet gambler in both the Canadian and International data sets. In Canada, the rate of CPGI moderate and severe problem gambling among Internet gamblers is 17.1%, compared to 4.1% for Non-Internet gamblers. Among the International online sample, 16.6% were either moderate or severe problem gamblers, versus a rate of 5.7% among land-based gamblers.
- There are several variables that statistically predict whether someone is an Internet problem gambler. In order of importance, these are: gambling on a greater number of gambling formats; a higher gambling expenditure (Internet problem gamblers accounted for 41.3% of all reported gambling losses for the Canadian data set and 27.0% of all reported losses for the International data set); having mental health problems; having a family history of problem gambling; being of Asian ancestry; being single; a lower household income; having a greater number of gambling fallacies; country/region; having more negative attitudes toward gambling; and having a history of other addictions.
- Only about half of Internet problem gamblers report there is a specific type of gambling that contributed to their problems more than others. Among the Canadian sample, these were poker (31.3%), slot machines (12.5%), VLTs (12.5%), and roulette (12.5%). Among the International sample, these were slot machines (23.8%); poker (21.7%); and Internet gambling (11.3%). Hence, it would seem that while Internet gambling is an important contributing factor to gambling problems in a portion of problem gamblers, it does not appear to be the main cause of problem gambling for most of them. This is consistent with

the notion that Internet gamblers are heavy gamblers to begin with who have simply added Internet gambling to their repertoire.

- Roughly 8% of Canadian Internet problem gamblers had sought help for their problems, with all of them seeking it from a Counseling Service. By comparison, 9% of International Internet problem gamblers had sought help for their problems and they had sought help from a wide variety of sources (21% Gamblers Anonymous; 18% Counseling Service; 11% friends; 11% psychologist; 11% psychiatrist; 7% family doctor; 7% family; 7% pastor/minister/priest; 7% telephone help/hot line).
- The large majority of Internet problem gamblers would be more comfortable seeking help from a face-to-face counseling service rather than from an Internet counseling service. These results suggest that while online services can serve as a useful adjunct to land-based treatment, it is not likely going to be a panacea for this particular population.

Impacts of Providing Feedback to Participants about their Gambling Behaviour

- While online counseling may not be a panacea, there may still be value to providing online interventions. In the present study, 65.2% of participants in the International Online Survey reported that the interactive feedback we provided them with (i.e., how normative their gambling behaviour was, projection of their yearly expenditures, explanations of why certain beliefs they held were gambling fallacies, their risk for becoming a problem gambler, their current score on CPGI, etc.) was somewhat or very useful, with this percentage being significantly higher for problem gamblers (70.6%).
- Furthermore, 33.5% of problem gamblers who took our International Online Survey reported that they expected their gambling behaviour would decrease subsequent to the survey. This would suggest that this survey as well as other online interactive surveys probably have some utility as a brief intervention. Based on the informativeness of the questionnaire, and its potential behavioural impact on problem gamblers, it is also reasonable to anticipate some beneficial prophylactic/preventative effect for Non-Problem gamblers.

Policy Implications and Options

There are good arguments for both prohibition and legalization of Internet gambling. The main arguments for legalization are as follows:

- It is nearly impossible to effectively prohibit online gambling. Furthermore, it is never a good thing to have laws that are widely disregarded as it may foster disregard for the general rule of law.
- Regardless of whether online gambling is good or bad for society, it is better for it to come under legal regulatory control so as to accrue the economic benefits, and to better ensure player protection. Some of this new revenue can then be used for prevention and treatment of online problem gambling.
- It should not be the job of the state to shape people's leisure behaviour or how they spend their money, even if engagement in this behaviour does harm some people.
- Online gambling revenue appears to be less regressive than most other forms of gambling because the average household income of Internet gamblers is higher than average.
- Even if online gambling does initially increase the rate of problem gambling, the evidence from land-based gambling suggests that after time rates will stabilize and/or decrease.

However, there are also many (perhaps more) compelling arguments for prohibition of Internet gambling:

- The purpose of the law is not to conform to people's behaviour, but to help shape it, as well as to codify societal values. There are several other online activities that are very difficult to control (e.g., child pornography). There are also many laws which the general public does not strictly adhere (e.g., illicit substance use). Nonetheless, legal efforts to limit these activities are somewhat helpful, and preferable to no action and/or legalization.
- General disregard for the rule of law is more of a risk when prohibiting something the majority of people engage in (e.g., alcohol use) rather than when prohibiting something only 1 – 7% of people engage in (i.e., Internet gambling).
- A significant portion of online gambling sites have unsatisfactory business and responsible gambling practices. Furthermore, it is unclear how to ensure these sites *ever* meet minimum standards in these areas.
- Legally-sanctioned domestic sites (with better business and responsible gambling practices) are only patronized to the extent they offer a competitive advantage to the consumer (which is difficult to achieve).
- A significant portion of online gambling revenue comes from problem gamblers (41.3% in Canada, 27.0% Internationally). It is ethically problematic for revenue generation to be disproportionately derived from a vulnerable segment of the population, especially in cases where the government is the primary operator and/or beneficiary.
- Legalization increases legitimacy and availability, which strongly increases both gambling and problem gambling in the general populace. In general, the prevalence of Internet gambling and Internet problem gambling in each country roughly parallels its legal availability/sanctioning.
- The nature of online gambling makes it inherently more problematic than most other forms of gambling. It is a common policy to restrict access to forms of a product perceived to be more harmful than other forms (e.g., automatic weapons and handguns versus hunting rifles; cocaine, methamphetamine, heroin versus alcohol). Internet gambling is one of these inherently more problematic forms.
- Legalizing online gambling and putting some of the new revenue into treatment does not offset the harm that would be caused by legalization (most of the harms cannot be 'undone').

Support for prohibition or legalization hinges on the relative importance different individuals and different societies place on each of the above arguments. Furthermore, the 'best' regulatory stance will depend somewhat on the circumstances of the individual jurisdiction:

- Jurisdictions with highly resilient populations having low rates of addictive behaviour despite widespread availability of addictive products (e.g., Netherlands) are not likely to be as negatively impacted by Internet gambling legalization.
- Jurisdictional regions (e.g., Europe) that are able to widely establish and ensure better online industry practices may incur less harm.
- Jurisdictions having small populations will accrue proportionally greater economic benefits with Internet gambling legalization compared to large jurisdictions, as the majority of their online gambling revenue will likely come from outside the jurisdiction and represent a true influx of wealth.
- Regulatory policy needs to take public attitudes into account. The large majority of Canadians oppose all forms of Internet gambling, including the forms that are currently

offered in some provinces. By comparison, most participants in the International sample in the present study believed that *all* types should be legal.

There are also intermediate solutions between total prohibition and legalization. For example, less contentious forms of Internet gambling could be legalized (e.g., purchase of online lottery tickets); or access to foreign-based sites could be prohibited; or only nonresidents could be permitted to legally access domestic sites (so as to minimize the harm to residents).

Key Words: Internet, online, remote, gambling

BACKGROUND TO THE PRESENT STUDY[1]

HISTORY OF INTERNET GAMBLING

When public and commercial use of the Internet began in early and mid 1990s, it soon became apparent that this could also be a medium used for gambling. Two other developments helped set the stage. The first was the creation of gambling software by Microgaming in 1994/1995. The second was the development of encrypted communication protocols by CryptoLogic, in 1995, that allowed secure online monetary transactions. In 1995, a few sites (e.g., Gaming Club) began offering casino gambling games online without real money being wagered. Some sports books (e.g., Intertops Casino, Sports Book, Ladbrokes) also created websites that listed their odds as well as toll-free numbers to phone to place bets. The first case of money actually being wagered over the Internet by the general public appears to be the online purchase of lottery tickets from the International Lottery in Liechtenstein for a manual drawing that occurred on October 7, 1995 (Romney, 1995).[2]

Rapid expansion followed, with most of the new online gambling sites being sport/race books and casinos basing their operations in Caribbean and Central American countries with permissive gambling legislation, low taxes/fees, and relatively lax enforcement. In January 1996, InterCasino, based in Antigua, became the first online casino to accept a wager online (4 Online Gambling.com, 2006; Business Wire, 2005). In 1996 and 1997, several other Caribbean islands (Netherland Antilles; Turks and Caicos; Dominican Republic; Grenada; St. Kitts & Nevis) and Central American countries (Costa Rica; Belize; Panama) began licensing, or at least hosting, online sports/race books and/or casinos. In the United Kingdom, Eurobet began offering online sports/race betting in 1996 (Eurobet, 2007). In Australia, Centrebet in the Northern Territory also began offering online sports betting in 1996, with three more sports/race books in operation by the end of 1997 (Senate Information Technologies Committee, 2000). A few more online lotteries emerged, when Finland granted a license to operate online lotteries to The National Lottery of Finland in 1996 (van der Gaast, 2001), and when the Coeur d'Alene tribe in Idaho began an online lottery in February 1997. The next couple of years saw other jurisdictions enter the game, most notably Gibraltar in 1998 and the Kahnewake Mohawk Territory in Quebec in 1999.[3] By the end of 1996, it is estimated that about 15 online sites accepted wagers, increasing to over 200 by the end of 1997, 650 by the end of 1999 and 1,800 by the end of 2002 (Schwartz, 2006). Revenues increased in a similar pattern. Hammer (2001) estimated that Internet gambling generated $2.2 billion US in 2000, compared to only $300 million several years earlier.

Most of the new Internet gambling sites, as well as most of the expansion in the early years, consisted of new companies not associated with any land-based gambling establishments. This was largely because established gambling providers did not want to do anything that might

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[1] Much of this background information is an updated adaptation of Williams & Wood (2007a).

[2] In 1983 the first online stock market transaction was facilitated by E*Trade Financial (E*Trade, 2006). However, online trading continued to be uncommon until the Internet became more widely accessible to the general public and some of the major companies began offering online trading (e.g., Charles Schwab in 1996).

[3] Mauritius and Swaziland were other jurisdictions that began hosting sites.

jeopardize their land-based licenses because of the grey legal status of Internet gambling.[4] There were some exceptions, such as some European countries that allowed their sole gambling monopoly to extend services online, existing U.K. based sports/race books that went online (e.g., Eurobet in 1996; William Hill in 1998; Ladbrokes in 2000), and some existing Australian sports/race books and casinos that started legally adding online services in the late 90s.[5] This has changed in recent years, as several countries now permit their established lottery operations and/or sports/racebooks to offer services over the Internet (e.g., Hong Kong Jockey Club, Atlantic and British Columbia Lottery Corporations in Canada, several European countries, etc.).

As indicated, the initial online gambling sites were lotteries, sports/racing books, and online casinos. The first Internet bingo site (QuadCard; www.ibingo.com) started offering cash prizes in 1998. The first Internet poker room (www.planetpoker.com) went online in 1998. A major expansion of online poker began in 2003, when the World Series of Poker became a popular televised show in the United States. Many of the entrants for the World Series qualified via online poker tournaments, and both the 2003 and 2004 champions were online poker players. In 2003, the estimated revenue from online poker was $365 million, which increased to approximately $2.4 billion in 2006 (Christiansen Capital Advisors, 2005).

The most recent additions to online gambling have been 'betting exchanges' and 'skill game sites'. Betting exchanges (e.g., 'BetFair' www.betfair.com being the largest, launched in June 2000) are sites that create a marketplace for bettors, whereby they post potential wagers on certain events (with accompanying odds and stake size), in the hope that someone will take them up on their offer(s). These wagers are primarily on sporting and horse racing events, but also include wagers on politics or reality television events, etc. Several of these sites have expanded to include person-to-person gambling on traditional casino games. Skill game sites (e.g., 'King' www.king.com being the largest, launched in 2004) offer a wide range of skill-oriented word games; puzzle games; strategy games (e.g., mahjong, chess); sports games (e.g., billiards, mini golf); card games (e.g., solitaire); arcade games (e.g., carnival shootout); trivia games; and video games. Most typically, players pay a fee to enter a tournament, with the winner(s) collecting the majority of the entrance fees. Sometimes the contest can be with another specific individual and sometimes it can be against your own previous 'high score'. Part of the expansion of skill game sites is rooted in the belief that these sites do not violate gambling prohibitions in jurisdictions that define gambling as 'games of chance.[6]

In the past few years, 'interactive television (iTV)' has provided an additional means of 'remote gambling'. Interactive television was first launched in the late 1990s in Hong Kong, Singapore, France and England. This service allowed viewers to use their remote controls to

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[4] Prosecution of some prominent online companies with connections to countries having clear online gambling prohibition reinforced this trend. In Canada this was best illustrated by the 1999 prosecution of Starnet Communication (Kyer and Hough, 2002).

[5] In 1999 Lasseters in Alice Springs, Northern Territory (Australia), became the world's first land-based casino to go online.

[6] Another type of online skill gaming that could be potentially construed as 'gambling' involves paying a subscription to join a role-playing skill site (e.g., Lineage2) where the accumulation of virtual money and property can be bought and sold in the real-world (e.g., $2500 virtual dollars = $1 real dollar). A second grey area of online gambling concerns role-playing sites (e.g., Second Life http://secondlife.com/) where your avatar may gamble with virtual money (having some value in the real-world marketplace) at a virtual casino (Williams, 2007).

select ‘movies on demand’, to vote for which program should be broadcast, or to vote for how a plot should unfold (Srivastava, 2002). However, in the past few years, iTV has expanded to more countries and to more Internet-like services (i.e., interactive shopping, banking, customized weather reports, on demand provision of sports scores, interactive music selection, video game playing, etc.). These expanded offerings have also included interactive gambling. TVG debuted in September 1999 in the United States. This service broadcasts live horse racing and permits betting via remote control, a web-enabled mobile device, or by phoning in. However, the primary penetration of iTV gambling has occurred in Europe, particularly the United Kingdom and France. For several years now France and the U.K. have provided interactive bingo, lotteries, horse racing, and sports betting (Griffiths, 2006a, The Independent, 2004). In 2007/2008 approximately 2.0% of U.K. adults gambled via interactive television (Gambling Commission, 2008). Currently however, iTV gambling still represents a fairly small percentage of the ‘remote gambling’ market. Even in the U.K., which constitutes iTV’s largest market, a much greater proportion of people gamble via the Internet. Nonetheless, it seems certain that iTV gambling will continue to expand, especially in Europe (Swiss Institute of Comparative Law, 2006).[7]

[7] In Australia, the state of Victoria introduced iTV gambling in April 2008 (Hogan, 2008).

CURRENT WORLDWIDE SITUATION

In October 2008, there were 2,002 Internet gambling web sites owned by 520 different companies listed at www.online.casinocity.com.[8] This is down from a peak of around 2,500 in October 2006, as some market consolidation has occurred in recent years. The high number of sites relative to owners is due to: a) owners creating multiple sites so as to create a larger presence on the web; and b) the tendency of some of the larger companies to build sites which are then sold to another company to run. The first company still retains ownership of the site and takes a percentage of the profits. A few of these companies are publicly traded on the London Stock Exchange, but most are privately owned. These sites consist of 691 online casinos, 500 poker rooms, 375 sports and racebooks, 290 online bingos, 44 skill game sites, 44 lottery sites, 27 betting exchanges, 16 backgammon sites, and 5 mahjong and rummy sites (Casino City, 2008).

These online sites operate in 50 different jurisdictions. Table 1 lists the top 20 jurisdictions by highest volume of online transactions and number of sites hosted (Casino City, 2008).

Table 1. Top 20 Online Gambling Jurisdictions in October 2008

Jurisdiction	Volume of Transactions (Rank Order)	Number of Online Gambling Sites	Year First Hosted Online Gambling
Gibraltar (British overseas territory)	1	192	1998
Kahnawake Mohawk Territory (Quebec)	2	279	1999
Malta	3	299	2000
United Kingdom	4	92	1996
Alderney (British Channel Island)	5	66	2001
Antigua and Barbuda	6	99	1996
Netherland Antilles (Curacao)	7	266	1996
Isle of Man	8	12	2001
Austria	9	10	2000
United States	10	27	
Costa Rica	11	222	1996
Australian Northern Territory	12	14	
Sweden	13	4	1999
Kalmykia (republic in Russian Federation)	14	2	1999
France	15	1	

[8] Online.casinocity.com is probably the world's most comprehensive and widely used online gambling portal. It provides a continually updated listing and access to the 2,002 available online sites, as well as ranking of their relative popularity based on monitoring and measuring the actual site usage of millions of online users. The portal also provides a comprehensive listing of online gaming jurisdictions, online gaming site owners, online gambling software, and online gambling news. While it is not possible to independently verify their rankings of gambling site popularity, the present authors and others (e.g., McNeal, 2006) have found most of their other information to be fairly accurate.

Australian State of New South Wales	16	3	
Ireland	17	8	2003
Belize	18	33	1996
Aland Islands (province of Finland)	19	2	2001
Panama	20	40	1997

Many companies have developed their own gambling software. Many others use commercial software, with the most popular ones being from Playtech (167 sites), Microgaming (155 sites), Net Entertainment (128 sites), Electracade (123 sites), and Entraction Holding AB (112 sites) (Casino City, 2008). Some sites require software downloads to play, while others allow playing on instant online software such as JAVA.

There are approximately 150 different online payment methods currently in use. Visa and MasterCard are the most popular methods and are accepted by over 90% of all sites. Other popular methods of payment are Neteller (accepted by 72% of sites), Bank Wire Transfer (accepted by 58% of sites), Moneybookers (accepted by 50% of sites), and personal cheque (accepted by 25% of sites) (Casino City, 2008). Online casinos have been assigned an "online gambling" merchant code by Visa and MasterCard. This electronic code is attached to every credit card transaction the company makes. Most U.S. banks and financial institutions automatically reject all transactions with this code, so U.S. players are generally unable to use credit cards with online casinos to make deposits. This limitation is partly responsible for the appearance of so many new non-credit card, non-U.S. based, financial intermediaries in recent years.

Revenues are difficult to determine. However, Global Betting and Gaming Consultants (2008) estimate that worldwide online gambling revenues were $600 million in 1998; $5.6 billion in 2003; and 16.6 billion in 2008. Similar figures have been suggested by other firms (e.g., Christiansen Capital Advisors, 2005). Online gambling revenue was estimated to account for 4 - 5% of the worldwide gambling market in 2007 (Global Betting and Gaming Consultants, 2008). There have been widely different estimates of the proportion of the market accounted for by different types of gambling. Consistent with these estimates, however, is the fact that sports and horse race betting, online casinos, and poker account for the large majority of the total share (London Stock Exchange, 2005; RS*e*Consulting, 2006). Global Betting and Gaming Consultants (2008), estimate the specific portions in 2008 to be: 38% for sports/racebooks; 25% for casinos; 23% for poker; 7% for lotteries & skill game sites; and 7% for online bingo. Similarly, there are no reliable figures on market share of revenues by country. RS*e*Consulting (2006) estimates that 49% of Internet gamblers are from the Asia/Pacific region; 28-35% from the U.S, and 23% from Europe. Global Betting and Gaming Consultants (2008) estimate that in 2007 approximately 44% of Internet gamblers were European; 35% from North America; 11% from Asia and the Middle East; and 6% from Oceania. Within Europe, there is some consensus that the United Kingdom comprises 50% of the market (Swiss Institute of Comparative Law, 2006).

A temporary slowing in the overall market occurred in 2007, due to the U.S. prohibition of online gambling. However, long term growth is still expected to be very positive as Internet use expands, the richness of the Internet interface increases (e.g., live video-streaming), with increasing legalization of online gambling, and with increased public confidence and familiarity with Internet gambling. By 2010, revenues are projected to be between $20 - $24 billion (Christiansen Capital Advisors, 2007; Global Betting and Gaming Consultants, 2008). Internet gambling also has significant growth potential in that the large majority of adults in Western countries gamble, yet only a small fraction of these individuals have accessed the Internet to gamble. That being said, Internet gambling's relatively low market penetration, after 13 years of existence (despite its convenience and offering better odds), is much lower than the penetration that occurred with other forms of gambling when they were first introduced. Internet gambling may end up filling a small market niche rather than replacing or supplementing land-based forms. To date, there is not much evidence of a negative impact on land-based revenues.

REGULATORY FRAMEWORK FOR INTERNET GAMBLING IN DIFFERENT JURISDICTIONS

In many countries, no clear legislation exists or applies to online gambling. In some cases, online gambling operators have taken advantage of this lack of clarity to set up operation in such jurisdictions (Balestra and Cabot, 2006; Rose and Owens, 2005). Widely divergent legislation exists in countries that have enacted legislation (Hutto, 2005). Several countries explicitly prohibit most or all forms of online gambling: United States, China, Russia, Pakistan, Saudi Arabia, Greece, Portugal, Bermuda. At the other end of the spectrum, some countries have either completely legalized (or at least permit) all forms of online gambling, allowing both foreign and domestic companies to operate, and both residents and nonresidents to gamble within and outside the country: Gibraltar, Antigua & Barbuda, Malta, Netherland Antilles, Panama.

In the middle are countries that put restrictions on online gambling. For example, some countries (e.g., Sweden, Finland, Germany, Hong Kong, Liechtenstein, New Zealand) allow certain forms of online gambling (most typically lotteries, sports/race books, and ‘skill games’) and make other forms illegal (most typically, casino games). Other countries restrict patronage of their online sites to residents only (e.g., Finland, Austria, Norway, Canadian provinces). Some go further in also prohibiting residents from accessing online gambling outside the country (e.g., Czech Republic, Denmark, France, Germany, Hong Kong, Hungary, Italy, Norway, Slovakia, Sweden). A few countries operate online gambling, but prohibit their own residents from accessing these sites (e.g., Australia, Papua New Guinea).

Current jurisdictional-specific regulations, in countries where this information is available, are as follows:

North America

United States

In October 2006 the federal Unlawful Internet Gambling Enforcement Act (UIGEA) came into effect, which made it illegal for all “financial transaction providers” to make fund transfers to online sites that take bets or wagers on “outcomes of a contest, sports event or a game subject to chance.”[9] It is also illegal for Internet gambling providers to accept money transfers from potential U.S. online gamblers. Although some legal observers contend that non-U.S. based companies are not subject to this law, there has been previous successful prosecution of non-U.S. based sites under the federal Wire Act using the contention that Internet gambling occurs in both the jurisdiction that takes the bet and issues the bet (Kramer, 2001). As a consequence, a significant number of online gambling sites stopped taking bets from U.S. citizens immediately after the law took effect. Currently, 50% of all online gambling sites do not accept wagers from U.S. residents (Casino City, 2008). The major gambling software companies

[9] Many of the major companies involved in online money transfer (e.g., PayPal) and most credit card companies (Visa, Mastercard, American Express, Discover, Citibank) had already taken independent steps to prohibit money transfers from U.S. citizens for the purpose of online gambling (Rose, 2003).

(e.g., CryptoLogic, Boss Media) have also indicated that their software platforms can no longer be used to provide gambling services to U.S. residents (Vallerius, 2006).

The UIGEA is not directed at individual bettors, and there have only been rare cases of prosecution of U.S. citizens for placing an Internet bet (Rose and Owens, 2005). Anecdotal information suggests that many U.S. players are circumventing the UIGEA by using one of the dozens of available non-U.S. financial transaction intermediaries to place bets (American Gaming Association, 2006a).

The UIGEA exempts online within-state sales of lottery tickets (via terminals in retail outlets), between-state horse race betting, and other types of within-state online gambling, as long as the individual state does not prohibit it (several states have explicitly prohibited Internet gambling)[10]. Internet horse race wagering has been specifically legalized in the states of California, Nevada, Oregon and South Dakota. It is unclear whether this legislation applies to 'skill games'. There are currently 16 online skill gambling sites operating within the United States that have opted to continue taking bets from other states that do not specifically prohibit online gambling (Casino City, 2008).

Canada

Canadian federal law has been interpreted by provincial governments as allowing them to legally operate an Internet gambling website as long as the patronage is restricted to residents within that province (Jepson, 2000; Kelley, Todosichuk, Azmier, 2001; Shap, 2002). Thus, the provincially-owned gambling operators in the Atlantic provinces (Atlantic Lottery Corporation, ALC) and British Columbia (British Columbia Lottery Corporation, BCLC) provide online sports betting, online 'interactive' lotteries, and the online sale of land-based lottery tickets to residents of their respective provinces. ALC began providing online services in August 2004 and BCLC in October 2004. Horse-racing in Canada is regulated by the Canadian Pari-Mutuel Agency under the federal Department of Agriculture. In 2003, the federal agriculture minister made a rule change permitting horse-racing bets to be placed, not just by telephone, but by "any telecommunication device." As a consequence, in January 2004, Woodbine Entertainment, a Toronto based horse-racing track operator, began accepting online bets from across Canada. The legality of Canadians placing non-horse-racing bets with online sites outside of their province is unclear. Thus far, no Canadian resident has been prosecuted for such activity.[11]

Certain Aboriginal groups (e.g., most notably the Kahnawake First Nation in Quebec) have taken the position that they are sovereign nations able to enact their own gambling legislation. The Kahnawake Gaming Commission (KGC) was created in 1996 and has been a major host of online sites since 1999. Currently it is the second largest worldwide provider of

[10] The states of Illinois, Michigan, Indiana, Nevada, Oregon, South Dakota, Washington, and Louisiana have all passed legislation that specifically prohibits unauthorized forms of Internet gambling.

[11] There is a Bill being currently debated in parliament (Bill C-13) that would change the language of the Criminal Code to make it clearer that 'any means of telecommunication' for the purposes of gambling is an offence (currently the Criminal Code prohibits the use of 'radio, telegraph, telephone, mail or express'). In the same vein, this new language is intended to make it clear that any means of telecommunication is *legally* permissible for placing horse racing bets. The Senate Committee has stated that it was satisfied that this new language would not have 'extra-territorial application'.

Internet gambling sites (n = 279). This is partly due to their established presence as an Internet gambling provider since 1999, partly due to their very low fees (annual fee of $10,000, with no corporate or gambling taxes), and partly due to having one of the best hosting and bandwidth capacities, and being the only provider physically located within the lucrative North American market.

An additional attraction of the Kahnawake operation has been the belief that it is ‘safe haven’ for online gambling. When the UIGEA was passed in October 2006, many Caribbean and Central American based sites moved their operations to the Kahnawake Territory, in the belief that the U.S. would be less likely to prosecute individuals from this jurisdiction. The Quebec government has indicated they consider the Kahnawake operation illegal, and several investigations have been initiated by both the provincial and federal governments as well as the provincial police. Nonetheless, there has been no prosecution of these operations until very recently. In September 2007 Cyber World Group, which administers online casinos located on the Kahnawake reserve, pleaded guilty in Quebec to charges of illegal gambling and was ordered to pay a fine of $2 million (Online Casino Topic, 2007). As a consequence of this ruling, several online operators have moved their operations to other jurisdictions in the past year (Kahnawake was the world’s largest host of online gambling sites in July 2007 with 377, compared to 279 currently).

In November 2006 the Alexander First Nation in Alberta created the Alexander Gaming Commission to provide “leadership in evolving and enforcing comprehensive, socially responsible Internet gaming regulations” (Gaming News, 2006). In July 2007, casinocity.com listed a handful of online sites that had apparently registered their online gambling operations on the Alexander First Nation. This was reduced to a single site in May 2008. No sites currently list the Alexander First Nation as their host.

Tentative forays into online gambling have also been made by other Canadian First Nation groups. In 2000, the Ochapowace Band in Saskatchewan briefly operated the online White Buffalo Casino (www.whitebuffalocasino.com). In 1996, the Six Nations of the Grand River Territory near Brantford, Ontario established a gaming commission to guide licensing of Internet gambling sites. From 2003 to October 2006, at least three online gambling sites (including Absolute Poker, one of the world’s largest online poker sites) operated from servers on the reserve, despite not having official band endorsement (Hamilton Spectator, 2006). Media attention caused these sites to move the registration of their operations to the Kahnawake territory. Nonetheless, Six Nations Chief David General has proposed a community-wide referendum to settle the issue of whether the Six Nations should formally enter the business of online gambling (Hamilton Spectator, 2006).

Europe

Austria

Austria licenses Austria-based companies to offer lottery services and sports betting via remote channels (Internet, mobile phones, and interactive television) as an extension of land-based operations. Only Austrian residents are allowed to play at these sites. Both domestic and foreign-based license holders are permitted to offer online gambling services.

Cyprus

The Cypriot government provides licenses to online lotteries, betting exchanges, casino gaming and sports betting.

Finland

Finland's 2002 Act on Gaming permits only one license holder to operate offtrack betting on horseracing, and one license holder to operate slot machines and casino games. Domestic company Veikkaus holds the license for sports betting and lotteries and has launched products for Internet and mobile phone, while domestic company Fintoto holds the license for horserace wagering and has also launched products on Internet and mobile phone. A third domestic company holds the license for slot machines and casino games, but the Act on Gaming does not permit such products to be offered via remote channels.

France

France's domestic gambling provider, the Française des Jeux, provides online lotteries, skill games, casino table games, and horse/sports betting (beginning in 2003). Foreign online operators are not permitted to either base their operations in France or to take bets from French citizens. However, after considerable pressure from the European Union, France has agreed to start issuing licenses to foreign operators in the second half of 2009. France also has had interactive television gambling since 1999.

Germany

Sports betting, horse race betting, and online lottery sales are permitted in Germany under a monopolistic regulatory regime that prohibits foreign operators.

Greece

All Internet gambling in Greece is banned.

Hungary

Under current Hungarian law, only the state-owned gaming company Szerencsejáték can legally provide online gambling.

Italy

Italy permits online sports betting, person-to-person betting, and online wagering on skill games by both foreign and domestic operators.

Ireland

As in the United Kingdom, Ireland's bookmakers operate Internet-based services under the terms of their bookmaking licenses. Currently, sports betting, horse race betting, betting exchanges, poker, and skill games are offered online.

Liechtenstein

Only online lotteries operated by the International Lottery in Liechtenstein Foundation are permitted. The foundation is government controlled.

Netherlands

In April 2008, the Dutch parliament defeated a bill that would have allowed monopoly casino operator, Holland Casino, to offer online gambling. Online lotteries are legal, and legally only provided by the one domestic operator (De Lotto).

Norway

Online lotteries and online horse race betting is legally provided by domestic operators (Norsk Tipping and Norsk Rikstoto). It is illegal for Norwegians to place bets with foreign online gambling companies and for these companies to accept bets from Norwegians.

Sweden

Sweden's monopoly gambling provider, Svenska Spel, is authorized to provide an online lottery, poker room, bingo room, and sports betting. Foreign providers are not permitted.

Russian Federation

Besides banning land-based casinos in all but four regions of Russia, a bill that was sent through the State Duma and then signed by President Putin, in December of 2006, also bans all gambling over the Internet.

United Kingdom

Prior to 2007, online sports betting, horse race betting, betting exchanges, and games of skill could be legally operated in the UK and played by UK residents. Lotteries could not be conducted online, but the purchase of traditional lottery tickets may be aided by Internet and email technologies provided there remains some action by a human operator. A new national Gambling Act took effect in September 2007 (Gambling Commission, 2007). Since that time, all forms of Internet gambling may potentially operate from UK soil, conditional upon regulation and licensing. A 15% Online Gaming Tax on profits is applied to all online operators. The U.K. is the world’s fourth largest provider of Internet gambling (after Gibraltar, Kahnawake, and Malta). The U.K. also has had interactive/digital television gambling for several years whereby people can play bingo, the national lottery, or bet on horse racing or sports via their television remote control.

Asia Pacific Region

Australia

Online gambling in Australia is regulated at the federal level by the Interactive Gambling Act of 2001. However, the different Australian states have the ability to formulate state-specific gambling policies and legislation. Federal legislation permits individual states and territories to offer online sports and race books, poker rooms, and skill game sites to both Australian and non-Australian residents. Online lotteries are also permitted except for keno-style games, scratch tickets, and instant lotteries. The Interactive Gambling Act does not permit Australian residents to gamble at its government licensed online casino (Lasseters) or residents from countries that have asked not to be served. In April 2008 interactive television betting was introduced in the state of Victoria.

Cambodia

It is illegal to participate in and/or to offer any form of online gambling.

China

It is illegal to participate in and/or to offer any form of online gambling.

Hong Kong (special administrative region of China)

In 2002 the Hong Kong Legislative Council passed the Gambling (Amendment) Ordinance which banned Hong Kong residents from engaging in online gambling with operators outside of Hong Kong. However, the Hong Kong Jockey Club – the legal gambling monopoly - can, and does offer online lottery play, sports betting (soccer), and horse race betting to Hong Kong and non-Hong Kong residents.

India

India has an online lottery.

Macau (special administrative region of China)

The government of Macau has authorized the Macau Jockey Club to offer horserace wagering over the Internet. It has also authorized the Sociedade de Loterias e Apostas Mutuas de Macau to offer online sports betting. Currently there is no provision for foreign operators to provide online services.

New Zealand

The New Zealand government has granted exclusive operating rights for online racebooks and sportsbooks to the Racing Board, formerly known as the Totalisator Agency Board (TAB). A domestic online lottery was launched in 2008. It is illegal to organize, manage, or promote any other source of online gambling in New Zealand. New Zealanders are not prohibited from wagering with offshore providers.

Papua New Guinea

In June 2007 Papua New Guinea passed the Gaming Control Bill which allows both land-based and online casinos. However, a casino entry fee and strict ID requirements are in place to keep locals from gambling.

Philippines

The Philippines permits both domestic and foreign operators to offer all forms of online gambling.

South America

Argentina

Argentina has licensed one online casino.

Brazil

State governments are permitted under Brazilian law to allow lotteries to offer betting and gambling via the Internet and cell phones. Several lotteries currently offer these online and cell phone options. Brazil also has one online Bingo site.

Venezuela

Venezuela hosts three online casinos and operates the Venezuelan national lottery online.

Africa

South Africa

South Africa legalized online gambling in 2008. Online sports betting is currently offered.

CONCERNS WITH INTERNET GAMBLING

Unfair, Illegal, or Irresponsible Business Practices

Online gambling sites are not as well-regulated as land-based venues. There have been many cases where online sites have apparently not paid winnings, have cheated players with unfair games, or have absconded with player deposits (Games and Casino, 2006). The ability for players or governments to seek recourse is limited, because of the foreign jurisdiction of these sites, and/or lax regulatory enforcement within these jurisdictions. The extent of these problems is currently unclear. Many online gambling sites use commercial software from reputable companies to allay concerns about the fairness of the games. However, there still exists a high degree of suspiciousness among players. Security concerns (51%) and legitimacy (49%) were the main reasons for not playing online in an Ipsos Reid study of 2,167 U.S. poker players (Ipsos Reid, 2005). Even among people who play online, 55% believe that online casinos cheat players (American Gaming Association, 2006c). Among a large sample of over 10,000 Internet casino and poker players from 96 countries, eCOGRA (2007) found that over 1/3 of people claimed to have a dispute with an Internet casino or poker website, and the majority of respondents reported that operator responsiveness to player complaints needed to be improved.

A related problem concerns the 'free play' sections of many of these sites, ostensibly to familiarize the person with the game and to improve their skill. However, research suggests that there may be a more nefarious purpose, as some research has shown that the odds on some free play sites tend to favour the player rather than the casino (Sévigny, Cloutier, Pelletier, and Ladouceur, 2005).

Unfair or Illegal Player Practices

Interestingly, the American Gaming Association (2006b) survey also found that 46% of online gamblers believed that *players* have also found ways to cheat. Here again, it is unclear how common an occurrence this is. In the world of online skill *game* (i.e., not gambling) sites, criminal theft and fraud are not uncommon occurrences (Chen et al., 2005).[12] For online gambling, there are several case reports of hackers having successfully altered online sites to pay wins (CBS News, 2008; Reuters, 2001; RS*e*consulting, 2006). Online poker appears to be particularly susceptible to deceptive player practices. One way of doing this is by means of collusion between online poker players playing at the same table (i.e., several of the players are actually in the same physical room using different computers). Another technique is employing automated computer programs using optimal play ('poker bots') against other players (e.g., Brunker, 2004).[13]

Industry representatives usually report their greatest problem to be individuals and criminal organizations demanding payments, and threatening to otherwise disrupt the site's online service prior to major sporting events, tournaments, etc. Reports indicate that online sites

[12] Most typically, identify theft, or the theft of virtual money or other assets that can be sold in the real-world marketplace.

[13] Most online gambling sites prohibit the use of poker-bots and other automated software programs. However, it is very difficult to detect the presence of these non-human players.

pay out millions of dollars in extortion money each year (Current Digest, 2006; Kshetri, 2005; RS*e*consulting, 2006; McMullan & Perrier, 2007; McMullan & Rege, 2007). The lack of clear legislation in many countries about these 'denial-of-service' attacks makes prosecution difficult.

An additional serious concern is money laundering. There are several ways in which this can be done either by the player or the site itself (RS*e*consulting, 2006; U.S. General Accounting Office, 2002). The magnitude of this problem is unknown, but the potential is real, especially considering the lax regulatory structure of most jurisdictions where online gambling occurs (Hugel and Kelly, 2002; Mills, 2001).

Internet Gambling by Prohibited Groups

Online sites are typically required to bar certain people. These include employees of the site, underage gamblers (most sites ban individuals younger than 18)[14], and people who have banned themselves from playing on the site. Online sites' ability to accomplish this, however, is questionable. It would seem to be a relatively easy matter for employees or banned individuals to set up accounts under a different name, although cross-referencing against address and banking details are potentially useful deterrents.

Underage gambling is of particular concern considering that Internet use tends to be highest among teenagers, and they commonly access the free play sections of online gambling sites (Derevensky and Gupta, 2007; Messerlian, Byrne, and Derevensky, 2004; Mitka, 2001). For example, approximately 50% of high school and college/university students in a North American sample reported having played on 'free play' online gambling sites (Derevensky, Gupta, and McBride, 2006). There appears to be reason for concern in light of findings from several studies. A study in 2004, by NCH (Children's Charity), GamCare and CitizenCard in the U.K., found that a 16 year old with a debit card was able to place bets online on 30 out of 37 sites tested (NCH, 2004). A European survey that found that 17% of visitors to online gambling sites were aged 17 or under (NetValue, 2002). A study in Nova Scotia, Canada found that 6% of 15-17 year olds in the province reported playing poker online for money in 2006 (Gillis, 2006). Derevensky et al. (2006) found that 9% of a sample of Montreal, Quebec high school students reported having gambled for money on the Internet. In Alberta, 5% of students in grades 7 to 12 reported gambling online in 2005 (AADAC, 2007). Most recently, the U.K. Gambling Commission determined that 1/3 of all online casinos and bookmakers had deficiencies that could enable underage children to place bets (Drury, 2009).

It seems clear that underage online gambling is a problem, although its magnitude is uncertain. The present ability of online sites to prevent this appears limited due to the wide legal availability of credit and debit cards to underage youth, and the fact that banks and credit reference agencies rarely provide reliable details on a person's age to a third party. Addressing this problem is likely going to require greater cooperation from financial institutions, plus efforts by parents to block Internet gambling sites, either through normal browser content controls or specialized software (e.g., 'BetStopper'; Canada News Wire, 2006).

[14] This is of particular concern to U.S. legislators, as the legal age to gamble in most U.S. states is 21.

Lack of Responsible Gambling Practices

The above discussion highlights the general lack of responsible gambling practices and safeguards that are more typically found in land-based venues. A study of "social responsibility" practices among UK Internet gambling providers found that only half of the 30 websites investigated made meaningful efforts to verify age of majority, and only 7 made explicit reference to the risks of uncontrolled gambling (Smeaton and Griffiths, 2004). A review of 60 popular Internet poker, casino and sports-betting sites by Wiebe (2006) revealed wide variations in the extent and types of player protection strategies. At one end, some sites simply provided a statement concerning age limits or a link to a Gamblers Anonymous site. At the other end, there were sites that provided self-exclusion options, an on-site counselor, and opportunities for setting time, money and loss limits (Sychold, 2003; Wiebe, 2006). It is important to note, however, that while the majority of online gamblers believe responsible gambling features are useful (eCOGRA, 2007), they are not as enthusiastic about having them automatically applied to all players.

Some of this variation in responsible gambling practices has to do with jurisdictional regulatory differences. Some jurisdictions require that online players be allowed to bar themselves from the site, or to set loss or betting limits, or limits on the size of the deposits they can place into their account. Some jurisdictions (e.g., Alderney in the Channel Islands) allow exclusion of a gambler in response to a petition from a family member (American Gaming Association, 2006a). Sweden has a voluntary system that allows a player’s behaviour to be monitored and analyzed (Sveriges Radio International, 2007). Once a person is identified by the system as being at risk, they do not receive any more advertising, and they are urged to consider their gambling habits, work out a gambling budget, and take a test for gambling addiction. Similar to land-based gambling, the Netherlands developed one of the world’s most proactive set of responsible gambling measures. In addition to bans and spending limits, Holland Casino Digitaal set a maximum play limit of €100 per week for ages 18 – 23; allowed players to impose limitations on *visit* frequency; and potentially intervened with players observed to have sudden increases in gambling expenditure or frequency (van Kastel, 2006). However, Holland Casino Digitaal was not permitted to provide these online services after the Dutch parliament voted, in April 2008, to ban all forms of Internet gambling with the exception of online lotteries.

One of the significant advantages of online gambling, compared to most land-based gambling, is that all activity is electronically recorded and linked to an identifiable individual. This provides the potential for implementing automated limitations or restrictions on gambling for that individual (by the individual himself/herself or by the venue) and/or analyzing player behaviour for risk patterns (Broda et al., 2008; Nelson et al., in press; Shaffer, LaPlante, LaBrie, & Nelson, 2007). However, one of the significant disadvantages of online gambling is that if the player does not like the intervention or restrictions, he/she has 2,000 other sites to choose from.

Potential for Improved Industry Practices

The online gambling industry itself has made several attempts to create industry standards, with most of these initiatives coming from Europe. Currently, the 8 largest European online operators have an association (European Gaming & Betting Association, EGBA) with a set of industry standards they expect their members to adhere to. A recent EGBA sponsored study found that the majority of private online European operators had standards/practices that were equivalent to those of EGBA members (EGBA, 2008).

Another organization is the "E-Commerce and Online Gaming Regulation and Assurance" (eCOGRA). This is a U.K. based industry organization, launched in 2003, which certifies online sites as having prompt payments, safe storage of information, random games, honest advertising, and responsible gambling practices. However, worldwide, only a minority of sites have sought and/or received this certification. In October 2008 eCOGRA listed 120 approved sites (eCOGRA, 2008), only slightly higher than the 116 listed in August 2007 (Williams & Wood, 2007a). It should also be noted that prior organizations have attempted to ensure online player protection and have also failed to gain widespread acceptance.

The eCOGRA list of recommended responsible gambling practices is as follows (eCOGRA, 2008):

- Presence of mechanisms to try and ensure that people under 18 do not play.
- A clearly identified self-exclusion program that operates for a minimum of 6 months with no promotional materials going to that person during that time period and the option of a third party making an application.
- A link to a Player Protection and Responsible Gaming page which provides an accepted and simple self-assessment process to determine problem gambling risk and other details about self-exclusion, deposit limits, and other responsible gambling practices offered by the site.
- The ability for players to make limitations on their daily, weekly, or monthly deposits.
- A clock on the screen at all times.
- The denomination of each credit clearly displayed.

CURRENT STUDY

INTRODUCTION

The foregoing review provides some context for the present study. This investigation provides a particular focus on an area where insufficient knowledge exists: the motivations, behaviours and characteristics of Internet gamblers. It also builds upon a pilot study that the authors conducted in 2004 and 2005 that had a similar focus (see Wood and Williams, 2007a). At that time, the existing academic literature on Internet gambling was scant indeed, and most existing studies were based upon very small samples of Internet gamblers collected in the course of jurisdiction-wide prevalence surveys of gambling. Thus, during the pilot study, our primary goal was to generate a much larger sample of Internet gamblers for the purposes of conducting a preliminary exploration of their characteristics, game-play preferences, and propensity for problem gambling. Based on a review of literature pertaining to other online populations, we felt that for the pilot study it would be most fruitful to recruit Internet gamblers at the very websites they typically frequent. Thus, we ran banner advertisements at several Internet gambling portals, which are essentially gambling information websites. Clicking on the banner advertisements would link prospective respondents to an online questionnaire. The questionnaire was relatively brief, taking only about 10 minutes to complete, and participants were offered a small participation incentive (worth $4 US) as compensation for their time. Banner advertisements were run for a period of 5 months, and we generated a self-selected sample of 1,920 Internet gamblers. Among other things, the pilot study supported existing speculations and observations that Internet gamblers are more likely to be young, male and at much higher risk of problem gambling. Unfortunately, given the self-selected nature of the sample, it was difficult to know the extent to which the pilot study results could be generalized to the population of Internet gamblers as a whole. Importantly, however, our pilot study confirmed the utility of using online sampling techniques for generating a sizeable sample of Internet gamblers.

The present study built directly upon the successes and lessons learned from the pilot. Rather than relying solely upon a self-selected online sample, the present study took a two-pronged approach to data collection. As we elaborate in more detail in the sections ahead, the first prong involved a random digit dial (RDD) Telephone Survey of Canadian adults. A total of 8,498 adults were surveyed, of whom 6,010 were gamblers, including 179 Internet gamblers (299 if including Internet stock gambling). Data from the Telephone Survey was weighted according to provincial population, household size, age, and gender, in order to ensure maximum representativeness. The second prong of our data collection was an International Online Survey, similar to that conducted in the pilot study. Using banner advertisements, we recruited participants at a popular Internet gambling website to participate in a multi-part online survey. Using this method, 12,521 people, from 105 countries, completed one or more sections of the online survey. Within this group there were 7,921 people who provided comprehensive information about their gambling behaviour, 1,954 of whom were Internet gamblers (2,241 including Internet stock market gambling). Most importantly, however, to correct for the self-selected bias of the online sample, a weighting factor was calculated that matched the characteristics of the subsample of Canadian Internet Gamblers from the International Online Survey to the characteristics of the more representative Canadian Internet Gamblers from the

Canadian Telephone Survey. This weighting factor was then applied to the entire International Online sample to make this much larger and richer data set more representative.

Results from the two surveys allow us to explore several important issues and themes:

1. Current prevalence of gambling in Canada
2. Current prevalence of Internet gambling in Canada
3. Current prevalence of problem gambling in Canada
4. Demographic characteristics of Canadian and International Internet gamblers
5. Substance use and health patterns of Canadian and International Internet gamblers
6. Motivations for gambling on the Internet
7. Game play patterns of Canadian and International Internet gamblers (e.g., types of games, frequency, expenditures, time of day, etc.)
8. Problem gambling among Internet gamblers (prevalence, predictive characteristics, extent to which Internet gambling has contributed to these problems)

Importantly, given the composition of our samples, we are able to statistically compare Internet gamblers, on each of these previously mentioned issues, to their Non-Internet gambling counterparts. We are also able to compare Canadian and International Internet gamblers.

The International Online Survey provided detailed feedback to participants concerning their gambling behaviour and was intended to also be an intervention to prevent problem gambling and/or to change current problematic gambling behaviour. Thus, feedback we solicited from participants also provides us with information about the potential utility of an online prevention/awareness/treatment site delivered in this manner.

METHOD

Canadian Telephone Survey

The Institute for Social Research (ISR) at York University in Toronto was contracted to conduct a random digit dial (RDD) telephone survey of 8,498 Canadians (50% of the sample allocated to Ontario residents) using a computer-assisted telephone interview (CATI). Participants were told “We’re conducting a study about gambling on behalf of researchers at the University of Lethbridge and we would like to conduct an interview with someone in your household, whether or not they gamble.”

The following procedures were used to ensure optimal random sampling and valid self-report:

- The telephone number databank, from which numbers were randomly drawn, included unlisted numbers, and excluded cell phones to reduce multiple sampling of the same household.
- The household interviewee was randomly selected by requesting the interview be conducted with the adult (18+) having the next birthday.
- Maximal effort was made to complete an interview with the randomly designated person.
    - There were exhaustive attempts to contact the person. In some cases this meant phoning *48 times* over several months to establish contact (substantially more than the maximum number of contact attempts in other Canadian studies). Average number of contact attempts before completion was 4.9 (*SD* = 4.6).
    - The majority of the phoning occurred in the evening and on weekends.
    - Most refusals were contacted again at a later time and asked to reconsider doing the survey (1,585 refusals agreed to do the survey when asked a second time).
    - The survey was kept short to increase the chances the person would participate (average of 12.7 minutes; *SD* = 5.3 minutes).
    - The survey was conducted either in English or French, depending on the respondent’s preference.
- Phone calls were spread over an 18 month period, from January 2006 to June 2007, to mitigate any seasonal fluctuations in gambling behaviour and to maximize the chances of contacting the person.
- These exhaustive attempts at contact also ensured that problem gamblers were adequately represented, as both the present study and a prior study (Williams & Wood, 2007b), have established that 95% of contactable problem gamblers are contacted by 15 call attempts.[15]
- The interviewer’s work received periodic visual and audio monitoring for quality control by a supervisor.
- The importance of honesty was explained and emphasized at the beginning of the interview.

[15] In the present study, 4.9 was the average number of contact attempts for nonproblem gamblers and 5.5 for problem gamblers.

Questionnaire

The Canadian Telephone Survey Questionnaire (Appendix A) had 8 main sections:

1. *Screening Questions.* These were used to establish whether the person had gambled in the past 12 months and thus, which sections should be administered.
2. *Gambling Behaviour.* Types, frequency, and expenditure, using questions with optimal wording to collect this information (Wood & Williams, 2007b).
3. *Stock Market Gambling*. Involvement in high risk stocks, options and futures as well as 'day trading'.
4. *Definition of Gambling.* (Only administered to a random subsample of 2,000 people). An assessment of which activities constitute gambling.
5. *Gambling Attitudes Scale.* (Only administered to a random subsample of 2,000 people). People's beliefs about the harms versus benefits, morality of gambling, and appropriate policy concerning legalization. Score range of -3 to +3 with positive scores denoting positive attitudes and negative scores denoting negative attitudes. The present authors have administered this scale to over 20,000 individuals in the past few years. Normative data for the scale as well as its technical characteristics (reliability and validity) are currently being written up for publication.
6. *Gambling Fallacies Scale.* (Only administered to a random subsample of 2,000 people). A 10 item test of resistance to common gambling fallacies. Score range of 0 to 10 with positive scores denoting greater resistance. The present authors have administered this scale to over 20,000 individuals in the past few years. Normative data for this scale as well as its technical characteristics (reliability and validity) are currently being written up for publication.
7. *Problem Gambling.* Administration of the 29 unique items comprising the Canadian Problem Gambling Index (CPGI),[16] NORC DSM-IV Screen (NODS), South Oaks Gambling Screen (SOGS), and the Problem and Pathological Gambling Measure (PPGM)[17]. Scale order was counterbalanced; once a question was asked its equivalent question in the other scale(s) was not asked. (Note: the SOGS, NODS, and PPGM were only administered to random subsample of 2,000 people).
8. *Demographics.*

Response Rate

An overall response rate of 45.6% to the telephone survey was achieved using calculations recommended by the Council of American Survey Research Organizations (CASRO, 1982) as seen below. Essentially, this is the number of completions divided by the estimated number of eligible respondents.

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[16] Score of 0 = Nonproblem Gambler; 1-2 = Low Risk Gambler; 3-7 = Moderate Problem Gambler; 8 – 27 = Severe Problem Gambler.
[17] PPGM is an experimental measure of problem gambling that is under investigation by the present authors.

Table 2. Response Rate Calculations in the Canadian Telephone Survey

1	Completions	8496
2	Refusals	7939
3	Callbacks	1023
4	Ill/Aged/Language/Absent	1836
5	Not in Service	2765
6	No adult/group home/business	478
7	Never answered/answering machine	1503
Eligibles (1 + 2 + 3)		17458
Not Eligibles (4 + 5 + 6)		5079
Eligibility not determined (7)		1503
Household Eligibility rate: Eligibles ÷ (Eligibles + Not Eligibles)		0.77
Estimated # of Eligibles: Eligibles + Estimated # Eligibles from Never Answered		18622
Response rate: (Completions ÷ Estimated # of Eligibles) x 100		**45.6%**

Weighting

To ensure that the sample was a representative sample of Canadian adults, the data was weighted by: a) *provincial size* to ensure that each province's representation in the final data set was proportionate to its population in 2006/2007; b) *household size* to correct for the undersampling of individuals from large households and the oversampling of people from small households; c) *age by gender* to ensure that the sample approximated the prevalence of each age by gender grouping in the 2006 Canadian census (essentially correcting for the undersampling of males and younger people that typically occurs in telephone surveys).

International Online Survey

The advantage of the Canadian Telephone Survey is that it provides a reasonably representative sample that permits findings to be generalized to the entire population of Canadian gamblers and Canadian Internet gamblers. However, the disadvantage of the Canadian Telephone Survey is that the prevalence rate of Internet gambling is so low, even with a total sample size > 8,000, it is unlikely to capture more than 100 – 200 Internet gamblers. Hence, the primary objective of the International Online Survey was to generate a substantially larger overall sample of Internet gamblers, so that their characteristics might be seen and explored in greater detail. A secondary objective was to investigate how Canadian Internet gamblers differ from Internet gamblers from other countries.

Based on our experiences in our pilot study of online survey methodology (Wood & Williams, 2007a), we decided to recruit participants at a prominent gambling web-portal, www.casinocity.com.[18] Casino City was launched in 1995 as the very first casino directory on the Internet. It is currently one of the most popular online gambling portals (if not the most popular), receiving more than half a million visits per month (personal communication May 2008, Andrea Mullaney, Casino City). Its attraction to gamblers concerns the fact that it provides: 1) a comprehensive listing of all 2,000 Internet gambling sites, with details concerning the particular games each site offers, and from which countries each site accepts wagers; 2) a comprehensive listing of the details of nearly 5,000 land-based casinos in different countries; 3) links to gaming news and publications; 4) links to playing strategy; and, 5) a gaming business directory. Several web-based gambling portals cater solely to Internet gamblers. However, we felt that recruiting from a prominent site, that was known around the world to both land-based and online gamblers, would ensure wider, more representative participation, as well as the ability to draw some important statistical comparisons between Internet gamblers and Non-Internet gamblers.

We purchased advertising space on www.casinocity.com, and placed 2 different banner links on the portal from June 15 through December 15, 2007. In total, we purchased 2 million impressions, meaning our banner links were shown 2 million times over the 6-month time span. The banner links contained the University of Lethbridge logo, along with professionally designed graphics and captions that would appeal to gamblers ("Test your gambling knowledge; take the University of Lethbridge Survey", and "See how your gambling knowledge, attitudes and behavior compare to other people"). Clicking the link directed participants to a homepage for our online questionnaire (www.GamblingInformation.org) (Appendix B). At the questionnaire homepage, participants were able to choose from seven languages (English, French, German, Italian, Spanish, Mandarin, and Japanese). These particular languages were chosen as they are the most common languages offered on online gambling sites. Translations of the questionnaire were all done by professional translating services. Having selected a language, participants were then presented with an informed consent preamble, which outlined the purpose of the study, and which reminded potential participants about the voluntary nature of their participation. No personally identifying information was collected about participants, and all participants were assured of complete anonymity in any subsequent research reports or publications. This home page also contained contact information for the primary researchers, in the event that participants had further questions about the study. In order to minimize repeat responses, a "cookie" was built into the survey, such that those who attempted to repeat the survey were politely denied access and reminded that they had already completed the survey once before.[19] This online recruitment protocol was approved by the University of Lethbridge research ethics committee.

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[18] Gambling web portals provide listings of available gambling venues/sites in different jurisdictions.

[19] It is, of course, possible for people to remove cookies from their computer hard drive. However, our pilot study of online research methodology enabled us to identify repeat responders, and we found that only 38 respondents, out of 1844, or 2.1%, were "repeat customers" (Wood & Williams, 2007a). Thus, we are confident that repeat responders pose only a small and insignificant contribution to the data set.

Questionnaire

The International Online Survey contained 177 questions (see Appendix C), although the exact number of questions that any individual received depended on a) which sections the person chose to complete; b) his/her problem gambling status; c) whether or not he/she was an Internet gambler. The vast majority of questions were fixed-choice, although there were several open-ended questions. The questionnaire had 8 sections with the order of these sections rotated half way through the study:

1. *Gambling Behavior Scale*. This section collected information about the types of gambling engaged in, frequency of gambling, and gambling expenditure (including detailed information about Internet and Stock Market gambling).
2. *Gambling Attitudes Scale*. People's beliefs about the harms versus benefits, morality of gambling, and appropriate policy concerning legalization. Score range of -3 to +3 with positive scores denoting positive attitudes and negative scores denoting negative attitudes.
3. *Gambling Definition Test.* An assessment of which activities constitute gambling.
4. *Gambling Knowledge and Beliefs Test.* This is the Gambling Fallacies Scale, which is a test of resistance to common gambling fallacies, with a score range of 0 to 10 (higher scores reflecting greater resistance).
5. *Test Your Prediction Skill*. This consisted of 6 questions that asked people to predict which random number/object/color/etc. would subsequently appear and their confidence in each of their predictions.
6. *Problem Gambling Risk Assessment & Demographics*. This section asked questions that collected demographic and behavioural information pertinent to their statistical risk of becoming a problem gambler.
7. *Problem Gambling Assessment*. Administration of the 29 unique items comprising the CPGI, NODS, SOGS, and the PPGM (scale order counterbalanced; once a question was asked its equivalent question in the other scale(s) was not asked).
8. *Give us Feedback.* Questions about how useful our information was, whether they expected to change their gambling behaviour as a result of this information, and what things we could do to improve our questionnaire and website.

Importantly, the International Online Survey was an *interactive* questionnaire that provided feedback to participants. The purpose of this was twofold: a) to ensure the questionnaire was engaging and interesting for the purposes of recruitment; and b) to provide an intervention that might prevent future problem gambling and/or alter current problematic gambling behaviour. More specifically, after every section, participants were presented with detailed charts comparing their answers/scores/profile to other people taking the survey (broken down by age and gender) to illustrate how 'normal' or 'typical' their behaviour was. For example, after the Gambling Behaviour section, participants were shown how they compared in terms of: number of gambling formats engaged in; frequency of gambling; totally monthly expenditure; and our projection of their yearly expenditure. Certain sections (Gambling Knowledge & Beliefs Test; Gambling Definition Test) also provided feedback on the correct answer to each question along with a detailed explanation. The Problem Gambling Risk Assessment and Problem Gambling Assessment sections gave people feedback on the number of risk factors they had for becoming a problem gambler; their current problem gambling status (as assessed by the CPGI); and Internet links to treatment resources. The Test Your Prediction Skill section provided people with a) the overall prediction accuracy of everyone who attempted to guess which random number/object/color/etc. would next appear against what would be expected mathematically (to illustrate there is no difference), and b) a graph that plotted the random association between people's prediction confidence and actual prediction success (i.e. there was an overall Pearson correlation of .00).

Weighting

As mentioned earlier, the major problem with online surveys collected in this fashion is that the sample is self-selected and likely biased in some way. Furthermore, there is currently no reliable way of determining what the true population characteristics of International Internet gamblers, thereby making it difficult to determine the appropriate weighting to correct for biases. However, the methodological approach used in the present study allows us to rectify this problem to some extent. The Canadian Telephone Survey contains a representative group of Canadian Internet Gamblers (n = 179). The International Online Survey also contains a small sample of Canadian Internet Gamblers (n = 171). The demographic and behavioural characteristics of Canadian Internet Gamblers should be the same, regardless of whether they are surveyed online or on the telephone. Thus, the first step is to determine what differences exist between the two samples, in order to calculate corrective weightings that could be applied to the Canadian Internet Gamblers from the Online Survey to match the characteristics of Canadian Internet Gamblers from the Telephone Survey. Once these weighting factors are determined, then they can be applied to the entire Online sample to make this data set (containing a much larger sample of Internet gamblers) much more representative.[20]

In telephone surveys, the typical sampling biases concern the oversampling of people from smaller households and the under sampling of young people and males (who are more difficult to contact as well as being less likely to participate). However, the sampling biases will be different for an online gambling survey, presented on an online gambling portal, where the solicitation is 'test your gambling IQ' & 'see how your gambling knowledge, attitudes and behavior compare to other people'. More specifically, we would expect an oversampling of: gamblers; Internet gamblers; heavier gamblers; gamblers potentially concerned about their behaviour; and people familiar with Internet (younger; better education; male). (Because the main purpose of the International Online data is to obtain an oversampling of gamblers and Internet gamblers, it is not necessary or desirable to correct for the oversampling of these groups, only the other variables.) An examination of the differences between Canadian Internet gamblers recruited from the Canadian Telephone Survey versus the International Online Survey is presented below.

[20] This does require the assumption that the sampling biases of online Canadian Internet gamblers are similar to the sampling biases of online Internet gamblers from other countries. While we believe this is a reasonable assumption (both theoretically, and based on the data), it is a difficult one to unambiguously prove. Nonetheless, this procedure still represents a substantial methodological improvement over not weighting the data at all (which has been done in all other online surveys collected in this manner).

Table 3. Demographic Characteristics and Gambling Behaviour of Canadian Internet Gamblers from both the Telephone and Online Surveys (Unweighted)

	Canadian Phone Survey	International Online Survey
% Male	82.4%	84.8%
Age	35.53	42.01
Educational Level [21]	6.48	6.51
Household Income [22]	7.46	6.62
Gambling Attitude Score (- 3 to +3)[23]	0.67	0.78
Gambling Fallacies Score (0 to 10)[24]	6.91	7.63
# Gambling Types Played	4.70	4.27
Net Win/Loss Monthly Average	-$541.09	-$107.63
Net Win/Loss Monthly Median	-$89.00	-$109.00
CPGI Total	1.62	3.13

Statistically, the main differences between the 2 samples are in CPGI total, Net Monthly Win/Loss, and age.[25] Weightings for each of these 3 variables were calculated and used, singly and in combination, to determine which combination produced the best match between the Online and Telephone samples. This was determined to be the Gambling Expenditure Weight x CPGI Total Score Weight. The match between the samples using this combined weighting variable is seen below.

[21] Ranging from 1 = no schooling to 9 = professional degree (law, medicine, dentistry) or graduate degree (Masters, PhD).
[22] Average household income category, with categories ranging from 1 = < $20,000 to 12 = > $150,000. 7.46 is roughly equivalent to ~$79,000 and 6.62 is roughly equivalent to ~$72,000.
[23] Negative or positive attitudes toward gambling with positive scores denoting positive attitudes.
[24] Resistance to gambling fallacies, with higher scores denoting greater resistance.
[25] Gambling Fallacies are also close to being statistically different. However, the higher scores in the Online group (indicating fewer fallacies) may well be due to this test being easier when the response options are presented on a screen and there are no time limits to answer them.

Table 4. Demographic Characteristics and Gambling Behaviour of Canadian Internet Gamblers from both the Telephone and Online Surveys after Weighting

	Canadian Phone Survey	International Online Survey
% Male	82.4%	85.9%
Age	35.53	43.87
Educational Level [26]	6.48	6.50
Household Income [27]	7.46	6.84
Gambling Attitude Score	0.67	0.87
Gambling Fallacies Score	6.91	7.51
# Gambling Types Played	4.70	4.19
Net Win/Loss Monthly Average	-$541.09	-$166.55
Net Win/Loss Monthly Median	-$89.00	-$90.00
CPGI Total	1.62	1.62

This weighting variable was then applied to the entire International Online data set to make this data set (containing a much larger sample of Internet gamblers) more representative.

[26] Ranging from 1 = no schooling to 9 = professional degree (law, medicine, dentistry) or graduate degree (Masters, PhD).
[27] Household income category, ranging from 1 = < $20,000 to 12 = > $150,000.

RESULTS: DESCRIPTIVE STATISTICS & CROSS-TABULATIONS

Samples

A total of 8,498 adults were surveyed in the Canadian Telephone Survey, of whom 6,010 were gamblers, including 179 Internet gamblers (299 if include Internet stock market gambling).

A total of 12,521 people completed one or more sections of the International Online Survey. Within this group, there were 7,921 people who provided comprehensive information about their gambling behaviour, 1,954 of which were Internet gamblers (2,241 if include Internet stock market gambling). People from 105 different countries participated, with the primary countries being: United States (76.3%); Canada (9.6%); United Kingdom (3.3%); Italy (0.7%); Australia (0.5%); New Zealand (0.4%); Ireland (0.4%); Argentina (0.3%); Germany (0.3%); Finland (0.3%); France (0.3%); Israel (0.3%); Singapore (0.3%); and South Africa (0.3%). Although there are no reliable figures on the prevalence of various nationalities among Internet gamblers, it would seem that the present sample would probably need to include more Europeans and Asians to be truly representative of International Internet gamblers. RS*e*Consulting (2006) estimates that 49% of Internet gamblers are from the Asia/Pacific region; 28-35% from the U.S, and 23% from Europe. Perhaps a more reliable estimate comes from the more detailed calculations of Global Betting and Gaming Consultants (2008) who estimate that in 2007 approximately 44% of Internet gamblers were European; 35% from North America; 11% from Asia and the Middle East; and 6% from Oceania.

Prevalence of Gambling in Canada [28]

In the present study, a gambler is defined as anyone who engaged in any form of gambling at least once in the past 12 months (i.e., lottery tickets, instant win tickets, bingo, horse racing, EGMs, casino table games, sports betting, betting on games of skill against other people, Internet gambling, purchasing/selling high risk stocks or day trading on the stock market, or any other event where someone wagered something of value on an uncertain outcome in the hopes of winning something of additional value. The Canadian Telephone Survey determined that the past-year adult prevalence rate of gambling in Canada in 2006/2007 is **70.7%,** with an inter-provincial range of 68.1% in Saskatchewan to 75.4% in Newfoundland. There was no significant difference in the prevalence rate between provinces, $X^2(9) = 5.11$, $p = .825$.

Prevalence of Problem Gambling in Canada

The Canadian Telephone Survey determined that the past-year adult combined prevalence rate of moderate and severe problem gambling in Canada in 2006/2007 is **3.2%,** with an inter-provincial range of 1.7% in Quebec to 6.0% in Nova Scotia.

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[28] A more detailed description of the gambling patterns of Canadian gamblers and problem gamblers will be contained in subsequent publications, as this is not the focus of the present investigation.

Table 5. CPGI Categorizations in Canada in 2006/2007

Non Gambler	29.3%
Non Problem Gambler	61.4%
Low Risk Gambler	6.1%
Moderate Problem Gambler	2.4%
Severe Problem Gambler	0.8%

There was a significant difference in the prevalence rate of problem gambling between provinces, $X^2(9) = 31.2$, $p = .000$. A z test of column proportions ($p < .05$ with Bonferroni adjustment for multiple comparisons) determined that the moderate + severe problem gambling prevalence rate in Quebec (1.7%) was significantly lower than Nova Scotia (6.0%) and British Columbia (4.4%). Rates in other provinces were 4.0% Manitoba; 3.6% Alberta; 3.5% Ontario; 2.8%; New Brunswick; and 1.9% Saskatchewan. Note that the rates for Prince Edward Island and Newfoundland are not reported due to small sample sizes. The sample size for each province was as follows: PEI = 36; NF = 138; NB = 212; SK = 263; NS = 265; MB = 329; AB = 829; BC = 1113; QU = 2126; ONT = 3187.

Prevalence of Internet Gambling in Canada

'Internet gambling,' in the present study, includes the online purchase of land-based lottery tickets, playing interactive online lotteries, online bingo, online casinos, placing bets with online sports or race books, playing online games for money against other people, and the online purchase of high risk stocks[29], options or futures as well as online 'day trading'[30] on the stock market. This constitutes a somewhat more restrictive definition than 'remote gambling,' which refers to all gambling that is not conducted face-to-face and includes using a cell phone, land phone, or mobile device to gamble (e.g., Juniper Research, 2008), or gambling via interactive television.

The Canadian Telephone Survey determined that the past-year adult prevalence rate of Internet gambling in Canada, in 2006/2007, is **2.1%, or 3.5%** if you include people who use the Internet to buy and sell high risk stocks, options or futures and/or 'day trade'. The decision to include or exclude stock market gamblers is an important one, as it significantly alters not only the overall prevalence rate, but the results of all the subsequent analyses concerning the characteristics of Internet gamblers in terms of demographics, general Internet activities, substance use and health, motivations for gambling on the Internet, game play patterns, and problem gambling. There are valid reasons to both include and exclude Internet stock market gamblers in the overall analysis. From a theoretical standpoint, this type of stock market involvement has motivations more similar to 'gambling' than 'investment', as well as sharing the

[29] A 'high risk stock' is defined in the present surveys as "a stock from a company that has a real risk of going out of business OR having their stock price double or triple in value in the next year". It differs from a blue chip stock in that a blue chip stock is "a stock from a well established company with good earning potential like Walmart or Microsoft that is also very unlikely to go out of business".

[30] Defined as a pattern of stock market involvement that focuses on buying and selling stocks on the same day in an attempt to take advantage of short temporal trends in the market.

characteristic of having a negative mathematical expectation (unlike stock market investment). Furthermore, the majority of Internet stock market players also engage in the more traditional forms of Internet gambling (60.1% of Canadian Internet stock market players and 89.6% of International Internet stock market players). Table 6 provides a profile of Canadian Internet gamblers, from the Canadian Telephone Survey, with both the exclusion and inclusion of Internet stock market gamblers. As can be seen, while some similarities exist, there are some notable differences between the 2 groups. In the end, the present authors decided there were sufficient differences between the 2 groups to *exclude* Internet stock market gambling from the analyses.[31]

Table 6. Profile of Canadian Internet Gamblers with the Exclusion and Inclusion of Internet Stock Market Gamblers

	Canadian Internet Gamblers excluding Internet Stock Market Gamblers	Canadian Internet Gamblers including Internet Stock Market Gamblers
Male	82.4%	83.8%
Age	35.5	39.3
Completed college or university	40.0%	53.7%
Married or common-law	45.7%	58.7%
Employed fulltime[32]	65.9%	73.8%
Household income	$74,600	$115,600
Western European Ethnicity	63.4%	74.1%
Past month tobacco use	39.0%	32.2%
Past month alcohol use	76.5%	80.2%
Past month other drug use	23.3%	16.0%
Past year serious mental health problem	4.5%	4.1%
Physical disability or chronic health problem that limits activity	6.7%	5.2%
# Gambling types played	4.7	4.3
Net Win/Loss monthly average	-$541.09	-$388.86
Net Win/Loss monthly median	-$89.00	-$61.00
CPGI total	1.62	1.14
Rate of problem gambling	17.1%	12.7%

The exclusion of Internet stock market gamblers also permits a better comparison to prior rates of Internet gambling in Canada, all of which have excluded this type. Table 7 lists all Canadian prevalence studies that have assessed the past year prevalence of Internet gambling among adults. As can be seen, although overall rates remain quite low, they appear to have increased since 2004. It is also interesting to note that the higher rates found in the province of British Columbia were also found in the present study (as will be seen in Table 9).

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[31] A separate publication is being prepared on Stock Market gambling and Stock Market gamblers.
[32] Includes self-employed

Table 7. Prevalence of Internet Gambling among Canadian Adults [33]

Year	Jurisdiction	Past Year Prevalence	Study
1998	Alberta	0.2%	Wynne (1998)
1999	CANADA	0.4%	Azmier (2000)
2001	Saskatchewan	0.2%	Wynne (2002)
	Alberta	0.3%	Smith & Wynne (2002)
	Manitoba	0.3%	Brown et al. (2002)
	New Brunswick	~0.5%	Focal Research Consultants (2001)
	Ontario	0.6%	Wiebe et al. (2001)
2002	British Columbia	2.0%	BC Ministry of Public Safety (2003)
	Quebec	0.3%	Ladouceur et al. (2005)
2003	Nova Scotia	0.2%	Focal Research (2004)
2005	Ontario	1.7%	Wiebe et al. (2006)
	Prince Edward Island	0.7%	Doiron (2006)
2006	Manitoba	1.5%	Lemaire et al. (2008)
2007	**CANADA**	**2.1%**	**Present Study**
	British Columbia	3.0%	Ipsos-Reid & Gemini Research (2008)

To further contextualize these results, Table 8 shows the past year prevalence of Internet gambling among Canadian gamblers relative to the past year prevalence of other forms of gambling. As can be seen, Internet gambling is among the least common form of gambling among Canadian gamblers in 2006/2007.

Table 8. Past Year Prevalence of Different Forms of Gambling among Canadian Adult Gamblers in 2006/2007

Format	Percentage
Lottery Tickets	92.9
Instant Win Tickets	67.5
Electronic Gambling Machines	33.9
Bingo	10.4
Sports Betting	8.9
Casino Table Games	8.1
Betting on Games against Other People (e.g., Poker)	8.0
Horse Race Betting	5.1

[33] This table excludes studies where the rate of Internet gambling was not reported or could not be uniquely determined (e.g., Canadian Community Health Survey 1.2 in 2002; Newfoundland 2005 prevalence study). It also excludes the Centre for Addiction and Mental Health (CAMH) surveys of 2000 – 2003 which found rates of Internet gambling of 3 - 7% for Ontario adults. The CAMH studies are flawed due to not providing a 'never' or 'not at all' option when reading out the response options to the question 'In the past 12 months how often did you bet money over the Internet' (i.e., people who responded 'never' were actually indicating a response option that was not listed).

Internet Gambling (not including stocks)	3.0
High Risk Stocks, Options, Futures or Day Trading	2.8

Demographics of Internet Gamblers

Canada

The Canadian Telephone Survey found a number of differences between Canadian Internet and Non-Internet gamblers (see Table 9). Looking at the gender distribution of our sample, readers will observe that the proportion of males and females in our Non-Internet sub-sample is equal. In the Internet gambling sub-sample, however, there is a substantially greater proportion of men (82.4%) than women (17.6%). On average, Internet gamblers were also substantially younger than Non-Internet gamblers, at 35.5 and 46.3 average years of age respectively. Given the relative youth of the Internet gamblers in our sample, it is not surprising to observe that they are far less likely to have ever been married (49.0% never married), when compared to Non-Internet gamblers (19.5% never married). In terms of highest level of education, both the Internet and Non-Internet subsamples are relatively well-educated, with a slight advantage to the Internet gamblers. Employment status was roughly equivalent with the exception of no homemakers among the Internet gamblers as well as a greater proportion of students and a lower proportion of retirees. Despite their younger age and the fact there is a significant proportion of students, the Internet gamblers in our study report a higher average annual household income of $74,600 CAD, compared to $60,900 CAD for the Non-Internet gamblers. In fact, 37.7% of Internet gamblers report household income in excess of $100,000 CAD, versus 23.2% among the Non-Internet gamblers. Household debt also tended to be higher among Internet gamblers. In terms of ethnicity, the two samples were fairly similar across most categories. The prevalence of Internet gambling amongst gamblers varies quite a bit between provinces, ranging from a low of 1% in Quebec to 8.2% in New Brunswick, although the sample sizes are very small. (Note also that Prince Edward Island and Newfoundland are not reported because of small sample sizes, *n* = 26 for PEI; *n* = 104 for NF).

Table 9. Comparative Demographic Characteristics of Canadian Internet and Non-Internet Gamblers

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Gender		
Male	82.4	50.0
Female	17.6	50.0

Age		
18-19	4.0	2.7
20-29	47.3	16.4
30-39	18.8	17.9
40-49	15.4	21.7
50-59	2.6	19.1
60-69	4.2	12.2
70-79	6.3	6.8
80+	1.3	3.3
Average	35.5	46.3
Marital Status		
Married	33.7	52.2
Living with partner	12.0	14.3
Widowed	1.8	5.2
Divorced or separated	3.4	8.7
Never married	49.0	19.5
Education		
Less than high school	5.8	13.2
Completed high school	28.6	26.4
Some technical school/college/university	20.5	13.2
Completed technical school	5.0	4.0
Completed college/university	34.7	35.5
Professional or graduate degree	5.3	7.7
Employment		
Employed full-time	53.9	48.5
Employed part-time	7.0	7.6
Homemaker	0.0	4.2
Unemployed and seeking work	1.7	2.4
Retired	8.5	17.9
Student	14.3	5.3
Disability	0.2	1.0
Self-employed	12.0	11.3
Other	2.3	1.8
Household Income		
Less than $29,999	4.9	17.9
$30,000 - $49,999	21.8	20.9
$50,000 - $69,999	16.3	18.6
$70,000 - $89,999	14.3	14.6
$90,000 - $119,999	17.8	13.5
$120,000 - $149,999	7.3	6.5
More than $150,000	17.6	7.9
Average	$74,600	$60,900

Household Debt		
Less than $1,000	21.0	30.8
Median	$30,000	$15,000
Average	$78,056	$57,871
Ethnicity		
Aboriginal, Inuit, Métis	3.9	1.7
African	0.5	1.2
Asian (Eastern)	5.3	2.8
Asian (Southern)	0.8	1.5
European (Eastern)	7.5	5.4
European (Western)	63.4	69.3
Latin American	0.5	0.2
Other	2.7	2.3
Province		
New Brunswick (n = 146)	8.2	91.8
British Columbia (n = 776)	5.0	95.0
Ontario (n = 2245)	3.5	96.5
Nova Scotia (n = 193)	3.1	96.9
Manitoba (n = 233)	2.6	97.4
Alberta (n = 583)	2.4	97.6
Saskatchewan (n = 179)	1.7	98.3
Quebec (n = 1525)	1.0	99.0

Worldwide

The demographic characteristics of our International sample are presented in Table 10. Overall, the International comparison yields many similarities to the findings from the Canadian comparison. Similar to the Canadian sample, the International online gamblers were far more likely to be male (78%) than female (22%) when compared to Non-Internet gamblers. The International Internet gamblers were also, on average, younger (45.7 years) than their land-based gambling counterparts (51.2 years), although the difference is not as great as that which was observed in the age comparisons for the Canadian study. An important policy concern with online gambling is the extent to which it is utilized by underage gamblers. The present study found that only 0.4% of International Internet gamblers were under 18, a rate even less than found in Non-Internet gamblers (0.9%).[34] Similar to the Canadian sample, when compared to Non-Internet gamblers, the Internet gamblers were less likely to be married (53.2%), more likely to employed full time (62.7%), more likely to be a student (4.4%), and reported higher average household income ($60,100 US). However, the International Internet gamblers had a lower rate of single people compared to the Canadian sample. Unlike the Canadian sample, the household debt of International Internet gamblers is not substantially different from that of Non-Internet gamblers. Ethnic background did not differ in substantial ways between Internet and Non-Internet gamblers. The majority of both subsamples were either of western or eastern European descent (80% for Internet gamblers, and 76.4% for Non-Internet gamblers), with relatively few

[34] Investigation of underage gambling was not done with the Canadian Telephone Survey because of ethical and logistical issues (i.e., need to obtain parental permission to survey underage youth over the phone).

in each of the other categories. The International sample included gamblers from 105 countries, with the main countries being the United States, Canada, and the United Kingdom. As can be seen, there are differences in the proportion of gamblers from each country or region that report gambling on the Internet, ranging from 56.4% in the United Kingdom to 24.5% in the United States. In general, rates appear to be highest in European jurisdictions, which is consistent with what has been found in jurisdiction-specific prevalence studies (see Table 46).[35]

Table 10. Comparative Demographic Characteristics of International Internet and Non-Internet Gamblers

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Gender		
Male	78.0	58.0
Female	22.0	42.0
Age		
< 18	0.4	0.9
18-19	1.7	0.8
20-29	15.9	8.6
30-39	17.2	10.7
40-49	22.5	19.5
50-59	23.6	29.6
60-69	14.5	19.9
70-79	3.6	8.0
80+	0.7	1.8
Average	45.7	51.2
Marital Status		
Married	53.2	61.9
Living with partner	13.3	8.6
Widowed	2.1	3.7
Divorced or separated	11.8	11.6
Never married	19.6	14.2
Education		
Less than high school	4.3	5.5
Completed high school	18.2	19.7
Some technical school/college/university	28.4	26.9
Completed technical school	8.0	8.1
Completed college/university	30.2	27.8
Professional or graduate degree	11.0	11.9

[35] It is also important to remember that because survey recruitment occurred on an online gambling portal, that the overall rates of Internet gambling for each country/region reported in Table 10 are significantly higher than actual rates.

Employment		
Employed full-time	62.7	58.0
Employed part-time	7.0	6.3
Homemaker	3.4	3.9
Unemployed and seeking work	2.4	4.7
Retired	16.6	22.6
Student	4.4	1.8
Disability/Leave/Strike	3.5	2.6
Household Income		
Less than $29,999 US	21.5	20.8
$30,000 - $49,999 US	19.0	21.5
$50,000 - $69,999 US	16.3	19.1
$70,000 - $89,999 US	14.3	13.5
$90,000 - $119,999 US	13.2	12.8
$120,000 - $149,999 US	7.3	4.9
More than $150,000 US	8.3	7.5
Average	$60,100 US	$57,600 US
Household Debt		
Less than $1,000 US	32.3	32.4
Median	$10,000 US	$14,000 US
Average	$76,728 US	$66,948 US
Ethnicity		
Aboriginal, Inuit, Métis	2.1	1.6
African	2.4	2.8
Asian (Eastern)	1.5	2.4
Asian (Southern)	1.0	1.0
European (Eastern)	17.7	20.0
European (Western)	63.1	56.4
Latin American	3.0	2.6
Other	9.2	13.1
Rate of Internet Gambling by Country/Region		
United Kingdom (*n* = 220)	56.4	43.6
Europe (*n* = 335)	54.0	46.0
Caribbean (*n* = 45)	44.4	55.6
South America (*n* = 34)	44.1	55.9
Africa (*n* = 51)[36]	39.2	60.8
Asia (*n* = 100)	33.0	67.0
Australia & New Zealand (*n* = 59)	32.2	67.8
Canada (*n* = 656)	30.9	69.1
United States (*n* = 5181)	24.5	75.5
Other (*n* = 81)	23.5	76.5

[36] 48% from South Africa

General Internet Activity of Internet Gamblers [37]

Canada

Based on prior research which suggests that online gamblers are more likely to be heavy users of the Internet, we examined the overall Internet activity of Canadian Internet gamblers relative to the activity of Canadian Non-Internet gamblers (see Table 11). Both Internet and Non-Internet gamblers were heavy email users, although a slightly higher proportion of Internet gamblers claimed to use the Internet for email messaging (97.2% versus 93.3%). Slightly less than half (47.7%) of Non-Internet gamblers claimed to use the Internet for buying goods and services, compared to 68.9% of Internet gamblers. Internet gamblers, as would likely be expected, were also more frequent Internet users. Indeed, 74.8% of Internet gamblers claimed to use the Internet daily, as opposed to 52.8% of Non-Internet gamblers who claimed to use the Internet daily.

Table 11. Comparative Internet Activity of Canadian Internet and Non-Internet Gamblers

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Use Internet for Email		
Yes	97.2	93.3
No	2.8	6.7
Use Internet to Purchase Goods & Services		
Yes	68.9	47.7
No	31.1	52.3
Days/week using Internet		
0	0.0	2.3
1	6.6	7.4
2	0.6	6.2
3	3.4	6.5
4	1.7	5.4
5	11.2	14.0
6	1.6	5.5
7	74.8	52.8
Average	6.1 days	5.3 days

[37] These questions were not asked in the International Online Study.

Substance Use and Health of Internet Gamblers

Canada

Questionnaires included a number of questions related to health and substance use. Internet gamblers were more likely to be at least casual users/consumers of both tobacco, alcohol, and street drugs ("marijuana, hash, LSD, PCP, Ecstasy, cocaine/crack, heroin, or any other street drugs"), Indeed, Canadian Internet gamblers report nearly four times (23.3%) the use of street drugs compared to Non-Internet gamblers. Nonetheless, despite higher rates of substance use, Internet gamblers were less likely to report problems with mental health, and less likely to report having a physical disability or chronic health problem that limits their activity.

Table 12. Substance Use and Health among Canadian Internet and Non-Internet Gamblers

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Substance Use		
Past month tobacco use	39.0	28.7
Past month alcohol use	76.5	72.8
Past month other drug use	23.3	6.1
Health		
Past year serious mental health problem	4.5	6.7
Physical disability or chronic health problem that limits activity	6.7	11.4

Worldwide

Similar to what we observed among the Canadian sample, the Internet gamblers in the International sample reported higher rates of tobacco, alcohol, and street drug use. Internet gamblers also reported a somewhat higher rate of substance abuse or dependence (13%), as well as a higher rate of addictions in other areas (10.4%). Both Internet and Non-Internet gamblers were relatively similar in terms of mental health problems and the presence of a significant physical disability or chronic health problem.

Table 13. Substance Use and Health among International Internet and Non-Internet Gamblers

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Substance Use		
Past month tobacco use	44.3	33.1
Past month alcohol use	72.9	66.4
Past month other drug use	11.7	5.5
Addictions[38]		
History of substance abuse or dependence	13.0	11.5
History of other addictions	10.4	6.7
Health		
Past year serious mental health problem	10.3	10.6
Physical disability or chronic health problem that limits activity	14.9	15.0

Motivations for Gambling on the Internet

Canada

In jurisdictions such as Canada, where land-based opportunities are both highly prevalent and easily accessible, one might wonder what attraction Internet gambling could offer that is not offered already in land-based gambling venues. Presumably, Internet venues must offer some sort of advantage, which makes online gambling appear a more attractive option at least some of the time. All the Internet gamblers in our study were asked to identify, from a series of fixed choices derived from our pilot study, the advantages of gambling on the Internet versus gambling in a land-based venue (see Table 14). The advantage most commonly identified among our Canadian sample (by 42.3% of respondents) was the fact that Internet opportunities are conveniently and easily accessible, 24 hours a day. Also related to the theme of convenience, 27.9% identified the fact that Internet gambling does not require driving anywhere or otherwise leaving one's home. Other advantages, identified proportionately far less often, were related to themes such as a better gaming experience (8.9%), comfort (8.6%), a lack of crowds (6.5%), greater privacy (6.1%), and higher payout rates (5.1%).

[38] The 2 questions in this section were not asked in the Canadian Telephone Survey.

Table 14. Advantages of Gambling at Internet versus Land-Based Venues (Canadian Internet Gamblers)

	Internet Gamblers (%)
24 hour availability/convenience	42.3
Don't have to drive / leave the house	27.9
Better game experience	8.9
More physically comfortable	8.6
No crowds	6.5
Greater privacy / anonymity	6.1
Higher payout rates	5.5
Less smoke / Able to smoke	3.7
No unpleasant people	1.9
Land-based gambling unavailable or illegal	1.8
Lower secondary costs (travel, food, drinks)	1.2
Other	26.0

While respondents identified a number of advantages, they also identified a number of disadvantages associated with gambling on the Internet, versus gambling in land-based venues (see Table 15). The most frequently identified disadvantage (26.5%) was the perception that Internet gambling offered a poorer social atmosphere, referring to the fact that it can be a socially isolating experience. Another 14.2% indicated that Internet gambling may be disadvantageous, insofar as it is easier to spend more money while gambling online. A further 12.5% identified concerns with the security of their monetary deposits at Internet gambling venues, and with their wins being paid out in a timely fashion.

Table 15. Disadvantages of Gambling at Internet versus Land-Based Venues (Canadian Internet Gamblers)

	Internet Gamblers (%)
Poorer social atmosphere (no crowds, too isolating)	26.5
Easier to spend more money	14.2
Worry about monetary deposits being safe / having wins paid out in timely fashion	12.5
Lack of face-to-face contact makes betting more difficult	11.6
Too convenient	11.4
Poorer physical atmosphere (lacks the lights and noise of a real casino, etc.)	8.3
Have to use credit cards rather than cash	7.3
Difficulty verifying fairness of games	6.8
More addictive	4.2

Poorer game experience	4.1
Illegality	2.6
Difficulty excluding underage gamblers	2.6
Other	17.7

Table 16 lists the main reasons that Canadian Internet gamblers opt to play at one online site over another. Reputation, recommendations from friends, and better game experience were the main reasons. A significant number of people (8.7%) reported that they did not comparison shop, the site they currently use is the first one they came across and they have stuck with it.

Table 16. Reasons influencing decision to gamble at one Internet site over another (Canadian Internet Gamblers)

	Internet Gamblers (%)
General reputation	21.7
Recommendation from friends	15.7
Better game experience/interface	12.0
Familiarity	8.7
Software used	6.5
Monetary deposits safe & wins paid out in timely fashion	6.5
Fairness of games	5.4
Comps &/or provision of monetary incentives (bonuses)	5.4
Larger range of games	4.9
Legality	3.8
Payout rates	2.7
Jurisdiction operating out of	2.7
Popularity	1.6
Stay with one site until start losing	1.1
Money goes to hospital/charity	1.1

Worldwide

When asked about the advantages of gambling online, International Internet gamblers provided answers that were very similar to those provided by the Canadian sample (see Table 17). In particular, and again related to the theme of convenience, International Internet gamblers identified 24 hour availability (56.5%), and not having to drive or leave the house (50.8%), as the two most popular advantages proffered by Internet gambling, versus gambling in a land-based venue. The least popular advantage was the perception of higher payout rates, which was identified by only 7.6% of Internet gamblers in the International sample.

Table 17. Advantages of Gambling at Internet Versus Land-Based Venues (International Internet Gamblers)

	Internet Gamblers (%)
24 hour availability/convenience	56.5
Don't have to drive / leave the house	50.8
More physically comfortable	23.3
Lower secondary costs (travel, food, drinks)	23.1
No crowds	22.5
Greater privacy / anonymity	22.3
No unpleasant people	20.5
Better game experience	18.4
Less smoke	16.9
Less noise	16.5
Land-based gambling unavailable or illegal	14.0
Able to smoke	12.5
Higher payout rates	7.6
Other	4.3

When asked about the disadvantages of gambling online, International Internet gamblers most frequently identified issues related to fairness and security (see Table 18). Indeed, having been identified by 36.1% of International Internet gamblers, the most commonly identified disadvantage was the difficulty in verifying the fairness of games. The next most commonly identified disadvantage (25.4%) was worry about monetary deposits being safe and having wins paid out in a timely fashion. The issue which seemed to concern International Internet gamblers the least was the difficulty in excluding underage gamblers, with only 9.0% identifying this disadvantage.

Table 18. Disadvantages of Gambling at Internet Versus Land-Based Venues (International Internet Gamblers)

	Internet Gamblers (%)
Difficulty verifying fairness of games	36.1
Worry about monetary deposits being safe / having wins paid out in timely fashion	25.4
Lack of face-to-face contact makes betting more difficult	25.3
Illegality	18.9
Poorer social atmosphere (no crowds, too isolating)	18.5
Easier to spend more money	18.5
Poorer game experience	17.5
Too convenient	16.3

Poorer physical atmosphere (lacks the lights and noise of a real casino, etc.)	15.9
Have to use credit cards rather than cash	13.0
More addictive	11.7
Difficulty excluding underage gamblers	9.0
Other	2.8

Table 19 lists the main reasons that International Internet gamblers opt to play at one online site over another. Similar to the Canadian Internet gamblers, general reputation of the site was the most common reason, with better game experience being the second most common reason. Compared to the Canadian Internet gamblers, monetary deposits being safe and wins being paid out in a timely fashion, were more important reasons for the International Internet gamblers, as was the provision of 'comps' and bonuses.

Table 19. Reasons influencing decision to gamble at one Internet site over another (International Internet Gamblers)

	Internet Gamblers (%)
General reputation	17.6
Better game experience/interface	12.2
Monetary deposits safe & wins paid out in timely fashion	10.3
Comps &/or provision of monetary incentives (bonuses)	10.4
Fairness of games	9.2
Software used	9.1
Payout rates	7.6
Recommendation from friends	7.0
Larger range of games	6.3
Legality	6.1
Jurisdiction operating out of	3.1
Popularity	0.5
Other	0.7

Game Play Patterns of Internet Gamblers

Canada

The existing academic literature on Internet gambling contains very little information about the actual patterns and preferences of Internet gamblers. Thus, we investigated patterns and preferences among both our Canadian and International samples, with the Canadian results reported below in Table 20. When asked to identify the year they first used the Internet for gambling, a small minority indicated that they began gambling online in the 1990s. However, the vast majority began gambling online in more recent years, with over 50% initiating online gambling since 2005. A large majority of Internet gamblers (90.3%) claimed to primarily use their home computers for their Internet gambling activity, and small percentage (6.0%) indicated that they engaged in online gambling from a computer at their place of work, at least some of the time. Not surprisingly, given their high rate of full-time employment, a majority of Internet gamblers reported conducting their gambling activities during the evening hours of 5 pm to midnight. Some researchers have suggested that Internet gamblers may be more prone to spend greater amounts of money, compared to the spending of land-based gamblers, since the psychological value of virtual or electronic cash may be less than that of real cash. Contradicting this speculation, however, 81.3% claimed that the use of electronic cash had no impact on their spending. For the majority of online gamblers, their Internet gambling activity appears not to have any disruptive impact on either sleeping or eating patterns, with only 3.5% and 3.2%, respectively, identifying such problems.

Table 20. Gambling Behavioral Patterns of Canadian Internet Gamblers

	Internet Gamblers (%)
What year did you first start using the Internet for gambling purposes?	
1993	0.7
1998	0.9
1999	0.9
2000	9.4
2001	1.5
2002	8.7
2003	13.6
2004	13.5
2005	27.8
2006	23.0
Do you primarily use your home or work computer for Internet gambling?	
Home	90.3
Work	3.0
Home and work equally	3.0
Other	3.8
What time of day do you most often use the Internet to gamble or place bets?	
9am - 5pm	16.4
5pm - midnight	78.8
Midnight - 9am	4.8

How does the fact you are using a credit card or electronic bank transfer, rather than cash, impact your spending when you gamble?	
No impact on spending	65.0
Increases spending	18.7
Decreases spending	16.3
Has online gambling disrupted your sleeping patterns?	
Yes	3.5
No	96.5
Has online gambling disrupted your eating patterns?	
Yes	3.2
No	96.8

Table 21 provides information of the percentage of time that Internet and Non-Internet gamblers use alcohol and/or drugs ("marijuana, hash, LSD, PCP, Ecstasy, cocaine/crack, heroin, or any other street drugs") when they gamble. A majority of Internet gamblers report using alcohol when gambling, compared to a minority of non-Internet gamblers. Internet gamblers are also more likely to occasionally or often use alcohol when gambling. Only a small percentage of people use street drugs when gambling (15.3% for Internet and 3.9% for Non-Internet), but the occasional and frequent use of street drugs is much more common amongst Internet gamblers.

Table 21. <u>Use of Alcohol and Drugs while Gambling in Canadian Internet and Non-Internet Gamblers</u>

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Frequency of alcohol use while gambling		
Never	37.1	60.0
Rarely	21.2	15.7
Sometimes	21.8	12.6
Often	12.4	4.6
Always	7.6	7.1
Frequency of drug use while gambling		
Never	84.7	96.1
Rarely	4.1	1.5
Sometimes	4.1	1.4
Often	3.5	0.3
Always	3.5	0.7

Table 22 provides information on what types of gambling formats Internet and Non-Internet gamblers have engaged in within the past year. As can be seen, Internet gamblers have higher rates of gambling involvement in *every* type of gambling (i.e., not just Internet gambling). The most notable differences are evident in Internet gamblers' greater involvement in playing games of skill (73.4% versus 16.4%), sports betting (44.1% versus 7.9%), casino table games (41.1% versus 7.1%), and horse racing (15.6% versus 4.7%). There were no Internet gamblers who *just* gambled on the Internet. The average number of game types played was 4.7 for Internet gamblers. In contrast, 29.1% of Non-Internet gamblers only gambled on one type of gambling in the past year, with the overall average being 2.3 gambling formats.

Table 22. Past Year Involvement in Various Forms of Gambling among Canadian Internet and Non-Internet Gamblers

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Lotteries	94.6	92.8
Instant Win	81.1	67.2
Games of Skill against other Individuals	73.4	16.4
Sports Betting	44.1	7.9
Casino Table Games within Province	41.1	7.1
EGMs within Province	38.0	33.8
EGMs or Casino Table Games outside Province	22.2	12.9
Bingo	15.7	10.2
Horse Racing	15.6	4.7
Average Number of Games Played	4.7	2.3

Involvement at a weekly or greater frequency shows the same pattern, with even more striking differences (see Table 23). When asked about games of skill, for example, 33.5% of Internet gamblers indicated that they played, on average, once or more per week. This proportion is in stark contrast to the 2.7% of land-based gamblers, who indicated a similar frequency of play. Such differences could be explained by the fact that games of skill, such as poker, are extremely popular among Internet gamblers (see Table 22). Referring back to Table 23, however, we see that even for those forms of gambling that are typically land-based, Internet gamblers report a higher frequency of play compared to their Non-Internet gambling counterparts. Indeed, when asked about the purchase of instant win tickets (which is almost a solely a land-based form of gambling), 24.4% claim to purchase at least once or more per week, compared to only 12.8% for land-based gamblers. Simply stated, Internet gamblers are relatively more frequent gamblers across all game types.

Table 23. Past Year Weekly Involvement in Various Forms of Gambling among Canadian Internet and Non-Internet Gamblers

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Lotteries	35.2	30.5
Games of Skill against other Individuals	33.5	2.7
Instant Win	24.4	12.8
Sports Betting	12.5	2.1
Bingo	4.8	2.0
EGMs within Province	4.6	2.2
Casino Table Games within Province	4.3	0.2
Horse & Dog Racing	3.9	0.3
EGMs or Casino Table Games outside Province	2.2	0.9

Table 24 indicates the types of games that Canadian Internet gamblers play over the Internet. As can be seen, games of skill are by far the most common type of game, followed by lottery purchase, sports betting, and casinos. The specific types of games of skill people reported most often playing are Poker (86.6%), ‘Other’ Games (11.2%), Other Card Games (5.5%), Pool (0.6%), Board Games (0.5%), and Darts (0.5%). The specific types of casino games most often played are Poker (55.5%), Blackjack (48.7%), Craps (19.4%), Slot Machines (18.9%), Roulette (12.3%), Video Poker Machines (7.6%), and Baccarat (4.2%).

Table 24. Types of Games Played over the Internet among Canadian Internet Gamblers

	Internet Gamblers (%)	Most Popular Online Sites
Games of Skill	59.7	Poker Stars (38%); Party Poker (27%); Full Tilt Poker (6%)
Lotteries	23.0	Atlantic Lottery Corp (12%); British Columbia Lottery Corp (12%); Lotto Quebec (12%)
Sports Betting	16.7	Pinnacle Sports (15%); William Hill (8%); MyBet (4%)
Casinos	7.6	Golden Palace (23%); BoDog (7%); Carnival Casino (7%); USA Casino (7%)
Horse & Dog Racing	5.2	Horse Player Interactive (44%); Allhorseracing (11%)
Bingo	2.4	No site mentioned by more than 1 person

Table 25 indicates the percentage of the game play by Canadian Internet gamblers that occurs over the Internet, as opposed to at land-based venues. This table illustrates two important patterns. First, there are certain types of gambling, for which Internet gamblers are more likely to use the Internet (i.e., horse race betting, sports betting, poker). Second, this table indicates that most Internet gamblers are also relatively regular land-based gamblers. Indeed, despite the popularity of online poker among Internet gamblers, the average percentage of gambling on games of skill, conducted online, was only 52%. Thus, for almost half their gambling on games of skill, Internet gamblers are seeking opportunities in land-based venues.

Table 25. Average Percentage of Gambling, by Game Type, Conducted on the Internet by Canadian Internet Gamblers (for Gamblers who engage in that Type)

	Internet Gamblers (%)
Horse & Dog Racing	62.9
Sports Betting	53.5
Games of Skill	51.7
Lotteries	35.3
Bingo	31.8
Casinos	N/A

We asked both Internet and Non-Internet Canadian gamblers to report their typical monthly gambling expenditures for each gambling type. As can be seen in Table 26, Internet gamblers spend more, on average, on every form of gambling compared to Non-Internet gamblers. Total expenditures are also considerably higher, with Internet gamblers reporting an average net monthly expenditure of -$541.09 CAD compared to only -$67.09 CAD for Non-Internet gamblers. These averages are affected by a small number of individuals with exceptionally high losses, thus the median total expenditures are also reported. Here again, however, we see that the median expenditures of Internet gamblers are 4 times higher than Non-Internet gamblers.

Table 26. Comparative Net Monthly Gambling Expenditure of Canadian Internet and Non-Internet Gamblers (for Gamblers who engage in that Type)

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Casino table games (in province)	-$489.48	-$75.31
Slots, VLTs, EGMs (in province)	-$120.17	-$54.92
Bingo	-$106.61	-$38.20
Horse and dog racing	-$77.46	-$35.03
Sports betting	-$39.71	-$26.07
Games of skill (includes poker)	-$36.44	-$27.16
Lottery ticket purchases	-$23.00	-$15.81
Instant win tickets	-$20.32	-$10.71
Total Expenditure Average	-$541.09	-$67.09
Total Expenditure Median	-$89.00	-$20.00

Worldwide

When asked to identify the year they first used the Internet for gambling (see Table 27), the International Internet gamblers were similar to the Canadian Internet gamblers. Among the International sample, a minority began gambling online in the mid-1990s, as early as 1995, but a large majority (72%) first experienced Internet gambling since 2003. A total of 93.4% of the International Internet gamblers indicated that they primarily used their home computer for their online gambling activities, and 63.9% typically conduct their Internet gambling in the evening hours of 6 pm to midnight. Compared to the Canadian Internet gamblers, the ones in our International sample were even less likely to agree (10.3%) that the use of electronic or virtual cash tended to increase their spending. A small proportion of the International Internet gamblers claimed that their online gambling activity disrupted their sleeping patterns (10.6%) or their eating patterns (4.4%).

Table 27. Gambling Behavioral Patterns of International Internet Gamblers

	Internet Gamblers (%)
What year did you first start using the Internet for gambling purposes?	
1995	3.4
1996	1.1
1997	2.0
1998	1.7
1999	2.5
2000	7.1
2001	4.5
2002	6.0
2003	8.2
2004	13.2
2005	20.3
2006	16.6
2007	13.4
Do you primarily use your home or work computer for Internet gambling?	
Home	93.4
Work	1.9
Home and work equally	4.8
What time of day do you most often use the Internet to gamble or place bets?	
6am - 12pm	10.1
12pm - 6pm	16.2
6pm - midnight	63.9
midnight - 6am	9.8

How does the fact you are using a credit card or electronic bank transfer, rather than cash, impact your spending when you gamble?	
No impact on spending	80.1
Increases spending	10.3
Decreases spending	9.6
Has online gambling disrupted your sleeping patterns?	
Yes	10.6
No	89.4
Has online gambling disrupted your eating patterns?	
Yes	4.4
No	95.6

Table 28 indicates the frequency with which International Internet and Non-Internet gamblers use alcohol and/or drugs when they gamble. Interestingly, unlike Canadians, there do not appear to be major differences in the alcohol use of International Internet versus Non-Internet gamblers. However, a similar pattern emerges with respect to street drugs. Only a small percentage of people use street drugs when gambling (10.8% for Internet and 3.7% for Non-Internet), but the occasional and frequent use of street drugs is much more common amongst Internet gamblers.

Table 28. Use of Alcohol and Drugs while Gambling in International Internet and Non-Internet Gamblers

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Frequency of alcohol use while gambling		
Never	39.7	43.1
Rarely	25.0	20.9
Sometimes	21.4	18.8
Often	8.8	8.3
Always	5.2	8.9
Frequency of drug use while gambling		
Never	89.2	96.3
Rarely	3.7	1.6
Sometimes	3.5	1.1
Often	1.3	0.5
Always	2.3	0.5

Similar to the Internet gamblers in the Canadian sample, the Internet gamblers in our International sample have equal or greater involvement in all types of gambling relative to their Non-Internet counterparts (see Table 29). The proportionate differences are especially pronounced for sports betting, betting on horse or dog races, and betting on games of skill, such as poker.

Table 29. Past Year Involvement in Various Forms of Gambling among International Internet and Non-Internet Gamblers

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Lotteries	69.9	70.8
Instant Win	60.7	57.4
Games of Skill against other Individuals	59.3	28.6
EGMs	53.2	49.5
Casino Table Games	46.9	21.4
Sports Betting	41.6	13.6
Horse & Dog Racing	26.2	9.3
Bingo	15.7	8.4
Average Number of Games Played	4.1	2.6

Weekly involvement, seen in Table 30, shows an even more pronounced difference. For example, 41.8% of Internet gamblers claim to bet on games of skill once or more per week, versus only 5.9% of Non-Internet gamblers.

Table 30. Past Year Weekly Involvement in Various Forms of Gambling among International Internet and Non-Internet Gamblers

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Games of Skill against other Individuals	41.8	5.9
Lotteries	24.2	19.9
Sports Betting	16.3	2.7
Instant Win	13.7	10.2
EGMs	10.7	4.8
Horse & Dog Racing	6.3	0.9
Casino Table Games	5.9	1.7
Bingo	3.9	0.6

Table 31 indicates the percentage of International Internet gamblers that engage in each type of online gambling, as well as the gender distribution of the patronage. As can be seen, similar to the Canadian Internet gamblers, games of skill are by far the most common type of game engaged in. However, unlike Canadian Internet gamblers, Internet casinos are much more popular among International Internet gamblers (lotteries were the second most popular form of Internet gambling among the Canadians). The specific games of skill people reported most often playing are Poker (54.1%), Other Card Games (4.3%), ‘Other’ Games (2.9%), Video Games

(2.1%), Board Games (1.2%), Pool (0.7%), Bowling (0.4%), and Darts (0.2%). The specific types of casino games most often played are Slot Machines (37.2%), Blackjack (34.4%), Poker (25.6%), Video Poker Machines (17.1%), Roulette (13.0%), Craps (7.8%), Keno (3.1%), Baccarat (2.8%), Pai Gow (2.2%), and Other (3.4%).

Of final note, Table 31 illustrates that certain types of online gambling are preferred by one gender over another. Sports betting, horse/dog race betting, and games of skill are overwhelmingly preferred by males, whereas online bingo is preferred by females.

Table 31. Types of Games Played over the Internet among International Internet Gamblers

	Internet Gamblers (%)	% of Patronage that is Male	% of Patronage that is Female	Most Popular Online Sites
Games of Skill	64.0	84.0	16.0	Poker Stars (22%); Full Tilt Poker (19%); Party Poker (10%); Ultimate Bet (10%)
Casinos	26.4	67.6	32.3	Golden Palace (11%); BoDog (10%); Casino-on-Net (9%); InterCasino (9%)
Sports Betting	23.2	92.7	7.3	BetFair (11%); BoDog (10%); Sportsbook.com (10%); William Hill (8%)
Horse & Dog Racing	12.7	92.5	7.5	BetFair (17%); BoDog (12%); William Hill (8%); Sportsbook.com (6%)
Lotteries	11.1	63.7	36.3	UK National Lottery (17%); British Columbia Lottery Corp (10%); Plus Lotto (8%); Play UK Lottery (7%)
Bingo	7.4	39.1	60.9	Bingo.com (28%); Bingo Cabin (7%); Bingo Mania (6%); Miss Bingo (6%)

Table 32 indicates the percentage of the game play, by International Internet gamblers, that occurs over the Internet, as opposed to at land-based venues. Similar to the pattern observed among Canadian Internet gamblers, this table illustrates that there are certain types of gambling for which International Internet gamblers use the Internet more frequently (i.e., horse race betting, sports betting, poker), and that most Internet gamblers are also relatively regular land-based gamblers.

Table 32. Average Percentage of Gambling, by Game Type, Conducted on the Internet by International Internet Gamblers (for Gamblers who engage in that Type)

	Internet Gamblers (%)
Sports Betting	65.9
Games of Skill	60.0
Horse & Dog Racing	57.9
Bingo	43.5
Lotteries	34.3
Casinos	N/A

As we did with the gamblers in our Canadian sample, we asked the International Internet and Non-Internet gamblers to report their typical monthly gambling expenditures for each commonly available gambling type (in the equivalent of U.S. dollars). Consistent with what we observed among the Canadian sample, the average overall expenditures were much higher among the International Internet gamblers, when compared to the Non-Internet gamblers (see Table 33). International Internet gamblers reported an average net monthly expenditure of -$195.14 US, and the Non-Internet gamblers report an average net expenditure of -$70.93 US. The reported median net monthly expenditures were even more similar to those we observed among the Canadian sample. The median net monthly loss for the International Internet gamblers was -$80.00 US, which is more than four times the median loss of -$19.26 US reported by their Non-Internet counterparts.

While Internet gamblers report higher mean expenditures for most gambling types, this is certainly not the case for all games. When asked about gambling on casino table games, for example, Non-Internet gamblers report a slightly higher average net monthly expenditure (-$120.53 US versus -$113.56 US). This anomaly might be explained, however, by the fact that Internet gamblers are also spending money playing online casino table games. If the two amounts are added, then it appears that Internet gamblers do indeed spend more money than Non-Internet gamblers on all forms of table gambling combined.

Table 33. Comparative Net Monthly Gambling Expenditure of International Internet and Non-Internet Gamblers (for Gamblers who engage in that Type)

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Casino table games	-$113.56	-$120.53
EGMs	-$94.37	-$70.55
Sports betting	-$39.47	-$14.45
Horse and dog racing	-$35.71	-$24.69
Games of skill (includes poker)	-$35.21	+$9.13
Bingo	-$30.57	-$20.78
Lottery ticket purchases	-$28.05	-$13.48
Instant win tickets	-$13.22	-$8.17
Total Expenditure Average	-$195.14	-$70.93
Total Expenditure Median	-$80.00	-$19.26

It is also interesting to note the wide differences in reported net monthly gambling expenditure, as a function of country/region, as reported in Table 34. It is uncertain whether these reflect true differences or differences in recall, memory, or willingness to self-disclose. However, they do bear some correspondence to the respective rates of problem gambling seen in different countries/regions (see Table 44).

Table 34. Comparative Net Monthly Gambling Expenditure ($US) of International Internet and Non-Internet Gamblers as a Function of Country/Region

	Internet Gamblers Median	Internet Gamblers Mean	Non-Internet Gamblers Median	Non-Internet Gamblers Mean
United States (*n* = 5181)	-$90.00	-$237.68	-$20.00	-$75.57
Canada (*n* = 656)	-$90.00	-$166.55	-$20.00	-$53.18
Africa (*n* = 51)	-$80.00	-$881.35	-$15.00	-$44.08
United Kingdom (*n* = 220)	-$61.00	-$64.64	-$10.00	-$24.48
Asia (*n* = 100)	-$52.00	-$88.69	-$5.64	-$103.29
Europe (*n* = 335)	-$46.54	-$169.04	-$5.00	-$40.58
Other (*n* = 81)	-$40.00	-$124.17	-$3.00	-$94.46
Caribbean (*n* = 45)	-$40.00	-$124.17	-$33.00	-$65.07
South America (*n* = 34)	-$20.00	-$281.40	-$24.33	-$85.29
Australia & New Zealand (*n* = 59)	-$9.00	-$300.32	-$2.00	-$59.82

Problem Gambling among Internet Gamblers

Canada

The relative prevalence of problem gambling among Internet and land-based gamblers is reported in Table 35. The overall problem gambling prevalence rate among Canadian gamblers who did not gamble on the Internet was 4.1% (3.1% moderate problem gamblers and 1.0% severe problem gamblers). In comparison, the rate among Internet gamblers was 4 times higher at 17.1% (12.6% moderate + 4.5% severe). Indeed, only 45% of Canadian Internet gamblers were classified as Non-Problem gamblers, compared to 88.2% of Non-Internet gamblers.

Table 35. Rates of Problem Gambling among Canadian Internet and Non-Internet Gamblers

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Non-problem gambler	45.0	88.2
At-risk gambler	37.9	7.7
Moderate problem gambler	12.6	3.1
Severe problem gambler	4.5	1.0
Average CPGI score	1.62	0.34

Everyone who scored in the moderate or severe range on the CPGI was asked whether there was a particular type of gambling that caused them more problems than others, with the results reported in Table 36. A total of 58.3% of people indicated yes. As has been found in other studies, continuous forms of gambling with rapid event frequency (i.e., EGMs and casino table games) account for the majority of problems. However, there are some differences between Canadian Internet and Non-Internet gamblers, with poker being the most problematic, compared to slot machines for Non-Internet gamblers. Unfortunately, this question did not specifically ask people to specify whether it was Internet-based play or non-Internet play that contributed to the problem. One can infer that Internet-based play contributed to some extent, as 51.7% of poker play by Canadian Internet gamblers was reported to be conducted over the Internet (Table 25).

Table 36. Types of Gambling that have Contributed Most to Problems Among Canadian Internet and Non-Internet Problem Gamblers

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Poker	31.3	10.2
Slot Machines	12.5	31.8
Video Lottery Terminals	12.5	17.0
Roulette	12.5	3.4
Lotteries	6.3	5.7
Blackjack	6.3	3.4
High Risk Stocks	6.3	1.1
Baccarat	6.3	0
Bingo	0	8.0
Instant Win Tickets	0	6.8
Horse Racing	0	5.7
Electronic Keno	0	3.4
Other	6.3	3.4

Similar to previous studies, only about 1/10 Canadian problem gamblers seek formal help. The overwhelming choice for help, for both Internet and Non-Internet problem gamblers, is a counseling service. Interestingly, while an Internet-based counseling service was somewhat more appealing to Internet problem gamblers, both Internet and Non-Internet Canadian problem gamblers would still strongly prefer a face-to-face service. Internet problem gamblers preference for face-to-face counseling may also be due to a desire not to 'tempt fate' by accessing help via a computer (analogous to a land-based problem gambler seeking treatment within a casino).

Table 37. Help Seeking among Canadian Internet and Non-Internet Problem Gamblers

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Ever sought help for problems?		
No	91.6	88.5
Yes	8.4	10.3
Where did you seek help from?		
Counseling Service	100.0	77.8
Pastor/Minister/Priest	0	11.1
Casino Self-Exclusion	0	11.1
If you were to seek help where would you be most comfortable seeking it from?		
Face-to-face counseling	75.0	84.1
Internet counseling	25.0	15.9

<u>Worldwide</u>

Similar results were obtained for the International sample. A total of 16.4% of International Internet gamblers were problem gamblers, compared to only 5.7% of International Non-Internet gamblers. Here again, only 39.9% of International Internet gamblers were classified as Non-problem gamblers, which is less than half the rate of 82.1% observed among their Non-Internet gambling counterparts.

Table 38. <u>Rates of Problem Gambling among International Internet and Non-Internet Gamblers</u>

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Non-problem gambler	39.9	82.1
At-risk gambler	43.4	12.3
Moderate problem gambler	12.8	4.0
Severe problem gambler	3.8	1.7
Average CPGI score	1.80	.52

Similar to the Canadian results, a total of 49.6% International Internet problem gamblers, and 43.6% of International Non-Internet problem gamblers, reported that a particular type of gambling had contributed to their problems more than others, with continuous forms accounting for most of the problems. Slot machines were by far the most problematic form for the Non-Internet gamblers. A difference between the Canadian Telephone Survey and the International Online Survey is that all the options were listed for the latter, and the list included ‘Internet Gambling’ as one of the options. Interestingly, only 11.3% of the Internet gamblers identified Internet Gambling as being the most problematic form (although we know that 60% of poker play is also conducted over the Internet).

Table 39. <u>Types of Gambling that have Contributed Most to Problems among International Internet and Non-Internet Problem Gamblers</u>

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Slot Machines	23.8	58.5
Poker	21.7	3.8
Internet Gambling	11.3	0
Blackjack	8.7	5.7
Roulette	7.0	7.5
Instant Win Tickets	5.2	3.8
Horse/Dog Racing	4.3	0
High Risk Stocks	3.5	1.9
Lotteries	2.6	3.8
Games of skill against other people	1.7	0

Video Lottery Terminals	0.9	3.8
Bingo	0.9	3.8
Baccarat	0.9	2.9
Electronic Keno	1.7	1.9
Other	6.1	3.8

Similar to the Canadian results, only a small minority of International problem gamblers seek formal help. Unlike the Canadian results, the most common source of help was Gamblers Anonymous. A face-to-face counseling service was preferred over an Internet-based service for both International Internet and Non-Internet problem gamblers.

Table 40. Help Seeking for Problem Gambling Among International Internet and Non-Internet Problem Gamblers

	Internet Gamblers (%)	Non-Internet Gamblers (%)
Ever sought help for problems?		
No	90.6	95.0
Yes	9.4	5.0
Where did you seek help from?		
Gamblers Anonymous	21.4	75.0
Counseling Service	17.9	0
Friends	10.7	25.0
Psychologist	10.7	0
Psychiatrist	10.7	0
Family Doctor	7.1	0
Family	7.1	0
Pastor/Minister/Priest	7.1	0
Telephone help/hot line	7.1	0
If you were to seek help where would you be most comfortable seeking it from?		
Face-to-face counseling	70.2	65.4
Internet counseling	29.8	34.6

RESULTS: MULTIVARIATE STATISTICAL ANALYSIS

The cross-tabulations and descriptive statistics in the previous section, while instructive, do not indicate the *relative importance* of differentiating variables, or the extent to which the association of some variables to Internet gambling may be an artifact of their correlation with other variables that are primarily responsible for the relationship. Simultaneous analysis of all relevant variables using multivariate logistic regression helps disentangle these effects.

Characteristics Statistically Differentiating Internet Gamblers from Non-Internet Gamblers

Canada

Using the Canadian Telephone Survey data, an SPSS logistic regression investigated characteristics differentiating Canadian Internet gamblers from Canadian gamblers who did not use the Internet to gamble. A total of 17 predictor variables were used: gender; age; marital status; level of education; employment status; household income; household debt; ethnic origin; province; use of tobacco; use of alcohol; use of illicit drugs; presence of a physical disability; having a significant mental health problem; number of gambling formats engaged in; net win/loss on all gambling in a typical month; and CPGI score. All categorical variables were dummy coded with the reference group being as follows: Province (Newfoundland); Employment (On Disability); Marital Status (Married); Ethnic Origins (Other). The skewness of certain variables (CPGI score; number of gambling formats engaged in; household debt) was reduced with inverse transformations. The significant negative skewness and positive kurtosis of the net win/loss variable could not be corrected. However, 6 outliers with standard scores greater than $\pm$ 5.0 in the net win/loss variable were winsorized. Missing values for all continuous variables were replaced with the series mean. Missing values for most categorical variables were replaced with the mode. Entry of the variables into the equation was simultaneous. Data from 6009 people was available for analysis: 179 Internet Gamblers and 5830 Non-Internet Gamblers. For the analysis, each Internet gambler received a weighting such that they had equivalent overall importance in the calculations used to maximally differentiate the 2 groups (otherwise, a high degree of classification accuracy could be achieved simply by simply identifying everyone as a Non-Internet gambler).

A test of the full model with all 17 predictors against a constant-only model was statistically significant, χ^2 (36) = 8417.18, $p < .0001$, indicating that the 17 predictors, as a set, reliably distinguish between Internet Gamblers and Non-Internet Gamblers. The variance accounted for is very good, with Nagelkerke R squared = 68.5%. Overall prediction success is 86.1%, with 84.9% of Non-Internet Gamblers correctly classified and 87.4% of Internet Gamblers correctly classified. Table 41 shows regression coefficients, Wald statistics, and odds ratios for each of the 17 predictors, with the predictors ordered from strongest to weakest by virtue of their Wald statistic. The variables that significantly predicted ($p < .001$)[39] someone being an Internet gambler are: gambling on a greater number of gambling formats; male gender;

[39] A high alpha value is needed because of the large sample size.

higher CPGI score; not living in Quebec, Ontario, Saskatchewan, Manitoba, or Alberta; being a student; being single (never married); having Aboriginal ancestry; higher household income; not using alcohol; not having a mental health problem; higher educational achievement; not having a physical disability; using illicit drugs; and higher household debt.

Table 41. Logistic Regression of Characteristics Differentiating Canadian Internet Gamblers from Canadian Non-Internet Gamblers

	B	Wald	Significance	Odds Ratio
# Gambling Types	-42.179	1892.029	.000	.000
Gender	1.283	339.100	.000	3.606
CPGI Score	-1.720	215.971	.000	.179
Province		174.163	.000	
Quebec	-1.159	35.699	.000	.314
Ontario	-.899	23.387	.000	.407
Saskatchewan	-1.116	17.965	.000	.327
Manitoba	-.833	12.978	.000	.435
Alberta	-.663	10.835	.001	.515
New Brunswick	.716	8.680	.003	2.045
British Columbia	-.333	2.837	.092	.717
Nova Scotia	-.295	1.440	.230	.745
Prince Edward Island	-19.097	.000	.998	.000
Employment Status		173.711	.000	
Student	1.565	10.814	.001	4.782
Retired	1.329	7.965	.005	3.777
Unemployed	-1.023	3.905	.048	.360
Self Employed	.647	1.901	.168	1.911
Employed Part-time	.545	1.301	.254	1.724
Employed Full-time	.450	.937	.333	1.568
Homemaker	-18.830	.000	.993	.000
Marital Status		155.961	.000	
Never married	1.047	134.302	.000	2.850
Widowed	-.420	4.436	.035	.657
Living with a partner	.077	.624	.430	1.080
Divorced or Separated	.105	.586	.444	1.110
Ethnic Origins		85.726	.000	
Aboriginal, Inuit or Metis	1.349	27.214	.000	3.853
Asian	-.680	8.528	.003	.507
European	.440	5.395	.020	1.553
Household Income	.096	76.812	.000	1.101
Alcohol Use	.517	49.303	.000	1.676
Mental Health Problems	.921	37.662	.000	2.512
Educational Achievement	.170	62.454	.000	1.185
Physical Disability	.545	18.562	.000	1.725

Illicit Drug use	-.394	14.029	.000	.674
Household Debt	1.656	13.607	.000	5.239
Age	-.009	9.338	.002	.991
Gambling Expenditure	.000	4.339	.037	1.000
Tobacco Use	.123	3.243	.072	1.131

Worldwide

Using the International Online Survey data, an SPSS logistic regression investigated characteristics differentiating International Internet gamblers from International gamblers who did not use the Internet to gamble. The predictor variables were the same as used in the Canadian Telephone Survey. However, the International Online Survey contained a few additional questions that allowed a few additional variables to be added: country/region (reference category being 'Other'); history of substance abuse; history of other addictions; family history of problem gambling; gambling attitudes; and gambling fallacies. As the data was distributed in a similar manner, the same dummy coding and data transformations used in the Canadian Telephone data set were applied. Entry of the variables into the equation was simultaneous. Data from 8174 people were available for analysis: 2254 Internet Gamblers and 5919 Non-Internet Gamblers. Each Internet gambler received a weighting to ensure they had equivalent overall importance in the calculations used to identify characteristics that maximally differentiated the 2 groups.

A test of the full model with all 22 predictors against a constant-only model was statistically significant, χ^2 (40) = 3223.6, $p < .0001$, indicating that the 22 predictors, as a set, reliably distinguished between Internet Gamblers and Non-Internet Gamblers. The variance accounted for was moderate, with Nagelkerke R squared = 33.4%. Overall prediction success was 72.8%, with 71.0% of Non-Internet Gamblers correctly classified, and 74.5% of Internet Gamblers correctly classified. Table 42 shows regression coefficients, Wald statistics, and odds ratios for each of the 22 predictors with the predictors ordered from strongest to weakest. According to the Wald criterion, the variables that significantly predicted ($p < .001$) someone being an Internet gambler are: gambling on a greater number of gambling formats; higher CPGI score; being a resident of Europe, United Kingdom, or the Caribbean; male gender; using tobacco; fewer gambling fallacies; being employed; younger age; higher gambling expenditure; alcohol use; more positive attitudes toward gambling; being divorced/separated or living common-law; not being of European ancestry; higher household income; and using illicit drugs.

Table 42. Logistic Regression of Characteristics Differentiating International Internet Gamblers from International Non-Internet Gamblers

	B	Wald	Significance	Odds Ratio
# Gambling Types	-7.088	961.666	.000	.001
CPGI Score	-1.513	374.669	.000	.220
Country/Region		233.874	.000	
Europe	1.399	107.643	.000	4.052
U.K.	.835	31.082	.000	2.305
Caribbean	1.329	19.842	.000	3.778
South America	.959	7.873	.005	2.610
Canada	.295	8.166	.004	1.343
U.S.	-.145	4.012	.045	.865
Africa	.546	3.704	.054	1.726
Australia & New Zealand	.403	2.215	.137	1.497
Asia	-.041	.033	.857	.960
Gender	.884	213.777	.000	.413
Tobacco Use	.591	98.460	.000	.554
Gambling Fallacies	.140	84.146	.000	1.150
Employment Status		61.052	.000	
Sick Leave, Maternity Leave, etc.	-1.278	36.569	.000	.279
Student	-.585	6.566	.010	.557
Unemployed	-.390	5.747	.017	.677
Employed Part-time	-.290	2.960	.085	.748
Homemaker	-.118	.418	.518	.888
Retired	-.016	.006	.939	.985
Age	-.017	53.802	.000	.983
Gambling Expenditure	.000	50.021	.000	1.000
Alcohol Use	.439	47.349	.000	1.551
Gambling Attitudes	.093	41.268	.000	1.097
Marital Status		34.158	.000	
Divorced or Separated	.423	26.177	.000	1.527
Living with a partner	.307	12.684	.000	1.360
Never married	.223	6.934	.008	1.250
Widowed	.026	.030	.863	1.026
Ethnic Origins		30.390	.000	
European	-.448	29.880	.000	.639
Asian	-.256	1.592	.207	.775
Aboriginal, Inuit or Metis	-.271	1.466	.226	.763
Household Income	.041	20.719	.000	1.042
Illicit Drug use	.511	20.786	.000	.600
Physical Disability	-.471	8.655	.002	.624
Household Debt	0	6.900	.009	1.000
Mental Health Problems	.216	4.100	.043	1.241
History of Other Addictions	-.141	1.402	.236	.868

History of Substance Abuse	.105	1.185	.276	1.110
Family History of Problem Gambling	.054	.185	.667	1.055
Educational Achievement	.002	.019	.890	1.002

Characteristics Statistically Differentiating Canadian Internet Gamblers from Non-Canadian Internet Gamblers

It is of some interest to investigate the extent to which Canadian Internet gamblers differ from Internet gamblers in other countries/regions. This was done using logistic regression on the International Online Survey data. All variables used in the previous two analyses were used in the present analysis. Data cleaning procedures were also identical. Entry of the variables into the equation was simultaneous. Data from 2254 people were available for analysis: 203 Canadian Internet Gamblers and 2051 Non-Canadian Internet Gamblers. Each Canadian Internet gambler was weighted to provide equivalent overall weighting to the Non-Canadian Internet gamblers in the calculations used to identify characteristics that maximally differentiated the 2 groups.

A test of the full model with all 21 predictors against a constant-only model was statistically significant, χ^2 (31) = 711.90, $p < .0001$, indicating that the 21 predictors, as a set, reliably distinguished between Canadian Internet Gamblers and Non-Canadian Internet Gamblers. However, the variance accounted for was low, with Nagelkerke *R* squared = 21.5%. Overall prediction success was 71.7%, with 71.7% of Canadian Internet Gamblers correctly classified and 71.7% of Non-Canadian Internet Gamblers correctly classified. Table 43 shows regression coefficients, Wald statistics, and odds ratios for each of the 21 predictors with the predictors ordered from strongest to weakest. According to the Wald criterion, the variables that significantly predicted ($p < .001$) someone being a Canadian Internet gambler are: higher household income; being retired, on sick leave/maternity leave, or unemployed; being either of Aboriginal, European or Asian ancestry; having more negative attitudes toward gambling; having lower educational achievement; using illicit drugs; higher CPGI scores; younger age; engaging in fewer types of gambling; history of other addictions; and use of alcohol.

Table 43. Logistic Regression of Characteristics Differentiating Canadian Internet Gamblers from Non-Canadian Internet Gamblers

	B	Wald	Significance	Odds Ratio
Household Income	.163	133.079	.000	1.177
Employment Status		78.370	.000	
Retired	.783	36.458	.000	2.188
Sick Leave, Maternity Leave, etc.	1.147	27.878	.000	3.148
Unemployed	1.108	18.765	.000	3.029
Student	.473	5.178	.023	1.605
Employed Part-time	-.085	.281	.596	.918
Homemaker	-.414	2.209	.137	.661
Ethnic Origins		77.018	.000	
Aboriginal, Inuit or Metis	2.423	55.180	.000	11.285
European	1.148	48.247	.000	3.152
Asian	1.783	37.268	.000	5.947
Gambling Attitudes	-.196	72.792	.000	.822
Educational Achievement	-.192	45.909	.000	.825
Illicit Drug use	.909	42.886	.000	2.481
CPGI Score	.782	39.829	.000	2.186
Age	-.024	39.441	.000	.977
# Gambling Types	-1.819	20.429	.000	.162
History of Other Addictions	.600	16.579	.000	1.823
Marital Status		12.939	.012	
Living with a partner	.333	7.952	.005	1.395
Divorced or Separated	-.108	.585	.445	.898
Never married	-.091	.512	.474	.913
Widowed	-21.402	.000	.997	.000
Alcohol Use	.399	12.818	.000	1.491
Gambling Expenditure	.000	7.375	.007	1.000
Tobacco Use	-.196	4.843	.028	.822
History of Substance Abuse	.241	3.116	.078	1.272
Physical Disability	-.217	2.096	.148	.805
Mental Health Problems	-.292	2.924	.087	.746
Family History of Problem Gambling	-.258	1.670	.196	.773
Gender	-.095	.724	.395	.909
Household Debt	.000	.176	.675	1.000
Gambling Fallacies	-.001	.002	.962	.999

Characteristics Statistically Differentiating Internet Problem Gamblers from Internet Non-Problem Gamblers

A final analysis looked at the characteristics that differentiated Internet problem gamblers from Internet Non-Problem Gamblers in the International Online data set [40]. All variables used in the previous analyses were used in the present analysis with the exception of CPGI score. Data cleaning procedures were also identical. Entry of the variables into the equation was simultaneous. Data from 1445 people were available for analysis: 240 Internet Problem Gamblers and 1206 Non-Problem Internet Gamblers. Each Problem Internet gambler received a weighting to ensure they had equivalent overall importance in the calculations used to identify characteristics that maximally differentiated the 2 groups.

A test of the full model with all 21 predictors against a constant-only model was statistically significant, χ^2 (39) = 725.8, $p < .0001$, indicating that the 21 predictors, as a set, reliably distinguished between Internet Problem Gamblers and Internet Non-Problem Gamblers. The variance accounted for was moderate, with Nagelkerke *R* squared = 35.0%. Overall prediction success was 73.7%, with 77.1% of Problem Internet Gamblers correctly classified and 70.4% of Non-Problem Internet Gamblers correctly classified. Table 41 shows regression coefficients, Wald statistics, and odds ratios for each of the 21 predictors with the predictors ordered from strongest to weakest. According to the Wald criterion, the variables that significantly predicted ($p < .001$) someone being an Internet problem gambler are: gambling on a greater number of gambling formats; higher gambling expenditure; having mental health problems; family history of problem gambling; Asian ancestry; single (never married); lower household income; more gambling fallacies; negative attitudes toward gambling; and history of other addictions.

Table 44. Logistic Regression of Characteristics Differentiating Problem International Internet Gamblers from Non-Problem International Internet Gamblers

	B	Wald	Significance	Odds Ratio
# Gambling Types	-5.180	75.609	.000	.006
Gambling Expenditure	.000	52.918	.000	.999
Mental Health Problems	1.119	45.418	.000	.327
Family History of Problem Gambling	1.262	40.144	.000	.283
Ethnic Origins		36.171	.000	
Asian	1.439	17.250	.000	4.217
Aboriginal, Inuit or Metis	.942	8.735	.003	2.565
European	-.147	.993	.319	.863

[40] There were too few Internet problem gamblers in the Canadian telephone survey to conduct a comparable analysis with this data set.

Marital Status		31.748	.000	
Never married	.597	14.859	.000	1.817
Divorced or Separated	-.343	4.249	.039	.709
Living with a partner	-.231	1.945	.163	.793
Widowed	.225	.329	.566	1.252
Household Income	-.097	29.615	.000	.908
Gambling Fallacies	-.137	21.129	.000	.872
Country/Region		20.608	.015	
U.S.	-1.167	4.076	.043	.311
South America	-1.456	3.518	.061	.233
Asia	-1.400	3.242	.072	.247
Europe	-.964	2.652	.103	.381
Canada	-.882	2.248	.134	.414
Africa	-1.151	2.243	.134	.316
Caribbean	-1.228	2.349	.125	.293
Australia & New Zealand	-.788	1.207	.272	.455
U.K.	-.404	.458	.499	.668
Gambling Attitudes	-.116	15.334	.000	.890
Employment Status		15.597	.016	
Sick Leave, Maternity Leave, etc.	1.187	7.886	.005	3.278
Unemployed	.382	1.856	.173	1.466
Homemaker	.331	1.011	.315	1.393
Student	.148	.168	.682	1.160
Retired	-.109	.070	.791	.897
Employed Part-time	.006	.000	.983	1.006
History of Other Addictions	.593	13.626	.000	.553
Household Debt	.000	7.140	.008	1.000
Age	-.012	5.858	.016	.988
Physical Disability	.240	2.076	.150	1.271
History of Substance Abuse	.209	1.747	.186	1.232
Educational Achievement	-.025	.499	.480	.976
Tobacco Use	-.068	.422	.516	.935
Illicit Drug use	.103	.431	.512	1.108
Alcohol Use	-.020	.028	.867	.980
Gender	-.008	.003	.955	.992

RESULTS: IMPACT OF PROVIDING FEEDBACK TO PARTICIPANTS ABOUT THEIR GAMBLING BEHAVIOUR

In addition to exploring the characteristics and gambling patterns of Internet versus land based gamblers, another goal of this study was to assess the impact of providing interactive feedback to people taking our online survey. As discussed in the Method Section, after most sections, International participants were presented with detailed charts comparing their answers/scores/profile to other people taking the survey to illustrate how ‘normal’ or ‘typical’ their behaviour was. After the Gambling Behaviour section, participants were shown how they compared in terms of: number of gambling formats engaged in; frequency of gambling; and totally monthly expenditure. We also provided a projection of what their gambling losses would likely be in the next year. Certain sections (Gambling Knowledge & Beliefs Test; Gambling Definition Test) also provided feedback on the correct answer to each question along with a detailed explanation. The Problem Gambling Risk Assessment and Problem Gambling Assessment sections gave people feedback on the number of risk factors they had for becoming a problem gambler; their current problem gambling status (as assessed by the CPGI); and Internet links to treatment resources. The Test Your Prediction Skill section provided people with a) the overall prediction accuracy of everyone who attempted to guess which random number/object/color/etc. would next appear against what would be expected mathematically (to illustrate there is no difference), and b) a graph that plotted the random association between people’s prediction confidence and actual prediction success (i.e. there was an overall Pearson correlation of .00).

To establish the potential impact of this feedback, the final three questions of the survey asked respondents: how useful the information was that we provided to them; what impact (if any) this information will have on their future gambling behaviour; and, what suggestions they had for improving our survey.

In terms of the usefulness of the information, Table 45 illustrates that 65.2% of all respondents reported that the information was either somewhat or very useful. While the level of affirmation was similar across all groups, there were some small differences. The small disparity between Internet gamblers and non-Internet gamblers is statistically significant, with Internet gamblers slightly more likely than their non-Internet counterparts to say that the survey information was somewhat or very useful $X^2(3) = 17.2$, $p = .001$. We observed a larger and also statistically significant difference in the answers provided by problem gamblers versus non-problem gamblers, with 70.6% of problem gamblers, compared to 64.7% of non-problem gamblers, indicating that the survey information was useful $X^2(3) = 10.1$, $p = .018$. In summary, looking at the overall level of affirmation, it seems that the majority of participants gained something from their participation, and that problem gamblers, in particular, appear to have benefited.

Table 45. Perceived Usefulness of Normative Feedback (International Sample)

	All Participants %	Internet Gamblers %	Non-Internet Gamblers %	Problem Gamblers %	Non-Problem Gamblers %
How useful was the information we provided?					
Not at all useful	15.1	12.7	16.3	9.5	15.6
Not very useful	9.7	21.3	19.0	19.9	9.6
Somewhat useful	44.0	47.1	42.7	47.9	43.7
Very useful	21.2	18.9	22.0	22.7	21.0

When asked about expected changes in their gambling behavior over the next couple of months, Table 46 shows that the majority of participants (91.1%) reported they expected no change. This is not surprising, as the large majority of participants were gambling at Non-Problematic levels. More important is the impact on problem gamblers. As can be seen, although 58.2% of problem gamblers reported that their gambling behaviour was not likely to change (and 8.2% reported it would likely increase), 33.5% reported that they expected it to decrease. This rate of expected decrease is significantly higher than reported by non-problem gamblers, $X^2(2) = 704.3$, $p = .000$. While the expectation to change is not the same as an actual behavioural change, it is very encouraging that a 15 – 20 minute interactive questionnaire may have contributed to an intent to decrease gambling behaviour in one-third of all problem gamblers. Unfortunately, it is not possible to unambiguously attribute this expectation to direct experience with the survey, as this expectation may have been present beforehand. However, there are reasons to believe that the survey was a contributing factor. One concerns the fact that the large majority of problem gamblers reported that the information we provided to them was useful. Another is the fact that 15% of problem gamblers in the survey specifically asked for (and were provided with) the following Internet links to problem gambling treatment resources:

Link to a self-help manual
http://addiction.ucalgary.ca/order_manual

Link to other problem gambling treatment resources
http://www.gamcare.org.uk/
http://www.gamblersanonymous.org/
http://www.ncpgambling.org/
http://www.responsiblegambling.org/en/help/

Table 46. Expected Future Changes in Gambling Behaviour (International Sample)

	All Participants %	Internet Gamblers %	Non-Internet Gamblers %	Problem Gamblers %	Non-Problem Gamblers %
What changes do you expect in your gambling behaviour in the next couple of months?					
I expect it to decrease	5.1	7.1	3.9	33.5	2.5
I expect no change	91.1	87.0	93.2	58.2	94.1
I expect it to increase	3.8	5.9	2.9	8.2	3.4

Finally, the open-ended responses we received to the question "How could we improve this site?" also provides reaffirming evidence that this site contributed to problem gamblers' expectation/desire to cut down. One problem gambler, for example, wrote: "This was a good site for me, I am going through gambling withdrawal…. this site reinforced what bad shape I am in." Another problem gambler wrote: "It was a great insight into a problem that I wasn't even aware that I had." One problem gambler described the survey as "a wakeup call". While these comments are encouraging with respect to the therapeutic value of an Internet-based problem gambling awareness/prevention initiative, other problem gamblers' comments were less positive, but nonetheless offer some insight for how such initiatives should be crafted. Indeed, indicating the need to exercise sensitivity in the development of web-based problem gambling awareness/prevention initiatives, a number of respondents who were classified as problem gamblers adopted a very defensive stance. One problem gambler, for example, said: "I do not think that I have a problem, even a minor problem." Another person claimed: "I am aware of any problem I have, and feel it is controlled. It is just a past-time for me." Several others made comments accusing the researchers of being opposed to gambling in principle, or of assuming that all gamblers have gambling problems: "I think your survey is skewed to be against gambling." Finally, one gambler claimed he had been falsely classified, since gambling for him/her was a career, and not a problematic past-time: "What if I am a professional gambler? You are still telling me I have a problem! I will have a problem if I don't gamble, because that's the way I make a living."

DISCUSSION

Prevalence

The present study has established that the past-year adult prevalence rate of Internet gambling in Canada in 2006/2007 is 2.1%, or 3.5% when including people who use the Internet to buy and sell high risk stocks, options or futures and/or 'day trade'. The prevalence of Internet gambling in Canada has increased, especially since 2004. Even so, the prevalence is still very low and continues to be the least common form of gambling among Canadians. Table 47 puts these results in an international context. It would seem that the Canadian participation rate in Internet gambling is somewhat higher than Singapore and Australia, roughly equivalent to the United States, and lower than some European jurisdictions. The United Kingdom has the highest known rate of Internet gambling at 6.9%. When including people who also gamble via mobile phone and/or interactive/digital television, the U.K. rate is 8.8% (Gambling Commission, 2008).

Table 47. Prevalence of Internet Gambling in Different Jurisdictions [41]

Year	Jurisdiction	Past Year Prevalence	Study
1997	Oregon	0.3%	Volberg (1997)
2000	United States	0.3%	Welte et al. (2002)
2000	Nevada	1.4%	Volberg (2002)
2000	North Dakota	1.6%	Volberg (2001)
2001	Oregon	0.7%	Moore (2001)
2001	Michigan	0.9%	Gullickson & Hartmann (2001)
2002	Arizona	1.3%	Volberg (2003)
2003	Kentucky	0.9%	Kentucky Legislative Research Commission (2003)
2005	Oregon	1.9%	Moore (2006)
2006	California	1.1%	Volberg, Nysse-Carris, & Gerstein (2006)
2006	New Mexico	1.4%	Volberg & Bernhard (2006)
2006	New York	1.0%	Rainone, Marel, Gallati,& Gargon (2007)
2007	Nevada	(3.7%)[42]	Bernhard, Lucas, Shampaner (2007)
2006	United States	3.0%	Rasmussen Reports (2006)
2007	United States	2.0%	American Gaming Association (2008)
1998/9	Australia	0.6%	Australian Productivity Commission (1999)
2005	South Australia	0.5%	South Australian Department for Families & Communities (2006)
2005	Northern Territory	>0.6%[43]	School for Social & Policy Research & School of Health Sciences (2006)

[41] Studies of particular segments of the population have found online gambling rates of 36.5% among Detroit casino patrons (Woodruff and Gregory, 2005); 6.9% - 8.1% among Connecticut health care seekers (Ladd and Petry, 2002; Petry 2006); 1.2% among Connecticut health care employees (Petry and Mallya, 2004); 1.9% of Swedish residents have played online poker in the previous month in 2006 (Gaming Intelligence Group, 2007).
[42] Past 5 years, rather than past year.
[43] The figures for both the Northern Territory and New South Wales studies only included 'Internet casino games' (i.e., poker, etc.), but not online lotteries, sports betting, or horse/dog racing.

2006	New South Wales	>1.0%	NSW Office of Liquor, Gaming and Racing (2007)
2007	Tasmania	1.4%	South Australian Centre for Economic Studies (2008)
2000	New Zealand	1.3%	Amey (2001)
2005	Hong Kong	0.1%[44]	Hong Kong Participation in Gambling (2005)
2005	Singapore	0.1%	Ministry of Community Development, Youth and Sports (2008)
2008	Singapore	1.0%	Ministry of Community Development, Youth and Sports (2008)
2004	Netherlands	~3.2%	Motivaction International (2005)
2005	Netherlands	~2.1%	Motivaction International (2005)
1999	United Kingdom	0.2%	Sproston, Erens, & Orford (2000)
2007	United Kingdom	6.0%	Wardle et al. (2007)
2007/8	United Kingdom	6.9%	Gambling Commission (2008)
2006	Norway	6.5%	Sandven (2007)

Demographic Characteristics

There are several demographic variables that are characteristic of Canadian Internet gamblers, as well as a few variables that distinguish them from Internet gamblers from other countries. Canadian Internet gamblers are predominately male (82.4%). Furthermore, gender is the demographic variable that is most strongly predictive of being a Canadian Internet gambler. The prevalence of Internet gambling amongst gamblers varies between provinces, ranging from 0% in Prince Edward Island to 8.2% in New Brunswick. Indeed, geographic origin is the demographic variable with the second strongest statistical association to Internet gambling in Canada, with Quebec, Ontario, Saskatchewan, Manitoba, and Alberta having significantly lower rates than provinces such as British Columbia and New Brunswick. It is interesting to note that New Brunswick is the only Canadian province (along with Prince Edward Island) not to have a casino. The large majority of Canadian Internet gamblers are employed full or part-time, but a minority are retired or are students. In Canada, student status is a variable statistically predictive of Internet gambling. It is also interesting to note that the International data set found that being retired, on sick leave/maternity leave, or unemployed is significantly more characteristic of Canadian Internet gamblers as compared to Internet gamblers from other countries. The most common marital status of Canadian Internet gamblers is being single (49.0%), and this marital category is statistically predictive of Internet gambling. The ethnic origin of Internet gamblers tends to reflect the Canadian population, with the majority being of European ancestry (70.9%). However, being of Aboriginal ancestry significantly increases the odds of being an Internet gambler by 3.9 times. Aboriginal ancestry is also one of the distinguishing characteristics of Canadian Internet gamblers, compared to International Internet gamblers. Canadian Internet gamblers have a wide range of educational levels, but, on average, they are slightly better educated than most Canadians and also have higher household incomes ($74,600 CAD). Both of these variables are statistically significant predictors of Internet gambling status. Higher incomes and lower educational achievement are features that are significantly more characteristic of Canadian versus International Internet gamblers. Average household debt is $78,056 CAD, which is about $20,000 higher than the average for non-Internet gamblers, and constitutes yet

[44] Online casinos only.

another significant predictor that the person is an Internet gambler. All age groups are involved in Internet gambling, but it is more common in younger people (average age of 35.5). Nonetheless, this variable does not statistically differentiate Canadian Internet from Non-Internet gamblers, but is significantly more characteristic of Canadian versus Non-Canadian Internet gamblers. Canadian Internet gamblers have relatively high past month rates of substance use (39% for tobacco and 23.3% for illicit drugs), and use of illicit drugs is statistically associated with Internet gambling. Use of both illicit drugs and alcohol are also significantly more characteristic of Canadian versus Non-Canadian Internet gamblers. Canadian Internet gamblers tend to have low rates of physical disabilities and/or chronic health problems (6.7%) as well as relatively low rates of mental health problems (4.5%). An absence of physical disability and/or mental health problems is significantly associated with Internet gambling. Finally, Canadian Internet gamblers are regular users of the Internet, and use it more frequently, and for more things compared to Non-Internet gamblers.

International Internet gamblers also have many distinguishing demographic features. They are predominately male (78.0%) and, similar to the Canadian study, this is one of the strongest demographic variables that best discriminates between Internet and Non-Internet gamblers. Certain types of online gambling are preferred by one gender over another. The patronage of online sports betting, horse/dog race betting, and games of skill is overwhelmingly male, whereas the patronage of online bingo is predominantly female. The prevalence of Internet gambling appears to vary significantly between countries, with higher rates occurring in European countries and the Caribbean, and lower rates occurring in North America, Asia, and Australia and New Zealand. Geographic location was the most powerful demographic variable distinguishing Internet from Non-Internet gamblers. Marital status and employment status of International Internet gamblers tends to reflect the distributions found in the general adult population, with most people being married or living common-law and most being employed full-time. Unlike the Canadian data, being divorced/separated or living common-law was the marital status most predictive of being an Internet gambler. Being employed is also significantly associated. Most International Internet gamblers are of European ancestry (80.8%). However, being of non-European ancestry significantly predicts Internet gambling. All age groups are represented among International Internet gamblers, but unlike the Canadian data, there is no age group that is markedly overrepresented (average age of International Internet gamblers is 45.7). Nonetheless, younger age was a significant predictor of Internet gambling in this data set. It is both interesting and important to note that only 0.4% of International Internet gamblers reported being under age18. Although prior research has established that a small proportion of adolescents do gamble online (e.g., AADAC, 2007; Derevensky and Gupta, 2007), the present study would suggest that they comprise a very small proportion of the total online population. International Internet gamblers have high past month rates of substance use (44.3% for tobacco and 11.7% for illicit drugs). Any type of substance use is a significant predictor of a person being an Internet gambler. Average household income is $60,100 US and average household debt is $76,728 US Household income significantly predicted Internet gambling status, but debt did not. On average, International Internet gamblers are slightly better educated than most people, with 41.2% having completed college or university. This was not predictive of Internet gambling, however. International Internet gamblers reported levels of physical disabilities &/or chronic health problems (14.9%) and mental health problems (10.3%) that were not significantly different from Non-Internet gamblers.

The demographic characteristics found in the present study are consistent with previous research. Almost all studies have found Internet gambling to be more common among males. This includes virtually all of the prevalence studies reported in Tables 7 and 47, as well as studies focused just on Internet gamblers. The U.K. Gambling Commission's ongoing survey of remote gambling has consistently found males to have about twice the rate of online gambling participation compared to females (Gambling Commission, 2008). In a sample of U.S. online casino players, poker players, and sports bettors (n = 522), the American Gaming Association (2006b) found that 68% were male. In another undifferentiated and self-selected sample of all types of worldwide online gamblers (n = 1920), Wood and Williams (2007a) found 68% of the sample to be male. Among a sample of 473 British university students, 85% of the Internet gamblers were male (Griffiths and Barnes, 2007).

The gender preferences for specific game type, found in the present study, are consistent with findings from other studies. Woolley (2003) found 85 – 90% male patronage for an Australian TAB company (sports and horse race betting). Labrie et al (2007) examined the demographics of everyone opening an account with a European online sportsbook (bwin Interactive Entertainment AG [45]) in February 2005 (n = 40,499) and found 92% to be male. Males outnumbered females, 10 to 1, in a large scale study of online poker in Sweden (Gaming Intelligence Group, 2007). In contrast, a more equal gender ratio has been found for online casinos. McMillen and Woolley (2003) report that the percentage of males at one well-established Internet casino was only 50%. Similarly, in a worldwide online (self-selected) sample of 10,865 online casino and/or poker gamblers from 96 countries, 58% were male (with a majority of casino players being female) (eCOGRA, 2007).

The studies in Tables 7 and 47 are also consistent with the present study's finding that Internet gamblers tend to be somewhat younger. High rates of online gambling on college campuses are reported by Brown (2006), Griffiths and Barnes (2007), Helstron, Bryan, and Hutcchison (2007), and Petry and Weinstock (2007). Here again, the average age of online gamblers appears to be somewhat of a function of game type and perhaps country. Woolley (2003) found that 35 – 54 was the most common age group among the sports and horse race bettors in his studies. Labrie et al (2007) found the average age of European sports bettors to be 31 (SD = 10). eCOGRA (2007) found the most common age group for online poker players to be 26 – 35, but the average age of online casino players to be 46 – 55. In undifferentiated samples of online gamblers the average age was 34 in Wood and Williams (2007a), and mid 30s in the AGA study (American Gaming Association, 2006b). A survey of European online gaming companies found that 63% of their patrons were ages 18 – 35 (Swiss Institute of Comparative Law, 2006). Online poker players in Sweden are predominantly in their 20s (Gaming Intelligence Group, 2007).

The present study's findings about socioeconomic status are also supported by prior research. Socioeconomic status of online sports and horse race bettors was found to be higher than the Australian average in the studies by Woolley (2003), with a notable percentage of people belonging to professional or managerial occupations (whose jobs rely upon familiarity

[45] An Austrian Sportsbook registered in Gibraltar. Transactions in Euros only. .

with and competent use of the Internet). The AGA (2006b) study found that 61% of their sample had at least a college degree; 41% earned more than $75,000 a year; and almost all of them used the Internet for other activities. Wood and Williams (2007a) found that 60% of their sample had at least some post-secondary education, and 65% reported being comfortable conducting business and purchasing transactions over the Internet.

<u>Motivations</u>

In terms of motivations for gambling online, both Canadian and International Internet gamblers overwhelmingly identified the 24 hour availability and convenience of Internet gambling to be its main advantage. Secondary advantages, mentioned by a smaller percentage, include a better game experience; more physically comfortable; lack of crowds; anonymity; better payout rates; less smoke; and being able to smoke. Both Canadian and International Internet gamblers identified a wide range of disadvantages with Internet gambling, which included: difficulty verifying fairness of games; worry about monetary deposits being safe; lack of face-to-face contact; tendency to spend more money; too convenient; illegality; poorer social atmosphere (too isolating); and poorer game experience. The main things that influenced which Internet site to gamble at for both Canadian and International Internet gamblers were: general reputation of the site; recommendation from friends; better game experience/interface; monetary deposits safe and wins paid out in timely fashion; and familiarity (many people do not 'shop around').

These findings about motivation to gamble online are largely consistent with prior research. Among a small sample of British university online gamblers, the primary reasons given for gambling online were: ease of access (84%), flexibility of use (75%), 24 hour availability (66%), because friends do (67%), large gambling choice (57%), advertising (40%), anonymity (25%), demo games (21%), and because family members did (14%) (Griffiths and Barnes, 2007). In the American Gaming Association (2006b) study, the main reasons respondents reported for betting online were convenience (48%); fun/exciting/entertaining (24%); more comfortable, don't have to drive (24%); able to win money (9%); and enjoy the anonymity and privacy (6%). To relieve boredom and for excitement were the most common reasons cited by youth (age 12 – 24) in the Derevensky et al., (2006) study. In the Wood and Williams (2007a) study, the primary reasons respondents gave for gambling on the Internet were: 1) the relative convenience, comfort, and ease of Internet gambling; 2) an aversion to the atmosphere and clientele of land-based venues; 3) a preference for the pace and nature of online game-play; and 4) the potential for higher wins and lower overall expenditures when gambling online (Wood, Williams, and Lawton, 2007). In the eCOGRA (2007) study, the most important things that people wanted from Internet casino websites were: good bonuses (76%), a variety of games (62%), good deposit methods (57%), and a site with a solid reputation (57%). Fun and entertainment tended to rank above the profit motive as reasons for play. Convenience was a major factor cited by Wood & Griffiths (2008) in a qualitative study of Swedish poker players.

Although it was not specifically mentioned by respondents, it is important to note that an additional motivation for gambling online is that certain forms of gambling (i.e., betting against other people rather than the 'house') are simply more conducive to an online format. Betting Exchanges do not have any land-based equivalent. One of the reasons that poker is the most popular online game is presumably because the Internet provides more ready (and cheaper) access to other poker players. Also, with person-to-person betting the anonymity of the Internet helps level the playing field.[46] .

Game Play Patterns

In terms of game play patterns, perhaps the most important finding is that virtually all Internet gamblers also gamble on several land-based gambling formats, with 4.7 being the average number of gambling formats engaged in for the Canadian sample, and 4.1 for the International sample. The number of gambling formats engaged in is more powerful than any other variable (including the demographic ones) for predicting Internet gambling in both the Canadian and International data sets. Furthermore, both Canadian and International Internet gamblers engage in *all* types of gambling more frequently than their land-based counterparts, and also report higher average gambling expenditures. In Canada, the net monthly gambling expenditure is $541.09 CAD for Internet gamblers, compared to $67.09 CAD for Non-Internet gamblers. Internationally, the figures are $195.14 CAD and $19.26 CAD respectively. (Gambling expenditure was significantly more predictive of Internet gambling in the International data set but not in the Canadian data set. The lack of significance in the Canadian data set is due to the variability in the expenditure reports of Canadian Internet gamblers, a significant portion of which claimed to have large net wins on gambling in a typical month). Hence, what all of this seems to indicate is that Internet gambling is primarily used as an additional form of gambling, added to the repertoire of people who appear to be already heavily involved in gambling.[47]

Worldwide, including Canada, poker is the most popular online form of gambling. More specifically, in Canada, the proportion of Internet gamblers who play each type of online gambling is as follows: 59.7% skill games (mostly poker); 23% lotteries; 16.7% sports betting; 7.6% online casinos; 5.2% horse race betting; and 2.4% bingo. Among International Internet gamblers, 64.0% play skill games (mostly poker); 26.4% gamble at online casinos; 23.2% bet on sports; 12.7% bet on horse or dog racing; 11.1% play lotteries; and 7.4% play online bingo. Different types of online gambling have different gender ratios. Sports betting, horse/dog race betting, and games of skill are overwhelmingly preferred by males, whereas online bingo is preferred by females. While Internet gamblers regularly access land-based forms of gambling, they preferentially use the Internet for certain types of gambling more than other types. Canadian Internet gamblers use it preferentially for horse race betting, sports betting, and poker. International Internet gamblers preferentially use it for sports betting, poker, and horse/dog race betting.

About 93 – 94% of Canadian and International Internet gamblers primarily use their home computer for Internet gambling. Because most Internet gamblers are employed, this also

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[46] Griffiths (2003, 2006b) has found that females often pretend to be the opposite sex in order to be taken more seriously and for a greater sense of security, and males pretend to be females, supposedly to give them a tactical advantage

[47] Although this is the most plausible scenario, it must be remembered that because this is correlational data, the directional relationship cannot be unambiguously determined (i.e., it is possible that engagement in Internet gambling led to engagement in multiple forms of land-based gambling).

means that the large majority of Internet gambling occurs in the evening. A large majority of Internet gamblers indicate that the use of a credit card or electronic bank transfer, rather than cash, has no impact on their spending. A small minority of Canadian Internet gamblers (3 – 4%) and a slightly larger minority of International Internet gamblers (4 – 11%) report that Internet gambling has disrupted either their sleeping or eating habits. Finally, 20% of Canadian Internet gamblers and 14.0% of International Internet gamblers report using alcohol often or always while gambling, and 7% of Canadian Internet gamblers and 3.6% of International Internet gamblers report using illicit drugs often or always while gambling.

Game play patterns have not been the subject of much prior research. Woolley (2003) surveyed three samples of Internet gamblers, and found that roughly half of them reported placing bets online at least on a weekly basis. He also found that between 44.1% and 65.5% reported routinely using more than one site for Internet gambling. Wood and Williams (2007a) found that Internet gamblers, on average, reported gambling online a total of 5 hours per week, although 4% reported gambling online in excess of 20 hours per week. When asked about the location of the computer they used most often to gamble online, 86.6% of the respondents claimed they most often used a computer located in their own home. Only 4.3% claimed that their primary computer for gambling was located in their workplace. When asked which single game they played most often, respondents identified blackjack (28.3%), slot machines (25.2%), video poker (15.7%), bingo (12.1%), and sports betting (6.2%). In the American Gaming Association (2006c) study, the casino games people usually played online were blackjack (78%), video poker (65%), slot machines (60%), roulette (37%), craps (29%), pai gow poker or Let it Ride (24%), and baccarat (18%). Texas Hold 'em was by far the most popular type of poker game.

In the study by eCOGRA (2007), 90% of online gamblers played primarily at home, with the most popular time of day being in the evening (72%), followed by late night (53%). The modal pattern of play for Internet casino players was to gamble 2 – 3 times per week (37% of sample), to play for between 1 – 2 hours per session (27% of sample), and to wager between $30 - $60 per session (18% of sample). The modal pattern of play for Internet poker players was to gamble 2 – 3 times per week (27% of sample), to play for between 1 – 2 hours per session (33% of sample), to play one (24% of sample) or two (24% of sample) tables at a time, to play at minimum stake levels of $.50 to $2.00 (61% of sample), and to play with 6 – 10% of their bankroll at a table at anyone time (23% of sample).

The gambling behaviour of 40,499 online sports bettors who opened an account with bwin Interactive Entertainment AG (https://www.bwin.com/default.aspx?pid=626), in February 2005, was documented for an eight month period by Labrie et al. (2007). The median length of play from first to last bet was four months for fixed-odds bettors. The median betting behavior of these 39,719 fixed-odds bettors was to place 2.5 bets of €4 every fourth day. This typical pattern incurred a loss of 29% of the amount wagered. The median betting behavior of the 24,794 live-action bettors was to place 2.8 wagers of €4 every fourth day, during the median duration of 6 weeks, at a loss of 18% of the amount wagered. While the gambling behaviour of the large majority of these bettors was of modest proportions, the top 2 or 3% of bettors wagered considerably more than the rest (~ €10,000) in this 8 month period, with the top 1% having a particularly high number of bets and amount wagered. Interestingly, an analysis of this top 1%

found them to also have a lower overall percentage loss on their bets compared to other players.

Problem Gambling

The prevalence of problem gambling is 3 to 4 times higher in Internet gamblers compared to Non-Internet gamblers. Having problems with gambling is in fact one of the features that best predicts that someone is an Internet gambler in both the Canadian and International data sets. In Canada, the rate of CPGI moderate and severe problem gambling among Internet gamblers is 17.1%, compared to 4.1% for Non-Internet gamblers. Among the International online sample, 16.6% were either moderate or severe problem gamblers, versus a rate of 5.7% among land-based gamblers.

This finding is very consistent with findings contained in the prevalence studies in Tables 7 and 47 as well as studies that have focused more specifically on Internet gamblers. In an online study of 422 self-selected online university poker players, 18% of the sample was classified as problem gamblers using DSM-IV criteria (Griffiths, Wood, and Parke, 2006). Internet gamblers were also significantly more likely to be problem gamblers in another study of university students by Griffiths and Barnes (2007). In a study of disordered gambling among university students, Ladd and Petry (2002) found that the mean South Oaks Gambling Screen (SOGS) score (7.8) among university Internet gamblers was over 4 times higher than the mean SOGS score (1.8) for Non-Internet gamblers. A 2005 study of 12,717 Dutch Internet users between 18 and 55 years old found that 14% of online gamblers were 'at risk' of problem behaviour, but none one actually evidenced problematic behaviour (Motivaction International, 2005).[48] Among a self-selected online sample of 1,920 Internet gamblers, Wood and Williams (2007a) found 23% to be moderate problem gamblers on the Canadian Problem Gambling Index, and another 20% were found to be severe problem gamblers. In a 2006 study of 16,500 Swedish poker players, 27% were classified as potential problem gamblers (Gaming Intelligence Group, 2007). A similar study of 3000 Swedish online poker players by Jonsson (2008) found 23% of players were either moderate or severe problem gamblers as measured by the CPGI.

There are several variables that the present study found to statistically predict whether someone is an Internet problem gambler. In order of importance, these are: gambling on a greater number of gambling formats; higher gambling expenditure (Internet problem gamblers accounted for 41.3% of all reported gambling losses for the Canadian data set and 27.0% of all reported losses for the International data set); having mental health problems; family history of problem gambling; Asian ancestry; single (never married); lower household income; more gambling fallacies; negative attitudes toward gambling; and history of other addictions. Almost all of these predictors are also variables that research has shown to be statistically related to problem gambling in Non-Internet gamblers.

From a policy perspective, it is important to understand the role that Internet gambling plays in the development of problem gambling. There are several aspects of Internet gambling that may increase the risks for problem gambling. These include the much greater convenience and ease of access; the relative comfort of playing at home; the greater anonymity; the solitary nature of the play; the immersive nature of the interface; the fact that gamblers are playing with

[48] It is not clear how 'at-risk' and 'problem behaviours' were defined.

'electronic' cash; the ability to play multiple sites/games simultaneously; and the ability of online gamblers to play under the acute influence of drugs or alcohol [49] (Griffiths, 1996; Griffiths, 1999; Griffiths, 2003; Griffiths and Parke, 2002; Griffiths and Wood, 2000; King, 1999; King and Barak, 1999; LaRose, Mastro, and Easton, 2001; Schull, 2005; Shaffer, 1996). In the present study, roughly half of Internet problem gamblers reported there was a specific type of gambling that contributed to their problems more than others. Among the Canadian sample, these were poker (31.3%), slot machines (12.5%), VLTs (12.5%), and roulette (12.5%). Among the International sample, these were slot machines (23.8%); poker (21.7%); and Internet gambling (11.3%). Hence, the implication is that while Internet gambling is an important contributing factor to gambling problems in a portion of problem gamblers, it does not appear to be the main cause of problem gambling for most of them.[50] This is consistent with the evidence that Internet gamblers are likely heavy gamblers to begin with, who have simply added Internet gambling to their repertoire.

Roughly 8% of Canadian Internet problem gamblers had sought help for their problems, with all of them seeking it from a Counseling Service. By comparison, 9% of International Internet problem gamblers had sought help for their problems and they had sought help from a wide variety of sources (21% Gamblers Anonymous; 18% Counseling Service; 11% friends; 11% psychologist; 11% psychiatrist; 7% family doctor; 7% family; 7% pastor/minister/priest; 7% telephone help/hot line). The large majority of Internet problem gamblers would be more comfortable seeking help from a face-to-face counseling service rather than from an Internet counseling services (75% of Canadian Internet problem gamblers and 70.2% of International Internet problem gamblers). Some researchers had posited that Internet gamblers might be particularly receptive to Internet-based counseling or other online interventions (Horton, Harrigan, Horbay, and Turner, 2001; Wood and Williams, 2007a).[51] However, the present results suggest that while online services can serve as a useful adjunct to land-based treatment, it is not likely going to be a panacea for this particular population.

Impacts of Providing Feedback to Participants about their Gambling

While online counseling may not be a panacea, there may still be value to providing online interventions. In the present study, 65.2% of participants in the International Online Survey reported that the interactive feedback we provided (i.e., how normative their gambling behaviour was, projection of their yearly expenditures, explanations of why certain beliefs they held were gambling fallacies, their risk for becoming a problem gambler, their current score on CPGI, etc.) was somewhat or very useful, with this percentage being significantly higher for problem gamblers (70.6%).

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[49] Substance use while gambling has a direct link to excessive and disinhibited play (Baron and Dickerson, 1999; Ellery, Stewart and Loba, 2005; Kyngdon and Dickerson, 1999).
[50] Of course, it must be recognized that this data simply reflect problem gamblers' *perceptions* of what forms were most problematic.
[51] Online counselling is currently being offered in the UK. Supported by the Responsibility in Gambling Trust, GamAid provides "instant, real-time, one-to-one professional guidance for remote gamblers whose gambling activities are out of control or for those who wish to better understand the concepts of responsible gaming" (Wood and Griffiths, 2006). Early findings indicate that while only 1% of online gamblers accessed the link button from participating gambling websites, women in particular found the service to be helpful.

Furthermore, 33.5% of problem gamblers, who took our International Online Survey, reported that they expected their gambling behaviour would decrease subsequent to the survey. This would suggest that this survey, as well as other online interactive surveys, probably have some utility as a brief intervention. Based on the informativeness of the questionnaire, and its potential behavioural impact on problem gamblers, it is also reasonable to anticipate some beneficial prophylactic/preventative effect for Non-Problem gamblers.

POLICY IMPLICATIONS AND OPTIONS

There are good arguments for both prohibition and legalization of Internet gambling. The main arguments for legalization are as follows:

- It is nearly impossible to effectively prohibit online gambling, because of the difficulty in blocking individual players' online access to these sites, and the difficulty in prosecuting companies that legally provide these services from other countries (e.g., Andrle, 2004; Eadington, 2004; Friedrich, 2003; Parke and Griffiths, 2004; Watson et al., 2004). As evidence of this, the rate of Internet gambling in the United States with prohibitionist legislation (2.0%) is roughly equivalent to Canada (2.1%), with more permissive legislation. Furthermore, it is never a good thing to have laws that are widely disregarded as it may foster disregard for the general rule of law. Some commentators cite the widespread societal disregard for alcohol prohibition as a model of what would happen with online gambling prohibition.
- Regardless of whether online gambling is good or bad for society, it is better for it to come under some form of legal regulatory control so as to accrue the economic benefits (gambling revenue, tax revenue, employment, decrease the flow of money leaving the jurisdiction), and to better ensure player protection (fair games, responsible gambling practices, etc.) (e.g., Pereira de Sena, 2008).[52] Furthermore, some of the new online gambling revenues could be used for the prevention and treatment of online problem gambling.
- It should not be the job of the state to shape people's leisure behaviour or how they spend their money even if engagement in this behaviour does harm some people (i.e., people should have freedom of choice).
- Online gambling revenue appears to be less regressive than most other forms of gambling because the average household income of Internet gamblers is higher than average.
- It is inevitable that online gambling will eventually be legally available on a widespread basis. In the past 30 years, whenever a new form of gambling or regulatory practice has been introduced in one jurisdiction, most other jurisdictions have followed suit. Court challenges to restrictive gambling laws that interfere with the free flow of goods and services are pressures contributing to this trend.[53] Furthermore, expansion of gambling to the Internet is also just a natural 'evolution' that takes advantage of this important new medium for game play, communication, and financial transactions. Financial markets experienced a similar expansion to the Internet in the late 1990s. Online stock trading is now widespread.
- Even if online gambling does initially increase rates of problem gambling, the evidence from land-based gambling suggests that, over time, populations adapt to the presence of problematic products and develop some 'inoculation' from further harm (Shaffer, LaBrie,

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[52] This is similar to the arguments put forward for legalization of illicit drugs, prostitution, and euthanasia, and to the historical arguments for the legalization of gambling and alcohol.

[53] The World Trade Organization has ruled that the U.S. ban on Internet Gambling violates the General Agreement on Trade and Services (Kelly, 2006; Rose, 2007; Wunsch-Vincent, 2006). The European Union Commission has threatened court action if certain countries (i.e., France, Sweden, Greece), do not end their state-run sports betting monopolies (Vincent, 2007). The European Union Commission already has proceedings underway against Austria, Denmark, Germany, Hungary, the Netherlands, Italy and Finland concerning their gambling monopolies (Keuleers, 2005a,b; Littler, 2006; Vincent, 2007). (The position of the European Commission is that a European Union member state does not have to allow gambling. However, if a country does allow gambling, it cannot run a state gambling monopoly and prevent other European gambling companies from providing competition.)

and LaPlante, 2004). As evidence, the rates of problem gambling in Western countries appear to have stabilized or declined in recent years despite continuing expansion of gambling availability and increased revenues. Furthermore, an argument can be made that unless the populace will *never* be exposed to this product then it may be better to develop this inoculation early on rather than later.

However, there are also many (perhaps more) compelling arguments for prohibition of Internet gambling:

- The purpose of the law is not to *conform* to people's behaviour, but to a) help shape it, and b) codify societal values. There are several other online activities that are very difficult to control (e.g., child pornography; sites promoting illegal behaviour, sites containing hateful content toward certain groups). There are also many laws which the general public does not strictly adhere (e.g., illicit substance use; drinking and driving; declaring all taxable income; etc.). Nonetheless, legal efforts to limit these activities are somewhat helpful, and preferable to no action and/or legalization.
- General disregard for the rule of law is more of a risk when prohibiting something the majority of people engage in (e.g., alcohol use) rather than when prohibiting something only 1 – 7% of people engage in (i.e., Internet gambling). The low market penetration after 13 years of existence suggests online gambling may only ever be a small niche market.
- A significant portion of online sites have unsatisfactory business and responsible gambling practices. Furthermore, it is unclear how to ensure that these sites *ever* meet minimum standards in these areas. Legally-sanctioned domestic sites (with better business and responsible gambling practices) will only be patronized to the extent they offer a competitive advantage to the consumer, which is often difficult to achieve. Existing 'offshore' jurisdictions will always retain a strong competitive advantage because of their longer established presence as an Internet gambling host, fewer regulations, less stringent enforcement of these regulations, and having much lower fees and taxes (Wilson, 2006).[54] The competitive advantages that larger and better regulated jurisdictions possess include: better player protection (fairness of games, responsible gambling practices, etc.), a more stable political environment, better capital markets, better bandwidth and hosting capabilities, and a larger pool of skilled workers (American Gaming Association, 2006a; Wilson, 2006).[55] However, it is clear that there will always be many sites available willing to accept any patron with money. Furthermore, in an open marketplace there is always competitive pressure for having fewer restrictions. For example, when casino gambling was first introduced throughout the United States in the late 1980s, several player protection policies were routinely put in place (e.g., small maximum bet limits, maximum loss limits, no credit, etc.). However, to obtain a competitive advantage, venues opening in neighboring states tended to be slightly less restrictive (Schwartz, 2006). Over time, a level playing field

[54] For example, Kahnewake only charges a $10,000 annual licensing fee, with no taxes. By comparison, the U.K.imposes a 15% tax on online gambling profits.
[55] A survey of six of the world's largest online gambling operators found that their choice of jurisdiction in which to locate their operations in was primarily based on the ability to repatriate funds; bandwidth and hosting capabilities; low gambling taxes; a commercial regulator; clear and comprehensive regulations; stable policy; and low corporate taxes (Mpande Advisors, 2005).

developed such that currently there are almost no casino player protection policies in place in any state.[56]

- A significant portion of online gambling revenue comes from problem gamblers. Prior research has established that problem gamblers contribute approximately 1/3 of revenue from all types of gambling (Australian Productivity Commission, 1999; Williams and Wood, 2004, 2007b). In the present study, problem gamblers accounted for 41.3% of all online gambling losses in Canada, and 27.0% Internationally. It is ethically problematic for revenue generation to be disproportionately derived from a vulnerable segment of the population, especially in cases where the government is the primary operator and/or beneficiary.
- Legalization of a product or service provides sanctioning and legitimacy, which usually results in increased availability and increased use. In general, the prevalence of Internet gambling in each country roughly parallels its legal availability (e.g., the U.K. has one the world's most liberal Internet gambling laws as well as the world's highest known rate of Internet gambling). However, for products or services with potential for causing harm (such as Internet gambling), this also means that legalization increases the number of people developing problems with the product/service (the two drugs that cause the most harm in Western society are the two legal ones: alcohol and tobacco).
- It is far from clear that online stock market trading is beneficial. Research has found that investors who switched from phone-based to online trading trade more actively, more speculatively, and less profitably than before (underperforming the market by around 3%). This appears to be due to overconfidence, augmented by self-attribution bias and the illusions of knowledge and control (Barber & Odean, 2002). Furthermore, the greater individual investor access to the stock market that has occurred with online trading has significantly exacerbated the losses that individual investors typically make relative to less active and speculative institutional traders (Barber, Lee, Liu, & Odean, in press). Online trading has also created a large number of 'day traders', who almost always lose money in the long run (Barber, Lee, Liu, Odean, 2005).
- Although the present study suggests that Internet gambling is an exacerbating rather than a causal factor for most problem gamblers who gamble on the Internet, the nature of online gambling still makes it inherently more problematic than most other forms of gambling. It is a common policy to restrict access to forms of a product perceived to be more harmful than other forms (e.g., automatic weapons and handguns versus hunting rifles; cocaine, methamphetamine, heroin versus alcohol; child pornography versus adult pornography). Internet gambling (along with electronic gambling machines) is one of these more problematic forms.
- Legalizing online gambling and redirecting some of the revenue into prevention and treatment does not offset the harm that would be caused. (This is equivalent to suggesting that automatic weapons and handguns should be legalized but redirecting some of the licensing/registration fees into health care and rehabilitation for the shooting victims.) First, educational efforts to prevent problem gambling have fairly limited efficacy (Williams et al., 2007). Second, most of the financial, psychological, social, work/school, legal harms associated with problem gambling cannot be undone. Once an addiction has been

[56] One of the very last player protection policies remaining was Missouri's prohibiting casino gamblers from losing more than $500 in 2 hours. After several years of lobbying by the Missouri casino industry to 'level the playing field' (i.e., to the no-loss limits in neighbouring states), this maximum loss policy was recently removed (Volkmann, 2008).

established, a lifelong propensity for this behaviour has been created. Treatment helps decrease risk of relapse, but does not eliminate it.

Support for prohibition or legalization hinges on the relative importance different individuals and different societies place on each of the above arguments. Furthermore, the 'best' regulatory stance will depend somewhat on the circumstances of the individual jurisdiction:

- Jurisdictions with highly functional/resilient populations having low rates of social problems and addictive behaviour despite widespread availability of addictive products (e.g., Netherlands) are not likely to be as negatively impacted by Internet gambling legalization as jurisdictions with more vulnerable populations having high rates of social problems and addictive behaviour.
- Jurisdictional regions (e.g., Europe) that are able to widely establish and ensure better online industry practices may incur less harm.
- Jurisdictions with small populations will accrue proportionally greater economic benefits with Internet gambling legalization compared to large jurisdictions, as the majority of their online gambling revenue will come from outside the jurisdiction (i.e., from the U.S., China, and European countries with large populations), and represent a true influx of wealth rather than just domestic money being redistributed. (This assumes that nonresidents would be allowed to gamble on these domestic sites).
- Regulatory policy needs to take public attitudes into account. The present Canadian study asked a subsample of 2,000 individuals about their attitude toward legalized gambling and found that the large majority (63.1%) believed that some types should be legal and some types should be illegal. Although which specific forms that should be illegal was not asked, a recent survey by Decima Research (2007) found that the large majority of Canadians oppose all forms of Internet gambling, including the forms that are currently offered in some provinces.[57] By comparison, 64.0% of participants in the International sample in the present study (overrepresented by gamblers and Internet gamblers), believed that *all* types should be legal. There were also significant country by country variations in this opinion, with Australians, New Zealanders, Irish, Germans, French, and Filipinos having a position more similar to Canadians.

It should also be recognized that there are intermediate solutions between total prohibition and legalization, and which are currently being used in some jurisdictions. For example:

- Less problematic forms of Internet gambling could be legalized (e.g., purchase of online lottery tickets). The main risk here is that it then becomes a 'slippery slope'. The legalization of land-based lotteries in Western countries in the 1960s and 1970s was followed by the successive legalization of all other forms of gambling in subsequent decades.
- Access to foreign-based online sites could be prohibited so as to decrease monetary outflow and better ensure patronage of domestic sites with good business and responsible gambling

[57] Canadian adults reported the following to be 'acceptable forms of gambling': online sports betting 32%; casino type games through a mobile phone or wireless device 30%; purchase of lottery tickets through a mobile phone or wireless device 26%; casino type games in-flight or during train travel 26%; online interactive lottery games 26%; casino type games through interactive TV 21%; online poker 17%.

practices. However, this type of legislation is difficult to enforce and would still result in an increased patronage of Internet gambling and increased numbers of problem gamblers.

- Only nonresidents could be permitted to legally access domestic sites. Here again, while there is both economic and social merit in such a policy, other countries are likely to see this as a somewhat Machiavellian and predatory approach. Furthermore, this policy also provides legitimacy and potential encouragement of online play among domestic residents.

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APPENDIX A: CANADIAN TELEPHONE SURVEY

Hello, this is __________and I'm calling from the Institute for Social Research at York University in Toronto. First, let me assure you that we're not selling anything or asking for a donation. We're conducting a study about gambling on behalf of researchers at the University of Lethbridge and we'd to conduct an interview with someone in your household, whether or not they gamble.

- Confirm telephone number
- Random selection of the respondent based on next birthday method
- Read the ethics screen.

D1. Person's gender (do not ask)
- Male (1)
- Female (2)

D2. How many adults live in your household?________

Before we start I would just like to encourage you to be as honest as possible when answering these questions, as this will really help our research.

SCREENING QUESTIONS

SG1. I'd like to begin by asking if you have bought any lottery or instant win tickets (NOTE: scratch & win, pull tabs, breakopens, Nevada tickets) in the past 12 months?
- No (0) (skip GB1a,b, GB2a,b,c,d,e)
- Yes (1) (go to SI)

SG2. Have you played video lottery terminals or gambled at a casino in the past 12 months?
- No (0) (skip GB8a,b, GB9a,b,c)
- Yes (1) (go to SI)

SG3. Have you played games of skill for money against other individuals in the past 12 months? This includes things such as poker, pool, darts, bowling, etc.
- No (0) (skip GB6a,b,c,d,e,f,g)
- Yes (1) (go to SI)

SG4. Have you played bingo, bet on a sporting event, bet on a horse race, gambled on the Internet, or purchased high risk stocks, options or futures in the past 12 months?
- No (0) (Skip GAMBLING BEHAVIOUR Section & all PROBLEM GAMBLING Sections)
- Yes (1) (go to SI)

SI. Do you personally use the Internet either at home, work, or elsewhere? (NOTE: If person seeks clarification, we are asking whether the person themselves uses the Internet. This does not include household or workplace Internet availability where the person does not use it themselves).
- No (0) (Skip GB2cde, GB3cde, GB4cde, GB5cde, GB6cdefg, GB10abcde and INTERNET Section)
- Yes (1)

GAMBLING BEHAVIOUR

GB1a. In the past 12 months, on average how often have you purchased **instant win tickets** such as scratch & win, pull tabs, breakopens, or Nevada tickets? Would you say

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB2a)

GB1b. Roughly how much money do you spend on instant win tickets in a typical MONTH? For all of these questions, spend means how much you are ahead or behind, or your net win or loss in an average MONTH in the past 12 months. ________

GB2a. In the past 12 months, on average how often have you purchased **lottery tickets**? Would you say about (NOTE: this includes Lotto 6/49, Super 7, Pick 3, Daily 3, Pik 4, Payday, Encore, Set for Life, Keno tickets; this does not include Sports Lotteries).

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB3a)

GB2b. Roughly how much money do you spend on lottery tickets in a typical MONTH?_________ (NOTE: if this is the first time the expenditure question is asked need to add "For all of these questions, spend means how much you are ahead or behind, or your net win or loss in an average MONTH in the past 12 months").

GB2c. Have you used the Internet to purchase lottery tickets, or to play lotteries or online keno in the past 12 months?

- Yes (1)
- No (0) (Go to GB3a)

GB2d. What percentage of your lottery ticket purchases or play has been over the Internet in the past 12 months (0 – 100%)

GB2e. Which Internet site do you most often use to purchase or play lottery tickets or online keno?____________________ (CODINGS: Atlantic Lottery Corporation (PlaySphere); British Columbia Lottery Corporation; GloBet Games; Globelot; InterLottery; Irish Lotto; Lottery Universe; Lotto Quebec; Oz Lotteries; PlanetLotto; Play UK Lottery; Plus LOTTO; Sweepstakes8; Tattersalls Lotteries; UK National Lottery; Other_____________________) (NOTE: accept up to 3 answers)

GB3a. In the past 12 months, on average how often have you bet money on **sporting events?** This includes sports pools or sports lotteries such as __________________________. Would you say (NOTE: In Atlantic Canada sports lotteries are called Proline and Over/Under. In Ontario they are called Proline, Point Spread, and Pro Picks. In Quebec it is called Pari sportif, with the games being Mise-O-Jeu and Total. In MB, SK, AB, Yukon & the territories it is called Sports Select, with the games being Proline, Point Spread, and Over/Under. In B.C. it is called Sports Action, with the games being Oddset, Point Spread, Over/Under, and Pools. NOTE: This does not include betting on sports games that the respondent is playing themselves).

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB4a)

GB3b. Roughly how much money do you spend on sports betting in a typical MONTH? ________

GB3c. Have you used the Internet to place a sports bet in the past 12 months?

- Yes (1)
- No (0) (Go to GB4a)

GB3d. What percentage of your sports betting has been over the Internet in the past 12 months (0 – 100%)

GB3e. Which Internet site do you most often use for sports betting?________________ (CODINGS: AllSportsMarket, Atlantic Lottery Corporation website (PlaySphere), BetBug, BETDAQ, BetFair, BetonMarkets, Betsson, British Columbia Lottery Corporation website (Sports Action), CBM Bookmaker, Eurobet, Expekt, GloBet Sport, Intrade UK, Ladbrokes, Matchbook, Mybet, Pinnacle Sports, Sportsbook.com, Sportingbet, Trade Sports, William Hill, Other________________) (NOTE: accept up to 3 answers)

GB4a. In the past 12 months, on average how often have you bet money on **horse racing or dog racing**? Would you say

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB5a)

GB4b. Roughly how much money do you spend on horse or dog race betting in a typical MONTH? _________

GB4c. Have you used the Internet to place any bets on horse or dog racing in the past 12 months?

- Yes (1)
- No (0) (Go to GB5a)

GB4d. What percentage of your horse or dog race betting has been done over the Internet in the past 12 months? (0 – 100%)

GB4e. Which Internet site do you most often use to bet on horse or dog racing?_____________________________ (CODINGS: Allhorseracing, AllSportsMarket, Betehorse, BetFair, Bet Game Day, Bet Horse Tracks, Bet Jockey, Betsson, BoDog, HorsePlayer Interactive (HPI)/Woodbine Entertainment, Ladbrokes, Mybet, Oasis, Pinnacle Sports, Sportingbet, Sportsbook.com, Trade Sports, VIP Horses, William Hill, Other) (NOTE: accept up to 3 answers)

GB5a. In the past 12 months, on average how often have you played **bingo** for money or prizes? Would you say

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB6a)

GB5b. Roughly how much money do you spend on bingo in a typical MONTH? ________

GB5c. In the past 12 months have you played bingo for money or prizes at an Internet Bingo site? (NOTE: This does not include satellite bingo, where land-based bingo halls play a single game through a satellite link).

- Yes (1)
- No (0) (Go to GB6a)

GB5d. What percentage of your bingo playing has been done over the Internet in the past 12 months? (0 – 100%)

GB5e. Which Internet site do you most often use for bingo?________________ (CODINGS: Bingo.com, Take 5 Bingo, BingoLocity, Bingos.co.uk, Bingo Billy, Caribbean Bingo Party, Bingo Cabin, Bingo Mania, Miss Bingo, Bingo Canada, Other________________) (NOTE: accept up to 3 answers)

GB5f. How much time do you usually spend each time you play bingo for money at an Internet site?_________

GB6a. In the past 12 months, on average how often have you **played games of skill for money against other individuals**? This includes things such as poker, pool, darts, bowling, golf, video games, board games, strategy games, checkers, etc. It also includes paying money to enter a contest or tournament with cash prizes.

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB7a)

GB6b. Roughly how much money do you spend playing games of skill for money against other individuals in a typical MONTH? _________

GB6c. In the past 12 months have you played games of skill for money against other individuals at an Internet site? For example, online poker or other interactive games.

- Yes (1)
- No (0) (Go to GB8a)

GB6d. What percentage of your playing games of skill for money against other individuals has been done over the Internet in the past 12 months? (0 – 100%)

GB6e. Which Internet site do you most often use for playing games of skill against other individuals for money?________________ (CODINGS: Absolute Poker, Atlantic Lottery Corporation, Bodog Poker, Casino-on-Net, Casino Tropez, Empire Poker, Fortune Fun, Full Tilt Poker, GameAccount, GameColony, Gamesville, Gammon Empire, Golden Palace Online, Midas Player, MoneyGaming, Pacific Poker, Paradise Poker, Party Poker, Play65, Poker Room, Poker Stars, SkillGame, Titan Poker, Ultimate Bet, WorldWinner, Other_________________) (NOTE: accept up to 3 answers)

GB6f. What games do you most often play for money over the Internet?_________________ (CODING: poker, other card game__________, pool, darts, bowling, video games, board games, other_____________) (NOTE: accept up to 3 answers)

GB6g. How much time do you usually spend each time you play these games for money at an Internet site?________

GB7a. In the past 12 months, on average how often have you played **slot machines, video lottery terminals, or other electronic gambling machines** (e.g., electronic keno, electronic racing) at a bar, casino, gaming centre, etc. within your own province? Would you say

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB8a)

GB7b. Roughly how much money do you spend on slot machines, video lottery terminals, or other electronic gambling machines within your own province in a typical MONTH? ________

GB8a. In the past 12 months, on average how often have you played **table games** such as blackjack, roulette, craps, or baccarat at a casino within your province? This does not include poker. Would you say

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB9a)

GB8b. Roughly how much money do you spend on casino table games within your province in a typical MONTH?________

GB9a. In the past 12 months, on average how often have you played **slot machines, video lottery terminals, or table games** at a casino, bar, gaming centre, etc. **in another province, state or country?** Would you say

- once a week or more (6)
- 2-3 times a month (5)
- once a month (4)
- 6 to 11 times (3)
- 2 to 5 times (2)
- just once (1)
- not at all in the past 12 months(0) (Go to GB10a)

GB9b. Roughly how much money do you spend on slot machines, video lottery terminals, or table games at a casino, bar, gaming centre, etc. in another province or state each time you go? ________ (NOTE: this does not include travel or accommodation expenses).

GB9c. What province, state, or country do you do this in mostly? ____________ (CODINGS: BC, AB, SK, MB, ONT, QU, NB, NS, PEI, NFD; Nevada (Las Vegas & Reno), Arizona, California, Connecticut, Florida, Illinois, Indiana, Iowa, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Montana, New Jersey (Atlantic City), New York, North Dakota, Pennsylvania, Washington, Wisconsin, Other State; Cruise Ships) (NOTE: accept up to 3 answers)

GB10a. In the past 12 months, on average how often have you gone on the Internet to bet or spend money on slot machines, video lottery terminals, or table games at an **Internet casino?** Please note **t**his does not include Internet Poker. (NOTE: If person asks, it has to be actual money bet, not 'play' money on 'free-play sites'). Would you say

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB11)

GB10b. Roughly how much money do you spend on slot machines, VLTs, and table games at Internet casinos in a typical MONTH? ________

GB10c. Which Internet casinos do you most often use?________________ (CODINGS: BoDog, Carnival Casino, Casino-on-Net, Club Dice, Casino Tropez, Golden Palace Online, InterCasino, Monaco Gold, River Belle, Roxy Palace, Vegas Frontier, USA Casino, Other________________) (NOTE: accept up to 3 answers)

GB10d. Which Internet casino games do you play the most?_________________ (CODINGS: blackjack; slot machines; video poker machines; keno; craps; roulette; baccarat; pai gow; poker (Texas Hold-em, Let it Ride); other____________) (NOTE: accept up to 3 answers)

GB10e. How much time do you usually spend each time you gamble at an Internet casino?________

The following 2 questions are not asked of people who only purchase lottery or instant win tickets.
GB11a. How often do you drink alcohol when you gamble? Would you say…

- never (0)
- rarely (1)
- sometimes (2)
- often (3)
- always (4)

GB11b. How often do you use drugs when you gamble? Would you say... (NOTE: If asked which substances we are referring to say "marijuana, hashish, LSD, PCP, ecstasy, cocaine, crack, heroin, or any other street drugs).

- never (0)
- rarely (1)
- sometimes (2)
- often (3)
- always (4)

INTERNET

I1. Do you use the Internet for email? (52% is StatsCan baserate)

- Yes (1)
- No (0)

I2. Do you use the Internet for buying goods or services? (19% is StatsCan baserate)

- Yes (1)
- No (0)

I3. Roughly how many days in a typical week do you use the Internet? (0 – 7)

Following questions asked for anyone answering yes to GB3c, GB4c, GB5c, GB6c, or GB10a (NOTE: not GB2c)

I4. Do you primarily use your home or work computer for Internet gambling?
- home (1)
- work (2)
- home and work equally (3)
- other (4)

I5. What year did you first start using the Internet for gambling purposes? ___________________

I6. What time of day do you most often use the Internet to gamble or place bets? Would you say…
- 9am – 5pm, (1)
- 5pm – midnite, or (2)
- midnite to 9 am (3)

I7. Has online gambling disrupted your sleeping patterns?
- yes (1)
- no (0)

I8. Has online gambling disrupted your eating patterns?
- yes (1)
- no (0)

I9. Does the fact are using a credit card or electronic bank transfer rather than actual cash have…
- no impact on your spending, (0)
- does it increase the amount you spend, or (1)
- does it decrease the amount you spend (2)

I10. What are the main things that influence your decision to gamble at one Internet site over another?____________ (CODING: general reputation; recommendation from friend(s); payout rates; legality; fairness of games; monetary deposits safe and wins paid out in timely fashion; comps/provision of monetary incentives to play; jurisdiction operating out of; software used; better game experience/interface; larger range of games; other_____________) (NOTE: accept up to 3 answers. Prompt with 'anything else' to fill the 3 fields).

I11. What would you say are the main advantages of Internet gambling over gambling at an actual casino, bingo hall, racetrack or other facility? __________________ (CODING: 24 hour availability/convenience; don't have to drive anywhere or leave the house; land-based gambling unavailable or illegal; more physically comfortable; less smoke; able to smoke; less noise; greater privacy/anonymity; no crowds; no unpleasant people; better game experience (higher speed of play, more leisurely speed of play, more interesting/exciting games); higher payout rates (better odds, lower potential losses); lower secondary costs (travel, food, drinks); other____________________; no advantages) (NOTE: accept up to 4 answers. Prompt with 'anything else' to fill the 4 fields).

I12. What would you say are the main disadvantages of Internet gambling over gambling at an actual casino, bingo hall, racetrack or other facility? _____________________ (CODING: illegality; difficulty verifying fairness of games; worry about monetary deposits being safe and/or having wins paid out in timely fashion; too convenient; more addictive; easier to spend more money; poorer game experience (not as fun, etc.); poorer physical atmosphere (lacks the lights and noise of a real casino, etc.); poorer social atmosphere (no crowds, too isolating); lack of face-to-face contact makes betting more difficult; difficulty excluding underage gamblers; other________________; no disadvantages) (NOTE: accept up to 4 answers. Prompt with 'anything else' to fill the 4 fields).

STOCK MARKET

SM1. Do you yourself buy and sell on the stock market? (NOTE: If person seeks clarifications indicate that this only includes people who are doing their own investing. It does not include people whose mutual funds/stocks/etc. are being managed by their spouse or a Pension Fund manager).
- No (0) (Go to GD1)
- Yes (1)

SM2a. In the past 12 months, have you purchased any **high risk stocks, options, or futures**? Please note this does NOT include blue-chip stocks and mutual funds. (NOTE: A high risk stock is "a stock from a company that has a real risk of going out of business OR having their stock price double or triple in value in the next year". A blue chip stock is "a stock from a well established company with good earning potential like Walmart or Microsoft that is also very unlikely to go out of business". If person is unfamiliar with options or futures it is best to assume they do not purchase them rather than explaining what they are).

- No (0) (Go to SM3a)
- Yes (1)

SM2b. Do you buy these high risk stocks, options or futures primarily over the telephone or Internet?

- telephone (1)
- Internet (2)
- Both (3)

SM2c. Roughly how much money do you put into high risk stocks, options, or futures in a typical year? ________

SM2d. About how often do you check the value of these investments in a typical MONTH?

- Several times a day (7)
- daily (6)
- 4-6 times a week (5)
- 2-3 times a week (4)
- once a week (3)
- 2-3 times a month (2)
- once a month or less (1)

SM2e. What do you estimate is your net loss *or gain* in the past 12 months from high risk stocks, options, or futures?_________ (NOTE: 'or gain' is stated parenthetically, to convey the impression that we are expecting a loss, but a gain is also possible).

SM2f. In your lifetime, what do you estimate is your net loss *or gain* from investing in high risk stocks, options or futures?_________
(NOTE: 'or gain' is stated parenthetically, to convey the impression that we are expecting a loss, but a gain is also possible).

SM3a. In the past 12 months, have you done any '**day trading'** on the stock market, where you buy and sell stocks several times on the same day? (NOTE: We are only interested in people who are investing their own money. This would include people whose main occupation is playing the stock market with their own money).

- No (0) (Go to GD1)
- Yes (1)

SM3b. How often do you day trade in a typical MONTH?

- daily (6)
- 4-6 times a week (5)
- 2-3 times a week (4)
- once a week (3)
- 2-3 times a month (2)
- once a month or less (1)

SM3c. Do you primarily do your day trading over the telephone or Internet

- telephone (1)
- Internet (2)

SM3d. What do you estimate is your net loss (or gain) in the past 12 months from day trading?_________

(NOTE: 'or gain' is stated parenthetically, to convey the impression that we are expecting a loss, but a gain is also possible).

SM3e. In your lifetime, what do you estimate is your net loss (or gain) from day trading?_________
(NOTE: 'or gain' is stated parenthetically, to convey the impression that we are expecting a loss, but a gain is also possible).

GAMBLING DEFINITION (randomly asked of 2000 people)

GD1. I would like you to tell me whether you consider each of the following activities to be "gambling" or not. (order is randomized)
a) buying lottery tickets
b) buying instant win tickets
c) playing slot machines or video lottery terminals
d) playing bingo for money
e) betting on sports
f) betting on horse or dog racing
g) betting money on casino table games such as blackjack, craps, and roulette
h) playing games of skill for money against other people (e.g., cards, pool, golf, etc.)
i) paying money to enter a tournament or contest with cash prizes
j) playing games against other people where no money is bet
k) buying raffle or fundraising tickets
l) spending money on games at fairs or arcades to win prizes
m) buying high risk stocks or day trading on the stock market (NOTE: A high risk stock is "a stock from a company that has a real risk of going out of business OR having their stock price double or triple in value in the next year").
n) buying well established 'blue chip' stocks or mutual funds on the stock market (NOTE: A blue chip stock is "a stock from a well established company with good earning potential like Walmart or Microsoft that is also very unlikely to go out of business").
o) starting a new business
p) taking physical or emotional risks such as skydiving, running for office, or asking someone for a date
q) buying insurance

GAMBLING ATTITUDES (asked of the 2000 people asked GD)

GA1. Which best describes your belief about the benefit or harm that gambling has for society? (option order counterbalanced)

- The harm far outweighs the benefits (-2)
- The harm somewhat outweighs the benefits (-1)
- The benefits are about equal to the harm (0)
- The benefits somewhat outweigh the harm (+1)
- The benefits far outweigh the harm (+2)

GA2. Do you believe that gambling is morally wrong? (NOTE: If person seeks clarification, 'morally wrong' is something the person would consider unethical. NOTE: This question refers to whether the person believes that it is morally right or wrong if someone chooses to gamble, not the morality of governments or casinos to offer/provide gambling opportunities).

- No (+1)
- Yes (-1)
- Unsure/don't know (0)

GA3. Which of the following best describes your opinion about legalized gambling? (option order counterbalanced)

- One, all types of gambling should be legal (+1)
- Two, some types of gambling should be legal such as lotteries and some should be illegal such as slot machines. (0)
- Three, all types of gambling should be illegal. (-1)
- Four, you are unsure or don't know (0)

RESISTANCE TO GAMBLING FALLACIES (asked for the 2000 people asked GD & GA; ensure the person is not told the correct answer as a small percentage will be retested on these questions at a later point)

Now we have a few questions about your chances of winning while gambling. First..

GF1. Which of the following set of Lottery numbers would you say has the greatest probability of being selected as the winning combination?

- The first set of numbers is 1, 2, 3, 4, 5, 6 (0)
- The second set of numbers is 14, 43, 5, 32, 17, 47, (0)
- or would you say that both sets have an equal probability of being selected (1)

GF2. Which gives you the best chance of winning the jackpot on a slot machine?

- a slot machine that has not had a jackpot in over a month, or (0)
- a slot machine that had a jackpot an hour ago, or would you say that (0)
- Your chances of winning the jackpot are the same on both machines. (1)

GF3. How lucky are you? If 10 people's names were put into a hat and one name drawn for a prize, how likely is it that your name would be chosen? Would you say..

- About the same likelihood as everyone else (1)
- Less likely than other people, (0)
- More likely than other people, or, (0)

GF4. If you were to buy a lottery ticket, which would be the best place to buy it from? Would you say..

- a place that has sold many previous winning tickets, (0)
- a place that has sold few previous winning tickets, or would you say that (0)
- one place is as good as another (1)

GF5. A positive attitude increases your likelihood of winning money when playing bingo or slot machines. Do you agree or disagree?

- Agree (0)
- Disagree (1)

GF6. A gambler goes to the casino and comes out ahead 75% of the time. How many times has he or she likely gone to the casino?

- 4 times (1)
- 100 times (0)
- or would you say it is just as likely that he has gone either 4 or 100 times (0)

GF7. Which strategy gives you the best chance of doubling your money at the casino?

- Betting all your money on a single bet, (1)
- Betting small amounts of money on several different bets, or would you say that (0)
- Either strategy gives you an equal chance of doubling your money (0)

GF8. Which game can you consistently win money at if you use the right gambling strategy?
- Slot machines, or (0)
- Roulette, or (0)
- Bingo, or (0)
- None of these games (1)

GF9. Do you think your chances of winning a lottery are better if you are able to choose your own numbers?
- yes (0)
- no (1)

GF10. You are on a betting hot streak. You have flipped a coin and correctly guessed 'heads' 5 times in a row. What are the odds that heads will come up on the next flip. Would you say…
- 50% (1)
- more than 50% (0)
- or less than 50% (0)

CANADIAN PROBLEM GAMBLING INDEX (CPGI)

NOTE: if people insist they do not have gambling problems twice they are not asked the rest of the questions and are scored a 0 on these questions.
NOTE: If people ask what 'significant' means, say 'significant means something that either you or someone else would say is considerable, important, or major', either because of its frequency or seriousness.

Okay, now I have a series of questions about your gambling in general.

CPGI1. Thinking about the past 12 months, have you bet more than you could really afford to lose? Would you say:
- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI2/SOGS6. Thinking about the past 12 months, have you felt guilty about the way you gamble or what happens when you gamble? Would you say:
- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI3/PPGM11/NODS2. In the past 12 months, have you needed to gamble with larger amounts of money to get the same feeling of excitement? Would you say:
- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI4/SOGS1/PPGM8b/NODS6. In the past 12 months, when you gambled, did you go back another day to try to win back the money you lost? Would you say

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI5/PPGM1a/NODS10. In the past 12 months, have you borrowed money or sold anything to get money to gamble? Would you say

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI6/PPGM1b. In the past 12 months, has your gambling caused any financial problems for you or your household? Would you say:

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI7. In the past 12 months, has your gambling caused you any health problems, including stress or anxiety? Would you say:

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI8/SOGS5. In the past 12 months, have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true? Would you say:

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI9/SOGS3. In the past 12 months, have you felt that you might have a problem with gambling? Would you say

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

SOUTH OAKS GAMBLING SCALE (SOGS) (asked of the 2000 people asked GA, GF &GD; order of SOGS, CPGI, PPGM, NODS counterbalanced; once a question is asked its equivalent question in the other scale(s) is not asked)

SOGS1/CPGI4/PPGM8b/NODS6. In the past 12 months, when you gambled, did you go back another day to try to win back the money you lost? Would you say

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

SOGS2. In the past 12 months, have you ever claimed to be winning money gambling when you were, in fact, losing? Would you say

- never (or never gamble) (0)
- yes, less than half the time I lost (1)
- yes, most of the time (1)

SOGS3/CPGI9. In the past 12 months, have you felt that you might have a problem with gambling? Would you say

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

SOGS4/PPGM8a. In the past 12 months, have you often gambled longer, with more money or more frequently than you intended to?

- no (0)
- yes (1)

SOGS5/CPGI8. In the past 12 months, have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true? Would you say:

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

SOGS6/CPGI2. Thinking about the past 12 months, have you felt guilty about the way you gamble or what happens when you gamble? Would you say:

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

SOGS7. In the past 12 months, have you ever felt like you would like to stop gambling, but you didn't think you could?

- no (0)
- yes (1)

SOGS8. In the past 12 months, have you ever hidden betting slips, lottery tickets, gambling money, IOUs or other signs of betting or gambling from your partner, children or other important people in your life?

- no (0)
- yes (1)

SOGS9/PPGM3/NODS9a. In the past 12 months, has your gambling resulted in arguments with people you live with over how you handle money?

- no (0)
- yes (1)

SOGS10. In the past 12 months, have you ever borrowed from someone and not paid them back as a result of your gambling?

- no (0)
- yes (1)

SOGS11/PPGM5/NODS9b&NODS9c. In the past 12 months, have you missed time from work or school due to gambling?

- no (0)
- yes (1)

SOGS12. Did you borrow money to gamble or to pay gambling debts in the past 12 months

- no (0) (Skip SOGS 12abcdefghi)
- yes (1)

Did you borrow from….
a. household money (no = 0; yes = 1)
b. your partner (no = 0; yes = 1)
c. other relatives or in-laws (no = 0; yes = 1)
d. banks, loan companies or credit unions (no = 0; yes = 1)
e. credit cards (no = 0; yes = 1)
f. loan sharks (no = 0; yes = 1)
Did you…
g. cash in stocks, bonds or other securities (no = 0; yes = 1)
h. sell personal or family property (no = 0; yes = 1)
i. write cheques for more money than you had in your chequing account (no = 0; yes = 1)

PROBLEM & PATHOLOGICAL GAMBLING MEASURE (PPGM) (asked of the 2000 people asked GA, GF, & GD; order of SOGS, CPGI, PPGM, NODS counterbalanced; once a question is asked its equivalent question in the other scale(s) is not asked)

PPGM1a./CPGI5/NODS10. Has your involvement in gambling caused you to borrow money or sell things to gamble in the past 12 months? Would you say

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)

PPGM1b/CPGI6. Has your involvement in gambling caused significant financial concerns for you or someone close to you in the past 12 months? Would you say

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)

PPGM2. Has <u>your</u> involvement in gambling caused significant mental stress in the form of guilt, anxiety, or depression for you or someone close to you in the past 12 months?
- no (0)
- yes (1)

PPGM3/SOGS9/NODS9a. Has <u>your</u> involvement in gambling caused significant conflicts with friends or family in the past 12 months? (NOTE: Family is whomever the person themselves defines as "family").
- no (0)
- yes (1)

PPGM4. Has <u>your</u> involvement in gambling caused significant health problems for you or someone close to you in the past 12 months?
- no (0)
- yes (1)

PPGM5/NODS9b&NODS9c/SOGS11. Has <u>your</u> involvement in gambling caused significant work or school problems for you or someone close to you in the past 12 months <u>or</u> caused you to miss a significant amount of time off work or school? (NOTE: score 'no' for people who do not work or go to school).
- no (0)
- yes (1)

PPGM6/NODS8. Has <u>your</u> involvement in gambling caused you or someone close to you to write bad cheques, take money that didn't belong to you or commit other illegal acts to support your gambling in the past 12 months?
- no (0)
- yes (1)

PPGM7. Is there anyone else who would say that <u>your</u> involvement in gambling has caused any significant mental, financial, family, health, school, work, or legal concerns/problems for you or someone close to you in the past 12 months?
- no (0)
- yes (1)

PPGM8a/SOGS4. Have you often gambled longer, with more money or more frequently than you intended to in the past 12 months?
- no (0)
- yes (1)

PPGM8b/CPGI4/SOGS1/NODS6. In the past 12 months, how often have you gone back to try and win back the money you lost?
- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

PPGM8c/NODS3a. In the past 12 months, have you made attempts to either cut down, control or stop gambling?
- no (0) (go to PPGM10)
- yes (1)

PPGM8d/NODS4. Were you successful in these attempts?
- no (1)
- yes (0)

PPGM9/NODS3b. In the past 12 months, when you did try cutting down or stopping did you find you were very restless or irritable or that you had strong cravings for it?

- no (0)
- yes (1)

PPGM10/NODS1a & NODS1b. In the past 12 months, would you say you have been preoccupied with gambling?

- no (0)
- yes (1)

PPGM11/CPGI3/NODS2. In the past 12 months, did you find you needed to gamble with larger and larger amounts of money to achieve the same level of excitement?

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)

PPGM12. In the past 12 months, is there anyone else who would say that you were either preoccupied with gambling; or had a loss of control; or had withdrawal symptoms; or that you needed to gamble with larger amounts of money to achieve the same excitement?

- no (0)
- yes (1)

NODS (asked of the 2000 people asked GA, GF, & GD; order of SOGS, CPGI, PPGM, NODS counterbalanced; once a question is asked its equivalent question in the other scale(s) is not asked)

NODS1a/PPGM10. In the past 12 months, have there been any periods lasting 2 weeks or longer when you spent a lot of time thinking about your gambling experiences or planning future gambling venture or bets?

- no (0)
- yes (1)

NODS1b/PPGM10. In the past 12 months, have there been periods lasting two weeks or longer when you spent a lot of time thinking about ways of getting money to gamble with?

- no (0)
- yes (1) (Scoring Note: person cannot receive 1 on this question if already receiving 1 on 1a)

NODS2/CPGI3/PPGM11. In the past 12 months, have there been periods when you needed to gamble with increasing amounts of money or with larger bets than before in order to get the same feeling of excitement?

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don’t know (99)

NODS3a/PPGM8c. In the past 12 months, have you tried to stop, cut down, or control your gambling?

- no (0) (go to NODS 5a)
- yes (1)

NODS3b/PPGM9. In the past 12 months, on one or more of the times when you tried to stop, cut down, or control your gambling, were you restless or irritable?

- no (0)
- yes (1)

NODS4/PPGM8d. In the past 12 months, have you tried but not succeeded in stopping, cutting down, or controlling your gambling 3 or more times?

- no (0)
- yes (1)

NODS5a. In the past 12 months, have you gambled as a way to escape from personal problems?

- no (0)
- yes (1)

NODS5b. In the past 12 months, have you gambled to relieve uncomfortable feelings such as guilt, anxiety, helplessness, or depression?

- no (0)
- yes (1; unless already have a 1 for 5a)

NODS6/CPGI4/SOGS1/PPGM8b. In the past 12 months, has there ever been a period when, if you lost money gambling on one day, you would often return another day to get even?

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

NODS7. In the past 12 months, have you lied to family members, friends, or others 3 or more times about how much you gamble or how much money you lost on gambling?

- no (0)
- yes (1)

NODS8/PPGM6. In the past 12 months, have you written a bad cheque or taken money that didn't belong to you from family members of anyone else in order to pay for your gambling?

- no (0)
- yes (1)

NODS9a/PPGM3/SOGS9. In the past 12 months, has your gambling caused serious or repeated problems in your relationships with any of your family members or friends?

- no (0)
- yes (1)

NODS9b/PPGM5/SOGS11. In the past 12 months, has your gambling caused you any problems in school, such as missing classes or days of school or getting worse grades?

- no (0)
- yes (1; unless already scored 1 for NODS9a)

NODS9c/PPGM5/SOGS11. In the past 12 months, has your gambling caused you to lose a job, have trouble with your job, or miss out on an important job or career opportunity?

- no (0)
- yes (1; unless already scored 1 for NODS9a or NODS9b)

NODS10/PPGM1a/CPG15. In the past 12 months, have you needed to ask family members or anyone else to loan you money or otherwise bail you out of a desperate money situation that was largely caused by your gambling?

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

GENERAL PROBLEM GAMBLING QUESTIONS (asked only if person scores 3 or more on the CPGI)

PG1. Is there a particular type of gambling that has contributed to your problems more than others?
- no (0) (go to PG3)
- yes (1)

PG2. Which types?____________________ (CODINGS: lotteries; instant win; horse/dog racing; bingo; VLTs; slot machines; electronic keno; blackjack; baccarat; roulette; poker; games of skill against other people; Internet gambling; high risk stocks, options or futures, other____________ (accept up to 4 answers)

PG3. Have you ever sought help for gambling problems?
- yes (1) (go to PG4 and skip PG5)
- no (0) (go to PG5)

PG4. Where did you seek help from? ____________ (CODINGS: friends; family; Gambler's Anonymous; family doctor; psychologist; psychiatrist; counseling service; pastor/minister/priest/etc.; telephone help/hotline; other_______________).

PG5. If you were to seek help for gambling problems where would you be most comfortable seeking it from? Would you say
- a face-to-face counseling service, or (1)
- an Internet counseling and support service (2)

DEMOGRAPHICS

I just have a few final questions about your background so we can keep track of the characteristics of people who respond to the survey. First….

D3. In what year were you born?_________

D4. At the present are you married, living with a partner, widowed, divorced, separated, or have you never been married?
- married (1)
- living with partner (2)
- widowed (3)
- divorced or separated (4)
- never married (5)

D5. What is the highest level of education you have completed?__________________
- No schooling
- Some elementary school
- Completed elementary school
- Some high school/junior high
- Completed high school
- Some community college (Collège Classique, CEGEP)
- Some technical school
- Completed community college (Collège Classique, CEGEP)
- Completed technical school
- Some University
- Completed Bachelor's Degree (Arts, Science, Eng, etc.)
- Post graduate Training: MA, MSc, MLS, MSW, MBA, etc.
- Post graduate Training: PhD, "doctorate"
- Professional Degree (Law, Medicine, Dentistry)Grade school or some high school

D6. Are you presently working for pay in a full-time or in a part-time job or are you unemployed, retired, a homemaker, a student, or something else?

- Full-time job, including during vacations from work
- Part-time job
- Self-employed
- Sick leave, maternity leave, strike, etc.
- Unemployed
- Retired
- Homemaker
- Student (includes students working part-time)
- On disability
- Other (specify)

D7. Could you please tell us how much income you and other members of your household received in the year ending December 31st, 2004, before taxes? TO THE NEAREST THOUSAND DOLLARS, what was your TOTAL HOUSEHOLD INCOME before taxes and other deductions were made?

- Refused/don't know -> go to D7a)

D7a. We don't need the exact amount, but could you please just tell us which of these broad categories it falls into ... [Interviewer: read options, stop when R gives an answer]
1...less than $20,000
2...between $20,000 and $30,000 ($29,999.99)
3...between $30,000 and $40,000
4...between $40,000 and $50,000
5...between $50,000 and $60,000
6...between $60,000 and $70,000
7...between $70,000 and $80,000
8...between $80,000 and $90,000
9...between $90,000 and $100,000
10...between $100,000 and $120,000
11...between $120,000 and $150,000, or
12...more than $150,000?

D8. To the nearest thousand dollars, what do you estimate your current TOTAL household DEBT to be? This would include mortgages, credit cards, loans, car payments, etc.? ____________

D9. To what ethnic or cultural group do you belong. IF NEEDED "Is your ethnic or cultural background Chinese, English, Scottish, Polish, Italian, French or something else?"

D9a. If person says "Canadian", prompt with... "In addition to Canadian?".

D10. Have you smoked cigarettes or used tobacco in the past month?

- Yes (1)
- No (0)

D11. Have you consumed alcohol in the past month?

- Yes (1)
- No (0)

D12. Have you used any of the following in the last month: marijuana, hash, LSD, PCP, Ecstasy, Cocaine/crack, heroin, or any other street drugs?

- Yes (1)
- No (0)

D13. Do you have any physical disability or chronic health problem that limits the amount or kind of activity you can do at home, work or school?

- Yes (1)
- No (0)

D14. In the past 12 months, have you had any serious problems with depression, anxiety or other mental health problems? (NOTE: If asked, 'serious' means something that either you or someone else would say is considerable, important, or major', either because of its frequency or significance)

- Yes (1)
- No (0)

D15. What are the first 3 digits of your postal code________ or town/city_________________________

R1. "We hope to call back a small number of people about one month after their first interview to see if their experiences or opinions have changed. I hope we have the opportunity to speak again."
continue

- R volunteers that they do NOT want us to call back

APPENDIX B: INTERNATIONAL ONLINE SURVEY WEBSITE

University of Lethbridge

www.gamblinginformation.org

Test Your Gambling IQ

Welcome to the University of Lethbridge Gambling Survey!

It's a series of 6 brief, confidential questionnaires that test your gambling knowledge, attitudes, and behavior. Your score will show **how you compare to other people.** For the most accurate results, **be sure to complete all 6 questionnaires.**

Thanks for participating!

Choose a language:

English Français Deutsch Italiano Español 汉语 日本語

BEGIN THE SURVEY

BACKGROUND

The survey was prepared by Dr. Robert Wood and Dr. Robert Williams at the University of Lethbridge (Alberta, Canada). They are collecting data that will help researchers, policymakers, and industry insiders gain a better understanding of Internet gambling and the people who gamble online. Information from submitted questionnaires will go into a database, statistical analyses will be conducted, and some of the information may be published in research reports, articles, and books.

YOUR PRIVACY'S GUARANTEED

As we said above, your participation in this survey is confidential. Only Dr. Wood, Dr. Williams, and their research assistants will have access to the raw data collected. In any future reports or publications, data from the 6 questionnaires will be reported using general statistics and anonymous quotes. Only answers from completed questionnaires will be sent to our database. While your participation is an extremely important part of this research project, your participation is also completely voluntary, and you may quit the survey at any time.

ANY QUESTIONS?

If you have any questions or concerns about this survey and/or your participation in it, please email Dr. Wood or Dr. Williams at internet.gaming@uleth.ca. If you'd rather not share them directly with Dr. Wood or Dr. Williams, you can email University of Lethbridge Research Services at research.services@uleth.ca. If necessary, a Research Services representative will address your query with Dr. Wood and Dr. Williams.

Please report any technical problems with this questionnaire to Trevor.Flexhaug@uleth.ca.

APPENDIX C: INTERNATIONAL ONLINE SURVEY

Welcome to the University of Lethbridge **INTERNET GAMBLING INFORMATION HOMEPAGE**. Dr. Robert Wood and Dr. Robert Williams at the University of Lethbridge (Alberta, Canada) are collecting data that will help researchers, policy makers, and industry insiders gain a better understanding of Internet gambling and the people who gamble online. On the website, you will find a series of six brief questionnaires designed to test your gambling knowledge, your attitudes about gambling, and your gambling behavior. When you take our questionnaires you will receive a score that shows how your gambling behavior, attitudes, knowledge, etc. compares to other people. Information from submitted questionnaires will be deposited into a data base, and we will conduct statistical analyses of the data when the study is done. Information collected from these questionnaires may be published in research reports, articles, and books.

Your participation is strictly voluntary. You do not have to answer questions that you do not want to answer, and you may quit any of the questionnaires at any time. Only answers from completed questionnaires will be sent to our database. None of your answers will be sent to our database, or recorded in any way, if you decide to quit the questionnaire before completing it. Your participation in this questionnaire is confidential. Only Dr. Wood, Dr. Williams and their research assistants will be given access to the raw data collected from this questionnaire. In any future reports or publications, data from this questionnaire will be reported using general statistics and anonymous quotes.

If you have any questions about this study, and your participation in it, please email Dr. Wood or Dr. Williams directly at: internet.gaming@uleth.ca. If you have any questions or concerns about this study, and if you do not wish to share them directly with Dr. Wood or Dr. Williams, then you can email University of Lethbridge Research Services at: research.services@uleth.ca. If necessary, a Research Services representative will address your query with Dr. Wood and Dr. Williams.

Thank you for your interest. Your participation represents an extremely important contribution to the success of this project!

GAMBLING BEHAVIOR SCALE

GB1a. In the past 12 months, on average how often have you purchased **instant win tickets** such as scratch & win, pull tabs, breakopens, or Nevada tickets? Would you say

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB2a)

GB1b. Roughly how much money do you spend on instant win tickets in a typical MONTH? For all of these questions, spend means how much you are ahead or behind, or your net win (+) or loss (-) in an average MONTH in the past 12 months (in U.S. $). -$_______ (the negative sign can be deleted by the respondent and replaced with a positive sign)

GB2a. In the past 12 months, on average how often have you purchased **lottery tickets**? Would you say about (NOTE: this does not include Sports Lotteries).

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB3a)

GB2b. Roughly how much money do you spend on lottery tickets in a typical MONTH (in U.S. $)?
-$_________ .

GB2c. Have you used the Internet to purchase lottery tickets, or to play lotteries or online keno in the past 12 months?

- Yes (1)
- No (0) (Go to GB3a)

GB2d. What percentage of your lottery ticket purchases or play has been over the Internet in the past 12 months
_____%

GB2e. Which Internet site do you most often use to purchase or play lottery tickets or online keno?____________________ (CODINGS: Atlantic Lottery Corporation (PlaySphere); British Columbia Lottery Corporation; GloBet Games; Globelot; InterLottery; Irish Lotto; Lottery Universe; Lotto Quebec; Oz Lotteries; PlanetLotto; Play UK Lottery; Plus LOTTO; Sweepstakes8; Tattersalls Lotteries; UK National Lottery; Other_____________________) (NOTE: accept up to 3 answers)

GB3a. In the past 12 months, on average how often have you bet money on **sporting events (including sports pools or sports lotteries**). NOTE: These are sporting events in which you did not personally participate. Would you say

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB4a)

GB3b. Roughly how much money do you spend on sports betting in a typical MONTH (U.S. $)?
-$_______

GB3c. Have you used the Internet to place a sports bet in the past 12 months?

- Yes (1)
- No (0) (Go to GB4a)

GB3d. What percentage of your sports betting has been over the Internet in the past 12 months _____%

GB3e. Which Internet site do you most often use for sports betting?________________ (CODINGS: AllSportsMarket, Atlantic Lottery Corporation website (PlaySphere), BetBug, BETDAQ, BetFair, BetonMarkets, Betsson, British Columbia Lottery Corporation website (Sports Action), CBM Bookmaker, Eurobet, Expekt, GloBet Sport, Intrade UK, Ladbrokes, Matchbook, Mybet, Pinnacle Sports, Sportsbook.com, Sportingbet, Trade Sports, William Hill, Other________________) (NOTE: accept up to 3 answers)

GB4a. In the past 12 months, on average how often have you bet money on **horse or dog racing**? Would you say
- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB5a)

GB4b. Roughly how much money do you spend on horse or dog racing in a typical MONTH (U.S. $)? - $_________

GB4c. Have you used the Internet to place any bets on horse or dog racing in the past 12 months?
- Yes (1)
- No (0) (Go to GB5a)

GB4d. What percentage of your horse or dog race betting has been done over the Internet in the past 12 months? ______%

GB4e. Which Internet site do you most often use to bet on horse or dog racing?_____________________________ (CODINGS: Allhorseracing, AllSportsMarket, Betehorse, BetFair, Bet Game Day, Bet Horse Tracks, Bet Jockey, Betsson, BoDog, HorsePlayer Interactive (HPI)/Woodbine Entertainment, Ladbrokes, Mybet, Oasis, Pinnacle Sports, Sportingbet, Sportsbook.com, Trade Sports, VIP Horses, William Hill, Other) (NOTE: accept up to 3 answers)

GB5a. In the past 12 months, on average how often have you played **bingo** for money or prizes? Would you say
- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB6a)

GB5b. Roughly how much money do you spend on bingo in a typical MONTH (U.S. $)? -$______

GB5c. In the past 12 months have you played bingo for money or prizes at an Internet Bingo site? (NOTE: This does not include satellite bingo, where land-based bingo halls play a single game through a satellite link).
- Yes (1)
- No (0) (Go to GB6a)

GB5d. What percentage of your bingo playing has been done over the Internet in the past 12 months? _______%

GB5e. Which Internet site do you most often use for bingo?________________ (CODINGS: Bingo.com, Take 5 Bingo, BingoLocity, Bingos.co.uk, Bingo Billy, Caribbean Bingo Party, Bingo Cabin, Bingo Mania, Miss Bingo, Bingo Canada, Other________________) (NOTE: accept up to 3 answers)

GB5f. How much time do you usually spend each time you play bingo for money at an Internet site?_________hrs

GB6a. In the past 12 months, on average how often have you **played games of skill for money against other individuals**? This includes things such as **poker,** pool, darts, bowling, golf, video games, board games, strategy games, checkers, mahjong, etc. It also includes paying money to enter a contest or tournament with cash prizes.

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB7a)

GB6b. Roughly how much money do you spend playing games of skill for money against other individuals in a typical MONTH (U.S. $)? -$________

GB6c. In the past 12 months have you played games of skill for money against other individuals at an Internet site? For example, online poker or other interactive games.

- Yes (1)
- No (0) (Go to GB8a)

GB6d. What percentage of your playing games of skill for money against other individuals has been done over the Internet in the past 12 months? ________%

GB6e. Which Internet site do you most often use for playing games of skill against other individuals for money?________________ (CODINGS: Absolute Poker, Atlantic Lottery Corporation, Bodog Poker, Casino-on-Net, Casino Tropez, Empire Poker, Fortune Fun, Full Tilt Poker, GameAccount, GameColony, Gamesville, Gammon Empire, Golden Palace Online, Midas Player, MoneyGaming, Pacific Poker, Paradise Poker, Party Poker, Play65, Poker Room, Poker Stars, SkillGame, Titan Poker, Ultimate Bet, WorldWinner, Other_________________) (NOTE: accept up to 3 answers)

GB6f. What games do you most often play for money over the Internet?_________________ (CODING: poker, other card game__________, pool, darts, bowling, video games, board games, other_____________) (NOTE: accept up to 3 answers)

GB6g. How much time do you usually spend each time you play these games for money at an Internet site?________hrs

GB7a. In the past 12 months, on average how often have you played **slot machines, video lottery terminals, pokies, fruit machines, pachinko machines or other electronic gambling machines** (e.g., electronic keno, electronic bingo, electronic racing) at a bar, casino, or gaming centre? Would you say

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB8a)

GB7b. Roughly how much money do you spend on slot machines, video lottery terminals, or other electronic gambling machines in a typical MONTH (U.S. $)? -$________

GB8a. In the past 12 months, on average how often have you played **table games** at a casino such as blackjack, roulette, craps, or baccarat? This does not include poker. Would you say

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB9a)

GB8b. Roughly how much money do you spend on casino table games in a typical MONTH (U.S. $)?
-$______

GB9a. In the past 12 months, on average how often have you gone on the Internet to bet or spend money on slot machines, video lottery terminals, or table games at an **Internet casino?** Please note **t**his does **not** include Internet Poker. Would you say

- 4 or more times a week (6)
- 2-3 times a week (5)
- once a week (4)
- 2-3 times a month (3)
- once a month (2)
- less than once a month (1)
- not at all in the past 12 months(0) (Go to GB11)

GB9b. Roughly how much money do you spend on slot machines, VLTs, and table games at Internet casinos in a typical MONTH (U.S. $)? -$_______

GB9c. Which Internet casinos do you most often use?________________ (CODINGS: BoDog, Carnival Casino, Casino-on-Net, Club Dice, Casino Tropez, Golden Palace Online, InterCasino, Monaco Gold, River Belle, Roxy Palace, Vegas Frontier, USA Casino, Other________________) (NOTE: accept up to 3 answers)

GB9d. Which Internet casino games do you play the most?_________________ (CODINGS: blackjack; slot machines; video poker machines; keno; craps; roulette; baccarat; pai gow; poker (Texas Hold-em, Let it Ride); other____________) (NOTE: accept up to 3 answers)

GB9e. How much time do you usually spend each time you gamble at an Internet casino?________hrs

GB10a. How often do you drink alcohol when you gamble? Would you say…

- never (0)
- rarely (1)
- sometimes (2)
- often (3)
- always (4)

GB10b. How often do you use drugs when you gamble (e.g., cannabis, cocaine, other street drugs)? Would you say...

- never (0)
- rarely (1)
- sometimes (2)
- often (3)
- always (4)

I1. Do you primarily use your home or work computer for Internet gambling?

- home (1)
- work (2)
- home and work equally (3)
- I have never gambled on the Internet (4) (go to SM1)

I2. What year did you first start using the Internet for gambling purposes? ___________________

I3. What time of day do you most often use the Internet to gamble or place bets? Would you say…

- 6am – 12pm, (1)
- 12pm – 6pm (2)
- 6pm - midnight (3)
- midnight – 6am (4)

I4. Has online gambling disrupted your sleeping patterns?

- yes (1)
- no (0)

I5. Has online gambling disrupted your eating patterns?

- yes (1)
- no (0)

I6. When you are using a credit card or electronic bank transfer rather than actual cash, how does it impact your spending?

- it has no impact on my spending, (0)
- it increases the amount I spend, or (1)
- it decreases the amount I spend (2)

I7. What are the main things that influence your decision to gamble at one Internet site over another?____________ (CODING: general reputation; recommendation from friend(s); payout rates; legality; fairness of games; monetary deposits safe and wins paid out in timely fashion; bonuses/provision of monetary incentives to play; jurisdiction operating out of; software used; better game experience/interface; larger range of games; other_____________) (NOTE: accept up to 3 answers).

I8. What would you say are the main advantages of Internet gambling over gambling at an actual casino, bingo hall, racetrack or other facility? __________________ (CODING: 24 hour availability/convenience; don't have to drive anywhere or leave the house; land-based gambling unavailable or illegal; more physically comfortable; less smoke; able to smoke; less noise; greater privacy/anonymity; no crowds; no unpleasant people; better game experience (higher speed of play, more leisurely speed of play, more interesting/exciting games); higher payout rates (better odds, lower potential losses); lower secondary costs (travel, food, drinks); other____________________; no advantages) (NOTE: accept up to 4 answers).

I9. What would you say are the main disadvantages of Internet gambling over gambling at an actual casino, bingo hall, racetrack or other facility? _____________________ (CODING: illegality; difficulty verifying fairness of games; worry about monetary deposits being safe and/or having wins paid out in timely fashion; too convenient; more addictive; easier to spend more money; poorer game experience (not as fun, etc.); poorer physical atmosphere (lacks the lights and noise of a real casino, etc.); poorer social atmosphere (no crowds, too isolating); lack of face-to-face contact makes betting more difficult; difficulty excluding underage gamblers; other________________; no disadvantages) (NOTE: accept up to 4 answers).

I10. What sort of things would improve Internet gambling?_________________________

SM1. Do you, yourself, buy and sell on the stock market? (i.e., do you do your own investing?).

- No (0) (end of SECTION)
- Yes (1)

SM2a. In the past 12 months, have you purchased any **high risk stocks, options, or futures**? This does NOT include blue-chip stocks and mutual funds. (NOTE: A high risk stock is "a stock from a company that has a real risk of going out of business OR having their stock price double or triple in value in the next year". A blue chip stock is "a stock from a well established company with good earning potential like Walmart or Microsoft that is also very unlikely to go out of business").

- No (0) (go to SM3a)
- Yes (1)

SM2b. Do you buy these high risk stocks, options or futures primarily over the telephone or Internet?

- telephone (1)
- Internet (2)
- Both (3)

SM2c. Roughly how much money do you put into high risk stocks, options, or futures in a typical year (U.S. $)?
$_______

SM2d. About how often do you check the value of these investments in a typical MONTH?

- Several times a day (7)
- daily (6)
- 4-6 times a week (5)
- 2-3 times a week (4)
- once a week (3)
- 2-3 times a month (2)
- once a month or less (1)

SM2e. What do you estimate is your net loss *or gain* in the past 12 months from high risk stocks, options, or futures (U.S. $)? -$______ or +$______

SM2f. In your lifetime, what do you estimate is your net loss *or gain* from investing in high risk stocks, options or futures (U.S. $)? -$______ or +$______

SM3a. In the past 12 months, have you done any '**day trading'** on the stock market, where you buy and sell stocks several times on the same day (i.e., with your own money)?

- No (0) (end of SECTION)
- Yes (1)

SM3b. How often do you day trade in a typical MONTH?

- daily (6)
- 4-6 times a week (5)
- 2-3 times a week (4)
- once a week (3)
- 2-3 times a month (2)
- once a month or less (1)

SM3c. Do you primarily do your day trading over the telephone or Internet

- telephone (1)
- Internet (2)

SM3d. What do you estimate is your net loss (or gain) in the past 12 months from day trading (U.S. $)?
-$______ or +$______

SM3f. In your lifetime, what do you estimate is your net loss (or gain) from day trading (U.S. $)?
-$______ or +$______

Enter the following information to obtain your profile compared to people with the same characteristics as you:

D1. Gender
- Female (0)
- Male (1)

D3. In what year were you born? (drop down menu)

D4. At the present are you married, living with a partner, widowed, divorced, separated, or have you never been married?
- married (1)
- living with partner (2)
- widowed (3)
- divorced or separated (4)
- never married (5)

D5. What is the highest level of education you have completed?__________________
- No schooling (1)
- Some elementary school (2)
- Completed elementary school (3)
- Some high school (4)
- Completed high school (5)
- Some technical school, college or university (6)
- Completed technical school (7)
- Completed college or university (8)
- Professional Degree (Law, Medicine, Dentistry); Masters; PhD (9)

D6. Current Employment
- Employed full-time (1)
- Employed part-time (2)
- Unemployed and seeking work (3)
- Retired (4)
- Homemaker (5)
- Full-time Student (6)
- Sick leave, maternity leave, on strike, on disability (7)

D7. To the nearest thousand dollars (in U.S. currency), what do you estimate your total household income before taxes was last year?
1...less than $20,000 (1)
2...between $20,000 and $30,000 ($29,999.99) (2)
3...between $30,000 and $40,000 (3)
4...between $40,000 and $50,000 (4)
5...between $50,000 and $60,000 (5)
6...between $60,000 and $70,000 (6)
7...between $70,000 and $80,000 (7)
8...between $80,000 and $90,000 (8)
9...between $90,000 and $100,000 (9)
10...between $100,000 and $120,000 (10)
11...between $120,000 and $150,000, (11) or
12...more than $150,000 (12)

D8. To the nearest thousand dollars (in U.S. currency), what do you estimate your current TOTAL household DEBT to be? This would include mortgages, credit cards, loans, car payments, etc.? (drop down menu starting from <$1000 (coded as 0), $2000, $3000, $4000, $5000, $6000, $7000, $8000, $9000, $10000; $12K, 14K, 16, 18, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 120, 140, 160, 180, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1million, >1million (coded as 2,000,000)

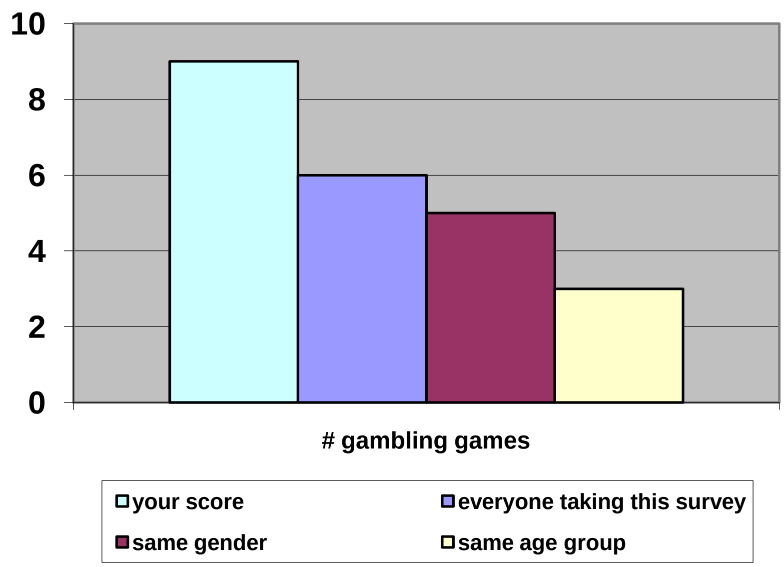
D9. What country do you live in?____________________

Calculate the following summary scores:

1. # of gambling games engaged in (GB1a + GB2a + GB3a + GB4a + GB5a + GB6a + GB7a + GB8a + GB10a + SM2a + SM3a)
2. frequency of gambling (highest frequency response from GB1a + GB2a + GB3a + GB4a + GB5a + GB6a + GB7a + GB8a + GB10a + SM3b) (i.e., 7 point scale)
3. total monthly expenditure (GB1b + GB2b + GB3b + GB4b + GB5b + GB6b + GB7b + GB8b + GB10b + SM2e/12 + SM3d/12)
4. projected yearly expenditure: total monthly expenditure x 12

Provide charts that display the person's score on #1-#4 (tab that asks them to choose their comparison group)

1. relative to all other people taking the survey
2. relative to same gender taking the survey
3. relative to same age group taking the survey (18-25; 26-40; 41-60; 60+):



GAMBLING ATTITUDES SCALE

GA1. Which best describes your belief about the benefit or harm that gambling has for society? (option order counterbalanced)

- The harm far outweighs the benefits (-2)
- The harm somewhat outweighs the benefits (-1)
- The benefits are about equal to the harm (0)
- The benefits somewhat outweigh the harm (+1)
- The benefits far outweigh the harm (+2)

GA2. Do you believe that gambling is morally wrong? (NOTE: If person seeks clarification, 'morally wrong' is something the person would consider unethical. NOTE: This question refers to whether the person believes that it is morally right or wrong if someone chooses to gamble, not the morality of governments or casinos to offer/provide gambling opportunities).
- No (+1)
- Yes (-1)
- Unsure/don't know (0)

GA3. Which of the following best describes your opinion about <u>legalized</u> gambling?
- All types of gambling should be legal (+1)
- Some types of gambling should be legal (e.g., lotteries) and some should be illegal (e.g., slot machines). (0)
- All types of gambling should be illegal. (-1)
- Unsure/don't know (0)

Ask whatever demographic questions (D1 – D15) have not yet been answered.

<u>Calculate the following summary scores:</u>
Total attitude score.

<u>Provide charts that display the person's attitude score (tab that asks them to choose their comparison group)</u>
1. relative to all other people taking the survey
2. relative to same gender taking the survey
3. relative to same age group taking the survey (18-25; 26-40; 41-60; 60+):

GAMBLING DEFINITION TEST

GD1. I would like you to tell me whether you consider each of the following activities to be "gambling" or not.
- buying lottery tickets (yes = 1)
- buying insurance (no =1)
- buying instant win tickets (yes = 1)
- buying raffle or fundraising tickets (no =1)
- playing slot machines or video lottery terminals (yes =1)
- playing bingo for money (yes =1)
- starting a new business (no =1)
- taking physical or emotional risks such as skydiving, running for office, or asking someone for a date (no =1)
- betting money on horse or dog racing (yes =1)
- betting money on casino table games such as blackjack, craps, and roulette (yes =1)
- playing games of skill for money against other people (e.g., cards, pool, golf, etc.) (yes =1)
- paying money to enter a tournament or contest with cash prizes (yes =1)
- playing games against other people where no money is bet (no =1)
- spending money on games at fairs or arcades to win prizes (yes =1)
- betting money on sports (yes =1)
- buying high risk stocks or day trading on the stock market (yes = 1)
- buying well established 'blue chip' stocks or mutual funds on the stock market (no =1)

Ask whatever demographic questions (D1 – D15) have not yet been answered.

<u>Calculate the following summary scores:</u>
Total gambling definition score.

Provide charts that display the person's gambling definition score (tab that asks them to choose their comparison group)

1. relative to all other people taking the survey
2. relative to same gender taking the survey
3. relative to same age group taking the survey (18-25; 26-40; 41-60; 60+):

Add the following text "Gambling is defined as wagering money or something of material value on something with an uncertain outcome in hope of winning additional money or material goods. Furthermore, the outcome is typically evident within a short period of time and the wagering is typically done on things with a negative mathematical expectation. It usually excludes:

- emotional or physical risk-taking where money or material goods are not being risked (e.g., skydiving, running for office, asking someone for a date, etc.).
- all forms of long-term "investment" (stock market, real estate) with positive expected returns and economic utility.
- starting a new business, as time and effort are being 'wagered' in addition to money and material goods and the outcome is not determined for a considerable period of time.
- buying insurance, as the primary intent of the purchase is to protect against loss, rather than to collect or 'win'.
- buying raffle tickets (if the primary intent of the purchase is to support a worthy cause)"

GAMBLING KNOWLEDGE AND BELIEFS TEST

GF1. Which of the following set of Lottery numbers would you say has the greatest probability of being selected as the winning combination?

- 1, 2, 3, 4, 5, 6 (0)
- 14, 43, 5, 32, 17, 47, (0)
- both sets have an equal probability of being selected (1)

Both sets of numbers are equally likely to be selected. The first set SEEMS less likely to most people, only because the numbers are sequential. Nonetheless, each number, and each combination of numbers (even sequential ones), is just as likely as the others to be selected.

GF2. Which gives you the best chance of winning the jackpot on a slot machine?

- a slot machine that has not had a jackpot in over a month, or (0)
- a slot machine that had a jackpot an hour ago, or would you say that (0)
- Your chances of winning the jackpot are the same on both machines. (1)

Your chances of winning are the same on both machines. The payout on a slot machine is a random event, and random events are not influenced by past occurrences. So, a machine that has just paid-out is just as likely to pay out again as a machine that has not paid out in months.

GF3. How lucky are you? If 10 people's names were put into a hat and one name drawn for a prize, how likely is it that your name would be chosen? Would you say..

- About the same likelihood as everyone else (1)
- Less likely than other people, (0)
- More likely than other people, or, (0)

Your name is just as likely to be selected as anyone else's name. Some gamblers mistakenly believe that they are more likely to win, at games with random outcomes, because they perceive themselves as luckier than others. A perception of luck, or engaging in good-luck rituals, does not influence the outcome of gambling on a random event.

GF4. If you were to buy a lottery ticket, which would be the best place to buy it from? Would you say..
- a place that has sold many previous winning tickets, (0)
- a place that has sold few previous winning tickets, or would you say that (0)
- one place is as good as another (1)

One place is as good as another. All venues that sell lottery tickets are equally likely to produce winners. Just because a lottery ticket has sold a winning ticket in the past, does not mean that it is either more or less likely to produce another winner in the future. Again, random events (such as winning at the lottery) are not influenced by past occurrences.

GF5. A positive attitude increases your likelihood of winning money when playing bingo or slot machines. Do you agree or disagree?
- Agree (0)
- Disagree (1)

If you disagreed with this statement, you were correct. Your attitude, whether positive or negative, can not influence the outcome of a random event. You are just as likely to win with a bad attitude as you are with a positive one.

GF6. A gambler goes to the casino and comes out ahead 75% of the time. How many times has he or she likely gone to the casino?
- 4 times (1)
- 100 times (0)
- or would you say it is just as likely that he has gone either 4 or 100 times (0)

This gambler has likely been to the casino only four times. Gamblers often fail to realize that short winning streaks are common, but long term winning streaks are impossible. The more times a person gambles the more certain it is that the true odds will catch up to the person, and that they will be BEHIND and not ahead. Similarly, if 90% of a coin flips were ‘heads’, this almost certainly has to be 9/10 flips rather than 900/1000 flips.

GF7. Which strategy gives you the best chance of doubling your money at the casino?
- Betting all your money on a single bet, (1)
- Betting small amounts of money on several different bets, or would you say that (0)
- Either strategy gives you an equal chance of doubling your money (0)

You are more likely to double your money by betting it all on a single bet. In order to double your money by placing several different smaller bets, you would need to win each and every bet. However, the odds at a casino are never in your favor, and the odds of winning all of your bets decreases with each bet you place.

GF8. Which game can you consistently win money at if you use the right gambling strategy?
- Slot machines, or (0)
- Roulette, or (0)
- Bingo, or (0)
- None of these games (1)

None of these games will allow you to consistently win money, regardless of your strategy. Each of these games is designed such that the odds of winning are NEVER in your favor. Thus, the more you play these games, the more money you are likely to lose money, no matter what strategy you use.

GF9. Do you think your chances of winning a lottery are better if you are able to choose your own numbers?
- yes (0)
- no (1)

If you said no, then you answered correctly. As you learned earlier, each number or combination of numbers is equally likely to be selected. Also, there is no such thing as a lucky number. So, you are equally likely to win the lottery regardless of whether you or someone else selects the numbers.

GF10. You are on a betting hot streak. You have flipped a coin and correctly guessed 'heads' 5 times in a row. What are the odds that heads will come up on the next flip. Would you say…
- 50% (1)
- more than 50% (0)
- or less than 50% (0)

The outcome of a coin flip is a random event. And, as you learned earlier, random events are not influenced by past occurrences. This means that on the sixth flip of the coin, the outcome is equally likely to be either heads or tails, even if heads has been the result of each of the five previous coin flips.

Ask whatever demographic questions (D1 – D15) have not yet been answered.

Calculate the following summary scores:
Total gambling knowledge and beliefs score.

Provide charts that display the person's gambling knowledge and beliefs score (tab that asks them to choose their comparison group)
1. relative to all other people taking the survey
2. relative to same gender taking the survey
3. relative to same age group taking the survey (18-25; 26-40; 41-60; 60+):

TEST YOUR PREDICTION SKILL

Your task is to choose the correct selection for each of the 6 questions and to rate your confidence for each selection.

P1a. Predict which of the following 6 colors will be chosen (use the actual colors as options)
- red (1)
- blue (2)
- green (3)
- yellow (4)
- orange (5)
- purple (6)

P1b. How confident are you about your selection on a scale from 1-10, with 10 being extremely confident that you are right and 1 being extremely pessimistic you are right?

P2a. Predict which of the following 6 animals will be chosen
- lion (1)
- giraffe (2)
- snake (3)
- dog (4)
- fish (5)
- deer (6)

P2b. How confident are you about your selection on a scale from 1-10, with 10 being extremely confident that you are right and 1 being extremely pessimistic you are right?

P3a. Predict which of the following 6 numbers will be chosen

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)

P3b. How confident are you about your selection on a scale from 1-10, with 10 being extremely confident that you are right and 1 being extremely pessimistic you are right?

P4a. Predict which of the following 6 faces will be chosen

- Old man (1)
- Baby (2)
- Young black man (3)
- Old woman (4)
- Young boy (5)
- Young girl (6)

P4b. How confident are you about your selection on a scale from 1-10, with 10 being extremely confident that you are right and 1 being extremely pessimistic you are right?

P5a. Predict which of the following 6 emotions will be chosen (same face with 6 different emotions)

- Happy (1)
- Sad (2)
- Angry (3)
- Disgusted (4)
- Afraid (5)
- Surprised (6)

P5b. How confident are you about your selection on a scale from 1-10, with 10 being extremely confident that you are right and 1 being extremely pessimistic you are right?

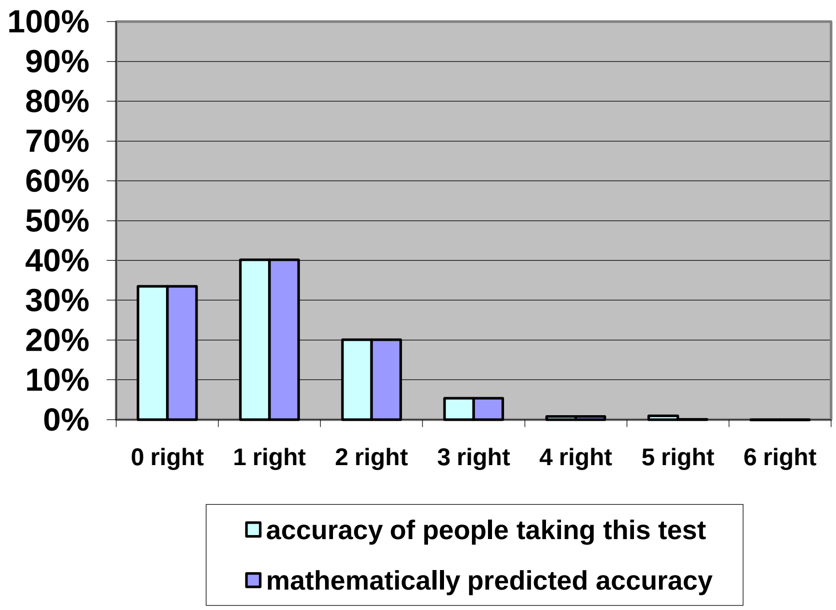
P6a. Predict which of the following 6 cards will be chosen

- 4 of diamonds (1)
- Ace of clubs (2)
- Queen of diamonds (3)
- 9 of spades (4)
- 7 of hearts (5)
- King of spades (6)

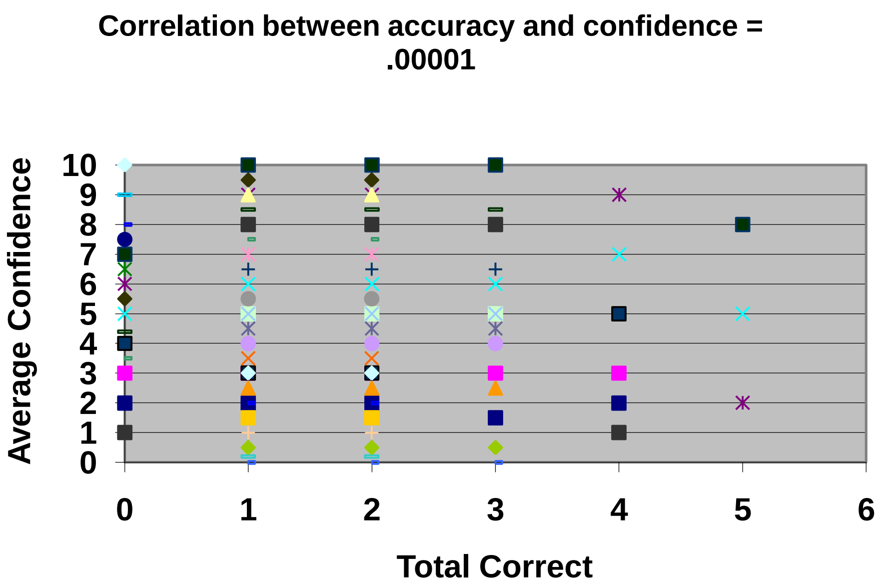
P6b. How confident are you about your selection on a scale from 1-10, with 10 being extremely confident that you are right and 1 being extremely pessimistic you are right?

Use a separate screen for each prediction question. Use a random number generator to choose the selections and provide the correct answers together (not after each selection).

Show a chart that displays everybody's success against the mathematically expected result to illustrate the point that success is totally random.



Show a chart that displays everybody's average confidence rating against their average score to illustrate that confidence in prediction bears no relationship to success.



PROBLEM GAMBLING RISK ASSESSMENT

Ask whatever demographic questions (D1 – D15) have not yet been answered.

D10. Have you smoked cigarettes or used tobacco in the past month?

- Yes (1)
- No (0)

D11. Have you consumed alcohol in the past month?
- Yes (1)
- No (0)

D12. Have you used any of the following in the last month: marijuana, hash, LSD, PCP, Ecstasy, Cocaine/crack, heroin, or any other street drugs?
- Yes (1)
- No (0)

D13. Has your use of drugs or alcohol ever caused significant problems for you or someone close to you? (NOTE: 'significant' means something that either you or someone else would say is considerable, important, or major', either because of its frequency or seriousness).
- Yes (1)
- No (0)

D14. Do you have any physical disability or chronic health problem that limits the amount or kind of activity you can do at home, work or school?
- Yes (1)
- No (0)

D15. In the past 12 months, have you had any serious problems with depression, anxiety or other mental health problems? (NOTE: 'serious' means something that either you or someone else would say is considerable, important, or major', either because of its frequency or significance)
- Yes (1)
- No (0)

D16. Do you have any history of addictions in other areas (e.g.., shopping, sex, eating, etc.?). (Where your engagement in these activities has caused significant problems for you or someone in your immediate social network).
- Yes (1)
- No (0)

D17. Do you have a family history of problem gambling (i.e., in parents, children, or siblings)?
- Yes (1)
- No (0)

D18. Do you have a significant family history of addictions other than gambling (i.e., in parents, children, or siblings)?
- Yes (1)
- No (0)

D19. At what age did you first gamble for money? _____ (Note: there was a programming mistake in this question resulting in no data being collected).

D20. What are the prime ethnic or cultural origins of your ancestors?

- Aboriginal, Inuit or Metis (1)
- European (Western) (2)
- European (Eastern) (3)
- Asian (Eastern) (*e.g., Vietnamese, Cambodian, Chinese, Korean, Japanese,Indonesian, Laotian, etc.)(4)*
- Asian (Southern) *(e.g., East Indian, Pakistani, Sri Lankan)(5)*
- Asian (Western) (*e.g., Iranian, Afghan, etc.)(6)*
- African (7)
- Latin American (Mexico, Central America, South America) (8)
- Oceania (Australia, New Zealand, Pacific Islands) (9)
- Other (10)

Calculate the following summary score
Total problem gambling risk score out of 10 based on answers to D1, D2 (if under age 26), total GF score <6, D10, D12a, D14, D15, D16, D17, D18 (if less than age 13).

Provide charts that display the person's gambling knowledge and beliefs score (tab that asks them to choose their comparison group)

1. relative to all other people taking the survey
2. relative to same gender taking the survey
3. relative to same age group taking the survey (18-25; 26-40; 41-60; 60+):

PROBLEM GAMBLING ASSESSMENT (order of CPGI, SOGS, PPGM, NODS counterbalanced; once a question is asked its equivalent question in the other scale(s) is not asked)

CANADIAN PROBLEM GAMBLING INDEX (CPGI)

CPGI1. Thinking about the past 12 months, have you bet more than you could really afford to lose? Would you say:

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI2/SOGS6. Thinking about the past 12 months, have you felt guilty about the way you gamble or what happens when you gamble? Would you say:

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI3/PPGM11/NODS2. In the past 12 months, have you needed to gamble with larger amounts of money to get the same feeling of excitement? Would you say:

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI4/SOGS1/PPGM8b/NODS6. In the past 12 months, when you gambled, did you go back another day to try to win back the money you lost? Would you say

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI5/PPGM1a/NODS10. In the past 12 months, have you borrowed money or sold anything to get money to gamble? Would you say

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI6/PPGM1b. In the past 12 months, has your gambling caused any financial problems for you or your household? Would you say:

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI7. In the past 12 months, has your gambling caused you any health problems, including stress or anxiety? Would you say:

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI8/SOGS5. In the past 12 months, have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true? Would you say:

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

CPGI9/SOGS3. In the past 12 months, have you felt that you might have a problem with gambling? Would you say

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

SOUTH OAKS GAMBLING SCALE

SOGS1/CPGI4/PPGM8b/NODS6. In the past 12 months, when you gambled, did you go back another day to try to win back the money you lost? Would you say
- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

SOGS2. In the past 12 months, have you ever claimed to be winning money gambling when you were, in fact, losing? Would you say
- never (or never gamble) (0)
- yes, less than half the time I lost (1)
- yes, most of the time (1)

SOGS3/CPGI9. In the past 12 months, have you felt that you might have a problem with gambling? Would you say
- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

SOGS4/PPGM8a. In the past 12 months, have you often gambled longer, with more money or more frequently than you intended to?
- no (0)
- yes (1)

SOGS5/CPGI8. In the past 12 months, have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true? Would you say:
- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

SOGS6/CPGI2. Thinking about the past 12 months, have you felt guilty about the way you gamble or what happens when you gamble? Would you say:
- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

SOGS7. In the past 12 months, have you ever felt like you would like to stop gambling, but you didn't think you could?
- no (0)
- yes (1)

SOGS8. In the past 12 months, have you ever hidden betting slips, lottery tickets, gambling money, IOUs or other signs of betting or gambling from your partner, children or other important people in your life?
- no (0)
- yes (1)

SOGS9/PPGM3a/NODS9a. In the past 12 months, has your gambling resulted in arguments with people you live with over how you handle money?
- no (0)
- yes (1)

SOGS10. In the past 12 months, have you ever borrowed from someone and not paid them back as a result of your gambling?
- no (0)
- yes (1)

SOGS11/PPGM5/NODS9b&NODS9c. In the past 12 months, have you missed time from work or school due to gambling?
- no (0)
- yes (1)

SOGS12. Did you borrow money to gamble or to pay gambling debts in the past 12 months
- no (0) (Skip SOGS 12abcdefghi)
- yes (1)

Did you borrow from….
a) household money (no = 0; yes = 1)
b) your partner (no = 0; yes = 1)
c) other relatives or in-laws (no = 0; yes = 1)
d) banks, loan companies or credit unions (no = 0; yes = 1)
e) credit cards (no = 0; yes = 1)
f) loan sharks (no = 0; yes = 1)
Did you…
a) cash in stocks, bonds or other securities (no = 0; yes = 1)
b) sell personal or family property (no = 0; yes = 1)
c) write cheques for more money than you had in your chequing account (no = 0; yes = 1)

PROBLEM & PATHOLOGICAL GAMBLING MEASURE (PPGM)

PPGM1a./CPGI5/NODS10. Has your involvement in gambling caused you to borrow a significant amount of money, sell some of your possessions, or declare bankruptcy in the past 12 months? Would you say
- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)

PPGM1b/CPGI6. Has your involvement in gambling caused significant financial concerns for you or someone close to you in the past 12 months? (Note: Significant means something that either you or someone else would say is considerable, important, or major’, either because of its frequency or seriousness).
Would you say
- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)

PPGM2. Has your involvement in gambling caused significant mental stress in the form of guilt, anxiety, or depression for you or someone close to you in the past 12 months?
- no (0)
- yes (1)

PPGM3a/SOGS9/NODS9a. Has your involvement in gambling caused significant problems in your relationship with your spouse/partner, or important friends or family in the past 12 months?

- no (0)
- yes (1)

PPGM3b. Has your involvement in gambling caused you to neglect your children or family in the past 12 months?

- no (0)
- yes (1)

PPGM4. Has your involvement in gambling caused significant health problems for you or someone close to you in the past 12 months?

- no (0)
- yes (1)

PPGM5/NODS9b&NODS9c/SOGS11. Has your involvement in gambling caused significant work or school problems for you or someone close to you in the past 12 months or caused you to miss a significant amount of time off work or school? (NOTE: score 'no' for people who do not work or go to school).

- no (0)
- yes (1)

PPGM6/NODS8. Has your involvement in gambling caused you or someone close to you to write bad cheques, take money that didn't belong to you or commit other illegal acts to support your gambling in the past 12 months?

- no (0)
- yes (1)

PPGM7. Is there anyone else who would say that your involvement in gambling has caused any significant mental, financial, family, health, school, work, or legal concerns/problems for you or someone close to you in the past 12 months?

- no (0)
- yes (1)

PPGM8a/SOGS4. Have you often gambled longer, with more money or more frequently than you intended to in the past 12 months?

- no (0)
- yes (1)

PPGM8b/CPGI4/SOGS1/NODS6. In the past 12 months, how often have you gone back to try and win back the money you lost?

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

PPGM8c/NODS3a. In the past 12 months, have you made attempts to either cut down, control or stop gambling?

- no (0) (go to PPGM10)
- yes (1)

PPGM8d/NODS4. Were you successful in these attempts?

- no (1)
- yes (0)

PPGM9/NODS3b. In the past 12 months, when you did try cutting down or stopping did you find you were very restless or irritable or that you had strong cravings for it?

- no (0)
- yes (1)

PPGM10/NODS1a & NODS1b. In the past 12 months, would you say you have been preoccupied with gambling?

- no (0)
- yes (1)

PPGM11/CPGI3/NODS2. In the past 12 months, did you find you needed to gamble with larger and larger amounts of money to achieve the same level of excitement?

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)

PPGM12. In the past 12 months, is there anyone else who would say that you were either preoccupied with gambling; or had a loss of control; or had withdrawal symptoms; or that you needed to gamble with larger amounts of money to achieve the same excitement?

- no (0)
- yes (1)

<u>NODS</u>

NODS1a/PPGM10. In the past 12 months, have there been any periods lasting 2 weeks or longer when you spent a lot of time thinking about your gambling experiences or planning future gambling venture or bets?

- no (0)
- yes (1)

NODS1b/PPGM10. In the past 12 months, have there been periods lasting two weeks or longer when you spent a lot of time thinking about ways of getting money to gamble with?

- no (0)
- yes (1) (Scoring Note: person cannot receive 1 on this question if already receiving 1 on 1a)

NODS2/CPGI3/PPGM11. In the past 12 months, have there been periods when you needed to gamble with increasing amounts of money or with larger bets than before in order to get the same feeling of excitement?

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don’t know (99)

NODS3a/PPGM8c. In the past 12 months, have you tried to stop, cut down, or control your gambling?

- no (0) (go to NODS 5a)
- yes (1)

NODS3b/PPGM9. In the past 12 months, on one or more of the times when you tried to stop, cut down, or control your gambling, were you restless or irritable?

- no (0)
- yes (1)

NODS4/PPGM8d. In the past 12 months, have you tried but not succeeded in stopping, cutting down, or controlling your gambling 3 or more times?

- no (0)
- yes (1)

NODS5a. In the past 12 months, have you gambled as a way to escape from personal problems?

- no (0)
- yes (1)

NODS5b. In the past 12 months, have you gambled to relieve uncomfortable feelings such as guilt, anxiety, helplessness, or depression?

- no (0)
- yes (1; unless already have a 1 for 5a)

NODS6/CPGI4/SOGS1/PPGM8b. In the past 12 months, has there ever been a period when, if you lost money gambling on one day, you would often return another day to get even?

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

NODS7. In the past 12 months, have you lied to family members, friends, or others 3 or more times about how much you gamble or how much money you lost on gambling?

- no (0)
- yes (1)

NODS8/PPGM6. In the past 12 months, have you written a bad cheque or taken money that didn't belong to you from family members of anyone else in order to pay for your gambling?

- no (0)
- yes (1)

NODS9a/PPGM3a/SOGS9. In the past 12 months, has your gambling caused serious or repeated problems in your relationships with any of your family members or friends?

- no (0)
- yes (1)

NODS9b/PPGM5/SOGS11. In the past 12 months, has your gambling caused you any problems in school, such as missing classes or days of school or getting worse grades?

- no (0)
- yes (1; unless already scored 1 for NODS9a)

NODS9c/PPGM5/SOGS11. In the past 12 months, has your gambling caused you to lose a job, have trouble with your job, or miss out on an important job or career opportunity?

- no (0)
- yes (1; unless already scored 1 for NODS9a or NODS9b)

NODS10/PPGM1a/CPG15. In the past 12 months, have you needed to ask family members or anyone else to loan you money or otherwise bail you out of a desperate money situation that was largely caused by your gambling?

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- don't know (99)

Calculate the following summary scores:
Scores on the CPGI.

Provide charts that display the person's problem gambling score
1. relative to all other people taking the survey
2. relative to same gender taking the survey
3. relative to same age group taking the survey (18-25; 26-40; 41-60; 60+):

GENERAL PROBLEM GAMBLING QUESTIONS (asked only if person scores 3 or more on the CPGI)

PG1. Is there a particular type of gambling that has contributed to your problems more than others?
- no (0) (go to PG3)
- yes (1)

PG2. Which types?____________________ (CODINGS: lotteries; instant win; horse/dog racing; bingo; VLTs; slot machines; electronic keno; blackjack; baccarat; roulette; poker; games of skill against other people; Internet gambling; high risk stocks, options or futures, other____________ (accept up to 4 answers)

PG3. Have you ever sought help for gambling problems?
- yes (1) (go to PG4 and skip PG5)
- no (0) (go to PG5)

PG4. Where did you seek help from? ____________ (CODINGS: friends; family; Gambler's Anonymous; family doctor; psychologist; psychiatrist; counseling service; pastor/minister/priest/etc.; telephone help/hotline; other_______________).

PG5. If you were to seek help for gambling problems where would you be most comfortable seeking it from? Would you say
- a face-to-face counseling service, or (1)
- an Internet counseling and support service (2)

PG6. Are you interested in knowing about resources to help with problem gambling?'
- no (2)
- yes (1):

Link to a self-help manual: http://addiction.ucalgary.ca/order_manual

Link to other problem gambling treatment resources:
http://www.gamcare.org.uk/
http://www.gamblersanonymous.org/
http://www.ncpgambling.org/
http://www.responsiblegambling.org/en/help/

GIVE US SOME FEEDBACK

F1. How useful was the information we provided?
- very useful (1)
- somewhat useful (2)
- not very useful (3)
- not at all useful (4)

F2. What changes, if any, do you expect in your gambling behaviour in the next couple of months?
- I expect no change (1)
- I expect it to increase (2)
- I expect it to decrease (3)

F3. How could we improve this site?____