2013

GAMBLING AND PROBLEM GAMBLING IN ONTARIO
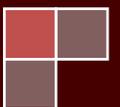
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REPORT PREPARED FOR THE ONTARIO PROBLEM
GAMBLING RESEARCH CENTRE & THE ONTARIO
MINISTRY OF HEALTH AND LONG TERM CARE

6/17/2013

Citation

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Acknowledgments

ABSTRACT

A random sample of 4,035 Ontario adults (18+) was administered a telephone survey regarding their gambling attitudes, motivations for gambling, gambling behaviour, and problem gambling status. The survey was conducted between November 2010 and April 2011.

In terms of attitudes, most Ontario adults believe that the current availability of gambling is fine, and that gambling is not an immoral activity. However, they also believe that the harm of gambling outweighs it benefits, and that not all forms of gambling should be legal. Attitudes toward gambling are generally more negative among females and older people.

Past year participation in gambling is 82.9%, which is an increase from previous years. The average number of formats engaged in is 2.2, with lottery tickets and raffle tickets being the only forms of gambling where half or more of people participate. Participation in gambling is higher among males, with the exception of raffle tickets, instant win tickets, and bingo. Older people have higher rates of participation in lottery and raffle tickets, and lower rates for most other forms. People of European ancestry have higher levels of gambling participation and are more likely to purchase lottery, raffle, and instant win tickets, but are less likely to play casino table games, bingo, and bet on horse racing. Approximately 22.0% of Ontario adults participate in gambling on a weekly basis, with lottery purchase being the most common weekly activity. Average total gambling expenditure for gamblers is $91.51 a month, with expenditure being highest for high-risk stocks, Internet gambling, and casino table games. Gambling expenditure tends to be higher for males, younger people, people of non-European ancestry, and individuals with higher income. However, lower income individuals spend a greater proportion of their income on gambling than do higher income individuals.

Most people report that they gamble for fun, entertainment, or excitement (40.5%). A smaller percentage gamble to win money (23.2%); to socialize with family or friends (17.1%); to support worthy causes (12.7%); to escape (2.3%), or because it makes them feel good about themselves (0.8%). Males and people with a European ancestry gamble report that they gamble primarily to win money more than other demographic groups. Younger gamblers are more likely to report gambling for fun/excitement and to socialize, and older people are more likely to report gambling to support worthy causes.

Depending on the assessment instrument, the past year rate of problem gambling in Ontario is between 1.0% (PGSI) and 2.2% (PPGM), which represents a significant decline in prevalence from previous years. Similar to other provinces, the peak rate of problem gambling in Ontario appears to have occurred in the early to mid-1990s coincident with the initial introduction of slot machines and casinos.

Similar to other Western jurisdictions, problem gamblers are more likely to be male, younger (particularly age 18 – 25), single, not have children, and to have a non-European ancestry. They are also significantly more likely to be users of tobacco and street drugs; to report additional behavioural addiction(s); and to have mental health problems.

Compared to non-problem gamblers, problem gamblers participate in *all* forms of gambling to a greater extent except lottery tickets, raffle tickets, and horse race betting. The total number of formats problem gamblers engage in is significantly higher (4.3 versus 2.6) than non-problem gamblers as is their overall frequency of participation and monthly expenditure ($618.31 versus $55.85). It is estimated that problem gamblers currently account for 24.1% of the revenue from government-sponsored gambling, with this proportion being even higher for casino table games and electronic gambling machines (EGMs).

Financial and mental health problems are the most common general impacts of problem gambling, and bankruptcy is the most common discrete impact. Only about half of problem gamblers indicated there was a particular type of gambling contributing to their problems more than others. For those that did indicate there was a specific problematic form, EGMs were most commonly identified. Only about 10% of problem gamblers wanted help for their problems. Of these individuals, 64% actually sought help.

INTRODUCTION

Population prevalence studies of gambling serve several important purposes. They establish the current overall prevalence of gambling, the prevalence of each form of gambling, personal expenditures on each form of gambling, and the prevalence of problem gambling[1]. This information, in turn, is very useful in understanding the overall recreational value of gambling to society, the negative social impacts of providing legalized gambling, the actual number of problem gamblers in need of treatment, the proportion of gambling revenue derived from problem gamblers, and the types of gambling most strongly associated with problem gambling. Changes in the prevalence of problem gambling from one time period to the next, and/or differences between the prevalence in one jurisdiction relative to another, provides important information about the incidence of problem gambling and the potential effectiveness of policies implemented to mitigate gambling's harm (Volberg, 2007; Williams & Volberg, 2012).

Worldwide, there have been 202 population prevalence studies of gambling conducted between 1975 and 2012 (Williams, Volberg, & Stevens, 2012). Depending on the specific country and the survey year, the **_standardized_** [2] past year rate of problem gambling ranges from 0.5% to 7.6%, with the average rate across all countries being 2.3%. In general, the lowest standardized prevalence rates tend to occur in Europe, with intermediate rates in North America and Australia, and the highest rates in Asia. More specifically, the lowest problem gambling prevalence rates occur in Denmark, the Netherlands, and Germany. Lower than average rates occur in Great Britain, South Korea, Iceland, Hungary, Norway, France, and New Zealand. Average rates are found in Sweden, Switzerland, Canada, Australia, United States, Estonia, Finland, and Italy. Above average rates occur in Belgium and Northern Ireland. The highest rates are observed in Singapore, Macau, Hong Kong, and South Africa.

Within Canada, the lowest standardized rates of problem gambling have occurred in Quebec and Prince Edward Island. Nova Scotia's rates have also been below average. Average rates have been obtained in Ontario, Manitoba, Saskatchewan, and Newfoundland. The rates in Alberta, New Brunswick, and British Columbia have tended to be slightly higher than average. No prevalence studies have been conducted in the three Canadian territories (Yukon, Nunavut, Northwest Territories) (Williams, Volberg, & Stevens, 2012).

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[1] Problem gambling is defined as having difficulties limiting money and/or time spent on gambling which leads to adverse consequences for the gambler, others, or for the community (Neal, Delfabbro, & O'Neil, 2005). It includes 'pathological gambling' (equivalent to severe problem gambling) that is characterized by severe difficulties in controlling gambling behaviour leading to serious adverse consequences.

[2] Standardized rates of problem gambling correct for methodological differences between studies. The specific methodological differences known to affect rates are: a) the assessment instrument used; b) the time frame (i.e., past year, lifetime); c) how the survey is described to participants (i.e., explicitly identified as a 'gambling' survey or not); d) how the survey is administered (i.e., face-to-face, telephone, self-administered); and e) the threshold criterion that determines when problem gambling questions are asked (Williams & Volberg, 2009; Williams, Volberg, & Stevens, 2012). Analysis of the impact of these factors was undertaken by Williams, Volberg & Stevens (2012) and weighting factors were applied to prevalence rates in each jurisdiction to produce a 'standardized' rate that could be compared across studies and jurisdictions.

There have been eight prior population studies of gambling in Ontario. The standardized rates of problem gambling were found to be 4.9% in 1993 (Insight Canada Research, 1993), 4.2% in 1995 (Ferris, Stirpe & Ialomiteanu, 1996), 1.7% in 2001 (Wiebe, Single, & Falkowski-Ham, 2001), 1.2% in 2002 (Marshall & Wynne, 2003), 3.0% in 2003 (Williams & Wood, 2004, 2007), 2.2% in 2005 (Wiebe, Mun, & Kauffman, 2006), 2.2% in 2006/2007 (Williams & Wood, 2008), and 0.8% in 2007/2008 (Statistics Canada, 2009).

A summary of each of these studies is contained in Appendix A. A plot of these standardized prevalence rates over time is displayed in Figure 1.

Figure 1. Past Year Standardized Problem Gambling Prevalence among Ontario Adults (18+).
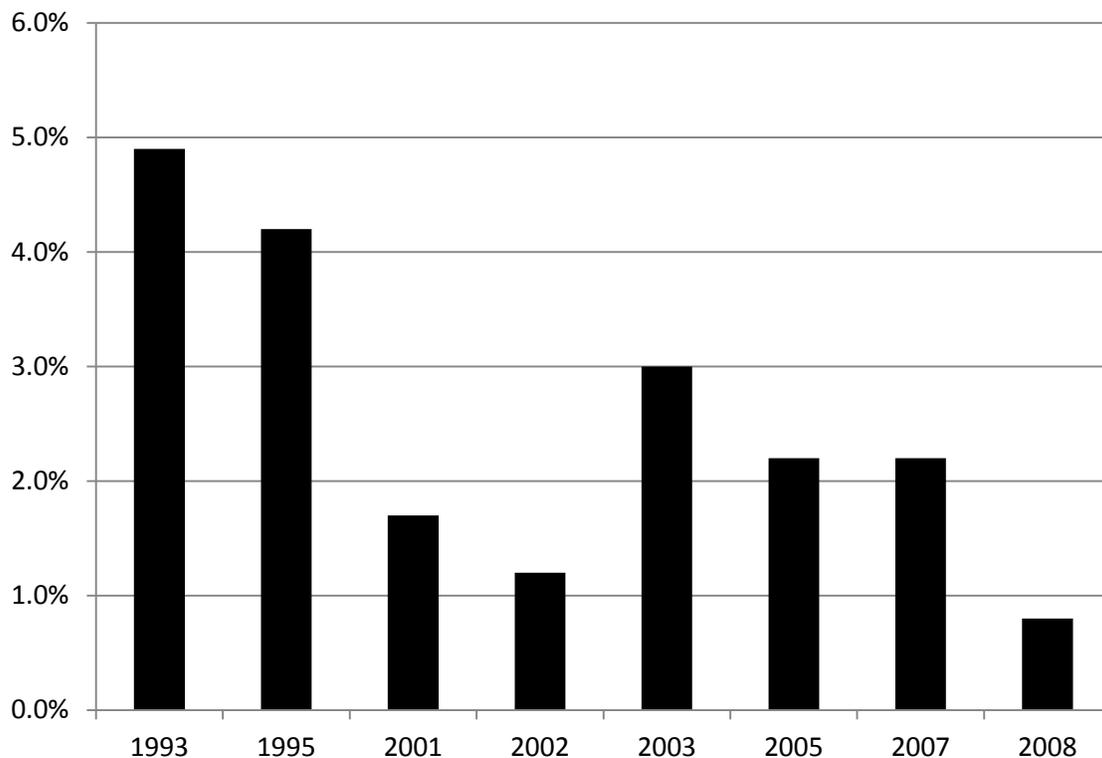
The year to year variability in the Ontario rates is partly due to measurement error within each study as well as methodological differences between the studies.[3] However, the one thing that seems apparent is that the prevalence rate of problem gambling in Ontario has decreased over time.

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[3] The standardization procedure adjusted for most, but not all methodological differences between studies (for details see Williams, Volberg, & Stevens, 2012).

The purpose of the present study is to obtain a current picture of gambling and problem gambling in Ontario and to determine whether this downward trend in prevalence has continued. The specific issues that will be addressed include:

1. Current attitudes toward gambling.
2. Past year prevalence, frequency, and expenditures on each form of gambling, and how this compares to previous rates.
3. Motivations for gambling.
4. Current prevalence of problem gambling and how this compares to previous rates.
5. Demographic, game play, attitudinal, motivational, and comorbidity profiles of problem versus non-problem gamblers.
6. The negative social impacts of problem gambling.
7. Number of problem gamblers in need of treatment, desiring treatment, and receiving treatment.

METHOD

Telephone Survey

From November 2010 – April 2011, the Survey Research Centre (SRC) at the University of Waterloo administered a 15 minute telephone survey to a random sample of Ontario adults (18+) with the goal of achieving a final sample size of 4,000. This survey included cell phone numbers [4] in the pool of eligible numbers and incorporated all best practices in the population assessment of gambling and problem gambling (Williams & Volberg, 2012). Specifically there was:

- Pilot testing of the questionnaire.
- Random digit dialing using computerized assisted survey administration (CATI).
- Stratified sampling to ensure minimal age x gender quotas that were at least 50% of the census determined prevalence of age 18-24 males; 18-24 females; 25-44 males; 25-44 females; 45-64 males; 45-64 females; 65+ males; and 65+ females. (This was done so as to minimize post hoc weighting).
- Random selection of the person to be interviewed within the household (landlines only) (i.e., selecting the person with the next birthday). [5]
- Eight attempts to contact the designated person, with these attempts spread over a six month period.
- Re-contacting 'soft refusals' at a later point to see if they would be willing to participate.
- Bilingual interviewers [6].
- A short (15 minute) interview to increase the chances of participation.

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[4] Inclusion of cell phone numbers is now essential in telephone population surveys, due to the increasing prevalence of households without a telephone landline. For example, in the U.S. in 2011, 34% of households had only cell phones (i.e., no landline), a dramatic increase from 6% in 2005 (Blumberg, Luke, et al., 2012). Canada is following a similar trend, although the rates are not yet at U.S. levels. In 2010 it was estimated that 13% of Canadian households only had cell phones, up from 6% in 2007 (Statistics Canada, 2011). Cell phone-only use is known to be disproportionately common among low income households and young adults (Statistics Canada, 2011).

[5] We conducted a small sub-comparison (*n* = 499) of the comparability of interviewing all adults within the household ('entire household sampling') versus randomly selecting a single person within the household followed by post-hoc household weighting, to evaluate the comparability of these two methods. There is reason to believe that response rates may be higher with 'entire household sampling'. However, due to decreased anonymity, these higher response rates may come at the expense of lower validity. The results of this comparison are reported in a companion report: Volberg & Williams (2013). Suffice to say that the results were similar enough that the two samples could be combined for the present study.

[6] 2.6% of Ontario residents do not speak English according to the 2011 census, with the most common alternative languages being French and Chinese (mostly Cantonese), and the regions with the greatest concentration of non-English speakers being Ottawa and Toronto. Thus, English/French speaking interviewers were available for all Ottawa-based telephone exchanges and English/Chinese speaking interviewers were available for all Toronto-based exchanges.

- Periodic visual and audio evaluation of the interviewers' work by a supervisor for quality assurance.
- Post-hoc weighting to compensate for household size (landlines only), having landlines and cell phones, and sampling deviations from age x gender distributions in Ontario as established by the 2011 census.
- Use of questions wordings that maximize correspondence between self-reported gambling activity and objective measures of gambling activity (i.e., Wood & Williams, 2007).
- Introducing the survey as a study about 'health and recreational behaviour' (rather than 'gambling'). [7]
- Only administering the problem gambling questions to individuals who have gambled at least once a month on some format in the past year so as to decrease false positive identification of problem gambling (Williams & Volberg, 2010).
- Automatically asking people to explain the discrepancy between their problem gambling classification in the absence of significant gambling behaviour, or intensive gambling in the absence of reported problems.

Online Panel Survey

One of the additional purposes of this study was to investigate the reliability and validity of *online panel surveys* in population prevalence research. Traditional telephone surveying has a short future because of the continuing drop in telephone survey response rates (20% – 30% is now typical); the emergence of national 'do-not-call' registries; and the rapid increase in the use of cell phones in lieu of landlines.

In recent years Survey Research firms have created 'online panels' composed of hundreds of thousands of individuals who have agreed to receive online solicitations to participate in various online surveys in return for compensation (most often, a collection of 'points' that have some cash value) (Göritz et al., 2002; Göritz, 2007). When an individual joins one of these panels, information is collected concerning his/her demographics. Subsequently, when a group is needed for a particular survey (e.g., 'representative sample of Ontario adults'), the survey is only sent out to this selected subsample. Online panels are now commonly used in market research, but are more uncommon in academic studies.

The advantages of online panel surveys are that a) the validity of answers to 'sensitive questions' (e.g., gambling) tends to be higher in self-administered formats (Tourangeau & Yan, 2007; Tourangeau & Smith, 1996; van der Heijden et al., 2000); b) everyone has agreed to be and expects to be contacted (unlike telephone surveys); c) the results can be obtained in a much shorter period of time; and d) they are roughly one-third the cost of telephone surveys.

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[7] Surveys introduced as 'gambling surveys' result in over-recruitment of gamblers (especially heavy gamblers) and under-recruitment of non-gamblers (Williams & Volberg, 2009, 2010).

However, there are several potential problems with online panels. One concern is whether and to what degree the panels are represent the population. Also, a significant non-random minority of people still do not use the Internet. In 2010, 21% of Canadians 16 and older did not use the Internet, with nonusers significantly more likely to be located in rural areas, have lower income, be older, and have less education (Statistics Canada, 2011). Furthermore, although online panel membership is stratified to be demographically representative of the population, other differences likely exist as only a small minority of people invited to be part of an online panel agree to participate (Sparrow, 2006). Rather, most online panelists are people who have responded to advertisements to join the panel (and who may also belong to several other panels). Concerns have also been expressed about the data quality when using 'professional respondents' who may do dozens of surveys within the span of a few months (Göritz, 2007; Toepoel, Das & van Soest, 2008). Other issues concern the optimal way of creating online panels, the effects of different types and magnitudes of rewards, the appropriate number of contact/request attempts, the appropriate deadline for questionnaire completion, and the effects of nonresponse.

A comparison of our results obtained via our telephone sample versus our online panel sample is contained in a companion report (Volberg & Williams, 2013). For the purposes of the present study it suffices to indicate that although online panelists are demographically similar to telephone samples, they are different in other ways. Most importantly, we have consistently found that online panelists have significantly higher rates of mental health problems and addictions (including problem gambling). Thus, in the present study, the telephone sample and the online panel sample cannot be combined, and the online panel sample cannot be used to establish population prevalence rates. However, because the online panel sample contains a much higher number of problem gamblers, this sample has utility in more closely examining the characteristics of problem gamblers.

The Survey Research Centre subcontracted with Global Market Insight (a private survey company with headquarters in Bellevue, Washington) to conduct the online panel survey. Global Market Insight sent email invitations with a link to complete a self-administered online survey to a random sample of their online Ontario panelists from in the same Nov 2010 – Apr 2011 time period as the telephone survey. The goal was to achieve a final sample size of 4,000. Although 'best practices' in online panel surveys have not yet been established, the following protocol was used:
- Same procedures as the telephone survey regarding pilot testing, ensure minimal age x gender quotas that were at least 50% of the census determined prevalence of 18-24 males; 18-24 females; 25-44 males; 25-44 females; 45-64 males; 45-64 females; 65+ males; and 65+ females; post-hoc weighting of the obtained sample to compensate for sampling deviations from age x gender distributions in Ontario; optimal question wordings; introducing the study as a 'survey on health and recreational behaviour'; and requiring gambling at least once a month on some format to be administered questions about problem gambling.
- Note: the sample was also stratified by smoking status (i.e., the sample that Global Market Insight collected had the same prevalence of smoking as the Ontario population) in an

attempt to match the level of mental health and addiction problems in the online panel relative to the telephone sample.

- 50% of the sample received up to 2 email invitations and their standard reward points; 50% of the sample to received up to 4 invitations and double their standard reward points (to assess the impact of this procedure).

Questionnaire

The questionnaire (Appendix B) took between 10 and 35 minutes to complete (15 minutes average) and had six major sections:

1. *Health & Recreation; Validity & Comorbidity Questions*. The 14 questions that began the survey had several purposes. The first was to provide legitimacy to the 'health and recreation' description of the survey, as all of these questions ask about health and/or recreational behaviours. The second purpose was to establish the presence or absence of typically reported comorbidities for problem gambling (e.g., substance use, mental health problems, etc.). The third purpose was to gauge the relative validity of responses provided via landlines versus cell phones; between 'entire household sampling' versus single person sampling; and between telephone samples and 'online panel samples'. Hence, some of these questions asked about non-sensitive issues where no response distortion was expected (e.g., general health status, favorite recreational activity). Some questions asked about sensitive issues where response distortion was anticipated (e.g., frequency of illicit drug use; frequency of driving while intoxicated). Some questions investigated whether the person may have an enduring pattern of positive or negative responding (e.g., asking whether they have 'ever' been ill; having 'any' pleasant memories from childhood). Finally, some questions were designed to assess response acquiescence, not paying attention, or flippancy (e.g., darts being their favorite sport to watch on TV; Arctic being their preferred vacation destination). These validity questions were successfully used in our previous study and reliably distinguished between face-to-face and telephone formats (Williams & Volberg, 2009; 2010).
2. *Gambling Attitudes.* The five questions in this section asked about the person's beliefs about the benefit versus harm of gambling, the morality of gambling, whether gambling should be legal, and their opinion about the availability of gambling opportunities in Ontario.
3. *Gambling Behaviour*. Information about the frequency and expenditure for 13 types of gambling (lottery tickets, raffle or fundraising tickets, instant win tickets, sports betting, horse race betting, bingo, electronic gambling machines, casino table games, casinos outside of Ontario, social gambling, Internet gambling, high risk stocks/options/futures, 'other' forms of gambling) using questions with optimal wording for obtaining this information (i.e., Wood & Williams, 2007).
4. *Gambling Motivation.* One question that asked about the person's primary motivation for gambling.

5. *Problem Gambling*.
   a. <u>Prevalence</u>. Two measures of problem gambling were used to establish the prevalence of problem gambling. One was the *Problem Gambling Severity Index* (PGSI) from the Canadian Problem Gambling Index (CPGI) (Ferris and Wynne, 2001). The PGSI has very good internal consistency (alpha = .89) and good test-retest reliability (r = .78). Construct validity of the CPGI is established by its significant correlations with gambling involvement. The second measure was the *Problem and Pathological Gambling Measure* (PPGM) (Appendix C). The PPGM is a relatively new measure of problem gambling that has been shown to have superior sensitivity, positive predictive power, and diagnostic accuracy relative to the PGSI, South Oaks Gambling Screen (SOGS) (Lesieur & Blume, 1987), and the DSM-IV-TR (American Psychiatric Association, 2000) criteria for pathological gambling (Williams & Volberg, 2010, 2013). The superior performance of the PPGM is due to several factors (Williams & Volberg, 2010, 2013). One is that to be designated a problem gambler in the PPGM there needs to be evidence of harm deriving from gambling *and* impaired control over gambling, whereas any pattern of item endorsement that results in a score above a certain threshold is sufficient to be designated as a problem gambler in the PGSI, SOGS and DSM-IV. A second reason is that the PPGM more comprehensively assesses the potential harms deriving from gambling, whereas only a subset of potential problems are assessed with the traditional instruments (i.e., physical and mental health problems are not assessed in the DSM-IV or SOGS; illegal activity and school and/or work problems are not assessed in the PGSI). A final reason is that the PPGM endeavors to minimize false positives and false negatives. The former is accomplished by requiring the person to report gambling at least once a month in the past year to be classified as a problem gambler (no corroborating gambling behavior is required in the PGSI, SOGS or DSM-IV). The latter is accomplished by allowing for problem gambling designation of individuals reporting sub-threshold levels of symptomatology if their gambling expenditure and frequency are equal to those of unambiguously identified problem gamblers.
   b. <u>Social and Economic Impacts of Problem Gambling</u>. Several branching questions were added to the PGSI and PPGM questions if the person answered the 'stem' question in the affirmative. For example, if the person indicated they were experiencing financial problems because of their gambling they were then asked about whether this had led to bankruptcy; if they reported mental health problems deriving from gambling they were asked whether this had led to a suicide attempt; if they reported relationship problems they were asked whether this had led to domestic violence; etc. The utility of these supplemental questions is they can be used to provide an estimate of the prevalence of discrete social and economic impacts of gambling among problem gamblers in Ontario.
   c. <u>Inconsistency Questions</u>. The questionnaire was programmed to prompt the interviewer to ask an additional open-ended question if the person had a score of five or more on the PGSI[8] in the absence of gambling more than once a month, or had a past year gambling loss of > $1,000 but reported no problems on the PGSI. The question in the first situation

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[8] Note: Williams & Volberg (2010, 2013) and Currie, Hodgins, & Casey (2013) have found 5+ scores to be a better demarcation of problem gambling relative to clinical assessment than either 3+ or 8+.

was "I notice you report having some potential problems with gambling, but you have not gambled more than once a month in the past 12 months. Can you explain?" The question in the second situation was "I notice you report having lost over $1000 to gambling in the past 12 months, but don't report any problems or concerns with this. Can you explain?" Answers to these questions shed light on the person's true problem gambling status, and in some cases could potentially result in re-categorization of the person's problem gambling status.[9]

6. *Participant Demographics*. Specifically, age, gender, marital status, number of children, number of adults in the household, number of cell phones in household, Internet access, highest level of education, employment status, household income, household debt, immigrant status, ethnicity, and postal code.

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[9] In the present study, there were no cases that were reclassified from reading the answers to these questions. This is partly because the short length of the responses did not provide a sufficient basis for reclassification (responses typically just consisted of a phrase or a single sentence), and partly due to the provision of reasonable explanations. The most common explanations for high expenditure in the absence of gambling problems was that the expenditure included travel costs to an out-of-province casino destination and/or the person could afford high gambling expenditure because of their high income.

RESULTS

Telephone Sample

The obtained telephone sample (prior to weighting) consisted of 4,035 adults. Males constituted 44.8% of the sample. In terms of age distribution, 9.7% of the sample was between 18 and 24; 31.0% was between 25 and 44; 39.0% was between 45 and 64; and 20.4% were 65 and older. With regard to marital status, 62.1% were married or in a common-law relationship; 19.1% were single (never married); and 18.8% were separated, divorced, or widowed. A total of 7.3% of the sample had less than a high school education; 29.3% had completed high school and/or had a trades certificate or diploma and/or some post-secondary education; 27.1% had a college degree; 25.4% had a bachelor's degree; and 10.9% had a Master's, doctorate, or medical degree. A total of 50.1% were employed full-time; 11.7% were employed part-time; 22.6% were retired; 4.0% were full-time students; 3.3% were homemakers; 4.5% were on sick leave, maternity leave, on strike, or on disability, and 3.8% were unemployed and looking for work. A total of 25.7% reported an annual income of less than $20,000; 33.3% had an annual income between $20,000 and $49,999; 31.6% reported an income between $50,000 to $99,999; and 10.8% reported an income of $100,000 or more. Approximately 27% percent of the sample reported being born outside of Canada. In terms of ethnic/cultural origin of ancestors, 78.2% reported European; 2.8% reported Middle Eastern; 5.6% reported South Asian; 6.0% reported East Asian; 4.2% reported Aboriginal, Inuit or Métis; 2.3% reported African; 2.2% reported Latin American; and 2.0% reported Other (people were allowed to choose more than one ethnic/cultural category).

Post-hoc weighting was employed to compensate for household size[10] (for participants contacted via landlines) and sampling deviations from age x gender distributions in Ontario as established by the 2011 census.

Response Rate

Response rates were calculated using the procedures recommended by the Council of American Survey Research Organizations (CASRO, 1982) and the American Association for Public Opinion Research (AAPOR) (2011). Both of these organizations calculate response rates based on the number of completed interviews divided by the estimated number of eligible respondents as seen below in Table 1. The obtained response rate in the present study was 17.2%. This is quite low, which is partially attributable to the very low response rate with cell phones (10.7%), which constituted 23.6% of the total number of interviews. However, it is also consistent with the significant decline in response rates that has occurred in all telephone surveys the past 15 years (Massey & Tourangeau, 2013; Peytchev, 2013; Volberg, 2007; Williams, Volberg, & Stevens, 2012).

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[10] So as to correct for the fact that people from small households will be over-represented in landline telephone surveys relative to people from large households.

Table 1. Telephone Sample Response Rate Calculations.

INELIGIBLE TOTAL Not in service; fax/modem; business number; bad line; language difficulties; physical/mental incapacity; does not meet eligibility criteria; in demographic group whose quota is filled	14,942
ELIGIBILITY NOT DETERMINED (ND) TOTAL Line busy/never answered/household refusal	12,413
Refusals	12,301
Completed Interviews	3,895
ELIGIBLE TOTAL	16,196
ELIGIBILITY RATE ELIGIBLE TOTAL _16196_ ÷ (ELIGIBLE TOTAL _16196_ + INELIGIBLE TOTAL _14942_)	52.0%
ESTIMATED # OF ELIGIBLES ELIGIBLE TOTAL _16196_ + (ELIGIBILITY ND TOTAL _12413_ x ELIGIBILITY RATE _52.0%_)	22,651
RESPONSE RATE COMPLETED INTERVIEWS _3895_ ÷ ESTIMATED # OF ELIGIBLES _22651_	17.2%

It is important to recognize that although the risk of obtaining a biased sample increases as a function of lower response rates, unless there are systematic differences in the characteristics of people opting versus not opting to do the survey, then the sample will still be representative. The risk of a biased sample is also reduced when the obtained sample is weighted to match the known demographic characteristics of the population. Indeed, the scientific evidence on the relationship between response rates and sample bias has generally found this relationship to be surprisingly weak (Curtin, Presser, & Singer, 2000; Holbrook, Krosnick, & Pfent, 2007; Keeter, Kennedy, Dimock et al., 2006; Massey & Tourangeau, 2013; Molinari et al., 2011; Peytchev, 2013).[11] Further reassurance is seen in the fact that the rates of substance use in the present study are very close to that obtained by for Ontario in 2011 by Health Canada's Canadian Alcohol and Drug Use Monitoring Survey (CADUMS) (Health Canada, 2011a) (with a much higher response rate).

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[11] An argument can be made that there has been undue focus on overall response rates (which only create *potential* for sampling bias) and insufficient focus on factors *known to create* response bias. One of these important biasing factors is interest or lack of interest in the topic (Groves, Presser & Dipko, 2004; Groves, 2006). For example, Williams & Volberg (2009) demonstrated that a door-to-door survey (with high response rates) that sought participation in a 'gambling survey' created significantly more sampling bias than an identical telephone survey (with lower response rates) seeking participation in a 'health and recreation survey'. This is due to the fact that a 'gambling survey' resulted in higher refusal rates for non-gamblers and higher cooperation rates for regular and heavy gamblers, whereas a 'health and recreation survey' produced a much more representative sample of the population (Williams & Volberg, 2009). Thus, it seems clear that a non-biasing solicitation (as was used in the present study) is probably an equally if not more important consideration than response rate when attempting to obtain a representative sample.

Online Panel Sample

The obtained online panel sample (prior to weighting) consisted of 4,101 adults. Males constituted 40.3% of the sample. In terms of age distribution, 16.1% were between 18 and 24; 29.0% were between 25 and 44; 37.6% were between 45 and 64; and 17.3% were 65 and older. With regard to marital status, 59.3% were married or in a common-law relationship; 25.7% were single (never married); and 15.0% were separated, divorced, or widowed. A total of 6.0% had less than a high school education; 34.1% had completed high school and/or had a trades certificate or diploma and/or some post-secondary education; 31.5% had a college degree; 22.2% had a university bachelor's degree; and 6.2% had a Master's, doctorate, or medical degree. A total of 33.2% were employed full-time; 18.0% were employed part-time; 22.0% were retired; 5.9% were full-time students; 7.0% were homemakers; 5.6% were on sick leave, maternity leave, on strike, or on disability; and 8.2% were unemployed and looking for work. A total of 30.2% reported an annual income of less than $20,000; 38.2% had an annual income of between $20,000 to $49,999; 25.3% reported an income of between $50,000 to $99,999; and 6.4% reported an income of $100,000 or more. Approximately 26.3% of the sample reported being born outside of Canada. In terms of ethnic/cultural origin of ancestors, 71.4% reported European; 1.8% reported Middle Eastern; 5.3% reported South Asian; 7.0% reported East Asian; 2..6% reported Aboriginal, Inuit or Métis; 3.1% reported African; 1.5% reported Latin American; and 8.6% reported Other (people were allowed to choose more than one category).

Post-hoc weighting was employed to compensate for sampling deviations from age x gender distributions in Ontario as established by the 2011 census.

All of the following results are based on the Telephone sample (unless otherwise indicated).

Substance Use, Health, and Mental Health

Table 2 documents the past year self-reported prevalence of substance use, substance abuse, and mental health problems, as well as overall ratings of general health, happiness, and stress. Although these variables were collected primarily to establish their relationship to problem gambling, they are also presented independently in their own section because of the public health value of knowing the current levels of these variables for the Ontario population. All ratings are provided as a function of gender, age groupings, and ancestry (European versus non-European[12]). Standard deviations are reported in brackets. An asterisk in the last column of each demographic category indicates a significant difference at the $p < .01$ level (Chi Square test used for nominal variables; t-test used for continuous variables).

The rate of tobacco use in the present study (24.8%) is higher than what other studies have found due to the use of different parameters. Health Canada's Canadian Tobacco Use Monitoring Survey (CTUMS) (Health Canada, 2011b) established that 16.3% of Ontario aged 15 and older in 2011 were "current smokers". The CTUMS study differs from the present survey in having a much shorter time frame (current versus past year), a higher response rate (78.9%), a different age range (*15* and older), excluding cell phones from the sampling, a smaller sample size (*n* = 2,057), and only inquiring about cigarette smoking (i.e., not cigar, pipe tobacco, or shisha smoking; or the use of dipping tobacco, chewing tobacco, or snuff). Similar to what has been found in other surveys, tobacco use in the present study was significantly higher in males and younger people.

The rates of past year alcohol and illicit drug use in the present study (78.6% and 6.2% respectively) are very similar to that obtained by Health Canada's Canadian Alcohol and Drug Use Monitoring Survey (CADUMS) (Health Canada, 2011a) for Ontario in 2011 (76.1% and 8.2%). The CADUMS study differed from the present study in that it had a higher response rate (45.5%), lower sample size (*n* = 1,009), assessed substance use for ages *15* and older, and did not include cell phones in their sampling. Similar to what has been found in other studies, alcohol and illicit drug use is significantly less common in females and older people. The present study found that alcohol and illicit drug use is also significantly less common in people of non-European ancestry.

Self-reported problems with drugs or alcohol is very low (1.4%), and significantly more common among males. This rate is similar to self-reported *drug*-related harms for Canadians in the 2011 Canadian Alcohol and Drug Use Monitoring Survey (CADUMS) (Health Canada, 2011a) (1.8%). It should be noted, however, that self-rated harms often underestimate actual harms. As evidence, CADUMS also established that in the previous seven days 12.9% of the Ontario population 15 and older reported exceeding Canada's Low-Risk Alcohol Drinking Guidelines (Canadian Centre on Substance Abuse (CCSA), 2013) in terms of drinking no more than 10 drinks a week for women, with no more than 2 drinks a day most days and 15 drinks a week for

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[12] Space limitations precluded examination of gambling behaviour as a function of more fine-grained ancestry subgroupings.

men, with no more than 3 drinks a day most days, and 9.7% exceeded the guideline to drink no more than 3 drinks (for women) and 4 drinks (for men) on any single occasion.

A total of 8.7% of people report problems with 'other addictive behaviour', with these problems being significantly more commonly reported in females compared to males. Among those who reported problems with 'other addictive behaviour', 59.1% report problems with over-eating (45.9% males; 67.3% females); 16.0% with shopping (21.0% females; 7.4% males); 7.7% with exercise (8.1% males; 7.5% females); 6.6% with sex or pornography (11.0% males; 3.7% females); 4.6% with video or Internet gaming (10.3% males; 0.9% females); 4.4% with Internet chat-lines (5.9% males; 3.3% females); and 12.3% with 'other addictions' (19.1% males; 7.9% females).

The average rating of general health is "good", with no significant difference in self-rated health as a function of gender, age, or ancestry.

The average rating of stress is "moderate", with significantly higher stress reported by females and younger people.

A total of 15.1% report serious problems with depression, anxiety or some other mental health problem in the past 12 months, with this endorsement occurring significantly more often for females and younger people. When asked to specify which particular mental health problem they had, the most commonly reported ones were depression (46.6%), anxiety (31.5%), and depression with anxiety (15.7%).

Table 2. Substance Use, Health, and Mental Health in the Past Year (Telephone Sample; *n* = 4,035).

	Overall	Male	Female	Age 18 - 24	Age 25 - 44	Age 45 – 64	Age 65+	European Ancestry	Non-European Ancestry
Tobacco User	24.8%	30.4%	19.7% *	34.6%	29.1%	23.4%	11.7%*	25.3%	23.1%
Alcohol User	78.6%	82.1%	75.6% *	78.2%	82.8%	80.6%	66.6%*	83.6%	61.1%*
Street/Illicit Drug User	6.2%	9.0%	3.7% *	17.1%	8.0%	3.5%	0.6%*	7.0%	3.5%*
Problems with Drugs or Alcohol	1.4%	2.0%	0.8% *	2.5%	1.7%	1.0%	0.6%	1.5%	1.0%
Problems with Other Addictive Behaviour	8.7%	7.1%	10.1% *	10.1%	8.8%	8.7%	7.4%	10.4%	8.2%
General Health Rating (1 = excellent; 2 = good; 3 = fair; 4 = poor)	1.99 (.76)	1.98 (.75)	2.00 (.77)	2.06 (.70)	1.94 (.72)	1.95 (.78)	2.12 (.80)	1.98 (.76)	2.00 (.75)
Overall Level of Stress Rating (1= v low; 2 = low; 3 = moderate; 4 = high; 5 = v high)	3.07 (1.1)	2.95 (1.1)	3.17 (1.0) *	3.19 (1.0)	3.18 (1.0)	3.16 (1.0)	2.54 (1.0)*	3.07 (1.0)	3.05 (1.1)
Mental Health Problems	15.1%	11.6%	18.4% *	21.2%	15.4%	15.4%	9.7%*	15.3%	14.8%

Note: Cell contents represent either percentage of the sample or mean and standard deviation (in brackets).

* *p* < .01

Gambling Attitudes

Table 3 to Table 6 presents attitudes towards gambling among Ontario adults. As before, all ratings are provided as a function of gender, age, and ancestry. Standard deviations are reported in brackets. An asterisk in the last column of each demographic variable indicates a significant difference at the $p < .01$ level (Chi Square test used for nominal variables; t-test used for continuous variables).

Table 3 shows that most Ontario adults believe the current availability of gambling is fine (59.7%), with a smaller minority believing that it is too widely available (37.5%), or not available enough (2.9%). Females and older people are more likely to indicate they believed gambling is too widely available.

Table 4 illustrates that most people believe that the harm of gambling either somewhat (30.0%) or far outweighs the benefits (39.1%), with only 6.2% believing the benefits somewhat outweigh the harm or that the benefits far outweigh the harm (3.5%). The belief that the harm of gambling outweighs the benefits is stronger in females and older people. Although people with non-European ancestry also largely believe the harm outweighs the benefits, their attitudes are slightly less negative compared to people with European ancestry.

Table 5 shows that the large majority of people (73.9%) do not believe that gambling is morally wrong. This belief is significantly stronger in males, people younger than 65, and people of European ancestry.

Table 6 shows that most people (65.7%) believe that some types of gambling should be legal and some should be illegal. Females and younger people are more likely to endorse this belief. A minority of people (14.1%) believe that all types of gambling should be illegal, and 20.1% believe that all types should be legal. Males, older people, and people of European ancestry are more likely to believe that all types should be legal. Older age and non-European ancestry are predictive of a stronger belief that all types of gambling should be illegal.

Table 3. What best describes your opinion about the availability of gambling opportunities in Ontario? (Telephone Sample; _n_ = 4,035)

	Overall	Male	Female	Age 18 - 24	Age 25 - 44	Age 45 - 64	Age 65+	European Ancestry	Non-European Ancestry
Gambling is too widely available	37.5%	33.8%	40.8%*	26.1%	30.8%	40.8%	52.1%*	37.4%	37.7%
The current availability of gambling is fine	59.7%	61.7%	57.8%	69.9%	65.4%	56.8%	46.6%*	60.0%	58.5%
Gambling is not available enough	2.9%	4.5%	1.4%*	3.9%	3.8%	2.4%	1.2%*	2.6%	3.8%

Table 4. Which best describes your belief about the benefit or harm that gambling has for society? (Telephone Sample; _n_ = 4,035)

	Overall	Male	Female	Age 18 - 24	Age 25 - 44	Age 45 - 64	Age 65+	European Ancestry	Non-European Ancestry
Harm far outweighs benefits	39.1%	35.4%	42.5%*	26.1%	32.9%	44.7%	49.1%*	39.1%	39.0%
Harm somewhat outweighs benefits	30.0%	28.7%	31.2%	34.6%	32.5%	27.7%	27.0%*	31.3%	25.4%*
Benefits equal harm	21.1%	24.1%	18.4%*	29.1%	25.3%	17.2%	15.5%*	20.7%	22.8%
Benefits somewhat outweigh harm	6.2%	6.8%	5.7%	6.7%	6.2%	6.5%	5.1%	6.1%	6.8%
Benefits far outweigh harm	3.5%	4.9%	2.2%*	3.5%	3.1%	4.0%	3.2%	2.8%	6.1%*

* _p_ < .01

Table 5. Do you believe that gambling is morally wrong? (Telephone Sample; *n* = 4,035)

	Overall	Male	Female	Age 18 - 24	Age 25 - 44	Age 45 - 64	Age 65+	European Ancestry	Non-European Ancestry
Yes	24.2%	22.3%	26.0%*	23.7%	22.0%	23.1%	31.7%*	19.2%	42.6%*
Unsure	1.9%	1.6%	2.1%	1.2%	1.1%	1.7%	4.4%*	1.7%	2.5%
No	73.9%	76.1%	71.9%*	75.1%	76.9%	75.2%	63.9%*	79.2%	54.8%*

Table 6. Which of the following best describes your opinion about legalized gambling? (Telephone Sample; *n* = 4,035)

	Overall	Male	Female	Age 18 - 24	Age 25 - 44	Age 45 - 64	Age 65+	European Ancestry	Non-European Ancestry
All types of gambling should be illegal	14.1%	14.0%	14.3%	8.0%	10.8%	14.3%	25.6%*	12.2%	21.0%*
Some types should be legal and some should be illegal	65.7%	63.1%	68.2%*	78.4%	68.5%	64.5%	52.7%*	66.7%	62.4%*
All types of gambling should be legal	20.1%	22.9%	17.5%*	13.5%	20.6%	21.2%	21.7%*	21.1%	16.6%*

*p < .01

People who reported that some forms of gambling should be legal and some forms should be illegal were asked which specific forms should be illegal. As seen in Figure 2, the most commonly identified ones are betting on animal fighting (76.3%), followed by Internet gambling (27.1%), electronic gambling machines (21.4%), and casino table games (16.6%).

Figure 2. Specific Types of Gambling that should be Illegal (Telephone Sample; *n* = 2,587).
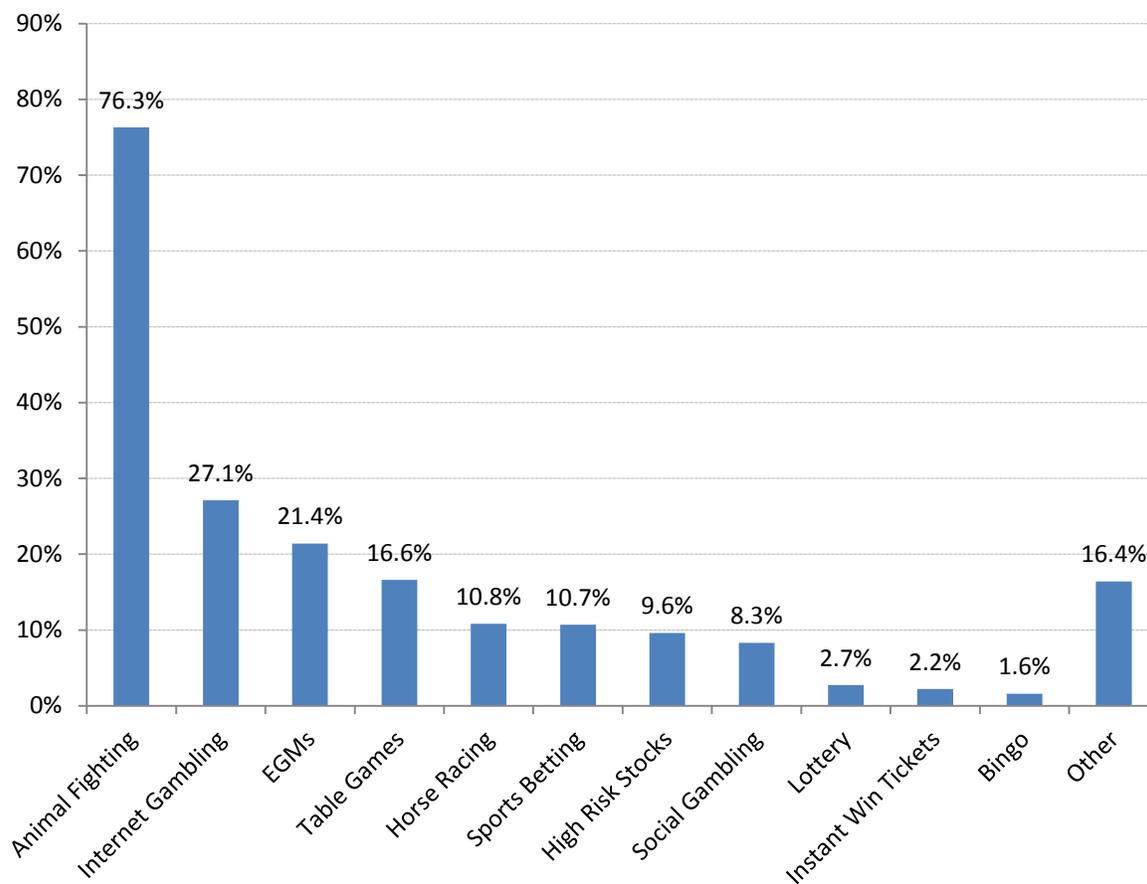
Gambling Participation

Table 7 shows the percentage of people who reported participation in the 13 different forms of gambling in the past year. Standard deviations are reported in brackets. An asterisk in the last column of each demographic variable indicates a significant difference at the $p < .01$ level (Chi Square test used for nominal variables; t-test used for continuous variables).

A total of 82.9% of Ontario adults report participating in one or more of these 13 types of gambling in the past year. However, as can be seen, lotteries and raffle tickets are the only 'normative' form of gambling among Ontario residents, with 61.4% and 49.7% of people participating respectively. All other forms of gambling are engaged in to a much lesser extent. For the 0.4% of people who reported engaging in 'other' forms of gambling, the most common forms reported were wagering on cock fighting (43.8%) and dog fighting (11.1%).

There are wide ranging gender differences in gambling participation, with males having higher rates of overall participation, as well as participation in lotteries, social gambling[13], casinos outside of Ontario, sports betting, casino table games, Internet gambling, high risk stocks, and 'other' forms of gambling. Females have significantly higher rates of participation in raffle tickets, instant win tickets, and bingo. The average number of formats engaged in for all participants is 2.18, with males engaging in a wider variety of games (2.37) compared to females (2.02).

There are also wide ranging age differences in participation, with older people having higher rates of participation in lottery tickets, raffle tickets, and lower rates of participation in instant win tickets, social gambling, sports betting, casino table games, bingo (relative to age 18-24), and Internet gambling. Older people also engage in fewer total gambling formats. People aged 45 – 64 have the highest overall rate of gambling participation (86.6%).

People of European ancestry have higher levels of overall gambling participation compared to people of non-European ancestry, and are more likely to purchase lottery, raffle, and instant win tickets, but are less likely to play casino table games, bingo, and bet on horse racing. Non-European ancestry also predicts engaging in more gambling formats compared to European ancestry.

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[13] Defined as "gambling or betting money against other people on things such as poker, other card games; golf, pool, darts, bowling; video games; board games, etc."

Table 7. Gambling Participation in the Past Year among All Adults (Telephone Sample; _n_ = 4,035).

	Overall	Male	Female	Age 18 - 24	Age 25 - 44	Age 45 - 64	Age 65+	European Ancestry	Non-European Ancestry
Lottery Tickets	61.4%	65.3%	58.0%*	41.0%	62.8%	70.2%	54.7%*	63.5%	54.5%*
Raffle Tickets	49.7%	47.5%	51.8%*	38.3%	49.6%	55.2%	46.6%*	53.5%	36.2%*
Instant Win Tickets	30.4%	26.4%	34.1%*	35.5%	33.2%	31.5%	18.7%*	31.9%	25.1%*
Electronic Gambling Machines	20.5%	19.5%	21.5%	20.6%	19.9%	21.5%	19.6%	21.1%	18.7%
Social Gambling	15.7%	23.5%	8.6%*	30.0%	20.8%	10.9%	5.2%*	16.6%	12.5%
Casinos outside of Ontario	10.1%	11.6%	8.7%*	11.3%	10.9%	9.8%	8.1%	10.1%	10.1%
Sports Betting	9.0%	14.8%	3.7%*	16.9%	10.8%	6.8%	4.1%*	9.1%	8.4%
Casino Table Games	5.9%	9.4%	2.8%*	12.6%	6.9%	4.2%	2.5%*	5.3%	8.1%*
Bingo	4.6%	2.5%	6.5%*	8.9%	3.1%	4.4%	4.7%*	4.1%	6.4%*
Horse Race Betting	4.2%	4.8%	3.7%	2.3%	4.2%	4.7%	4.4%	4.8%	2.2%*
Internet Gambling	1.9%	3.1%	0.9%*	4.9%	2.5%	1.2%	0.1%*	2.1%	1.5%
High Risk Stocks	4.6%	7.7%	1.8%*	3.7%	5.3%	5.0%	3.3%	4.2%	6.2%
Other Forms of Gambling	0.4%	0.7%	0.1%*	0.6%	0.7%	0.3%	0%	0.5%	0%
Any Gambling in Past Year	82.9%	84.8%	81.3%*	76.9%	84.3%	86.6%	76.7%*	84.6%	77.2%*
Average Number of Gambling Formats Engaged in	2.18 (1.7)	2.37 (1.8)	2.02 (1.6)*	2.27 (2.1)	2.31 (1.7)	2.26 (1.6)	1.72 (1.5)*	1.79 (1.9)	2.20 (1.7)*

Note: Cell contents represent either percentage of the sample or mean and standard deviation (in brackets).
* _p_ < .01

Weekly or more participation in gambling in the past year presents a somewhat different picture. As seen in Table 8, only 22.0% of the population report participating in some form of gambling on a weekly or more frequent basis, with most of this weekly activity consisting of weekly lottery ticket purchase.

Males are significantly ($p < .01$) more likely to participate in weekly gambling compared to females, as well as in weekly lottery ticket purchase, social gambling, sports betting, horse race betting, and high risk stocks. Females are significantly more likely to participate in weekly bingo.

Older people are significantly more likely to participate in weekly gambling compared to younger people, although this is primarily due to a greater propensity for weekly lottery purchase and bingo. By comparison, younger people are significantly more likely to participate in weekly social gambling and sports betting.

There is no significant difference in overall weekly gambling as a function of ancestry, although non-European ancestry is associated with higher rates of weekly EGM play, casino table games, and high risk stocks.

Table 8. Weekly or More Gambling Participation in the Past Year among All Adults (Telephone Sample; *n* = 4,035).

	Overall	Male	Female	Age 18 - 24	Age 25 - 44	Age 45 - 64	Age 65+	European Ancestry	Non-European Ancestry
Lottery Tickets	17.6%	20.4%	15.0%*	3.9%	13.8%	23.8%	21.7%*	17.9%	16.7%
Raffle Tickets	0.9%	1.4%	0.6%	0.8%	1.2%	1.0%	0.9%	1.0%	1.1%
Instant Win Tickets	3.4%	3.4%	3.4%	3.7%	2.9%	3.8%	3.4%	3.4%	3.8%
Electronic Gambling Machines	0.7%	0.6%	0.8%	1.0%	0.4%	0.7%	1.3%	0.5%	1.5%*
Social Gambling	1.7%	3.1%	0.5%*	3.1%	2.1%	0.9%	1.6%*	1.9%	1.0%
Casinos outside of Ontario	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sports Betting	1.8%	3.4%	0.4%*	3.5%	2.6%	1.1%	0.6%*	2.0%	1.4%
Casino Table Games	0.2%	0.3%	0.05%	0.4%	0.2%	0.1%	0.1%	0.1%	0.5%*
Bingo	0.7%	0.3%	1.2%*	1.2%	0.2%	0.7%	1.9%*	0.7%	1.0%
Horse Race Betting	0.3%	0.5%	0.04%*	0%	0.1%	0.4%	0.3%	0.3%	0.2%
Internet Gambling	Not asked	Not asked	Not asked	Not asked	Not asked	Not asked	Not asked	Not asked	Not asked
High Risk Stocks	0.7%	1.4%	0.1%*	0.4%	1.3%	0.5%	0.4%	0.5%	1.5%*
Other Forms of Gambling	0.1%	0.1%	0%	0%	0.1%	0.1%	0%	0.1%	0%
Any Weekly Gambling in Past Year	22.0%	26.1%	17.8%*	13.2%	18.4%	26.8%	25.3%*	22.4%	21.0%

* *p* < .01

Table 9 shows weekly (or more) gambling participation *among people who participate in that particular form in the past year.* What this table illustrates is that weekly participation is more prevalent for some types of gambling compared to others. More specifically, weekly or more participation tends to be significantly ($p < .01$) more common among people who engage in lottery ticket purchase, sports betting, bingo, and high risk stocks. No one patronizes out-of-province casinos on a weekly basis. Rather, for the 10.1% of people who visited a casino outside of Ontario in the past year, the average number of visits in that year was 2.25 (4.37 *SD*) (median = 1; mode = 1).

Males who participated in lottery tickets, raffle tickets, social gambling, and horse race betting are significantly more likely to engage in these activities on a weekly basis than are females who engage in these activities.

Older people who participate in lottery tickets, social gambling, and bingo are significantly more likely to engage in these activities on a weekly basis than younger people who engage in these activities.

People with non-European ancestry who play EGMs are significantly more likely to engage in EGM play on a weekly basis compared to EGM players with a European ancestry.

Of final note, all participants were also asked whether their gambling had increased, decreased, or stayed the same compared to previous years. A total of 78.8% of gamblers said "the same", 14.6% said "decreased", and 6.5% said "increased".

Table 9. Weekly or More Gambling Participation in the Past Year among People who Participated in that Particular Form (Telephone Sample).

	Overall	Male	Female	Age 18 - 24	Age 25 - 44	Age 45 - 64	Age 65+	European Ancestry	Non-European Ancestry
Lottery Tickets	28.7%	31.4%	26.0%*	9.5%	22.1%	33.9%	39.6%*	28.2%	30.6%
Raffle Tickets	2.0%	3.0%	1.2%*	2.0%	2.4%	1.8%	1.9%	3.1%	1.8%
Instant Win Tickets	11.2%	13.0%	10.0%	10.4%	8.8%	12.1%	18.1%	10.5%	14.9%
Electronic Gambling Machines	3.6%	3.2%	4.0%	4.7%	2.3%	3.4%	6.8%	2.6%	7.9%*
Social Gambling	10.9%	12.9%	6.0%*	10.3%	10.0%	8.5%	30.6%*	11.3%	8.2%
Casinos outside of Ontario	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sports Betting	20.7%	23.2%	11.5%	20.7%	24.1%	16.7%	14.3%	21.6%	16.2%
Casino Table Games	2.9%	3.3%	1.7%	3.1%	3.2%	1.6%	5.6%	1.2%	5.6%
Bingo	17.2%	12.2%	19.0%	13.3%	7.1%	14.9%	40.6%*	16.9%	16.4%
Horse Race Betting	5.9%	9.9%	1.3%*	0%	3.6%	8.5%	6.7%	5.3%	11.1%
Internet Gambling	Not asked	Not asked	Not asked	Not asked	Not asked	Not asked	Not asked	Not asked	Not asked
High Risk Stocks	16.0%	18.2%	7.9%	10.5%	24.3%	9.5%	13.6%	12.8%	24.1%
Other Forms of Gambling	5.9%	7.1%	0%	0%	10.0%	0%	0%	5.9%	5.9%

* $p < .01$

Gambling Expenditure

Reports of gambling expenditure tend to be less reliable and valid than reports of gambling participation (Wood & Williams, 2007). However, certain procedures have been shown to produce a reasonable approximation to gambling expenditure as recorded in daily diaries as well as actual jurisdictional gambling revenue (Wood & Williams, 2007). One of these procedures is a question wording that implies a loss ("how much do you *spend* on [gambling format] in a typical month"). Another procedure is excluding the small number of people who report *winning* in a typical month from the aggregate expenditure calculations (except for high risk stocks, where people reporting net wins are included).[14] Both of these procedures were used in the present study. The resultant match between per adult revenue from government-sponsored gambling in Ontario [15] in fiscal 2010/2011 ($511.83) and average per person reported yearly expenditure on government-sponsored gambling ($450.75), is 88.1%. The detailed calculations for this are presented in Appendix D.

Table 10 reports the average reported 'typical month' spending on each form of gambling for the entire sample as a function of gender, age, ancestry, and income group (i.e., includes people who do not gamble as well as people who did not gamble on that form). As can be seen, average expenditure on high-risk stocks is the highest ($17.01), followed by lottery tickets ($9.30), electronic gambling machines ($9.12), and casinos outside of Ontario ($9.04). Average *total* monthly expenditure on all forms of gambling is $75.16 when including high-risk stocks, and $58.14 when excluding them. (The remainder of this section will focus on total expenditure *excluding* high-risk stocks because of the magnitude to which expenditure on this form of gambling distorts the overall averages).

Males report much higher average total spending on gambling ($80.98) compared to females ($37.41). This is due to the fact that males have higher average levels of expenditure on all forms of gambling except for electronic gambling machines and bingo, where female expenditure is higher.

Younger adults, particularly 18 to 24 year olds, have higher average total gambling expenditure compared to older adults. Here again, this is primarily due to the fact that younger people have higher expenditure on most individual forms of gambling, with the exception of lottery tickets, electronic gambling machines, and horse race betting, where older people tend to have higher expenditure.

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[14] In the present study, the following percentage of people report a net win in a typical month: lotteries (1.3%); raffles (0.3%); instant win tickets (0.3%); sports betting (3.4%); horse racing (0.6%); bingo (2.2%); EGMs (1.8%); casino table games (3.4%); casinos outside of Ontario (2.6%); social gambling (3.4%); Internet gambling (5.1%); 'other forms of gambling' (20%); and high risk stocks (66.9%).

[15] That is: lottery tickets; raffle tickets; instant win tickets; electronic gambling machines; sports betting; casino table games; bingo, and horse race betting.

European versus non-European ancestry is a less strong predictor of gambling expenditure. The most noticeable differences occur for casino table games, sports betting, bingo, and high-risk stocks, where people with non-European ancestry have higher levels of expenditure. Spending on social gambling, 'other' forms of gambling, and Internet gambling tends to be higher in people with European ancestry.

Average monthly gambling expenditure increases as a function of a person's income group, from an average of $41.09 in people making less than $20,000 a year to $151.05 in people making more than $100,000 a year. This pattern of increased expenditure with income also occurs for most individual forms of gambling. The exceptions to this are instant win tickets, bingo, horse race betting, where people with lower incomes have higher average monthly expenditure relative to people with high incomes. Middle income earners tend to have the highest average expenditure on electronic gambling machines.

Table 10. Average 'Typical Month' Gambling Losses in the Past Year for All Adults (Telephone Sample *n* = 4,035).

	Mean	Male Mean	Female Mean	Age 18 – 24 Mean	Age 25 – 44 Mean	Age 45 – 64 Mean	Age 65+ Mean	European Ancestry Mean	Non-European Ancestry Mean	<$20K Income Mean	$20K - $49.9K Income Mean	$50K - $99.9K Income Mean	$100K+ Income Mean
Lottery Tickets	$9.30	$11.55	$7.26	$4.68	$8.23	$11.46	$10.14	$9.41	$8.97	$6.50	$10.32	$10.26	$11.93
Raffle Tickets	$4.80	$6.27	$3.47	$3.73	$4.17	$5.88	$4.46	$4.31	$6.37	$2.96	$3.98	$7.09	$7.56
Instant Win Tickets	$2.95	$2.97	$2.93	$4.59	$2.78	$3.03	$1.83	$2.73	$3.61	$3.35	$3.16	$2.89	$2.17
Electronic Gambling Machines	$9.12	$8.72	$9.48	$7.81	$6.90	$10.22	$12.04	$9.00	$9.58	$6.10	$13.06	$10.00	$6.57
Social Gambling	$5.41	$10.58	$0.73	$23.10	$4.22	$2.52	$0.77	$5.96	$3.48	$2.52	$2.54	$3.93	$29.74
Casinos outside of Ontario	$9.04	$11.54	$6.78	$6.22	$11.22	$10.27	$4.16	$9.40	$7.82	$3.72	$4.06	$13.05	$26.27
Sports Betting	$2.80	$4.97	$0.82	$8.21	$3.41	$1.44	$0.50	$2.07	$5.41	$3.87	$1.70	$2.03	$6.79
Casino Table Games	$6.23	$11.12	$1.81	$14.12	$7.07	$4.38	$2.72	$3.62	$15.66	$6.51	$7.84	$4.04	$8.60
Bingo	$1.68	$0.33	$2.90	$2.91	$0.75	$1.95	$1.98	$1.28	$3.12	$3.50	$1.62	$0.90	$0.23
Horse Race Betting	$0.69	$0.92	$0.47	$0.35	$0.71	$0.67	$0.95	$0.83	$0.19	$0.89	$0.64	$0.63	$0.57
Internet Gambling	$3.23	$5.96	$0.75	$18.60	$1.23	$1.20	$0	$3.70	$1.57	$0.56	$1.53	$1.71	$24.05
High Risk Stocks (net loss/win)	$17.01	$71.11	+$32.06	$587.71	+$103.68	+$40.64	$50.12	+$89.49	$398.78	+$33.12	+$13.27	$20.18	+$532
Other Forms of Gambling	$2.89	$6.06	$.01	$0.42	$1.26	$6.47	$0	$3.68	$.04	$0.61	$1.23	$.01	$26.57
Total Expenditure on All Forms	$75.16	$152.09	$5.35	$682.45	+$51.73	$18.85	+$10.55	$33.50	$464.57	$7.97	$38.40	$76.73	+$381.65
Total Expenditure on All Forms Except Stocks	$58.14	$80.98	$37.41	$94.74	$51.95	$59.49	$39.57	$55.99	$65.79	$41.09	$51.68	$56.55	$151.05

p < .01

Table 11 reports average 'typical month' spending on each form of gambling *for people who reported participating in that form in the past year*. Because statistical outliers have a large influence on the averages, <u>median</u> spending on each form is presented in Table 12. Average total gambling expenditure for anyone who engaged in gambling in the past year is $91.51 when including high-risk stocks, and $71.05 when excluding them. Average expenditure is highest on 'other forms of gambling' ($583.51), followed by high-risk stocks ($473.46), Internet gambling ($174.20), and casino table games ($109.86). Median spending is much lower, with total median expenditure being $17.00 when including high-risk stocks, and $18.00 when excluding them. The highest median expenditure occurs for casinos outside of Ontario ($29.17), electronic gambling machines ($20.00), and casino table games ($20.00).

For the 10.1% of people who visited a casino outside of Ontario, the average amount spent per visit (gambling and travel costs) is $662.54 ($1030.36 *SD*). Multiplying this by the average of 2.25 visits per year, the average *annual* expenditure on out-of-province casinos is roughly $1,144.51. Statistics Canada estimated there to be 10,514,735 Ontario adults (18+) in July 2011. If we assume that 10.1% of these people (106,199) spend $1,144.51 each, then approximately $1,215,456,155 is spent outside of Ontario each year. The most popular destinations are Nevada (32.0%), another U.S. state (27.0%), another Canadian province (21.5%), outside of the continental U.S. and Canada (9.0%), on a cruise ship (7.7%), and Atlantic City in New Jersey (2.6%).

Mann-Whitney U tests were used to determine whether there was a significant difference in gambling expenditure as a function of gender or ancestry. Kruskal Wallis tests were used to determine whether significant differences occurred for age and income group. An asterisk in the last column of each demographic variable indicates a significant difference at the $p < .01$ level.

Total monthly gambling expenditure is significantly higher for male gamblers compared to female gamblers. Male gamblers also have significantly higher expenditure on lottery tickets, raffle tickets, instant win tickets, and social gambling. Female gamblers have significantly higher expenditure on bingo.

Younger gamblers have significantly higher total monthly gambling expenditure compared to older gamblers. However, older gamblers have significantly higher expenditure on lottery tickets and electronic gambling machines.

Gamblers with a non-European ancestry have significantly higher total monthly gambling expenditure compared to gamblers with a European ancestry. Non-European ancestry is also a significant predictor of higher expenditure on raffle tickets, instant win tickets, sports betting, and high risk stocks.

Higher income is predictive of significantly higher total gambling expenditure when excluding high-risk stocks from the total. However, this did not hold true when including high-risk stocks, as people reporting an income of $100,000 or higher report significant net winnings from this form of gambling. Higher income gamblers also have significantly higher expenditure on social gambling and casinos outside of Ontario.

Table 11. Average 'Typical Month' Gambling Losses in the Past Year among People who Participated in that Particular Form (Telephone Sample).

	Mean	Male Mean	Female Mean	Age 18 – 24 Mean	Age 25 – 44 Mean	Age 45 – 64 Mean	Age 65+ Mean	European Ancestry Mean	Non-European Ancestry Mean	<$20K Income Mean	$20K - $49.9K Income Mean	$50K - $99.9K Income Mean	$100K+ Income Mean
Lottery Tickets	$15.49	$18.17	$12.78*	$11.86	$13.31	$16.62	$19.33*	$15.18	$16.82	$14.06	$16.70	$14.43	$18.58
Raffle Tickets	$9.78	$13.34	$6.81*	$9.83	$8.49	$10.81	$9.79	$8.14	$17.94*	$7.63	$8.06	$12.22	$13.15
Instant Win Tickets	$9.75	$11.26	$8.68*	$13.06	$8.39	$9.68	$10.03	$8.64	$14.36*	$10.23	$9.42	$9.55	$9.25
Electronic Gambling Machines	$45.72	$45.40	$46.00	$37.90	$34.95	$48.92	$67.89*	$44.13	$52.07	$35.95	$61.34	$45.18	$35.23
Social Gambling	$36.14	$47.06	$8.91*	$81.36	$20.93	$24.57	$15.18	$37.47	$29.69	$16.09	$18.43	$20.86	$163.63*
Casinos outside of Ontario	$95.38	$102.02	$86.66	$54.92	$107.00	$116.05	$55.49	$98.72	$83.23	$64.56	$48.60	$103.54	$162.63*
Sports Betting	$32.65	$35.31	$23.10	$50.25	$33.05	$21.94	$13.54	$24.01	$65.38*	$47.00	$21.33	$20.67	$49.56
Casino Table Games	$109.86	$124.51	$66.32	$115.83	$107.68	$106.83	$110.18	$70.74	$202.56	$109.62	$174.88	$64.15	$99.66
Bingo	$37.46	$13.08	$46.36*	$32.89	$24.05	$46.74	$43.32	$32.19	$49.34	$50.67	$31.25	$32.24	$12.67
Horse Race Betting	$16.73	$20.00	$12.97	$15.08	$17.15	$14.10	$23.38	$17.67	$9.02	$38.98	$18.01	$11.36	$10.19
Internet Gambling	$174.20	$207.43	$81.07	$378.92	$49.14	$119.92	$10.00	$188.73	$105.64	$23.35	$83.71	$80.97	$972.91
High Risk Stocks (net loss/win)	$473.46	$1131	+$2829	$18328	+$2483	+$1029	+$2638	+$2738	$8418*	+$2558	+$605	$453	+$4625
Other Forms of Gambling	$583.51	$730.23	$2.73	$53.40	$191.92	$1502.06	$0	$616.16	$30.00	$94.71	$239.54	$2.55	$2400
Total Expenditure on All Forms	$91.51	$180.75	$6.67*	$887.57	+$62.00	$21.94	$14.05*	+$40.02	$606.32*	$10.50	$46.28	$86.45	+448.26*
Total Expenditure on All Forms Except Stocks	$71.05	$96.85	$46.65*	$123.21	$62.68	$69.50	$52.69*	$67.09	$86.39*	$54.27	$62.40	$63.93	$179.68*

* $p < .01$

Table 12. Median 'Typical Month' Gambling Losses in the Past Year among People who Participated in that Particular Form (Telephone Sample).

	Median	Male Median	Female Median	Age 18 – 24 Median	Age 25 – 44 Median	Age 45 – 64 Median	Age 65+ Median	European Ancestry Median	Non-European Ancestry Median	<$20K Income Median	$20K - $49.9K Income Median	$50K - $99.9K Income Median	$100K+ Income Median
Lottery Tickets	$10.00	$10.00	$6.00*	$5.00	$8.00	$10.00	$10.00*	$10.00	$10.00	$6.00	$10.00	$10.00	$10.00
Raffle Tickets	$5.00	$5.00	$5.00*	$5.00	$5.00	$5.00	$5.00	$5.00	$5.00*	$5.00	$5.00	$5.00	$5.00
Instant Win Tickets	$5.00	$5.00	$5.00*	$5.00	$5.00	$5.00	$5.00	$5.00	$5.00*	$5.00	$5.00	$5.00	$5.00
Electronic Gambling Machines	$20.00	$20.00	$15.00	$15.00	$10.00	$20.00	$20.00*	$15.00	$20.00	$20.00	$20.00	$20.00	$10.00
Social Gambling	$10.00	$10.00	$5.00*	$10.00	$10.00	$20.00	$20.00	$10.00	$10.00	$5.00	$10.00	$10.00	$20.00*
Casinos outside of Ontario	$29.17	$29.17	$26.67	$10.00	$41.67	$33.33	$16.67	$25.00	$33.33	$16.67	$20.00	$50.00	$83.33*
Sports Betting	$10.00	$10.00	$10.00	$15.00	$10.00	$10.00	$10.00	$20.00	$10.00*	$15.00	$10.00	$10.00	$10.00
Casino Table Games	$20.00	$25.00	$20.00	$25.00	$20.00	$20.00	$50.00	$20.00	$30.00	$30.00	$20.00	$20.00	$30.00
Bingo	$15.00	$7.00	$20.00*	$10.00	$10.00	$20.00	$16.00	$10.00	$20.00	$10.00	$20.00	$8.00	$2.50
Horse Race Betting	$5.00	$8.00	$4.00	$10.00	$4.00	$5.00	$5.00	$5.00	$10.00	$10.00	$3.00	$5.00	$6.00
Internet Gambling	$10.00	$10.00	$10.00	$10.00	$5.00	$10.00	$10.00	$10.00	$50.00	$5.00	$16.00	$10.00	$5.00
High Risk Stocks (net loss/win)	+$200.00	+$200.00	+$30.00	+$40.00	+$100.00	+$300.00	+$200.00	+$300.00	$0*	+$300.00	+$150.00	+$100.00	+$1000
Other Forms of Gambling	$5.84	$20.00	$1.00	$30.00	$5.00	$7.00	$0	$5.00	$30.00	$100.00	$5.00	$2.00	$20.00
Total Expenditure on All Forms	$17.00	$20.00	$12.50*	$20.00	$16.00	$16.00	$15.00*	$16.00	$20.00*	$14.33	$18.00	$20.00	$20.00*
Total Expenditure on All Forms Except Stocks	$18.00	$23.00	$13.00*	$20.00	$17.00	$18.00	$15.00*	$17.00	$20.00*	$15.00	$19.00	$20.00	$22.00*

* $p < .01$

Gambling Motivation

A single question assessed motivation for gambling among the people who had gambled in the past year: "What would you say is the main reason that you gamble?" As seen in Table 13, by far the most common reported reason was for fun/entertainment/excitement (40.5%), followed by to win money (23.2%), to socialize with family or friends (17.1%), to support worthy causes (12.7%), to escape or distract oneself (2.3%), because it makes you feel good about yourself (0.8%), and 'other' (2.2%). Chi square tests were used to establish whether there were any significant differences ($p < .01$) in motivation as a function of gender, age, and ancestry.

Small, but significant differences are observed between the motivations for male gamblers versus female gamblers, with males reporting that they gambled to win money more often than females and females reporting they gambled to support worthy causes more often.

Significant motivational differences as a function of age are also observed, with younger gamblers more likely to report that they gambled for fun/excitement and to socialize, and older people gambling to support worthy causes.

Gamblers with a European ancestry are significantly more likely to report that they gambled to win money, and significantly less likely to report gambling to support worthy causes.

Table 13. Main Reason for Gambling among Gamblers (Telephone Sample; *n* = 3,033).

	Overall	Male	Female	Age 18 - 24	Age 25 - 44	Age 45 - 64	Age 65+	European Ancestry	Non-European Ancestry
Fun/Excitement	40.5%	39.6%	41.3%	50.1%	40.2%	38.4%	38.5%*	40.7%	39.3%
To Win Money	23.2%	25.1%	21.3%*	12.9%	24.6%	25.4%	22.9%*	21.8%	28.7%*
To Socialize	17.1%	16.9%	17.4%	25.3%	19.0%	13.3%	16.1%*	16.8%	18.3%
To Support Worthy Causes	12.7%	11.0%	14.4%*	6.5%	10.9%	15.4%	14.7%*	14.3%	6.6%*
To Escape/Distract Oneself	2.3%	2.3%	2.2%	1.6%	1.7%	3.5%	0.9%*	2.4%	1.9%
To Feel Good About Myself	0.8%	1.4%	0.3%	1.1%	0.6%	0.8%	1.4%	0.7%	1.1%
Other	2.2%	2.4%	2.0%	1.6%	2.1%	2.3%	2.7%	2.0%	2.9%

* *p* < .01

Problem Gambling

As mentioned earlier, two measures of problem gambling were used in the present study, the Problem Gambling Severity Index (PGSI) from the Canadian Problem Gambling Index (CPGI) (Ferris and Wynne, 2001), and the Problem and Pathological Gambling Measure (PPGM) (Appendix C) (Williams & Volberg, 2010, 2013). There are four categories in the PGSI: Non-Problem Gambler; At-Risk Gambler Moderate Risk Gambler; and Severe Problem Gambler. There are also four categories in the PPGM: Recreational Gambler; At-Risk Gambler; Problem Gambler; and Pathological Gambler. (For the purposes of this report, the term 'problem gambler' will be used to refer to PPGM problem and pathological gamblers collectively and the term 'non-problem gambler' will be used to refer to PPGM recreational and at-risk gamblers collectively.)

Table 14 documents the gambling categorizations from the PGSI. In addition to the usual PGSI categorizations (0 = non-problem gambler; 1-2 = at-risk gambler; 3-7 = moderate risk gambler; 8+ = problem gambler), the percentage of people who scored five or higher is also reported, as research has shown this level to be a better demarcation of clinically assessed problem gambling (Williams & Volberg, 2010, 2013). By either the 5+ or 8+ measure, the rate of problem gambling in Ontario as measured by the PGSI is quite low.[16] (Using a 5+ rate translates into an estimated 105,147 adult problem gamblers in Ontario.)

Table 14. PGSI Gambling Categorizations (Telephone Sample; *n* = 4,035).

Non-Gambler	17.1%
PGSI Non-Problem Gambler	75.8%
PGSI At Risk Gambler	4.6%
PGSI Moderate Risk Gambler	1.9%
PGSI Problem Gambler	0.6%
PGSI 5+ Problem Gambler	1.0%

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[16] The corresponding classifications from the Online Panel sample are as follows: 10.0% Non-Gambler; 62.4% Non-Problem Gambler; 14.0% At Risk Gambler; 8.8% Moderate Risk Gambler; 4.8% Problem Gambler; 8.2% PGSI 5+.

Table 15 documents the gambling categorizations from the PPGM. The overall PPGM prevalence of problem gambling is 2.2%.[17] This translates into an estimated 231,324 adult problem gamblers in Ontario.

Table 15. PPGM Gambling Categorizations (Telephone Sample; *n* = 4,035).

PPGM Non-Gambler	17.1%
PPGM Recreational Gambler	74.4%
PPGM At Risk Gambler	6.3%
PPGM Problem Gambler	1.4%
PPGM Pathological Gambler	0.8%

Statistical tests were used to determine whether PPGM problem gamblers differed from PPGM non-problem gamblers on any demographic variables. Table 16 documents these comparisons. As can be seen, problem gamblers in Ontario are significantly more likely to be male, younger (particularly age 18 – 25), single, not have children, to have fewer number of children, and to have non-European ancestry.

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[17] The corresponding classifications from the Online Panel sample are as follows: 10.0% Non-Gambler; 64.9% Recreational Gambler; 14.6% At Risk Gambler; 4.7% Problem Gambler; 5.8% Pathological Gambler.

Table 16. Demographic Differences between PPGM Non-Problem Gamblers versus PPGM Problem Gamblers (Telephone Sample, *n* = 3,346).

	PPGM Non-Problem Gamblers (*n* = 3,257)	PPGM Problem Gamblers (*n* = 89)	Significance (2 tail)
Male	48.1%	66.3%*	Chi Square (1df) = 11.4, *p* = .001
Age 18 – 25	11.5%	24.7%*	
Age 25 – 44	33.7%	33.7%	Chi Square (3df) = 17.9, *p* < .001
Age 45 – 64	39.1%	34.8%	
Age 65 and older	15.8%	6.7%	
Single (never married)	19.4%	39.3%*	
Common-law or Married	66.1%	48.3%	Chi Square (2df) = 21.7, *p* < .001
Separated, Divorced, or Widowed	14.4%	12.4%	
Have children	71.9%	50.0%*	Chi Square (11df) = 24.3, p = .012
Average number of children	1.71 (1.4)	1.06 (1.3)*	*t* (3336) = 4.11, *p* < .001
Less than High School	6.3%	10.1%	
High School &/or Trades Certificate	29.4%	37.1%	
College Diploma	28.3%	23.6%	Chi Square (4df) = 6.07, *p* = .194
University Bachelor's Degree	26.0%	19.1%	
University Degree > Bachelor's Degree	10.0%	10.1%	
Unemployed	3.7%	5.6%	
Retired and not Working	18.4%	11.2%	
Homemaker	3.0%	1.1%	
Full Time Student	4.3%	4.5%	Chi Square (6df) = 13.4, *p* = .038
Sick leave, maternity leave, disability	4.2%	9.0%	
Employed Part Time	11.8%	19.1%	
Employed Full Time	54.7%	49.4%	
Income under $20,000	23.0%	35.7%	
Income $20,000 - $49,999	32.4%	34.5%	Chi Square (3df) = 9.8, *p* = .020
Income $50,000 - $99,999	33.5%	22.6%	
Income $100,000 or more	11.1%	7.1%	
Born in Canada	25.0%	27.0%	Chi Square (1df) = .18, *p* = .710
European Ancestry	80.2%	59.6%*	Chi Square (1df) = 22.9, *p* < .001
South Asian Ancestry	4.7%	12.4%*	Chi Square (1df) = 10.9, *p* = .001
East Asian Ancestry	5.6%	8.9%	Chi Square (1df) = 1.82, *p* = .177
Aboriginal, Inuit, or Métis Ancestry	4.4%	9.0%	Chi Square (1df) = 4.33, *p* = .037
Middle Eastern Ancestry	2.4%	4.5%	Chi Square (1df) = 1.53, *p* = .216
African Ancestry	2.0%	4.5%	Chi Square (1df) = 2.54, *p* = .109
Latin American Ancestry	1.9%	3.4%	Chi Square (1df) = .98, *p* = .323
Other Ancestry	1.9%	2.2%	Chi Square (1df) = .05, *p* = .816

Note: Cell contents represent either percentage of the sample or mean and standard deviation (in brackets).

* *p* < .01

Table 17 documents the health, mental health, and addiction differences between PPGM Non-Problem Gamblers versus PPGM Problem Gamblers. Problem gamblers are significantly more likely to be users of tobacco and street drugs; to report additional behavioural addiction(s); and to report poorer general health; higher stress; and "serious problems with depression, anxiety or other mental health problems in the past 12 months". For individuals who did report a behavioural addiction, problem gamblers are significantly less likely than non-problem gamblers to report 'overeating', and a nonsignificant ($p < .01$) tendency to report increased rates of sex addiction and shopping addiction.

Table 17. Health, Mental Health, and Addiction Differences Between PPGM Non-Problem Gamblers versus PPGM Problem Gamblers (Telephone Sample, n = 3,346).

	PPGM Non-Problem Gamblers (n = 3,257)	PPGM Problem Gamblers (n = 89)	Significance (2 tail)
Tobacco User	25.5%	52.8%*	Chi Square (1df) = 33.4, p < .001
Alcohol User	82.7%	76.7%	Chi Square (1df) = 2.2, p = .14
Street Drug User	6.4%	13.5%*	Chi Square (1df) = 7.0, p = .008
Drug or Alcohol Problems	1.3%	3.4%	Chi Square (1df) = 2.9, p = .09
Any Behavioural Addiction	8.3%	31.1%*	Chi Square (1df) = 56.1, p < .001
Overeating Addiction	66.1%	22.2%*	Chi Square (1df) = 15.2, p < .001
Sex or Pornography Addiction	6.7%	17.9%	Chi Square (1df) = 4.5, p = .035
Shopping Addiction	14.4%	29.6%	Chi Square (1df) = 4.2, p = .04
Exercise Addiction	7.0%	3.7%	Chi Square (1df) = .43, p = .51
Internet Chat Line Addiction	4.1%	3.6%	Chi Square (1df) = .02, p = .90
Video or Internet Gaming Addiction	4.8%	0%	Chi Square (1df) = 1.4, p = .24
Other Addiction	12.5%	22.2%	Chi Square (1df) = 2.0 p = .16
General Health (1=excellent; 4=poor)	1.99 (.75)	2.32 (.84)*	t (3343) = 2.70, p = .007
Level of Stress (1=very low; 5=very high)	3.08 (1.0)	3.39 (1.1)*	t (3345) = 4.16, p < .001
Any Mental Health Problems	14.2%	25.8%*	Chi Square (1df) = 9.5, p = .002

Note: Cell contents represent either percentage of the sample or mean and standard deviation (in brackets).

* p < .01

Table 18 describes the attitudinal differences between PPGM Non-Problem Gamblers versus Problem Gamblers. No significant differences are observed for any attitudes ($p < .01$).

Table 18.   Attitudinal Differences between PPGM Non-Problem Gamblers versus PPGM Problem Gamblers (Telephone Sample, *n* = 3,346).

	PPGM Non-Problem Gamblers (*n* = 3,257)	PPGM Problem Gamblers (*n* = 89)	Significance (2 tail)
Gambling harm far outweighs benefits	35.3%	37.5%	
Harm somewhat outweighs the benefits	31.5%	22.7%	
Gambling benefits are equal to harm	22.8%	23.9%	Chi Square (4df) = 7.2, *p* = .13
Benefits somewhat outweigh harm	6.9%	8.0%	
Gambling benefits far outweigh harm	3.5%	8.0%	
Gambling is morally wrong	19.3%	27.0%	
Unsure	1.7%	1.1%	Chi Square (2df) = .6, *p* = .74
Gambling is not morally wrong	79.0%	71.9%	
All types of gambling should be illegal	9.6%	7.9%	
Some types of gambling should be illegal	69.7%	66.3%	Chi Square (2df) = 1.6, *p* = .46
All types of gambling should be legal	20.6%	25.8%	
Gambling is too widely available	34.3%	40.0%	
Current availability is fine	62.9%	53.3%	Chi Square (2df) = 6.6, *p* = .04
Gambling is not available enough	2.8%	6.7%	

Table 19 compares gambling behaviour between PPGM Non-Problem Gamblers versus PPGM Problem Gamblers. Problem gamblers are significantly more likely to participate in *all* forms of gambling except: lottery tickets; raffle tickets; and horse race betting. The number of formats they engage in is also significantly higher (4.33 versus 2.59).

Compared to other gamblers, problem gamblers also have a higher frequency of involvement in all gambling formats except out-of-province casinos; bingo; horse race betting; high risk stocks; and 'other' forms of gambling.

Finally, problem gamblers also have higher total monthly gambling expenditure ($618.31 versus $55.85) as well as expenditure in all individual formats except: horse race betting, high-risk stocks, and 'other' forms of gambling.

Problem gamblers account for 24.1% of total reported government-sponsored gambling expenditure (i.e., not including out-of-province casinos, social gambling, Internet gambling, high risk stocks, and 'other' forms of gambling). With regard to expenditure on individual formats they account for 56.9% of casino table games; 50.5% of 'other' forms of gambling; 33.2% of sports betting; 31.2% of EGMs; 23.7% of bingo; 23.2% of horse racing; 18.6% of Internet gambling; 11.7% of instant win; 11.0% of out-of-province casinos; 10.5% of social gambling; 7.0% of lotteries; 3.8% of raffle tickets; and 1.0% of high risk stocks. (Note: the 1% for high risk stocks is due to the fact that many problem gamblers report net wins).

Table 19. Gambling Behaviour Differences between PPGM Non-Problem Gamblers versus PPGM Problem Gamblers (Telephone Sample, *n* = 3,346).

	PPGM Non-Problem Gambler (*n* = 3,258)	PPGM Problem Gambler (*n* = 89)	Statistical Significance (2 tail; unequal variance assumed)
Lottery Player in Past Year	74.1%	73.0%	Chi Square (1df) = .1, *p* = .82
Frequency of Lottery Play in Typical Month	1.77 (1.6)	2.58 (2.1)*	*t* (91.0) = 3.61, *p* = .001
Lottery Expenditure in Typical Month	$14.79 (28.6)	$41.84 (44.0)*	Mann-Whitney *U* = 39,101, *p* < .001
Proportion of Total Reported Lottery Expenditure	93.0%	7.0%	
Raffle Ticket Player in Past Year	60.3%	49.4%	Chi Square (1df) = 4.2, *p* = .04
Frequency of Raffle Play in Typical Month	.78 (.81)	.88 (1.2)*	*t* (90.5) = .79, *p* < .001
Raffle Expenditure in Typical Month	$9.62 (47.6)	$17.31 (27.0)*	Mann-Whitney *U* = 52,815, *p* = .011
Proportion of Total Reported Raffle Expenditure	96.2%	3.8%	
Instant Win Player in Past Year	35.9%	64.4%*	Chi Square (1df) = 30.6, *p* < .001
Frequency of Instant Win Play in Typical Month	.64 (1.1)	2.0 (1.9)*	*t* (89.8) = 6.63, *p* < .001
Instant Win Expenditure in Typical Month	$9.03 (19.3)	$24.25 (27.8)*	Mann-Whitney *U* = 54,461, *p* < .001
Proportion of Total Reported Instant Win Expenditure	88.3%	11.7%	
EGM Player in Past Year	24.0%	51.7%*	Chi Square (1df) = 35.6, *p* < .001
Frequency of EGM Play in Typical Month	.29 (.60)	1.4 (1.9)*	*t* (88.8) = 5.72, *p* < .001
EGM Expenditure in Typical Month	$33.27 (73.5)	$260.58 (272.32)*	Mann-Whitney *U* = 32,350, *p* < .001
Proportion of Total Reported EGM Expenditure	68.8%	31.2%	
Casino Table Game Player in Past Year	6.4%	34.8%*	Chi Square (1df) = 106.3, *p* < .001
Frequency of Casino Table Game Play in Typical Month	.07 (.30)	.74 (1.3)*	*t* (88.8) = 4.72, *p* < .001
Casino Table Game Expenditure in Typical Month	$54.65 (101.5)	$465.32 (690.1)*	Mann-Whitney *U* = 4,610, *p* < .001
Proportion of Total Reported Table Game Expenditure	43.1%	56.9%	
Winner's Circle Membership (among EGM or Table Game Patrons)	75.8%	65.6%	Chi Square (1df) =3.2, *p* = .074

Note: For gambling frequency, 0 = not at all; 1 = less than once/month; 2 = once/month; 3 = 2-3 times/month; 4 = once/week; 5 = 2-3 times/week; 6 = 4 or more times/week

Note: Cell contents represent either percentage of the sample or mean and standard deviation (in brackets).

* *p* < .01

	PPGM Non-Problem Gambler (*n* = 3,258)	PPGM Problem Gambler (*n* = 89)	Statistical Significance (2 tail; unequal variance assumed)
Out-of-Province Casino Patron in Past Year	11.5%	32.6%*	Chi Square (1df) = 36.4, *p* <.001
Out-of-Province Casino Trips in Past Year	2.12 (4.0)	3.89 (7.4)	*t* (29.7) = 1.27, *p* = .213
Out-of-Province Casino Expenditure in Typical Month	$91.74 (196.2)	$140.22 (158.6)*	Mann-Whitney *U* = 7,472, *p* < .001
Proportion of Total Out-of-Province Casino Expenditure	89.0%	11.0%	
Social Gambler in Past Year	18.4%	37.1%*	Chi Square (1df) = 19.7, *p* < .001
Frequency of Social Gambling in Typical Month	.31 (.81)	.98 (1.5)*	*t* (89.6) = 4.12, *p* < .001
Social Gambling Expenditure in Typical Month	$34.10 (391.9)	$73.94 (96.5)*	Mann-Whitney *U* = 12,885, *p* < .001
Proportion of Total Reported Social Gambling Expenditure	89.5%	10.5%	
Sports Bettor in Past Year	10.0%	38.9%*	Chi Square (1df) = 75.5, *p* < .001
Frequency of Sports Betting in Typical Month	.19 (.70)	1.1 (1.7)*	*t* (89.1) = 4.89, *p* < .001
Sports Betting Expenditure in Typical Month	$24.16 (50.4)	$111.47 (222.3)*	Mann-Whitney *U* = 7,869, *p* < .001
Proportion of Total Reported Sports Expenditure	66.8%	33.2%	
Bingo Player in Past Year	5.3%	14.6%*	Chi Square (1df) = 14.4, *p* < .001
Frequency of Bingo Play in Typical Month	.09 (.49)	.38 (1.1)	*t* (89.2) = 2.36, *p* = .021
Bingo Expenditure in Typical Month	$30.84 (68.2)	$121.68 (160.4)*	Mann-Whitney *U* = 2,031, *p* < .001
Proportion of Total Reported Bingo Expenditure	76.3%	23.7%	
Horse Race Bettor in Past Year	5.0%	7.9%	Chi Square (1df) = 1.4, *p* = .23
Frequency of Horse Race Betting in Typical Month	.07 (.34)	.19 (.83)	*t* (89.1) = 1.47, *p* = .146
Horse Race Betting Expenditure in Typical Month	$13.39 (22.60)	$93.77 (143.38)	Mann-Whitney *U* = 765, *p* = .153
Proportion of Total Reported Horse Racing Expenditure	76.8%	23.2%	
Internet Gambler in Past Year	2.0%	13.5%*	Chi Square (1df) = 49.9, *p* < .001
Internet Gambling Expenditure in Typical Month	$168.49 (1176.8)	$204.63 (313.2)*	Mann-Whitney *U* = 655, *p* < .001
Proportion of Total Internet Gambling Expenditure	81.4%	18.6%	

Note: For gambling frequency, 0 = not at all; 1 = less than once/month; 2 = once/month; 3 = 2-3 times/month; 4 = once/week; 5 = 2-3 times/week; 6 = 4 or more times/week.

Note: Cell contents represent either percentage of the sample or mean and standard deviation (in brackets).

* *p* < .01

	PPGM Non-Problem Gambler (n = 3,258)	PPGM Problem Gambler (n = 89)	Statistical Significance (2 tail; unequal variance assumed)
High Risk Stock Player in Past Year	5.4%	11.5%	Chi Square (1df) = 5.9, p = .015
Frequency of High Risk Stock Play in Typical Month	.10 (.53)	.50 (1.5)	t (87.0) = 2.50, p = .014
High Risk Stock Expenditure in Typical Month	$1064 (23833)	+$7092 (21075)[18]	Mann-Whitney U = 589, p = .526
Proportion of Total High Risk Stock Expenditure	99.0%	1.0%	
Other Forms of Gambling Player in Past Year	0.5%	2.2%	Chi Square (1df) = 5.5, p = .019
Frequency of Other Forms of Gambling in Typical Month	0 (.07)	.02 (.14)	t (89.4) = 1.05, p = .299
Other Forms Expenditure in Typical Month	$102.79 (276.6)	$3526.72 (873.7)	Mann-Whitney U = 45, p = .04
Proportion of Total Reported Other Game Expenditure	49.5%	50.5%	
Number of Gambling Formats Played in Past Year	2.59 (1.5)	4.33 (1.5)*	t (3345) = 10.6, p < .001 (equal variance)
Average Total Gambling Expenditure in Typical Month (not including high-risk stocks)	$55.85 (354.1)	$618.31 (1231.4)*	
Median Total Gambling Expenditure in Typical Month (not including high-risk stocks)	$16.00	$308.49*	Mann-Whitney U = 24,449, p < .001
Modal Total Gambling Expenditure in Typical Month (not including high-risk stocks)	$0	$25.00	
Average Total Government-Sponsored Gambling Expenditure in Typical Month	$36.40 (86.2)	$409.76 (547.6)*	
Median Total Government-Sponsored Gambling Expenditure in Typical Month	$15.00	$242.11*	Mann-Whitney U = 31,391, p < .001
Modal Total Government-Sponsored Gambling Expenditure in Typical Month	$0	$25.00	
Proportion of Total Reported Government-Sponsored Gambling Expenditure	75.9%	24.1%	

Note: For gambling frequency, 0 = not at all; 1 = less than once/month; 2 = once/month; 3 = 2-3 times/month; 4 = once/week; 5 = 2-3 times/week; 6 = 4 or more times/week.

Note: Cell contents represent either percentage of the sample or mean and standard deviation (in brackets).

* p < .01

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[18] PPGM problem gamblers on average reported a net win.

Table 20 presents a more detailed documentation of the impacts of problem gambling among PPGM problem gamblers from both the Telephone sample *and the Online Panel sample.*

As explained in our Method Section, although online panels are demographically representative of the population, they typically have much higher rates of mental health problems and addictions, so cannot be used to establish prevalence rates (Volberg & Williams, 2013). However, because online panel samples usually contain a much higher number of problem gamblers, samples obtained in this way have some utility in more closely examining the features of problem gamblers. Consistent with our expectation, the proportion of problem gamblers in the Online Panel sample (*n* = 433 out of 4,101) is much higher than the Telephone sample (*n* = 89 out of 4,035). Unfortunately, however, not only is the "yield" of problem gamblers higher in the Online Panel sample, but so is the average severity of problem gambling (average Total PPGM score = 4.51 for the Telephone sample versus 5.35 for the Online Panel sample, *t* (147.2) = 3.10, *p* = .002). Hence, the samples cannot be combined. Rather, the prevalence rates in the Telephone sample should be seen as the more accurate ones, with the rates in the Online Panel sample representing 'upper limits'.

As can be seen in Table 20, the types of problems most commonly reported among problem gamblers in the Telephone Sample are financial problems (36.0%) and mental health problems (29.2%), with relationship problems (16.9%), neglect of family (5.6%), and work/school problems (0%) being less commonly reported.

Bankruptcy is the most commonly reported discrete impact (4.5%) attributed to gambling among problem gamblers in the previous 12 months. If we assume there are 231,324 problem gamblers in Ontario, this would translate into roughly 10,410 bankruptcies a year. This in turn, would represent 20.6% of the 50,460 consumer insolvencies registered in Ontario in 2011 by the Office of the Superintendent of Bankruptcy Canada (2013).

Committing illegal acts (3.4%), contemplation of suicide (2.2%), and separation or divorce (1.1%) are the next most common impacts attributable to gambling. Again, assuming 231,324 problem gamblers, this would represent 7,865 illegal acts; 5,089 people contemplating suicide; and 2,545 separations and/or divorces each year attributable to gambling. There are no statistics on separation in Ontario. However, Statistics Canada (2012) reports there to be 53,222 divorce cases in civil court in Ontario in 2010/2011.

Table 20. Impacts of Problem Gambling among PPGM Problem Gamblers (Telephone and Online Samples).

	Telephone Sample (*n* = 89)	Online Panel Sample (*n* = 433)
Financial Problems	32/89 = 36.0%	273/433 = 63.0%
Mental Health Problems	26/89 = 29.2%	132/433 = 30.5%
Relationship Problems	15/89 = 16.9%	77/433 = 17.8%
Neglect of Family	5/89 = 5.6%	43/433 = 10.0%
School or Work Problems	0/89 = 0%	61/433 = 14.1%
Filed for bankruptcy due to gambling	4/89 = 4.5%	26/433 = 6.0%
Thought of committing suicide due to gambling	2/89 = 2.2%	35/433 = 8.1%
Attempted suicide due to gambling	0/89 = 0%	12/433 = 2.8%
Domestic violence due to gambling	0/89 = 0%	16/433 = 3.7%
Separation or divorce due to gambling	1/89 = 1.1%	12/433 = 2.8%
Child welfare involvement due to gambling	0/89 = 0%	11/433 = 2.6%
Lost job or quit school due to gambling	0/89 = 0%	18/433 = 4.2%
Received unemployment benefits or welfare due to gambling	0/89 = 0%	9/433 = 2.1%
Commit illegal acts due to gambling	3/89 = 3.4%	40/433 = 9.2%
Arrested due to gambling	0/89 = 0%	12/433 = 2.8%
Convicted for gambling-related offense	0/89 = 0%	6/433 = 1.4%
Incarcerated for gambling-related offense	0/89 = 0%	3/433 = 0.7%

Everyone who had a PGSI score of five or higher was automatically asked supplemental questions about the types of gambling causing the most problems, help seeking, casino self-exclusion, beliefs about what would be useful in curbing their gambling, and the length of time they have had problems with gambling. (The PGSI was used for this purpose rather than the PPGM because a much more complicated scoring algorithm is required for the PPGM). Here again, because of the relatively small number of people with PGSI 5+ within the Telephone Sample (*n* = 42), the result from the Online Panel sample (with 339 PGSI 5+ individuals) is also presented.

As seen in Table 21, only about half of people with a PGSI 5+ score indicated that there was a particular type of gambling that contributed to their problems more than others. For those who indicated there was a particularly problematic form, EGMs were the most commonly identified (by 52% of the Telephone sample and 35.8% of the Online Panel sample).

Only a minority of people wanted help for gambling problems (10.2% of the Telephone sample and 21.6% of the Online Panel sample). For those that did want help, about half actually sought help (from a wide range of different sources). A very small fraction of people entered into a casino/racino self-exclusion agreement. Those that did enter into an agreement, generally found it to be helpful.

People were asked about which things they believed would be most helpful in curbing their gambling, with the options being:

a) having less stress or fewer problems in your life
b) receiving therapy
c) better public education (e.g., more information about the odds, gambling fallacies, the signs of problem gambling, where to get help for problem gambling, etc.)
d) making gambling less available (e.g., reducing or banning casinos, reducing or banning EGMs, reducing hours of operation, reducing the number of types of gambling available, etc.)
e) more restrictions on how gambling is provided (e.g., eliminating ATMs from casinos, intervention by casino staff if they see someone has problems, greater restrictions on tobacco and alcohol, having preset spending limits on EGMs, reducing the maximum allowed bet or payout, eliminating reward programs, more effective casino self-exclusion programs, etc.)
f) other _____

The most commonly endorsed options were: having less stress, making gambling less available, and more restrictions on how gambling was provided.

The length of time that people reported having problems with gambling (for the 77.5% who acknowledged they had problems) was between 6 and 8 years on average, with a median length around 3 years and a modal length of 1 year.

Table 21. Features of PGSI 5+ Problem Gamblers (Telephone Sample and Online Sample).

	Telephone Sample (*n* = 42)	Online Panel Sample (*n* = 339)
Certain types of gambling have been more problematic than others	58.3%	35.6%
EGMs	52.0%	35.8%
Casino Table Games	11.2%	20.0%
High Risk Stocks	11.0%	9.2%
Sports Betting	10.1%	14.2%
Instant Win	8.5%	35.0%
Horse Race Betting	4.9%	5.8%
Social Gambling	4.5%	9.2%
Lotteries	0%	34.2%
Bingo	0%	12.5%
Other	12.8%	5.8%
Wanted help for gambling problems in the past 12 months	10.2%	21.6%
Sought help for gambling problems in past 12 months	63.6%	48.8%
Telephone helpline	74.1%	13.9%
Friends	25.9%	36.1%
Family	0%	47.2%
Gamblers Anonymous	0%	33.3%
Counseling Service	0%	33.3%
Family Doctor	0%	25.0%
Psychologist	0%	16.7%
Psychiatrist	0%	8.3%
Pastor/minister/priest	0%	5.6%
Self-excluded from an Ontario casino or racetrack in past 12 months	1.5%	6.5%
Self-exclusion was helpful	0%	83.2%
Having less stress/problems would be helpful in curbing my gambling	22.6%	40.6%
Making gambling less available would be helpful in curbing my gambling	31.0%	22.9%
Restricting how gambling is provided would be helpful in curbing my gambling	29.1%	9.4%
Better public education would be helpful in curbing my gambling	10.8%	13.5%
Receiving therapy would be helpful in curbing my gambling	4.2%	6.4%
Other things would be helpful in curbing my gambling	0%	7.2%
Average number of years having problems with gambling	7.56 (8.41)	6.47 (8.69)
Median number of years having problems with gambling	3.6	3.0
Modal number of years having problems with gambling	1.0	1.0

Note: Cell contents represent either percentage of the sample or mean and standard deviation (in brackets).

SUMMARY AND DISCUSSION

Gambling Attitudes

Most Ontario adults believe the current availability of gambling is fine (59.7%), although 37.5% believe it is too widely available, and 2.9% report it is not available enough. The belief that gambling is too widely available is most frequently reported by females and older people. Although Ontario adults are content with the current availability of gambling, 65.7% also have the belief that certain types of gambling should be prohibited altogether, with the most commonly identified forms being betting on animal fighting (76.3%), Internet gambling (27.1%), electronic gambling machines (21.4%), and casino table games (16.6%).

The large majority of Ontario adults (73.9%) also do not believe that gambling is morally wrong. Females, older people (65+), and people of non-European ancestry are more likely to indicate that gambling *was* morally wrong. Although most people do not believe gambling is immoral, 69.1% of Ontario adults believe that the harm of gambling outweighs the benefits, compared to just 9.7% who believe the benefits outweigh the harm. Similar to other attitudes, the belief that the harm of gambling outweighs the benefits is stronger in females and older people.

Gambling Participation

A total of 82.9% of Ontario adults participated in some form of gambling in the past year, with 2.18 being the average number of formats engaged in. As seen in Table 22, an 82.9% prevalence rate would appear to represent an increase from the last four surveys (see Appendix A), although different question wordings, list of gambling activities (raffles not included as a form of gambling in 2006/07), and response rates might also be contributing to this difference.

Current participation rates in individual forms of gambling are as follows: 61.4% lottery tickets, 49.7% raffle tickets, 30.4% instant win tickets, 20.5% EGMs, 15.7% social gambling, 10.1% out-of-province casinos, 9.0% sports betting, 5.9% casino table games, 4.6% bingo, 4.6% high risk stocks, 4.2% horse race betting, 1.9% Internet gambling, and 0.4% for other forms of gambling. This rank ordering of participation is fairly similar to what has been found in previous Ontario studies (Ferris, Stirpe & Ialomiteanu, 1996; Insight Canada Research, 1993; Marshall & Wynne, 2003; Statistics Canada, 2009; Wiebe, Mun, & Kauffman, 2006; Wiebe, Single, & Falkowski-Ham, 2001; Williams & Wood, 2004, 2007; 2008). The overall level of participation in each format is not fundamentally different either, although there appears to be some decline in EGM play, casino table games, bingo, and horse race betting over time. Despite considerable publicity and concern about Internet gambling, it continues to be the least common form of gambling in Ontario at 1.9%. (Internet gambling will be legally offered in Ontario beginning in late 2013. Part of the justification for the legalization of Internet gambling is to retain money that is leaving the jurisdiction, estimated in the present study to be $3.23 x 12 months x 10,514,735 people = $407,551,129 per year).

It is also interesting to note that creation of domestic casinos has not decreased out-of-province casino travel. In 2011, 10.1% of Ontario adults gambled outside of the province compared to only 6.5% in 1993 prior to the introduction of casinos.

Table 22. Past Year Participation in Individual Forms of Gambling in Ontario over Time.

	1993	1995[19]	2001	2002	2005	2006/7	2007/8	2011
Lottery Tickets	47.3%	(69.0%)	64.6%	64.0%[20]	52.4%	55.4%	NA[21]	61.4%
Raffle Tickets			51.0%		28.7%		NA	49.7%
Instant Win Tickets	36.9%		31.6%	38.0%	24.9%	41.4%	NA	30.4%
Electronic Gambling Machines	(2.1%)[22]	(1.0%)[22]	28.3%	(2.0%)[22]	(16.5%; 6.5%; 8.9%)[23]	23.7%	NA	20.5%
Social Gambling	(13.0%)[24]	(9.0%)[24]	(10.2%; 10.0%)[25]		(3.7%; 8.5%; 8.5%)[26]	22.6%	NA	15.7%
Casinos outside of Ontario	6.2%	(10.0%)	9.5%		5.2%	(8.5%)[27]	NA	10.1%
Sports Betting	(6.8%; 1.6%)[28]	(12.0%)	(13.2%; 6.0%; 0.4%)[29]		(4.2%; 4.3%; 0.4%)[30]	8.2%	NA	9.0%
Casino Table Games	(13.0%)[24]	(9.0%)[24]	7.2%		6.5%	6.0%	NA	5.9%
Bingo	9.9%	(7.0%)	8.5%	8.0%	4.8%	6.4%	NA	4.6%
High Risk Stocks			6.4%		1.9%	1.9%	NA	4.6%
Horse Race Betting	7.8%	(2.0%)	5.4%	6.0%	4.1%	5.2%	NA	4.2%
Internet Gambling			0.6%		1.7%	2.4%	NA	1.9%
Any Gambling in Past Year	52.0%	84.0%	83.0%	74.0%	63.3%	70.4%	68.1%	82.9%

[19] All 1995 figures are for the past 30 days rather than past 12 months with the exception of 'any gambling'.
[20] Includes raffle tickets.
[21] NA = data exists, but not available for this report (empty cells indicate data was not collected on that format).
[22] Video lottery terminals only.
[23] 16.5% for Ontario casino slots; 6.5% for Ontario racetrack slots; 8.9% for video lottery terminals.
[24] Poker and other card games.
[25] 10.2% for games of skill; 10.0% for card or board games with friends.
[26] 3.7% for games of skill; 8.5% for card or board games with friends; 8.5% for poker and other card games.
[27] EGMs outside of Ontario.
[28] 6.8% for Sports Select; 1.6% for using a bookie.
[29] 13.2% outcome of a sporting event; 6.0% Sports Select; 0.4% sports with a bookie.
[30] 4.2% outcome of a sporting event; 4.3% Sports Select; 0.4% sports with a bookie.

In the present study, males have higher rates of overall participation in gambling as well as in all formats except raffle tickets, instant win tickets, and bingo, where females participate more. Older people have higher rates of participation in lottery tickets, raffle tickets, and lower rates of participation in most other forms. People of European ancestry have higher levels of overall gambling participation and are more likely to purchase lottery, raffle, and instant win tickets, but less likely to play casino table games, bingo, and bet on horse racing.

A total of 22.0% of Ontario adults participate in gambling on a weekly basis, with lottery purchase being the most popular weekly activity. Weekly or more participation also tends to be more common among people who bet on sports, play bingo, and engage in high risk stocks.

Gambling Expenditure

Average total monthly expenditure on all forms of gambling for *all* Ontario adults (i.e., including non-gamblers) is $75.16 when including high-risk stocks, and $58.14 when excluding them. Average expenditure on individual formats is highest for high-risk stocks ($17.01), followed by lottery tickets ($9.30), electronic gambling machines ($9.12), and casinos outside of Ontario ($9.04). Males have higher spending on gambling ($80.98) compared to females ($37.41), due to their higher expenditure on all individual forms of gambling except for electronic gambling machines and bingo. Younger adults, particularly 18 to 24 year olds, have higher average total gambling expenditure compared to older adults, primarily due to higher expenditure on most individual formats with the exception of lottery tickets, electronic gambling machines, and horse race betting. People with non-European ancestry have higher levels of expenditure casino table games, sports betting, bingo, and high-risk stocks, whereas people with European ancestry have high average spending on social gambling, 'other' forms of gambling, and Internet gambling. Average monthly gambling expenditure increases as a function of a person's income group, from $41.09 in people making less than $20,000 a year to $151.05 in people making more than $100,000 a year. This pattern also occurs for most individual forms of gambling with the exception of instant win tickets, bingo, and horse race betting. However, lower income people spend a greater *proportion of their income* on gambling: ~4% for people earning $20,000 a year, ~2.1% for incomes between $20,000 - $49,999, ~1.0% for incomes between $50,000 - $99,999, and ~1.7% for incomes greater than $100,000.

Average total gambling expenditure for *anyone who engaged in gambling* in the past year is $91.51 when including high-risk stocks, and $71.05 when excluding them. For individual formats expenditure is highest for people who engaged in 'other forms of gambling' ($583.51), followed by high-risk stocks ($473.46), Internet gambling ($174.20), and casino table games ($109.86). Median spending is much lower, with total median expenditure being $17.00 when including high-risk stocks, and $18.00 when excluding them. The highest median monthly expenditure occurs for casinos outside of Ontario ($29.17), electronic gambling machines ($20.00), and casino table games ($20.00). Similar demographic patterns emerged to what had been described above for the entire population. Male gamblers have significantly higher overall spending compared to female gamblers as well as spending on lottery tickets, raffle

tickets, instant win tickets, and social gambling. Younger gamblers have significantly higher total monthly gambling expenditure compared to older gamblers, with the exception of lottery tickets and electronic gambling machines. Gamblers with a non-European ancestry have significantly higher total monthly gambling expenditure compared to gamblers with a European ancestry as well as expenditure on raffle tickets, instant win tickets, sports betting, and high risk stocks. Higher income gamblers have higher total gambling expenditure when excluding high-risk stocks from the total. However, this did not hold true when including high-risk stocks, as people reporting an income of $100,000 or higher report significant net winnings from this form of gambling. Higher income gamblers also have significantly higher expenditure on social gambling and casinos outside of Ontario.

Gambling Motivation

Most Ontario adults gamble for fun/entertainment/excitement (40.5%), followed by to win money (23.2%), to socialize with family or friends (17.1%), to support worthy causes (12.7%), to escape or distract oneself (2.3%), because it makes you feel good about yourself (0.8%), and 'other' (2.2%). Males report gambling to win money more often than females and females reporting gambling to support worthy causes more often than males. Younger gamblers are more likely to report that they gamble for fun/excitement and to socialize, and older people are more likely to gamble to support worthy causes. Gamblers with a European ancestry are significantly more likely to report that they gambled to win money, and significantly less likely to report gambling to support worthy causes.

Problem Gambling

Features

The length of time that problem gamblers reported having problems with gambling was between 6 and 8 years on average, with a median length around 3 years and a modal length of 1 year.

In terms of demographic characteristics, problem gamblers in Ontario are significantly more likely to be male, younger (particularly age 18 – 25), single, not have children, to have fewer number of children, and to have non-European ancestry. They are also significantly more likely to be users of tobacco and street drugs; to report additional behavioural addiction(s); and to report having mental health problems. All of these demographic characteristics are well known correlates of problem gamblers in most Western jurisdictions (Williams, Volberg, & Stevens, 2012).

In terms of gambling involvement, problem gamblers are significantly more likely to participate in *all* forms of gambling except: lottery tickets; raffle tickets; and horse race betting. The number of formats they engage in is also significantly higher than other gamblers (4.33 versus 2.59). Problem gamblers also have a higher frequency of involvement in all gambling formats

except out-of-province casinos; bingo; horse race betting; high risk stocks; and 'other' forms of gambling.

The monthly gambling expenditure of problem gamblers is also significantly higher ($618.31 versus $55.85) as well as their expenditure in all individual formats except: horse race betting, high-risk stocks, and 'other' forms of gambling. In total, problem gamblers account for approximately 24.1% of total reported government-sponsored gambling expenditure. This is down from 36.0% in 2003 (Williams & Wood, 2007), which is largely attributable to a decrease in problem gambling since 2003 (this decreased prevalence rate is discussed later in this section). With regard to expenditure on individual formats, problem gamblers account for 56.9% of casino table games; 50.5% of 'other' forms of gambling; 33.2% of sports betting; 31.2% of EGMs; 23.7% of bingo; 23.2% of horse racing; 18.6% of Internet gambling; 11.7% of instant win; 11.0% of out-of-province casinos; 10.5% of social gambling; 7.0% of lotteries; 3.8% of raffle tickets; and 1.0% of high risk stocks. (Note: see Appendix E for a discussion of a recent Canadian Gaming Association study that has questioned these figures).

The types of problems most commonly reported among problem gamblers are financial problems and mental health problems, with relationship problems, neglect of family, and work/school problems being less commonly reported. Bankruptcy is the most commonly reported discrete impact (4.5% of problem gamblers, which translates into approximately 10,410 bankruptcies a year, which would represent 20.6% of the 50,460 consumer insolvencies registered in Ontario in 2011). Committing crime to support gambling is fairly uncommon among problem gamblers (3.4%), as is contemplation of suicide (2.2%), and separation or divorce (1.1%). Nonetheless, this would translate into 7,865 illegal acts; 5,089 people contemplating suicide; and 2,545 separations and/or divorces each year attributable to gambling.

Only about half of problem gamblers indicate there is a particular type of gambling that contributed to their problems more than others. For those who did indicate this, EGMs were the most commonly endorsed form (by 52% of the Telephone sample and 35.8% of the Online Panel sample).

Only a minority of problem gamblers wanted help for gambling problems (10.2% of the Telephone sample and 21.6% of the Online Panel sample). Those that did seek help sought it out from a variety of different sources. In terms of things that problem gamblers identified that would be helpful to them, having less stress, making gambling less available, and more restrictions on how gambling was provided were the most commonly identified strategies.

Prevalence and Incidence

Depending on the instrument, the past year rate of problem gambling in Ontario is between 1.0% (PGSI) and 2.2% (PPGM) of the adult population, which represents between 105,147 and 231,324 adult problem gamblers in Ontario.

Both prevalence rates represent a significant decrease in the rate of problem gambling in Ontario from previous years. As mentioned in the introduction, direct comparison to rates obtained in previous surveys is complicated by the methodological differences between the studies that impact the obtained rates (Williams, Volberg, & Stevens, 2012). When these methodological differences are taken into account, and the two "standardized" rates from the two assessment instruments are averaged together, then the *standardized rate* of problem gambling in 2011 in Ontario is 1.2% (see Williams, Volberg, & Stevens, 2012). This can now be compared with greater confidence to rates that have been obtained in other time periods and other provinces, as seen in Table 23.

A z test of proportions was used to determine whether the standardized problem gambling prevalence rate in one time period for Ontario differed significantly from other time periods ($p < .01$, 2 tail). It was found that the 4.9% rate in 1993 and the 4.2% rate in 1995 are significantly higher than rates found in almost all other time periods. Similarly, the 3.0% rate in 2003, the 2.2% rate in both 2005 and 2007 are significantly higher than the rates obtained in 2002, 2008 and 2011. Thus, it is clear that the current rate of problem gambling in Ontario represents a significant decrease from previous rates.

This decreased rate is consistent with a worldwide trend toward decreasing rates. As summarized by Williams, Volberg, & Stevens (2012), and as seen in Figure 3, problem gambling rates started increasing in North America and Australia beginning in the late 1980s to early 1990s prior to achieving a peak in the late 1990s/early 2000s. This time interval is roughly coincident with the most rapid introduction and expansion of legal gambling opportunities in these countries (particularly electronic gambling machines (EGM) and casinos), the greatest increase in per capita gambling expenditure, and a significant increase in the overall rate of gambling participation. There has been a general worldwide downward trend in both gambling and problem gambling rates beginning in the late 1990s for North America and the early 2000s for Australia and other Nations. Current rates are now very similar to where they were in the late 1980s prior to gambling expansion. In Canada, the rise and fall of problem gambling prevalence has been more dramatic than in other jurisdictions, which is likely attributable to Canada having very limited legal gambling prior to the late 1980s, as well as having a more pervasive introduction of new forms of gambling when they were introduced (Williams, Volberg, & Stevens, 2012).

Considering that gambling availability has steadily increased in most jurisdictions over the past 30 years, the present results provide support both to the contention that increased gambling availability is related to increased problem gambling, as well as the contention that populations tend to adapt over time. There are several mechanisms likely responsible for decreasing

problem gambling prevalence. They include: a) increased population awareness of the potential harms of gambling (creating less susceptibility); b) decreased overall population participation in gambling (due to greater wariness as well as the novelty having worn off); c) people being removed from the population pool of problem gamblers due to severe adverse consequences deriving from their gambling (e.g., bankruptcy, suicide); d) increased industry and/or government efforts to provide gambling more safely, to enact programs to prevent problem gambling, and to provide treatment resources; and e) increasing age of the population.

Table 23. Standardized Adult Past Year Prevalence Rates of Problem Gambling in Canadian Provinces.

|	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2002	2003	2004	2005	2006	2007	2007	2008	2009	2010	2011	Average
Alberta					4.6				4.1				3.5		1.2						2.3	1.6	2.4			2.8
British Columbia					6.0		6.0						2.1	1.1						2.0	2.8					3.3
Manitoba					3.6		3.6						2.1		1.8				2.7							2.8
New Brunswick				3.8				6.5					2.0										2.5			3.7
Newfoundland & Labrador																		2.2					1.5			1.9
Nova Scotia					2.6			2.1						1.1		1.4				1.7						1.8
Ontario					4.9		4.2						1.7		1.2	3.0		2.2			2.2	0.8			1.2	2.4
Prince Edward Island											1.7							1.0								1.4
Quebec	1.9							1.7					1.4	0.9							1.1	1.0	1.3			1.3
Saskatchewan					2.1								3.7		1.7							1.2				2.2
Average	1.9			3.8	4.0		3.9	4.1	4.1		1.7		2.6	1.8	1.3	2.2		1.8	2.7	1.9	2.1	1.2	1.9		1.2	2.4

Note 1. The second columns in 2002 and 2007 represent standardized rates for the two national studies of problem gambling: the 2002 CCHS study (Study #5 in Appendix A) and the 2006/2007 Williams & Wood (2008) study (Study #7 in Appendix A).

Note 2. Weighting provincial averages by their % of the Canadian population: 2.8(.109) + 3.3(.133) + 2.8(.036) + 3.7(.022) + 1.9(.015) + 1.8(.028) + 2.5(.388) + 1.4(.004) + 1.3(.232) +2.2 (.031) = 2.4%.

Note 3. Weighting the most recent provincial figure by its current % of the Canadian population: 2.4(.109) + 2.8(.133) + 2.7(.036) + 2.5(.022) + 1.5(.015) + 1.7(.028) + 1.2(.388) + 1.0(.004) + 1.3(.232) +1.2 (.031) = 1.7%.

Note 4. This table is taken from page 38 in Williams, Volberg, & Stevens (2012).

Figure 3. Standardized Problem Gambling Prevalence Rates over Time (2 Year Averages).
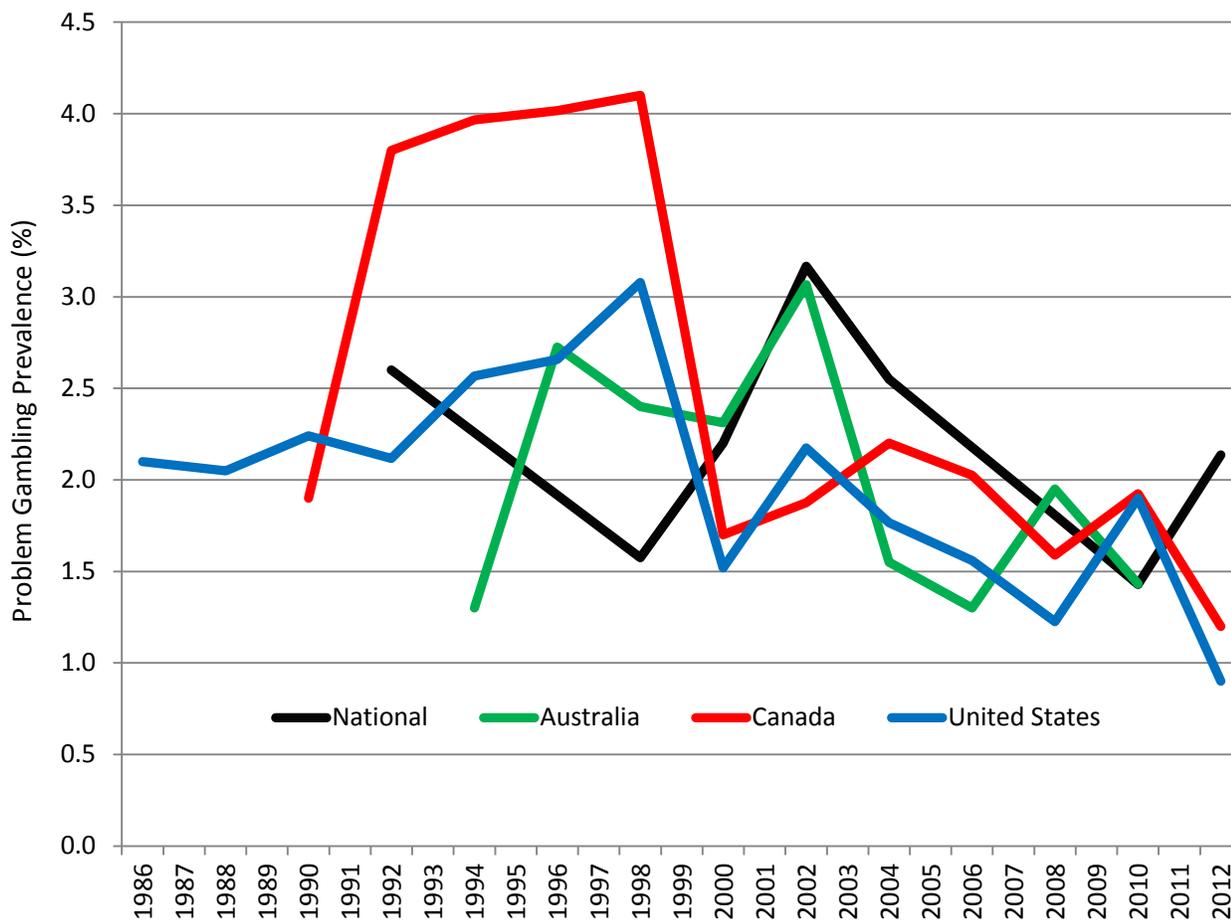
Note. This figure is taken from page 54 in Williams, Volberg, & Stevens (2012).

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APPENDICES

Appendix A: Prior Population Studies of Gambling and Problem Gambling in Ontario

1	Location	ONTARIO
Year Study Conducted		1993
Age		18-74
Source(s)		Insight Canada Research. (1993). *Prevalence of Problem & Pathological Gambling in Ontario using the South Oaks Gambling Screen*. Toronto, ON: Author.
Sample Size		1,200
Sampling Strategy		Geographically stratified random-digit dialing.
Survey Description		
Administration Method		telephone interview
Response Rate		65%
Weighting		
Threshold for PG Questions		
Assessment Instrument		SOGS-Lifetime (L) (modified)
Gambling Availability		First casino introduced 1994. No EGMs in 1993.
Past Year Gambling Prevalence		52% (Ontarians who have spent money on gambling activities in the past twelve months). Did not assess raffle ticket purchase and engagement in high-risk stocks.
Problem Gambling Prevalence		SOGS-L: 7.7% (3-4); 0.9% (5+); 8.6% combined
Standardized Problem Gambling Prevalence		8.6 * .72 * .67 *1.59 * .74 = 4.9% (weighting factors explained in Williams, Volberg, & Stevens, 2012)
Demographic Correlates of PG		Males; ages 18-44 and 65-74; separated or never married; high school education or less; Canadian, French or Irish heritage; Aboriginal; annual household earnings between $20,000 and $29,999, and between $50,000 and $79,999; the unemployed or students; residents of Central and Northern Ontario.
Game Correlates of PG		
Comments		

2		Location	ONTARIO
Year Study Conducted			1995
Age			18+
Source(s)			Ferris J., Stirpe T., & Ialomiteanu, A. (1996). *Gambling in Ontario: A Report from a General Population Survey on Gambling-Related Problems and Opinions*. Toronto, ON: Addiction Research Foundation.
Sample Size			1,030
Sampling Strategy			Random digit dialing; random selection within household. The resulting sample is broadly representative of the adult population of Ontario living in private households with telephones.
Survey Description			"issues that some people think are social problems"
Administration Method			telephone interview
Response Rate			65%
Weighting			household size; number of telephone lines
Threshold for PG Questions			spent more than $100 in their lifetime on gambling
Assessment Instrument			SOGS-Past Year (PY) (not reported) & SOGS-Lifetime (L); DSM-IV-Past Year (PY) & DSM-IV-Lifetime (L); Life Areas Problem Measure-Past Year (PY)
Gambling Availability			First casino introduced 1994. 1995 population of 10,950,119.
Past Year Gambling Prevalence			84%. Did not assess raffle ticket purchase and engagement in high-risk stocks.
Problem Gambling Prevalence			SOGS-L: 1.94% (3-4); 1.65% (5+); 3.59% combined DSM-IV-PY: 2.0% (3-4); 0.2% (5+); 2.20% combined DSM-IV-L: 2.03% (3-4); 0.49% (5+); 2.52% combined Life Areas Problem Measure-PY: 5.7% (1 or more problems)
Standardized Problem Gambling Prevalence			2.2 * 1.19 * 1.59 = 4.2% (weighting factors explained in Williams, Volberg, & Stevens, 2012)
Demographic Correlates of PG			Younger adults; males; divorced or separated; never married
Game Correlates of PG			lottery gambling; sports betting
Comments			

3	Location	ONTARIO
Year Study Conducted		2001
Age		18+
Source(s)		Wiebe, J., Single, E., & Falkowski-Ham, A. (2001). *Measuring Gambling and Problem Gambling in Ontario*. Toronto, ON: Canadian Centre on Substance Abuse and Responsible Gambling Council (Ontario).
Sample Size		5,000
Sampling Strategy		Random selection of live residential numbers; random selection within household; sample stratified by region, age and gender
Survey Description		"the gambling activities and attitudes of adult Ontarians"
Administration Method		telephone interview
Response Rate		37%
Weighting		age, region
Threshold for PG Questions		gambled in past year
Assessment Instrument		CPGI
Gambling Availability		19,798 EGMs in 2002. 2001 population of 11,896,663. 601 people per EGM.
Past Year Gambling Prevalence		83%
Problem Gambling Prevalence		3.1% (3-7); 0.7% (8+); 3.8% combined
Standardized Problem Gambling Prevalence		3.8 * .58 * 1.44 * .53 = 1.7% (weighting factors explained in Williams, Volberg, & Stevens, 2012)
Demographic Correlates of PG		male; ages 18 - 24, single; students; unemployed; better educated
Game Correlates of PG		lottery tickets; EGMs; scratch tickets; casino table games; gambling with bookie
Comments		

4	Location	CANADA
Year Study Conducted		2002
Age		15+
Sources		Marshall, K., & Wynne, H. (2003). *Fighting the odds*. *Perspectives on Labour and Income, 4*(12), 5-13.
Sample Size		24,997
Sampling Strategy		Gambling module included in Cycle 1.2 of the Canadian Community Health Survey-Mental Health and Well-being (CCHS 1.2). Target population excludes those living in the 3 territories, individuals living on reserves or crown land, residents of institutions, full-time members of the Armed Forces, and residents of some remote regions.
Survey Description		'well-being and health practices' (gambling a component of a larger general survey on health)
Administration Method		face-to-face residential interview (86%)
Response Rate		77%
Weighting		
Threshold for PG Questions		Gambling more than 5 times on some form of gambling in past year. People excluded, however, is they said 'they were not a gambler' regardless of their frequency of gambling.
Gambling Availability		436 people per EGM in 2002. 1246 people per EGM in BC; 282 people per EGM in AB; 177 people per EGM in SK; 165 people per EGM in MB; 611 people per EGM in ONT; 372 people per EGM in QU; 293 people per EGM in NB; 216 people per EGM in NS; 337 people per EGM in PEI; 200 people per EGM in NL.
Past Year Gambling Prevalence		76% (75% BC; 72% AB; 76% SK; 74% MB; 75% ON; 79% QU; 76% NB; 78% NS; 75% PEI; 75% NL).
Assessment Instrument		CPGI
Problem Gambling Prevalence		1.5% (3-7); 0.5% (8+); 2.0% combined (CPGI 3+ for individual provinces: 3.1% Manitoba, 3.0% Saskatchewan, 2.1% Alberta, 2.0% Ontario, 1.9% British Columbia, Nova Scotia, 1.6% Quebec; sample sizes too small for other provinces)
Standardized Problem Gambling Prevalence		Canada: 2.0 * 0.58 = 1.2% (1.80% Manitoba, 1.74% Saskatchewan, 1.22% Alberta, 1.16% Ontario, 1.10% British Columbia, 1.10% Nova Scotia, .93% Quebec) (weighting factors explained in Williams, Volberg, & Stevens, 2012)
Demographic Correlates of PG		male; younger age; less education; Aboriginal; province; alcohol dependence; stress
Game Correlates of PG		VLTs; casinos; sports lotteries; horse racing (using CPGI 5+ threshold)
Comments		Unlike most surveys that collect sensitive demographic information at the very end, much of this is collected at the very outset of the CCHS. In addition the person is asked to provide his/her name, the names of all the other people living in the residence, and his/her date of birth.

5	Location	ONTARIO
Year Study Conducted		2003
Age		18+
Source(s)		Williams, R.J. & Wood, R.T. (2004). *Demographic Sources of Ontario Gaming Revenue*. Final Report submitted to the Ontario Problem Gambling Research Centre, June 23, 2004. Williams, R.J., & Wood, R.T. (2007). The proportion of Ontario gambling revenue derived from problem gamblers. *Canadian Public Policy, 33(3),* 367-388.
Sample Size		6,654
Sampling Strategy		Random digit dialing; random selection within household
Survey Description		'survey about gambling'
Administration Method		telephone interview
Response Rate		51%
Weighting		gender, age, ethnicity
Threshold for PG Questions		Spending at least $9 in a typical month on some form of gambling in the past year.
Assessment Instrument		CPGI
Gambling Availability		215.6 EGMs per 100,000 People 18+ in 2003; 0.11 Casinos per 100,000 People 18+ in 2003. 20,402 EGMs in 2003. 2003 population of 12,242,273. 600 people per EGM.
Past Year Gambling Prevalence		not directly assessed
Problem Gambling Prevalence		3.8% (3-7); 1.0% (8+); 4.8% combined
Standardized Problem Gambling Prevalence		4.8 * .58 * 1.44 * .76 = 3.0% (weighting factors explained in Williams, Volberg, & Stevens, 2012)
Demographic Correlates of PG		male; Aboriginal and 'Other' Ethnicity; lower income; less education; single or divorced
Game Correlates of PG		
Comments		Not designed to be a prevalence study, but prevalence data was obtained.

6	Location	ONTARIO
Year Study Conducted		2005
Age		18+
Source(s)		Wiebe, J., Mun, P., & Kauffman, N. (2006). *Gambling and Problem Gambling in Ontario 2005*. Toronto, ON: Responsible Gambling Council (Ontario).
Sample Size		3,604
Sampling Strategy		Random digit dialing; random selection within household; Table 2.1.0 (p. 14) shows sample gender and age demographics compared to Statistics Canada's population estimates of Ontario for gender and age compositions in 2005 and 2004, respectively.
Survey Description		"attitudes and behaviours towards gambling"
Administration Method		telephone interview
Response Rate		46.4%
Weighting		Gender
Threshold for PG Questions		participate in any form of gambling
Assessment Instrument		CPGI (In addition to the annual time frame, time frames of the past 6 months and past month were also used.)
Gambling Availability		240.0 EGMs per 100,000 People 18+ in 2005/2006; 0.1 Casinos per 100,000 People 18+ in 2005/2006. 23,434 EGMs in 2005. 2005 population of 12,528,480. 435 people per EGM.
Past Year Gambling Prevalence		63.3%
Problem Gambling Prevalence		2.6% (3-7); 0.8% (8+); 3.4% combined
Standardized Problem Gambling Prevalence		3.4 * .58 * 1.44 * .76 = 2.2% (weighting factors explained in Williams, Volberg, & Stevens, 2012)
Demographic Correlates of PG		males; 18 to 24 year-olds; single and never married
Game Correlates of PG		gambling on slot machines in Ontario casinos; slots at racetracks
Comments		As shown in Table 4.1.0, problem gambling behaviour decreased as the time frame narrowed. From the 12-month time frame to the one-month time frame, the results showed that 50% fewer individuals were classified as at risk, as having moderate problems, and as having severe problems.

7	Location	CANADA
Year Study Conducted		2006-2007
Age		18+
Sources		Williams, R.J. & Wood, R.J. (2008). *Prevalence of Gambling and Problem Gambling in Canada 2006/2007.* Unpublished analysis of prevalence data collected by the authors in 2006/2007. Some details of this study are reported in Wood, R.T. & Williams, R.J. (2009). *Internet Gambling: Prevalence, Patterns, Problems, and Policy Options.* Final Report prepared for the Ontario Problem Gambling Research Centre, Guelph, Ontario. January 5, 2009
Sample Size		8,496
Sampling Strategy		random digit dialing
Survey Description		'gambling survey'
Administration Method		telephone interview
Response Rate		45.6%
Weighting		age, gender, household size
Threshold for PG Questions		any past year gambling
Gambling Availability		377 people per EGM in 2006. In 2007 482 people per EGM in British Columbia; 197 Alberta; 151 Saskatchewan; 141 Manitoba; 556 Ontario; 417 Quebec; 289 New Brunswick; 285 Nova Scotia; 260 Prince Edward Island; 223 Newfoundland.
Past Year Gambling Prevalence		70.7% (includes risky stock market but excludes raffles). 75.4% Newfoundland; 72.2% PEI; 72.8% Nova Scotia; 68.9% New Brunswick; 71.7% Quebec; 70.4% Ontario; 71.0% Manitoba; 68.1% Saskatchewan; 70.3% Alberta; 69.7% British Columbia.
Assessment Instrument		CPGI (entire sample); random 25% of sample also administered SOGS-PY, DSM-IV-PY (NODS-PY), and PPGM.
Problem Gambling Prevalence		CPGI: 2.4% (3-7); 0.8% (8+); 3.2% combined SOGS-PY: 1.4% (3-4); 1.0% (5+); 2.4% combined DSM-IV-PY: 1.1% (3-4); 0.9% (5+); 2.0% combined PPGM: 1.8% (CPGI 3+ for individual provinces: 4.4% BC, 3.6% AB, 3.5% ONT, 1.7% QU other provinces not reported due to small sample size)
Standardized Problem Gambling Prevalence		CPGI: $3.2 * .58 * 1.44 * .76 = 2.0\%$ SOGS-PY: $2.4 * .72 * 1.44 * .76 = 1.9\%$ DSM-IV-PY: $2.0 * 1.19 * 1.44 * .76 = 2.6\%$ PPGM: $1.8 * 1.44 * .76 = 2.0\%$ (CPGI: 2.79% BC, 2.29% AB, 2.22% ON, 1.08% QU) (weighting factors explained in Williams, Volberg, & Stevens, 2012)
Demographic Correlates of PG		male; age 18 – 29; mental health problems; illicit drug use; tobacco use; Aboriginal, Asian, or 'Other' ethnicity; lower income; less education
Game Correlates of PG		casino table games; horse race betting; Internet gambling; sports betting

8	Location	ONTARIO
Year Study Conducted		2007-2008
Age		12+
Source(s)		Statistics Canada. (2009). *Canadian Community Health Survey, Cycle 4.1, 2007* [computer file]. Ottawa, Ontario: Author. Health Statistics Division [producer]; Statistics Canada. Data Liberation Initiative [distributor]. (STC cat. no. 82M0013XCB). UT/DLS: Microdata Analysis and Subsetting (SDA) [data extraction tool], accessed August 18, 2011.
Sample Size		42,145 (age 15+)
Sampling Strategy		Random selection. The 07/08 CCHS was asked to respondents from a geographic area frame (50%) and a telephone frame (50%). The geographic area frame cases were collected in person where possible but some were collected by phone. The telephone frame cases were collected by phone.
Survey Description		"I'm calling regarding the Canadian Community Health Survey."….."This survey deals with various aspects of your health. I'll be asking about such things as physical activity, social relationships and health status. By health, we mean not only the absence of disease or injury but also physical, mental and social well-being."
Administration Method		Telephone (>50%); residential face-to-face interview (<50%)
Response Rate		73.6%
Weighting		Yes
Threshold for PG Questions		Participation in some type of gambling more than 5 times in past year. Also, if people indicated they "were not a gambler" they were not administered the CPGI, regardless of gambling frequency.
Assessment Instrument		CPGI
Gambling Availability		23,029 EGMs in 2007. 2007 population of 12,792,937. 556 people per EGM.
Past Year Gambling Prevalence		68.1%
Problem Gambling Prevalence		0.9% (3-7); 0.3% (8+); 1.2% combined (data has been restricted to ages 15+)
Standardized Problem Gambling Prevalence		1.2 * .58 * 1.22 = 0.8% (weighting factors explained in Williams, Volberg, & Stevens, 2012)
Demographic Correlates of PG		Male, age 20-29 & 50-59
Game Correlates of PG		
Comments		Note that a 50% administration modality weight was applied, as 50% of the interviews were conducted by phone. Unlike most surveys that collect sensitive demographic information at the very end, much of this is collected at the very outset of the CCHS. In addition, at the very outset the person is asked to provide his/her name, the names of all the other people living in the residence, and his/her date of birth.

Appendix B: Questionnaire

RECRUITMENT (RDD)

R1. Hello. I'm calling from the Survey Research Centre at the University of Waterloo. We have a short 10 – 20 minute survey about health and recreational activity we would like to administer. Could you tell me whether I have contacted you on your cell phone or your home phone? Note: if person asks what sorts of recreational activity indicate 'things such as gambling'.
- Cell Phone (1) (go to R2)
- Home Phone (2) (go to R4)
- refused (9999)

R2. Do you have a few minutes to do our survey?
- No (0) (go to R3a)
- Yes (1) (go to Description)
- Person indicates they are willing to do the survey but that they are also engaged in something that might be potentially hazardous (e.g., driving) (2) (Indicate that the survey can only be done if they pull over to the side of the road or otherwise make the situation potentially less hazardous. If this is done, then go to Description, otherwise arrange for callback.)

R3a. When would there be a better time to contact you?
- No (0) (end of survey; treat this as a firm refusal and do not callback)
- Yes (1) (go to R3b; phone all these people back , even if no answer to R3b)

R3b. When would that be?_____ (end of survey)

R4. We randomly select people within the household to talk to. Could I speak to the adult 18 or older in your household who has the next birthday?
- No (0) (end of survey)
- Person not available (1) (arrange for callback; end of survey)
- Yes, that is me (2) (go to R6a)
- Yes (3) (go to R5 after connecting with the new caller)

R5. Hello. I'm calling from the Survey Research Centre at the University of Waterloo. We have a short 10 – 20 survey about health and recreational activity. Do you have a few minutes? Note: if person asks what sorts of recreational activity indicate 'things such as gambling'.
- No (0) (go to R3a)
- Yes (1) (go to description)

R6. Refusal gender
- Male (1)
- Female (2)
- Don't know/unsure (9999)

R7. Any stated reason for refusal
- None (0)
- No time (1)
- Not interested (2)
- Cell Phone Issues (cost, driving, privacy, etc) (3)
- Not a gambler; not interested in gambling (4)
- Other _____

Description
- The purpose of this survey is to establish the frequency of various health and recreational activities in the Ontario population.
- Although there will be no personal benefits to you, this information will be very useful for government program planning and policy development which will benefit Ontario citizens.
- Online Panel: You will receive [the normal points compensation provided by the survey company]. In addition, the information you provide will be very useful for government program planning and policy development which will benefit Ontario citizens.
- You do not have to answer questions you do not want to, and you can stop participation at any time. If you choose to withdraw later in the survey we will erase any data we have collected up to that point.
- All information you provide is strictly confidential.
- We do not need to know your name, and your telephone number will be removed from the data set once all data collection is completed. Also, only group results will be reported when the study is published.
- This study has no known risks. However, some of the questions do ask about sensitive issues. *Note: telephone numbers for appropriate local treatment resources will be provided to anyone in obvious distress at any point during the interview.*
- The data will be stored on a computer in a secure location at the University of Lethbridge. The only people having access to this data are the two members of the research team: Dr. Robert Williams of the University of Lethbridge and Dr. Rachel Volberg of Gemini Research.
- If you have any questions regarding this study, you can contact Dr. Robert Williams at 403-382-7128.
- Questions about your rights as a participant in this research may be addressed to the Office of Research Services, University of Lethbridge (403-329-2747; Email: research.services@uleth.ca).
- If you are interested in seeing the Final Report for this study, it will be available online in Feb 2013.
- Note: if person asks what type of recreational activity indicate 'things such as gambling'

RECRUITMENT (ONLINE)

Email Subject Line: New Survey on Health & Recreational Behaviour

Intro of e-mail:
We currently have a short 10-20 minute survey about health and recreational activity being conducted on behalf of the Survey Research Centre at the University of Waterloo.

The following is some information about this survey. Please review and hit the "Next Page" button when finished.
- The purpose of this survey is to establish the frequency of various health and recreational activities in the Ontario population.
- This information will be very useful for government program planning and policy development which will benefit Ontario citizens.
- You do not have to answer questions you do not want to, and you can stop participation at any time. If you choose to withdraw later in the survey we will erase any data we have collected up to that point.
- All information you provide is strictly confidential.
- We do not need to know your name, and your email address will be removed from the data set once all data collection is completed. Also, only group results will be reported when the study is published.
- This study has no known risks. However, some of the questions do ask about sensitive issues.
- The data will be stored on a computer in a secure location at the University of Lethbridge. The only people having access to this data are the two members of the research team: Dr. Robert Williams of the University of Lethbridge and Dr. Rachel Volberg of Gemini Research.
- If you have any questions regarding this study, you can contact Dr. Robert Williams at 403-382-7128.
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- If you are interested in seeing the Final Report for this study, it will be available online at the University of Lethbridge in Feb 2013.

ELIGIBILITY

D1. Gender (do not ask)
- Male (1)
- Female (2)

D2. In what year were you born?_____
- refused (9999) (still included even if don't provide age)

	Estimates of Age x Gender Distributions in Ontario in 2009	%	50% of true % is minimum quota (no quotas for entire household sub-sample)
18-24 males	652,973	6.3%	4.2%
18-24 females	624,653	6.0%	4.0%
25-44 males	1,825,048	17.7%	11.8%
25-44 females	1,853,824	17.9%	12.0%
45-64 males	1,781,036	17.2%	11.5%
45-64 females	1,813,894	17.5%	11.7%
65+ males	785,390	7.6%	5.1%
65+ females	1,002,537	9.7%	6.5%
Total	10,339,355	100%	

TRIANGULATION

The sampling of 'unique' populations not captured by the other survey mode (Online or RDD) will be established by asking questions in the survey about how often (if ever) the person responds to telephone versus Internet surveys. The ability to integrate findings between the survey modes will depend on whether the results are the same when just comparing the subsample of individuals from each modality that have the same characteristics (i.e., equivalent age, gender, socioeconomic status, education, and Internet access).

T1 and T2 only asked in the RDD Survey

T1. Do you personally use the Internet?
- yes (1)
- no (0) (go to NEXT SECTION)
- Unsure (8888)
- refused (9999)

T2. Are you a member of any Online Panel that does Internet-based surveys?
- yes (1)
- no (0)
- Unsure (8888)
- refused (9999)

T3 and T4 only asked in the Online Survey.

T3. Do you have a telephone (household landline)?
- Yes (1)
- No (0)
- Unsure (8888)
- refused (9999)

T4. How often do you participate in **telephone** surveys when asked?
- Never (0)
- Sometimes (1)
- Often (2)
- Unsure (8888)
- refused (9999)

HEALTH & RECREATION VALIDITY & COMORBIDITY QUESTIONS

I'm going to start with a few general recreation questions.

HR1. If you had to watch a sport on TV which would it be?
- Darts (1)
- Hockey (2)
- Football, or (3)
- Basketball (4)
- Refused/don't know (9999)

HR2. Which of the following would be your preferred recreational activity?
- Gardening (1)
- Camping (2)
- Hunting or fishing (3)
- Socializing with friends (4)
- Travelling (5)
- Reading (6)

HR3. Which place would you most like to vacation at?
- Caribbean (1)
- Europe (2)
- Asia (3)
- South America (4)
- North America, or (5)
- The Antarctic (6)
- Refused/don't know (9999)

HR4. Have you used tobacco in the past 12 months?
- yes (1)
- no (0)
- Unsure (8888)
- refused (9999)

HR5. Have you consumed alcohol in the past 12 months?
- No (0)
- Yes (1)
- Refused/don't know (9999)

HR6. Have you used street drugs in the past 12 months? (cannabis (marijuana, hashish, pot, etc.); hallucinogens (LSD, mushrooms, PCP, Special K, mescaline, etc.); cocaine or crack; amphetamine, methamphetamine or other stimulants (e.g., ecstasy); inhalants (e.g., glue, gas/petrol, paint thinner, nail polish, etc.); opiates (heroin, or nonmedical use of morphine, codeine, T3s, etc.); nonmedical use of sedatives, sleeping pills, or minor tranquilizers (Valium, Serepax, Rohypnol, etc.)
- yes (1)
- no (0)
- Unsure (8888)
- refused (9999)

HR7. Have you had any problems with drugs or alcohol in the past 12 months? By this we mean difficulties in controlling their use that has led to negative consequences for you or other people.
- no (0)
- Yes (1)
- Unsure (8888)
- refused (9999)

HR8. In your lifetime, how often have you driven while intoxicated? Would you say
- Never (0)
- Once or twice (1)
- 3 to 50 times (2)
- More than 50 times (3)
- Refused/don't know (9999)

HR9a. Have you had any problems with other addictive behaviour in the past 12 months such as overeating, sex or pornography, shopping, exercise, Internet chat lines, or other things? Here again, what we mean is difficulties controlling the behaviour which has led to significant negative consequences for you or other people.
- yes (1)
- no (0) (go to HR10)
- Unsure (8888) (go to HR10)
- refused (9999) (go to HR10)

HR9b. Which specific activities have you had problems with? (do not read list; check off as many as apply)
- over-eating (1)
- sex or pornography (2)
- exercise (3)
- shopping (4)
- Internet chat lines (5)
- Video or Internet gaming (6)
- other_____ (91)
- Unsure (8888)
- refused (9999)

HR10. How would you describe your general health over the past 12 months? Would you say it was excellent, good, fair or poor?
- Excellent (1)
- Good (2)
- Fair (3)
- Poor (4)
- Refused/don't know (9999)

HR11. Have you ever been ill? Would you say….Note: if asked, this refers to lifetime and includes minor illnesses such as colds, flu, etc.
- No, never (0)
- Yes, occasionally (1)
- Yes, frequently (2)
- Yes, I've always been unwell (3)
- Refused/don't know (9999)

HR12. In the past 12 months how would you rate your overall level of stress? Would you say
- very high (5)
- high (4)
- moderate (3)
- low (2)
- very low (1)
- Unsure (8888)
- refused (9999)

HR13. Do you have pleasant memories from your childhood? Would you say
- None at all (0)
- Several (1)
- Most, or (2)
- All of my childhood memories are pleasant (3)
- Refused/don't know (9999)

HR14a. 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) (go to NEXT SECTION)
- Unsure (8888)
- refused (9999) (go to NEXT SECTION)

HR14b. Which one(s)_____

GAMBLING

Now, the primary recreational activity we have chosen to ask you about is gambling.

Before we start, we would like to provide our definition of gambling: We define gambling as wagering money or material goods on something with an uncertain outcome in the hopes of winning additional money or material goods. It includes things such as lottery tickets, scratch 'n win tickets, bingo, betting against a friend on a game of skill or chance, investing in high risk stocks, etc. Provide definition of high risk stock if necessary (hyperlink available to online).

Note: for the RDD Questionnaire the 'unsure' and 'refused' options are never read. This is the same for the Online Questionnaire, except that 'prefer not to answer' is provided as an option for all demographic questions.

GAMBLING ATTITUDES

GA1. Which best describes your belief about the benefit or harm that gambling has for society? Would you say
- 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, or (+1)
- The benefits far outweigh the harm (+2)
- unsure (8888)
- refused (9999)

GA2. Do you believe that gambling is morally wrong? (do not read options)
- No (+1)
- Yes (-1)
- Unsure (0)
- Refused (9999)

GA3a. Which of the following best describes your opinion about legalized gambling?
- all types of gambling should be legal (+1) (go to GA4)
- some types of gambling should be legal and some should be illegal. (0)
- all types of gambling should be illegal. (-1) (go to GA4)
- unsure (8888) (go to GA4)
- refused (9999) (go to GA4)

GA3b. Which types do you believe should be illegal_____ (read out if necessary)
- Lottery (1)
- Instant win ticket (2)
- Bingo (3)
- Electronic Gambling machines (slots, VLTs, etc.) (4)
- Casino table games (i.e., blackjack, baccarat, roulette, craps, etc.) (5)
- Games against other people (e.g., poker, pool, etc.) (6)
- Horse racing (7)
- Sports Betting (8)
- High risk stocks, options, futures, or day trading (9)
- Internet gambling (10)
- Animal fighting (11) (e.g., cock or dog fighting)
- Other_____ (91)
- unsure (8888)
- refused (9999)

GA4. Which of the following best describes your opinion about the availability of gambling opportunities in Ontario?
- Gambling is too widely available (-1)
- Gambling is not available enough, or (1)
- The current availability of gambling is fine. (0)
- unsure (8888)
- refused (9999)

PAST YEAR GAMBLING BEHAVIOUR

GY1a. In the past 12 months, how often have you purchased **lottery tickets** such as 6/49, Lotto Max, PayDay, Pick-4, etc. (this does not include instant win tickets)? Would you say about
- 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, or (1)
- not at all (0) (Go to GY2a)
- Unsure (8888)
- refused (9999)

GY1b. Roughly how much money do you spend on lottery tickets in a typical month? Spend means how much you are ahead (+$) or behind (-$), or your net win or loss in an average month in the past 12 months.   -$_____
Note: all gambling expenditure figures in the data file have to be preceded by a '+' or '-' or else have separate columns for losses versus wins. Note: for online, there is always a negative sign in the amount box to imply a loss, but people can remove it if they wish to denote a win. Would you say
- Unsure (8888)
- refused (9999)

GY2a. In the past 12 months, how often have you purchased **raffle or fundraising tickets**? Would you say about
- 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, or (1)
- not at all (0) (Go to GY3a)
- Unsure (8888)
- refused (9999)

GY2b. Roughly how much money do you spend on raffle tickets in a typical month?   -$_____ Note: all gambling expenditure figures in the data file have to be preceded by a '+' or '-' or else have separate columns for losses versus wins. Note: for online, there is always a negative sign in the amount box to imply a loss, but people can remove it if they wish to denote a win. Would you say
- Unsure (8888)
- refused (9999)

GY3a. In the past 12 months, how often have you purchased **instant win scratch tickets**?
- 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, or (1)
- not at all (0) (Go to GY4a)
- Unsure (8888)
- refused (9999)

GY3b. Roughly how much money do you spend on instant win tickets in a typical month?   -$_____ .
- Unsure (8888)
- refused (9999)

GY4a. In the past 12 months, how often have you bet money on **sporting events** (this includes sports pools and Sports Select tickets)?
- 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, or (1)
- not at all (0) (Go to GY5a)
- Unsure (8888)
- refused (9999)

GY4b. Roughly how much money do you spend on sports betting in a typical month? -$_____
- Unsure (8888)
- refused (9999)

GY5a. In the past 12 months, how often have you bet money on **horse 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, or (1)
- not at all (0) (Go to GY6a)
- Refused/don't know (9999)

GY5b. Roughly how much money do you spend on horse or dog race betting in a typical month? _____
- Unsure (8888)
- refused (9999)

GY6a. In the past 12 months, how often have you played **bingo** for money? 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, or (1)
- not at all (0) (Go to GY7a)
- Unsure (8888)
- refused (9999)

GY6b. Roughly how much money do you spend on bingo in a typical month? (includes electronic bingo, satellite bingo) -$_____
- Unsure (8888)
- refused (9999)

GY7a. In the past 12 months, how often have you played **slot machines, video lottery terminals, or other electronic gambling machines** (e.g. keno) at an Ontario casino or racetrack? 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, or (1)
- not at all (0) (Go to GY8a)
- Unsure (8888)
- refused (9999)

GY7b. Roughly how much money do you spend on slot machines, video lottery terminals, or other electronic gambling machines at an Ontario casino or racetrack in a typical month? -$_____
- Unsure (8888)
- refused (9999)

GY7c. Are you a member of the Winners Circle Reward Program?
- No (0)
- Yes (1)
- Unsure (8888)
- refused (9999)

GY8a. In the past 12 months, how often have you played casino **table games** such as blackjack, roulette, baccarat, poker, or craps at an Ontario casino? 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, or (1)
- not at all (0) (Go to GY9a)
- Unsure (8888)
- refused (9999)

GY8b. Roughly how much money do you spend on casino table games at Ontario casinos in a typical month? -$_____
- Unsure (8888)
- refused (9999)

GY8c. Are you a member of the Winners Circle Reward Program? (do not ask if GY7c has already been asked)
- No (0)
- Yes (1)
- Unsure (8888)
- refused (9999)

GY9a. In the past 12 months, how many times have you gambled at a **casino outside of Ontario**? _____
- not at all (0) (go to GY10a)
- Unsure (8888)
- refused (9999)

GY9b. Roughly how much money do you spend per visit, this would include both your gambling and travel costs.
$_____
- Unsure (8888)
- refused (9999)

GY9c. Where do you go?
- Nevada (1)
- Atlantic City (New Jersey) (2)
- Another State (3)
- Another Province (4)
- Cruise Ships (5)
- Other (6)
- Unsure (8888)
- refused (9999)

GY10a. In the past 12 months, how often have you gambled or **bet money against other people** on things such as poker, other card games; golf, pool, darts, bowling; video games; board games, etc.? Would you say
Note: Poker played in a casino should be recorded under G8a. Also, if asked, this includes Internet gambling.
- 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, or (1)
- not at all (0) (Go to GY11a)
- Unsure (8888)
- refused (9999)

GY10b. Roughly how much money do you spend gambling or betting money against other people in a typical month? -$_____
- Unsure (8888)
- refused (9999)

GY11a. In the past 12 months have you used the **Internet for gambling**? This would include things such as playing poker, buying lottery tickets, betting on sports, bingo, slots or casino table games for money?
- yes (1)
- no (0) (go to GY13a)
- Unsure (8888)
- refused (9999)

GY11b. Roughly how much money do you spend gambling on the Internet in a typical month? -$_____
- Unsure (8888)
- refused (9999)

GY11c. What is the main type of Internet gambling you engage in? (read out if necessary)
- buying lottery tickets (1)
- Instant win ticket (2)
- Bingo (3)
- Slot machines or other electronic gambling machines (4)
- Casino table games (i.e., blackjack, baccarat, roulette, craps, etc.) (5)
- Poker (6)
- Horse race betting (7)
- Sports Betting (8)

- High risk stocks, options, futures, or day trading (9)
- Other_____ (91)
- Unsure (8888)
- refused (9999)

GY12a. In the past 12 months, how often did you purchase **high risk stocks, options or futures or day trade** on the stock market? Would you say
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. If someone mentions RRSPs, mutual funds, or portfolios, this question does not apply to them.
- 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, or (1)
- not at all (0) (Go to NEXT SECTION)
- Other_____ (91)
- Unsure (8888)
- refused (9999)

GY12b. What do you estimate is your net loss or gain in a typical month from high risk stocks, options, futures, or day trading? -$_____ or +$_____
- Unsure (8888)
- refused (9999)

GY13a. In the past 12 months have you engaged in **other forms of gambling** that haven't been mentioned (e.g., betting on cock or dog fighting, etc.)?
- Yes (1)
- No (0) (go to GY12a)

GY13b. What are these forms?_____

GY13c. In the past 12 months, how often did you participate in these other forms of gambling?
- 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 (0) (Go to GY12a)

GY13d. Roughly how much money do you spend on these other forms of gambling in a typical month? -$_____

GY14. Would you say your gambling has increased, decreased, or stayed the same in the past year, compared to previous years?
- Increased (1)
- Decreased (2)
- About the same (3)
- Unsure (8888)
- refused (9999)

GAMBLING MOTIVATION

GM1. What would you say is the main reason that you gamble? Would you say…
- For excitement/entertainment/fun (1)
- to win money (2)
- to escape or distract yourself (3)
- to socialize with family or friends (4)
- to support worthy causes, or (5)
- because it makes you feel good about yourself (6)
- Other_____ (91)
- Unsure (8888)
- refused (9999)

PROBLEM GAMBLING

Go directly to the DEMOGRAPHICS SECTION if person has not gambled at least once a month on some form in the past year (excluding lottery tickets and raffle tickets).

Note: If people clearly indicate that they don't have problems with gambling, say "I need to ask the rest of these questions in any case". However, if a person conveys this in a very insistent way or repeats this comment at any point, then they are not asked the rest of the questions and receive a score of 0 on each of the questions they would have normally been asked in this section (up to GP19). If a person refuses to answer these questions and it is unclear whether they actually have gambling problems, then the rest of the questions are not asked and no values are imputed.

When answering the questions throughout the remainder of the survey, please think about the past 12 months. (RDD only)

Please answer each of the following questions in this section, even if none apply to you (Online only)

GP1. 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, or (2)
- almost always (3)
- Unsure (8888)
- refused (9999)

GP2. 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, or (2)
- almost always (3)
- Unsure (8888)
- refused (9999)

GP3. CPGI3/PPGM14. 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, or (2)
- almost always (3)
- Unsure (8888)
- refused (9999)

GP4. CPGI4/PPGM8b. 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, or (2)
- almost always (3)
- Unsure (8888)
- refused (9999)

GP5a. CPGI5/PPGM1a. In the past 12 months, have you borrowed money or sold anything to get money to gamble? Would you say
- never (0) (go to GP6a)
- sometimes (1)
- most of the time, or (2)
- almost always (3)
- Unsure (8888)
- refused (9999)

GP5b. In the past 12 months, about how much money have you borrowed or obtained from selling possessions in order to gamble? $_____
- Unsure (8888)
- refused (9999)

GP6a. CPGI6/PPGM1b. In the past 12 months, has your gambling caused any financial problems for you or your household? Would you say:
- never (0) (go to GP7a)
- sometimes (1)
- most of the time, or (2)
- almost always (3)
- Unsure (8888)
- refused (9999)

GP6b. In the past 12 months, have you filed for bankruptcy because of gambling?
- no (0)
- yes (1)
- Unsure (8888)
- refused (9999)

GP7a. CPGI7/PPGM4. In the past 12 months, has your gambling caused you any health problems, including stress or anxiety? Would you say:
- never (0) (go to GP8)
- sometimes (1)
- most of the time, or (2)
- almost always (3)

- Unsure (8888)
- refused (9999)

GP7b. In the past 12 months have these health problems caused you to seek medical or psychological help?
- no (0)
- yes (1)
- Unsure (8888)
- refused (9999)

GP8. CPGI8/PPGM7. 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, or (2)
- almost always (3)
- Unsure (8888)
- refused (9999)

GP9. 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, or (2)
- almost always (3)
- Unsure (8888)
- refused (9999)

GP10a. 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) (go to GP11a)
- yes (1)
- Unsure (8888)
- refused (9999)

GP10b. In the past 12 months have you thought of committing suicide because of gambling?
- no (0) (go to GP11a)
- yes (1)
- Unsure (8888)
- refused (9999)

GP10c. In the past 12 months have you attempted suicide because of gambling?
- no (0)
- yes (1)
- Unsure (8888)
- refused (9999)

GP11a. PPGM3a. 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) (go to GP12a)
- yes (1)
- Unsure (8888)
- refused (9999)

GP11b. In the past 12 months has gambling ever caused an instance of domestic violence in your household?
- no (0)
- yes (1)
- Unsure (8888)
- refused (9999)

GP11c. Has your involvement in gambling resulted in separation or divorce in the past 12 months?
- no (0)
- yes (1)
- Unsure (8888)
- refused (9999)

GP12a. PPGM3b. Has your involvement in gambling caused you to repeatedly neglect your children or family in the past 12 months?
- no (0) (go to GP13a)
- yes (1)
- Unsure (8888)
- refused (9999)

GP12b. In the past 12 months, has child welfare services become involved because of your gambling?
- no (0)
- yes (1)
- Unsure (8888)
- refused (9999)

GP13a. PPGM5. 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?
- no (0) (go to GP14a)
- yes (1)
- Unsure (8888)
- refused (9999)

GP13b. In the past 12 months, about how many work or school days have you lost due to gambling?_____
- Unsure (8888)
- refused (9999)

GP13c. In the past 12 months, have you lost your job or had to quit school due to gambling?
- no (0) (go to GP14a)
- yes (1)
- Unsure (8888)
- refused (9999)

GP13d. In the past 12 months, have you received unemployment benefits or welfare payments as a result of losing your job because of gambling?
- no (0)
- yes (1)
- Unsure (8888)
- refused (9999)

GP14a. PPGM6. 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) (go to GP15)
- yes (1)
- Unsure (8888)
- refused (9999)

GP14b. In the past 12 months, about how much money have you illegally obtained in order to gamble? $_____
- Unsure (8888)
- refused (9999)

GP14c. In the past 12 months, have you been sued to get back money you spent gambling?
- no (0)
- yes (1)
- Unsure (8888)
- refused (9999)

GP14d. In the past 12 months, has your gambling been a factor in your committing a crime for which you have been arrested?
- no (0) (go to GP15)
- yes (1)
- Unsure (8888)
- refused (9999)

GP14e. Were you convicted for this crime?
- no (0) (go to GP15)
- yes (1)
- Unsure (8888)
- refused (9999)

GP14f. What was the offence?_____
- Unsure (8888)
- refused (9999)

GP14g. Were you incarcerated for this crime?
- no (0) (go to GP15)
- yes (1)
- Unsure (8888)
- refused (9999)

GP14h. How many days were you incarcerated for?_____
- Unsure (8888)
- refused (9999)

GP15. PPGM8. Have you often gambled longer, with more money or more frequently than you intended to in the past 12 months?
- no (0)
- yes (1)
- Unsure (8888)
- refused (9999)

GP16a. PPGM10a. In the past 12 months, have you made attempts to either cut down, control or stop gambling?
- no (0) (go to GP17b)
- yes (1)
- Unsure (8888)
- refused (9999)

GP16b. PPGM10b. Were you successful in these attempts?
- no (1)
- yes (0)
- Unsure (8888)
- refused (9999)

GP17a. PPGM13a. In the past 12 months, when you did try cutting down or stopping did you find you were very restless or irritable?
- no (0)
- yes (1)
- Unsure (8888)
- refused (9999)

GP17b. PPGM13b. In the past 12 months, have you had strong cravings for gambling?
- no (0)
- yes (1)
- Unsure (8888)
- refused (9999)

GP18. PPGM10. In the past 12 months, would you say you have been preoccupied with gambling?
- no (0)
- yes (1)
- Unsure (8888)
- refused (9999)

GP19. PPGM11 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)
- Unsure (8888)
- refused (9999)

Go to the instructions prior to GP25 unless person scores 5 or more on the CPGI.

GP20a. Are there particular types of gambling that have contributed to your problems more than others?
- no (0) (go to GP21a)
- yes (1)
- Unsure (8888) (go to GP21a)
- refused (9999) (go to GP21a)

GP20b. Which ones? (do not read options)
- Lotteries (1)
- Instant win tickets (2)
- Bingo (3)
- Slot machines or other electronic gambling machines (i.e., VLTs) (4)
- Casino table games (i.e., blackjack, baccarat, roulette, craps, etc.) (5)

- Games of skill against other people (e.g., poker, pool, etc.) (6)
- Horse or dog racing (7)
- Sports Betting (8)
- High risk stocks, options, futures, or day trading (9)
- Other_____ (91)

GP21a. Have you ever *wanted* help for gambling problems in the past 12 months?
- no (0) (go to GP22)
- yes (1)
- Unsure (8888)
- refused (9999)

GP21b. Have you *sought* help for gambling problems in the past 12 months?
- no (0) (go to GP22)
- yes (1)
- Unsure (8888)
- refused (9999)

GP21c. Where did you seek help from? (do not read options)
- friends (1)
- family (2)
- Gambler's Anonymous (3)
- family doctor (4)
- psychologist (5)
- psychiatrist (6)
- counselling service (7)
- pastor/minister/priest/etc. (8)
- telephone help/hotline (9)
- other_____ (91)
- Unsure (8888)
- refused (9999)

GP22a. Have you signed any self-exclusion agreement with any Ontario casino or racetrack in the past 12 months to ban yourself from that facility?
- no (0) (go to GP23)
- yes (1)
- Unsure (8888)
- refused (9999)

GP22b. Was this helpful in curbing your gambling?
- no (0)
- yes (1) (go to GP23)
- Unsure (8888)
- refused (9999)

GP22c. Why not?_____

GP23. Which of the following do you think would be most helpful in curbing **your** gambling (choose 1 only)
- having less stress or fewer problems in your life (1)
- receiving therapy (2)
- better public education (e.g., more information about the odds, gambling fallacies, the signs of problem gambling, where to get help for problem gambling, etc.) (3)
- making gambling less available (e.g., reducing or banning casinos, reducing or banning EGMs, reducing hours of operation, reducing the number of types of gambling available, etc.)(4)
- more restrictions on how gambling is provided (e.g., eliminating ATMs from casinos, intervention by casino staff if they see someone has problems, greater restrictions on tobacco and alcohol, having preset spending limits on EGMs, reducing the maximum allowed bet or payout, eliminating reward programs, more effective casino self-exclusion programs, etc.) (5)
- other (6)_____

GP24. Roughly how many years have you had problems with gambling?_____
- Unsure (8888)
- refused (9999)

The following question only asked of people who have a score of 5 or higher on the CPGI, but only report gambling once a month.

GP25. I notice you report having some potential problems with gambling, but you do not gamble more than once a month. Can you explain?
_____
- Unsure (8888)
- refused (9999)

The following question only asked of people who have a score of 0 on the CPGI, but report a total past year gambling loss of $2000 or more. LOSS1 = 12*(GY1b_n1 - GY1b_n2 + GY2b_n1 - GY2b_n2 + GY3b_n1 - GY3b_n2 + GY4b_n1 - GY4b_n2 + GY5b_n1 - GY5b_n2 + GY6b_n1 - GY6b_n2 + GY7b_n1 - GY7b_n2). LOSS2 = (12*(GY8b_n1 - GY8b_n2 + GY10b_n1 – GY10b_n2 + GY13d_n1 – GY13d_n2 + GY11b_n1 – GY11b_n2 + GY12b_n1 – GY12b_n2)) + (GY9a_n*(GY9b_n1 - GY9b_n2))
LOSS = LOSS1 + LOSS2.

GP26. I notice you report having lost over $2000 to gambling in the past 12 months, but don't report any problems or concerns with this. Can you explain?
_____
- Unsure (8888)
- refused (9999)

The following question only asked of people who have a score of 5 or higher on the CPGI, but only report gambling once a month.

GP27. Would you like to know about the free gambling and mental health treatment services in your local area?
- no (0)
- yes (1) -> 1-888-230-3505 is the Ontario Problem Gambling toll-free help line.
- Unsure (8888)
- refused (9999)

DEMOGRAPHICS

I just have a few final questions about your background so we can keep track of the characteristics of people who participate in the survey.

D3. At the present are you.............?
- Single (never married and not living common-law) (0)
- In common-law relationship (1)
- married (2)
- Separated, but still legally married (3)
- divorced , or (4)
- widowed (5)
- refused (9999)

D4a. Do you have any children?
- yes (1)
- no (0) (go to D5a)

D4b. How many?_____

D5c. How many are living at home?_____

D5a. Could you tell me how many adults age 18 or older _including_ yourself live in your household?
- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5+ (5)
- Unsure (8888)

D5b. How many of these people have cell phones?_____
- Unsure (8888)
- Refused (9999)

D6. What is the highest degree, certificate or diploma you have received?
- No degree, certificate or diploma (1)
- High School graduation certificate (2)
- Trades certificate or diploma (3)
- College certificate or diploma (4)
- University certificate or diploma below bachelor level (5)
- Bachelor's degree (6)
- University certificate or diploma above bachelor level (7)
- Master's degree, Doctorate, or Medical degree (8)
- refused (9999)

D7. Which category best describes your current employment situation?
- Unemployed (0)
- Retired and not working for $ (1)
- Homemaker and not working for $ (2)
- Full-time Student and not working for $ (3)
- Sick leave, maternity leave, on strike, on disability (4)

- Employed part-time (this category includes people who may also be retired, or a homemaker, or fulltime student) (5)
- Employed full-time (6)
- Other (7)_____

D8. What was your approximate personal income last year? (If person is hesitant, read categories)
- Under $5,000 (1)
- $5,000 - $9,999 (2)
- $10,000 - $14,999 (3)
- $15,000 – $19,999 (4)
- $20,000 - $24,999 (5)
- $25,000 - $34,999 (6)
- $35,000 - $49,999 (7)
- $50,000 – $74,999(8)
- $75,000 - $99,999 (9)
- $100,000 - $149,999 (10)
- $150,000 - $199,999 (11)
- $200,000 - $249,999 (12)
- $250,000 and over (13)
- Unsure (8888)
- refused (9999)

D9a. What do you estimate your current household debt to be? This would include mortgages, credit cards, loans, car payments, etc.? Would you say (keep on reading options until respondent provides answer; start with more than $500K option)
- 0 (no debt) (0)
- Less than $10,000 (1)
- $10,000 (2)
- $20,000 (3)
- $40,000 (4)
- $60,000 (5)
- $80,000 (6)
- $100,000 (7)
- $120,000 (8)
- $140,000 (9)
- $160,000 (10)
- $180,000 (11)
- $200,000 (12)
- $300,000 (13)
- $400,000 (14)
- $500,000 (15)
- More than $500,000 (16)
- Exact amount_____ (17)
- Unsure (8888)
- refused (9999)

Do not ask D10b of people who did not qualify for the PROBLEM GAMBLING SECTION and/or have no debt.

D9b. What percentage of this debt has resulted from gambling?_____
- Unsure (8888)
- refused (9999)

D10. Were you born in Canada?
- No (0)
- Yes (1)
- Refused (9999)

D11. What are the main ethnic or cultural origins of your ancestors? Would you say…(people can choose multiple categories)
- European (1)
- Middle Eastern (2)
- South Asian *(i.e., Bangladesh,, India, Pakistan, Sri Lanka)* (3)
- East Asian (*i.e., Cambodia, China, Hong Kong, Indonesia, Japan, Korea, Laos, Malaysia, Phillipines, Thailand, Vietnam, Taiwan)* (4)
- Aboriginal, Inuit or Métis (5)
- African (6)
- Latin American *(i.e., Mexico, all Central American countries, all South American countries)* (7)
- Other_____ (8)
- Unsure (8888)
- refused (9999)

If person provides a specific country that fits into one of these categories then code it into that category. If person answers 'Canadian', 'white', or something similar, then ask a clarifying question (e.g., Where did your ancestors live before coming to Canada, etc.).

D12. What is your postal code?_____
- Unsure (8888)
- refused (9999)

ADDITIONAL VALIDITY TRIGGERS

V9. On a scale from 1 to 5, how truthfully have you answered the questions in this survey, with a 5 being completely truthfully and a 1 being not at all truthful?
- 1 (1) not at all truthful
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- Prefer not to say (6) (for online only)

The following questions are not asked:

V11. GA2 = -1 & GA3a = +1
- No (0)
- Yes (1)

V12. GA3a = -1 & GA4a = +1
- No (0)
- Yes (1)

V13. Length of time to complete the survey_____

Appendix C: Problem and Pathological Gambling Measure

The PPGM is an 18 item assessment instrument with a maximum score of 14 with questions organized into three sections: Problems (10 questions), Impaired Control (5 questions), and Other Issues (3 questions). Similar to the CPGI, the PPGM uses a 12 month time frame, recognizes there to be a continuum of gambling with four categories (Recreational Gambler, At-Risk Gambler, Problem Gambler, Pathological Gambler), and has been field tested and refined over several years with both clinical *and* general population samples (unpublished work). However, it diverges from other problem gambling measures in several important respects:

1. *All* potential harms of problem gambling are addressed (financial, mental health, health, relationship, work/school, legal) with these questions ordered from least commonly to most commonly endorsed. This is in contrast to traditional instruments (i.e., DSM, CPGI, SOGS) where not all the possible harms of problem gambling are covered. For example, mental health problems are not asked about in the DSM and only indirectly in the SOGS (i.e., presence of guilt). Physical health problems are not addressed in either the DSM or SOGS. School and work problems are not covered in the CPGI. Engagement in illegal activities to support gambling is not addressed in the CPGI and only partially addressed in the SOGS (i.e., passing bad cheques). Financial problems are not well addressed in the DSM (i.e., relies on others to provide money). The failure to provide comprehensive coverage of the potential harms of problem gambling means that a small number of people reporting certain valid signs/symptoms of problem gambling may not be correctly identified.

2. To better capture problem gamblers in denial or who lack insight, PPGM harm questions allow for either direct admission of a problem/harm, or endorsement of something that indicates harm is occurring regardless of whether the person is willing to call it a problem.

3. All harm questions are phrased to inquire whether the person's gambling has created difficulties either for the individual himself/herself "or someone close to you". This is in contrast to traditional instruments where almost all the harm questions refer to problems experienced by the gambler, rather than harms that he/she may be causing in his/her immediate social network.

4. To provide better face and construct validity, to be classified as a '**Problem Gambler'** the person is normally required to endorse 1 or more items from the Problems section and 1 or more items from the Impaired Control section. Endorsement of several problems and indices of impaired control will typically lead to the person being classified as a '**Pathological Gambler'**. Endorsement of a problem or impaired control, but not both, typically leads to classification as an '**At Risk'** Gambler. Gamblers who do not meet the criteria for Problem, Pathological, and At Risk, are deemed to be '**Recreational'** Gamblers.

This approach contrasts with traditional instruments where all items have an equal weighting so that any pattern of item endorsement that meets the necessary quantitative threshold is sufficient for designation of problem/pathological gambling (i.e., despite the fact that some items are more serious and/or diagnostic than others). Consequently, it is possible to be classified as a problem/pathological gambler without actually endorsing any significant problems or harm deriving from one's gambling. Similarly, it is possible to indicate the presence of significant problems deriving from one's gambling without being classified as a problem gambler. Most people would agree that for someone to be a problem gambler there *needs* to be evidence of a) significant negative consequences, and b) impaired control (Neal, Delfabbro, & O'Neil, 2005).

5. To minimize false positives, to be labeled as either a Problem or Pathological gambler the person also has to report gambling at least once a month on some form of gambling in the past year. None of the traditional instruments require the person to report corroborating gambling behaviour to support their report of problem gambling symptomatology. All population surveys contain a small but significant portion of people who score in the problem gambling range but report very little past year history of gambling behaviour. Research by Williams & Volberg (2009, 2010) shows that a significant portion of these individuals are not really problem gamblers. Requiring a minimal amount of gambling frequency (e.g., gambling once a month or more) before being designated as a problem gambler effectively excludes these false positives without excluding any genuine problem gamblers (Williams & Volberg, 2009, 2010).

6. To minimize false negatives (i.e., to better capture problem gamblers in denial), a person can be classified as a Problem Gambler if:
   - He/she indicates a) there are *other* people who would say he/she has significant problem(s) deriving from his/her gambling and b) there are *other* people who would say he/she has significant difficulty controlling his/her gambling.
   - OR
   - He/she endorses 3 or more items from any of the 3 categories as long as their frequency of gambling and gambling losses are *equal to or greater than the median for unambiguously identified Problem and Pathological Gamblers*.
   - Similarly, an individual can be designated as an At Risk gambler without endorsement of any problem gambling questions if his/her frequency of gambling and gambling losses are equal to or greater than the median for unambiguously identified Problem and Pathological Gamblers.

Problem and Pathological Gambling Measure (PPGM)

1a. Has your involvement in gambling caused you either to borrow a significant [31] amount of money or sell some of your possessions in the past 12 months? (Yes/No).

1b. Has your involvement in gambling caused significant **financial concerns** for you or someone close to you in the past 12 months? (Yes/No).   (Note: do not score 1 for 1b if 1 has already been scored for 1a).

2. 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? (Yes/No).

3a. Has your involvement in gambling caused serious problems [32] in your **relationship with your spouse/partner, or important friends or family** in the past 12 months? (Note: Family is whomever the person themselves defines as "family")(Yes/No).

3b. Has your involvement in gambling caused you to repeatedly neglect your children or family in the past 12 months? (Yes/No). (Note: do not score 1 for 3b if 1 has already been scored for 3a).

4. Has your involvement in gambling resulted in significant **health problems** or injury for you or someone close to you in the past 12 months? (Yes/No).

5a. Has your involvement in gambling caused significant **work or school problems** for you or someone close to you in the past 12 months? (Yes/No).

5b. Has your involvement in gambling caused you to miss a significant amount of time off work or school in the past 12 months? (Yes/No). (Note: do not score 1 for 5b if 1 has already been scored for 5a).

6. 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? (Yes/No).

7. Is there anyone else who would say that your involvement in gambling in the past 12 months has caused any significant problems regardless of whether you agree with them or not? (Yes/No).

PROBLEMS SCORE	**/7**

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[31] *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.*

[32] *If people ask what 'problem' means say 'a difficulty that needs to be fixed'.*

8. In the past 12 months, have you often gambled longer, with more money or more frequently than you intended to? (Yes/No).

9. In the past 12 months, have you often gone back to try and win back the money you lost? (Yes/No).

10a. In the past 12 months, have you made any attempts to either cut down, control or stop your gambling? (Yes/No). (go to 11 if 'no') (this item not scored)

10b. Were you successful in these attempts? (Yes/No). (score '1' for no and '0' for yes)

11. In the past 12 months, is there anyone else who would say that you have had difficulty controlling your gambling, regardless of whether you agreed with them or not? (Yes/No).

IMPAIRED CONTROL SCORE	/4

12. In the past 12 months, would you say you have been preoccupied with gambling? (Yes/No).

13. In the past 12 months, when you were not gambling did you often experience irritability, restlessness or strong cravings for it? (Yes/No).

14. 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? (Yes/No).

OTHER ISSUES SCORE	/3

TOTAL SCORE	/14

PPGM Scoring and Classification

PATHOLOGICAL GAMBLER (4)
1. Problems Score of 1 or higher, plus
2. Impaired Control Score of 1 or higher, plus
3. Total Score of 5 or higher, plus
4. Reported gambling frequency of at least once a month on some form of gambling.

PROBLEM GAMBLER (3)
1. Problems Score of 1 or higher, plus
2. Impaired Control Score of 1 or higher, plus
3. Total Score of 2 to 4, plus
4. Reported gambling frequency of at least once a month on some form of gambling.
OR
1. Total Score of 3 or higher, plus
2. Frequency of gambling[33] AND average reported gambling loss (not net loss)[34] $\geq$ median for unambiguously identified Problem and Pathological Gamblers in the population (i.e., as established by the most recent population prevalence survey).

AT RISK GAMBLER (2) (this category also includes people who may be problem gamblers in denial)
1. Does not meet criteria for Problem or Pathological gambling, plus
2. Total Score of 1 or higher
OR
1. Frequency of gambling[1] AND average reported gambling loss (not net loss)[2] $\geq$ median for unambiguously identified Problem and Pathological Gamblers in the population (i.e., as established by the most recent population prevalence survey).

RECREATIONAL GAMBLER (1)
- Gambler who does not meet criteria for Pathological, Problem or At-Risk gambler.

NON-GAMBLER (0)
- No reported gambling on any form in past year.

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[33] The simplest way of establishing this is using the highest frequency of gambling reported for any individual form in the past year.

[34] Reported gambling losses tend to be a more accurate estimate of true losses compared to net loss, especially in problem gamblers (i.e., problem gamblers often report winning as much or more than they lose and thus may not report any net loss) (Wood & Williams, 2007). Note: The person's income and net worth/debt can be taken into account when deciding whether the gambling loss criterion should apply.

Appendix D: Ontario Gambling Revenue per Adult in 2010/2011 versus Reported Expenditure per Adult in 2010/2011.

Ontario Lottery Corporation (OLG) *Lottery* Revenue (Lotteries, Instant Win, Sports Select) After Prizes but Before Expenses	$1,466,061,000
Charity and OLG *Bingo* Revenue After Prizes but Before Expenses	$147,068,000
Charity *Break Open/Pull-tickets + Raffle* Revenue After Prizes but Before Expenses	$265,000,000
OLG *Slot* Revenue After Prizes but Before Expenses	$2,964,504,000
OLG *Table Game* Revenue After Prizes but Before Expenses	$438,836,000
Horse Racing Revenue After Prizes but Before Expenses	$242,337,000
TOTAL Ontario Gambling Revenue After Prizes but Before Expenses	$5,523,806,000
Minus Estimated % from U.S. residents (44% of Caesar's Windsor = $114,501,000 and 4.6% of Niagara Casinos = $27,591,000)	$5,381,714,000
Number of Ontario Adults (18+) in July 2011	10,514,735
Revenue per Ontario Adult (18+)	$511.83
Sum of total reported 'typical monthly' losses (ignoring wins) from all forms of government-sponsored gambling: lottery tickets, raffles, instant win, sports betting, bingo, horse racing, Ontario EGMs, Ontario table games	$151,565.03
Total sample	4035
Average per person monthly expenditure	$37.56
Average per person monthly expenditure x 12 months	$450.75
Ratio of per person annual expenditure to 2010/2011 revenue per adult	$450.75/$511.83 **= 88.1%**
Sum of total reported 'typical monthly' losses (ignoring wins) from all forms of government-sponsored gambling: lottery tickets, raffles, instant win, sports betting, bingo, horse racing, Ontario EGMs, Ontario table games	$151,565.03
Sum of total reported 'typical monthly' losses (ignoring wins) from all forms of government-sponsored gambling for the 89 PPGM problem and pathological gamblers	$36,575.21
Proportion of total reported expenditures accounted for by problem and pathological gamblers	**24.1%**

Sources: Ontario Lottery and Gaming Corporation Annual Report 2010-2011 and Canadian Gambling Digest 2010-2011.

Appendix E: Canadian Gaming Association critique of the Proportion of Revenue from Problem Gamblers in Ontario

There has been a recent Canadian Gaming Association (CGA) funded critique of the Williams & Wood (2007) study which has questioned our prior estimate of 36% of Ontario gambling revenues coming from Ontario problem gamblers in 2003 (Bernhard & Philander, 2012). These investigators from the College of Hotel Administration at the University of Nevada and the Responsible Gambling Council of Ontario have suggested the true current percentage is closer to 5.7% (compared to the 24.1% found in the present study).

- One of Bernhard & Philander (2012)'s main points was that Ontario gambling revenue derived from out-of-province residents (i.e., primarily from U.S. residents) should be *included* in the determination of the proportion of revenue from problem gamblers. This was quite a substantial amount in 2003, as an estimated 42% of all Ontario Lottery Corporation revenue came from out-of-province patrons. The problem with Bernhard & Philander (2012)'s recommendation is that because only Ontario residents are sampled in the telephone survey to determine the number and percentage of people who are problem gamblers, it is only fair to also restrict the expenditure reports (and OLG revenue) to just Ontario residents. (Unless you wish to take the mercenary approach of only being concerned about the proportion of Ontario gambling revenue derived from *Ontario* problem gamblers). If you wish to factor in the expenditures of out-of-province people then it is important to also establish how many of these out-of-province people are also problem gamblers. It is not possible to know what this number is, but a reasonable presumption is that it would be similar to the rate seen in Ontario residents, and that 36% of out-of-province expenditures also come from out-of-province problem gamblers. The bottom line is that it is misleading to adjust the denominator (total expenditures/revenue) without a corresponding adjustment in the numerator (expenditure/revenue from problem gamblers).

- It is equally misleading to adjust the numerator without a corresponding adjustment in the denominator. The Bernhard & Philander (2012) critique aspired to provide updated figures on the proportion of Ontario revenue from problem gamblers. Consequently, the prevalence rate of problem gambling used in their recalculations was based on the prevalence rate of problem gambling found in the present report, which is much lower than the rate of problem gambling obtained in Ontario in 2003 (i.e., when there are fewer problem gamblers then the proportion of total revenue they account for will generally be lower). However, for some reason, when using their approach of adding in the revenue coming from non-Ontario residents, Bernhard & Philander (2012) chose to use the 42% of all revenue that occurred in 2003 rather than the 2.5% that the Ontario Lottery Corporation reports occurred in 2011. As a consequence, they produce a proportion of revenue figure from problem gamblers in 2011 that is considerably lower than it should be.

- The Bernhard & Philander (2012) critique glossed over the fact that the 36% referred to *all* gambling revenue, and that the revenue most pertinent to the debate about whether urban centres in Ontario should receive casinos (the impetus for the CGA's commissioning of the Bernhard & Philander (2012) report) is the proportion identified from slot machines, which is 61%.

- This critique indicated that the fact that several other studies in other jurisdictions have independently found the proportion of revenue from problem gamblers to vary from 25% to 50% to be irrelevant to the debate, because the analysis needs to be Ontario specific. However, there is very little unique to how Ontario provides gambling, so these independent replications are very pertinent.

- The one valid critique contained in the Bernhard & Philander (2012) report was that using a PGSI 3+ cutoff (rather than 8+) for problem gambling in the Williams & Wood (2007) analysis is not standard practice. This is true. However, many researchers have used the 3+ cutoff because the 8+ cut-off was perceived to be too stringent (i.e., missed many genuine problem gamblers). Subsequent research has confirmed that 8+ is indeed too stringent, but that 3+ is too lenient, and that 5+ is the demarcation that best corresponds to clinically assessed problem gamblers (Hodgins, Currie, & Casey, 2013; Williams & Volberg, 2010; 2013). When applying the 5+ criterion to the Williams & Wood (2007) study, the proportion of revenue from problem gamblers legitimately decreases to 30%.