



ENHJEU - QUEBEC SURVEY

*Portrait of gambling in Quebec: Prevalence, incidence
and trajectories over four years*

ENQUÊTE ENHJEU - QUEBEC

*Portrait du jeu au Québec: Prévalence, incidence et
trajectoires sur quatre ans*

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List of abbreviations

CI: Confidence interval

OR : Odds Ratio

JHA: Jeux de hasard et d'argent

EXECUTIVE SUMMARY

This project is part of the collaborative funding program « *Les jeux de hasard et d'argent au Québec: Portrait des joueurs adultes et prévalence des problèmes associés* » of the Fonds québécois de la recherche sur la société et la culture (FQRSC). This project is conducted over a period of five years. It aims at generating data on the prevalence of gambling behaviours and associated problems among the adult population of Quebec. The project is carried out in two stages – one in 2009, the subject of this report, and another in 2012, a follow-up survey. The current report describes the problems associated with gambling by type of game, and devotes special attention to the prevalence of at-risk and probable pathological gamblers, namely, the most vulnerable groups of the population. The presentation of populational tables in the results allows for recommendations to be made for the prevention of gambling problems and the treatment of players struggling with problems. This report describes the first stage of the project.

Methodology

The study was conducted with a random sample (N = 11,888 respondents) representative of the non-institutionalized population aged 18 and over, speaking French or English, and living in private households throughout the province. The data collection took place between June 8 and August 27, 2009, and between June 8 and June 25, 2009 for the Laurentian region (before the opening of the Casino in Tremblant), yielding an overall response rate of 52.5%. The survey consisted mainly of questions on gambling habits (i.e.

gambling activities, gambling venues, spending, severity of gambling problems), associated problems related to the problematic use of alcohol, cannabis, and tobacco, as well as a number of socio-demographic measures including household income.

Main results

The study reveals that nearly 70% of Quebec adults report having bet or spent money on gambling during the 12 months preceding the survey. The most common activities are found to be lottery (65.2% of players), slot machines (10.1%), poker (4.6%) and video lottery terminals (4.6%). It is estimated that Quebecers spend annually an average of \$483 on gambling activities.

Regarding the severity of gambling problems in the population, besides the 29.5% of the population who do not gamble, 68.5% of Quebecers are either non-problem gamblers or at low risk of developing problems, 1.3% are considered to be at moderate risk for problems, and 0.7% meet the criteria for probable pathological gamblers. Overall, there are proportionately more men, young adults (25 to 34 years), people with low educational attainment, and individuals from low-income households among moderate-risk gamblers and probable pathological gamblers. The latter two groups are more likely to gamble on slot machines and video lottery terminals; they also gamble more frequently and spend substantially higher amounts while gambling. They are also more likely to report problems associated with

gambling, such as hazardous drinking or alcohol dependence, as well as cannabis use.

Furthermore, the study found an association between betting on video lottery terminals and online gambling on the one hand and between problem gambling and associated problems on the other. Gamblers on VLTs, like online gamblers, are more likely to be at risk for developing gambling problems: they report spending significantly larger amounts of money on gambling activities than gamblers in general. In addition, they engage more frequently in certain addictive behaviours, such as daily smoking, problematic alcohol use and cannabis use.

Conclusion

The survey results point to the importance of reaching out to the gamblers at risk to help them and their families before their gambling habits evolve into a critical state, that is, to become pathological. Moreover, certain associations are found between at-risk and pathological gambling and other addictive behaviours related to alcohol, illicit drugs and smoking. Other research data indicate the high prevalence of depression and anxiety in the Quebec population and restate the importance of envision interventions with these players in a global perspective. Clinicians working with pathological gamblers remind us that gambling is part of a larger personal problem. Although a study such as ours cannot address this complex issue, this complex co-occurring problems must be taken into account in social policies, services, and treatment programs.

SOMMAIRE

Ce projet s'inscrit dans le cadre de l'action concertée « *Les jeux de hasard et d'argent au Québec : Portrait des joueurs adultes et prévalence des problèmes associés* » du Fonds québécois de la recherche sur la société et la culture (FQRSC). Ce projet s'échelonne sur une période de cinq ans. Il vise à produire, pour la population adulte du Québec, des données sur la prévalence des comportements et des problèmes associés aux jeux de hasard et d'argent (JHA). L'étude se fait en deux temps - en 2009, objet du présent rapport, et en 2012, objet d'une enquête de suivi. Le présent rapport décrit les problèmes liés aux jeux de hasard et d'argent par type de jeu et accorde une attention particulière à la prévalence des joueurs à risque et des joueurs pathologiques probables, les groupes les plus vulnérables de la population. Parce qu'ils présentent un tableau populationnel, les résultats permettent de faire les recommandations relatives à la prévention des problèmes liés au JHA et au traitement des joueurs aux prises avec des problèmes. Ce rapport fait état de la première étape du projet.

Méthodologie

L'étude a été menée auprès d'un échantillon aléatoire (N = 11 888 répondants) représentatif de la population du Québec non institutionnalisée de 18 ans et plus, parlant français ou anglais, vivant dans l'ensemble des ménages privés sur tout le territoire québécois. La collecte a eu lieu entre 8 juin et le 27 août 2009, et entre le 8 juin et le 25 juin 2009 pour la région des Laurentides (avant l'ouverture du Casino Tremblant) pour un taux de

réponse global de 52,5 %. Le questionnaire comportait principalement des questions sur les habitudes de jeu (activités de jeu, lieux de jeu, dépenses, gravité des problèmes de jeu), certains problèmes associés tels l'usage problématique d'alcool et l'usage de cannabis et du tabac ainsi qu'une série de mesures sociodémographiques incluant le revenu familial.

Principaux résultats

L'étude révèle que près de 70 % des adultes du Québec déclarent avoir parié ou dépensé de l'argent à un JHA au cours des 12 mois précédant l'enquête. Parmi les activités les plus courantes, on retrouve la loterie (65,2 %), les machines à sous (10,1 %), le poker (4,6 %) et les appareils de loterie vidéo (4,6 %). On estime que les Québécois dépensent annuellement en moyenne 483 \$ sur les JHA.

Quant à la gravité des problèmes de jeu dans la population, outre les 29,5 % de non-joueurs, 68,5 % des Québécois sont des joueurs sans problème ou à faible risque de développer un problème de jeu alors que 1,3 % de la population adulte est considérée à risque modéré de développer un problème et 0,7 % des joueurs pathologiques probables. On retrouve proportionnellement plus d'hommes, de jeunes (25 à 34 ans) et de personnes avec un faible niveau de scolarité ou issues d'un ménage à faible revenu parmi les joueurs à risque modéré et les joueurs pathologiques probables. Ces deux derniers groupes sont également plus nombreux à parier sur les machines à sous et les appareils de loterie vidéo; ils jouent plus fréquemment et

dépendent des montants plus substantiels au jeu. Ils sont également plus nombreux à rapporter certains problèmes associés au jeu, tels la consommation à risque d'alcool ou une dépendance probable à l'alcool ainsi que l'usage de cannabis.

L'étude révèle également une association entre la participation aux appareils de loterie vidéo et la participation au jeu en ligne, d'une part, et certains problèmes de jeu ainsi que des problèmes associés, d'autre part. Les joueurs d'ALV comme les joueurs en ligne sont proportionnellement plus nombreux à être à risque de développer un problème de jeu : ils déclarent des dépenses au jeu sensiblement plus élevées que les joueurs en général. En outre, ils rapportent plus fréquemment certaines conduites addictives, telles l'usage quotidien de cigarettes, la consommation à risque d'alcool et l'usage de cannabis.

Conclusion

Les résultats de notre enquête renvoient à l'importance de rejoindre en priorité les joueurs à risque afin de les aider et d'aider leurs proches avant que leurs habitudes de jeu n'évoluent vers une situation critique, pathologique. On constate également des associations entre le jeu à risque et pathologique et d'autres conduites addictives avec l'alcool, les drogues et le tabac. D'autres données de recherche signalent les prévalences élevées de la dépression et l'anxiété dans la population du Québec et rappellent l'importance de penser aux interventions avec ces joueurs dans une perspective globale. Les cliniciens qui voient des joueurs pathologiques en consultation nous rappellent que le jeu s'inscrit dans une problématique personnelle qu'une enquête comme la nôtre ne peut saisir, mais dont il faut tenir compte dans les politiques sociales et de santé, l'organisation des services et les programmes de traitement.

1. INTRODUCTION

In Québec, like everywhere else in the world, gambling, its prevalence and harmful effects are an important public health concern. Most prevalence studies conducted in industrialized countries show that between 60 and 85% of the adult population take part in at least one form of gambling [1-4]. In Québec, four out of five adults reported having gambled in 2001-2002. This rate of participation proved comparable to that of other Canadian provinces with the exception of British Columbia [5] and Ontario which had rates of 73% and 63% respectively.

While the revenue generated by gambling operators has increased substantially in recent years [6] in Canada and numerous other industrialized countries [4, 7], the global rate of participation in gambling remains stable and seems to be declining in certain jurisdictions in North America and elsewhere in the world. The prevalence of gambling problems also seems fairly stable. Data from the last two provincial studies conducted in Québec reveal relatively stable prevalence rates of 1.4% for at-risk gamblers and 1.0% for probable pathological gamblers in 1996 compared to 0.8% for at-risk gamblers and 0.9% for probable pathological gamblers in 2002. While pan-Canadian studies show the prevalence of pathological gambling to be fairly similar from one province to another, Québec is one of the provinces with the lowest rates of pathological gambling [7].

In January 2009, the *Portrait du jeu au Québec: Prévalence, incidence et trajectoires sur quatre*

ans (ENHJEU-Québec) project received financial support from the Fonds québécois de recherche sur la société et la culture as part of a collaborative funding program. The ENHJEU-Québec project consists of two main components. The aim of the first is to produce an epidemiological portrait of gambling in the general adult population and its subgroups by conducting two population surveys in 2009 and 2011. The second component proposes following a cohort of gamblers with different gambling severity statuses for a two-year period to better understand gambling trajectories and cycles of psychopathology.

This document is a progress report describing the principal results of the first survey, carried out between June and September 2009 (see Box 1 for study methods). Its aim is to describe the prevalence of gambling in the general adult population. It presents the sociodemographic characteristics of gamblers, describes their game-play patterns and examines the co-occurrence of other addictive behaviours among various types of gamblers. Special attention is paid to gamblers' video lottery terminals (VLT) and Internet gambling habits. The report concludes with comparisons with the previous survey on gambling in the general adult population of Québec, conducted in 2002. However, as we did not have access to the survey's raw data, comparisons are presented as a rough guide only.

In the past five years, several changes have occurred in Québec's gambling landscape. Loto-Québec posted its first ever drop in revenue in 2005-2006 after more than 35 years of growth. According to Loto-Québec's *Annual Report* [8], this drop was essentially due to the new Tobacco Act and the reconfiguration of the VLT network. Is this decrease in VLT revenue also associated with a decrease in problem gambling? It is an interesting hypothesis but three occurrences

cloud the issue: first, Loto-Québec opened Ludoplexes in two regions of the province and a casino in Tremblant; second, there has been a marked increase in interest in poker, and finally, online gambling has now become accessible to a large number of Quebeckers via the Internet (and will soon be accessible through the public corporation). In short, the gambling landscape is changing and these transformations risk having an impact on Quebeckers' gambling habits.

METHODOLOGICAL ASPECTS

Target Population. We interviewed the French- or English-speaking, non-institutionalized Québec population aged 18 years and older living in private households.

Survey Design. The study sample was selected using a two-stage proportional random stratified design. In the first stage, a non-proportional stratified sample of households from the 16 administrative regions of Québec was used. Initially, the number of interviews to be completed per stratum was proportional to the square root of the estimated population of the stratum. An additional 1 888 respondents were added in the Laurentian region to permit special analyses to be carried out before the Tremblant casino opened. In the second stage, the sample was comprised of one interviewee selected at random from people 18 years and older living in the household.

Data Collection. Data collection was conducted between June 8 and August 27, 2009, and between June 8 and June 25, 2009 for the Laurentian region, via computer-assisted interviews lasting an average of 12.4 minutes.

Questionnaire. Numerous topics were explored, primarily concerning gambling habits (gambling activities, gambling venues, spending, associated problems, severity of gambling-related problems [9]) alcohol consumption (lifetime and past-year use), harmful drinking and probable alcohol dependence [10] as well as cannabis use. A series of sociodemographic measures including family income were also assessed in the survey. The income adequacy measure was based on the total gross household income and the number of persons living in the household.

Respondents. In total, 11 888 telephone interviews were conducted for a response rate of 52.5%. The response rate was 55% or more for all regions except Montréal (54%) and the Laurentians (41.3%). In the Laurentian region, it was necessary to complete all interviews before the opening of the Tremblant casino, which made it impossible to achieve the minimum required response rate of 55%.

Estimate Precision. A confidence interval (CI) of 95% was used to evaluate estimate precision. This signifies that if one were to take a large number of samples from the target population (i.e. the general adult population of Québec), 95% of the selected samples would produce intervals containing the true population value (e.g. gambling prevalence). Coefficients of variation (CV) were also used to evaluate estimate precision. A CV is defined as the ratio of the standard deviation to the estimate expressed as a percentage. Where the confidence interval (CI) is between 16.6% and 33%, an asterisk indicates the result should be interpreted with caution. Where the CV is greater than 33%, the result is considered imprecise and has not been disclosed.

Odds Ratio. The odds ratio estimates the probability of a characteristic or behaviour being present in a given group as compared to a reference group. An odds ratio close to 1.0 signifies there is no difference between the two groups in terms of the probability of displaying a given behaviour; an odds ratio of less than 1 indicates that the probability of displaying the behaviour in question is higher in the reference group, while an odds ratio greater than 1 indicates that the probability is greater in the interest group. Thus, Table 3 should be read as saying that, in the Québec population, men are 1.26 times more likely than women (the reference group) to be gamblers.

2. GAMBLING PREVALENCE AND ACTIVITIES IN THE GENERAL POPULATION OF QUÉBEC

In the general population of Québec, the vast majority of adults aged 18 years or older (86.4%) have gambled at least once in their lifetime (Table 1). According to estimates based on the *Canadian Problem Gambling Index* (CPGI), seven out of ten

Quebeckers (70.5%) had taken part in at least one gambling activity during the year preceding the survey. This represents nearly 4 441 349 Quebeckers.

Table 1.
Lifetime and Past Year Prevalence of Gambling Participation, Population Aged 18 Years or Older, Québec, 2009

	%	95% CI	Population estimate
General gambling prevalence (lifetime)	86,4	85,5 - 87,2	5,408,022
General gambling prevalence (12 months)	70,5	69,4 - 71,6	4,411,349
State-run activities			
Lottery	65,2	64,0 - 66,3	4,085,304
- 6/49 or Super7	61,7	60,5 - 62,8	3,859,159
- Instant win/ "scratch " tickets	31,2	30,1 - 32,3	1,947,650
- Daily lotteries	3,4	3,0 - 3,8	210,703
- Fund-raising lotteries	30,8	29,7 - 31,8	1,925,083
- Online lotteries	§§	§§	§§
Bingo †	4,6	4,1 - 5,0	285,386
Horse racing †	0,6	0,4 - 0,9	38,995
Coin slot machines	10,1	9,4 - 10,9	634,379
Video lottery terminals	4,6	4,0 - 5,1	285,233
Table games †	2,4	2,0 - 2,9	151,296
Keno	1,4	1,1 - 1,7	85,575
Sports lotteries Loto-Quebec	1,5	1,2 - 1,9	95,504
Non state-run activities			
Table poker‡	4,6	4,1 - 5,3	291,276
-Cash game poker	3,0	2,6 - 3,6	191,074
-Cash game & tournament poker	1,4	1,1 - 1,8	87,125
Betting on sports or sporting events ‡	3,0	2,6 - 3,5	187,576
- Pool(s)	1,8	1,4 - 2,2	112,395
Card games / Board games	3,2	2,8 - 3,6	197,519
Games skill	3,8	3,2 - 4,4	235,099
Speculative investments	1,9	1,6 - 2,3	119,181
Casino gambling	10,3	9,6 - 11,1	648,220
Internet gambling	1,4	1,1 - 1,8	86,804

† Activity could be non-state run as well; ‡ Activity could be state run as well

§§ Coefficient of variation is greater than 33%; Results are not publishable

The five most popular gambling activities among Quebecers are lotteries (including all lotteries, raffles and fundraising draws) (65.2%), slot machines (10.1%), poker (4.6%), bingo (4.6%) and VLTs (4.6%). It should also be noted that one in ten Quebecers (10.3%) has previously placed a bet or spent money in a casino in Québec or elsewhere. Finally, 1.4% of Quebecers have previously placed a bet or spent money on Internet gambling. On average, Quebecers spend \$483 a year on gambling¹. It should be noted that all spending distributions contain outliers². To ensure a more precise description of

gambling spending in the population, we also present the median value, which is less sensitive to these atypical values, as well as the proportion of outliers, the outlier interval and the estimated mean when outliers are removed from the analysis (see Appendix 1).

As shown in Table 2, two-thirds of Quebecers (66.1%) are non-problem gamblers, however there is another 2.4% who are low-risk gamblers, 1.3% who are moderate-risk gamblers and 0.7%, or 40 899 Quebecers, who are pathological gamblers.

Table 2.
Gambler Types over the Past 12 Months, Population Aged 18 years or Older, Québec, 2009

	N	%	CI 95%	Population Estimate
Non gamblers	3,225	29,5	28,4 - 30,6	1,843,029
Non-problem gamblers	7,994	66,1	65,0 - 67,2	4,129,167
Low-risk gamblers	258	2,4	2,1 - 2,8	150,673
Moderate-risk gamblers	133	1,3	1,0 - 1,6	81,296
Problem gamblers	60	0,7	0,5 - 0,9	40,899

3. PREVALENCE OF PAST-YEAR GAMBLING AND GAME-PLAY PATTERNS

Seven out of ten Quebeckers (70.5%) report having gambled in the past year. The proportion of *past year gamblers*³ varies significantly by gender, age, marital status, employment status, level of education and household income (Table 3).

First, more men than women have gambled in the past year (73.1% vs. 68.1%), and gambling is more prevalent among individuals between the ages of 45 and 54 years than in younger and older age groups. In addition, people who are not married but living with a partner are the most active gamblers (75.9%) as compared to married persons (71.3%), widowed, separated or divorced persons (69.5 %), single or never-married persons (65.6%).

With regard to socioeconomic status, there is a higher proportion of gamblers among full-time workers (75.7%) as well as among individuals with a high school diploma (75 %). "Participation in gambling activities seems to follow a gradient based on household income. Thus, the proportion of gamblers is significantly lower among individuals living in lower-income households (55.9%) than among those living in lower middle-income households (70.2%), which in turn is significantly lower than among individuals living in upper middle-income and upper income households. The data also reveal that there is no difference in gambling participation between rural (71.1%) and urban (70.2%) settings.

Table 3.**Past-year Gambling Prevalence and Sociodemographic and Economic Indicators, Québec, 2009**

	%	95% CI	O.R.	95% CI
Past year gambling prevalence	70,5	69,4 – 71,6	-	-
Gender				
Male	73,1	71,4 - 74,7	1,26***	1,1 - 1,4
Female	68,1	66,7 - 69,5	=	
Age group				
18 to 24 years	62,0	56,9 - 66,7	0,47***	0,4 - 0,6
25 to 34 years	68,2	65,1 - 71,0	0,62***	0,5 - 0,7
35 to 44 years	71,8	69,3 - 74,3	0,74***	0,6 - 0,9
45 to 54 years	77,5	75,5 - 79,3	=	
55 to 64 years	76,1	73,9 - 78,4	0,92	0,8 - 1,1
65 to 74 years	68,2	65,4 - 71,0	0,62***	0,5 - 0,7
75 years and over	56,3	52,1 – 60,4	0,37***	0,3 - 0,5
Marital status				
Single, never married	65,6	62,8 - 68,3	0,93	0,8 - 1,1
Married	71,3	69,7 - 72,9	=	
De facto union	75,9	73,9 - 77,7	1,40***	1,2 - 1,6
Widowed, separated, divorced	69,5	67,0 - 71,8	1,02	0,9 - 1,2
Employment status				
Full-time	75,7	74,2 – 77,1	=	
Part-time	67,8	64,7 - 71,4	0,69***	0,6 - 0,8
Student	59,4	54,0 - 64,9	0,59***	0,4 - 0,8
Retired	68,5	66,5 - 70,4	0,93	0,8 - 1,1
Unemployed	62,7	56,6 - 68,4	0,56***	0,4 - 0,7
On leave, stat at home,other	63,8	59,6 - 67,8	0,60***	0,5 - 0,7
Education				
Some high school	68,6	65,8 - 71,4	=	
High school diploma	75,0	73,1 - 76,8	1,30**	1,1 - 1,5
College (CEGEP) degree	72,2	69,8 - 74,3	1,09	0,9 - 1,3
University degree	65,3	63,3 - 67,3	0,74***	0,6 - 0,9
Household income				
Low income	55,9	51,4 - 60,3	=	
Lower middle income	70,2	67,5 - 72,7	1,8***	1,4 - 2,2
Upper middle income	75,3	73,3 - 77,1	2,25***	1,8 - 2,8
Higher income	76,1	74,2 - 77,9	2,26***	1,8 - 2,8
Other	61,5	58,7 – 64,3	1,24*	1,0 - 1,5
Geographic region				
Rural	71,1	68,9 - 73,2	=	
Urban	70,2	69,1 - 71,6	1,00	0,9-1,1

Significance levels* p<=.05 **p<=.01 ***p<=.001

Controlled for age in all regression analyses

= indicates reference category

HIGHLIGHTS

PREVALENCE OF GAMBLING IN 2009

Gambling participation in Québec

- In their lifetime, 86.4 % of Quebecers have place a bet or spent money on at least one type gambling.
- During the 12 months preceding the survey, 70.5% of des Québécois placed a bet or spent money on at least one type of gambling.
- Participation in gambling is proportionally higher among men, people between the ages of 45 and 54 and people who are not married but living with a partner.
- The proportion of gamblers is higher among people who are employed full-time, have completed their high school education, and have upper middle or high incomes.
- There is no noticeable difference in the level of gambling participation between rural and urban settings.

Problem gambling in Québec

It is estimated that in the adult population of Québec in **2009**:

- Nearly one third of Quebecers did not place a bet or spend money on gambling.
- Nearly 68.5% of Quebecers were non-problem gamblers or gamblers at low risk of developing gambling problems.
- Nearly 82 000 Quebecers (or 1.3% of the adult population) were at moderate risk of developing gambling problems.
- Nearly 42 000 Quebecers (or 0.7% of the adult population) were probable pathological gamblers.

Game-play patterns of past-year gamblers

The most popular gambling activities with gamblers are, in order, lotteries (92.6%), slot machines (14.4%), cash game poker⁴ (6.3%), bingo (6.5%) and VLTs (6.5%)⁵. The data in Table 4 show that lottery players buy tickets at an average rate of slightly less than once a week (M = 43.1 times a year), while cash game poker players play nearly 36.5 times a year; bingo enthusiasts play an average of 20 times a year; video lottery players play an average of 18 times a year and slot machine players play an

estimated 7 times a year. Average annual spending on gambling activities is estimated at \$713 a year. Average spending varies by gambling activity. Thus, lottery players spend nearly \$306 a year on lottery tickets, bingo players spend an average of \$412 a year, while slot machine and video lottery terminal gamblers spend \$687 and \$1388 respectively a year. Finally, poker players (cash game poker and/or tournament) report the highest spending, estimated at an average of \$2614 a year.

Table 4.
Frequency of Participation in Various Gambling Activities Among Past-Year Gamblers, Québec, 2009

	Gambling prevalence		Frequency of gambling activities	
	%	95% CI	Mean (Number of times per year)	95% CI
State-run activities				
Lottery	92,6	91,6 - 93,5	43,1	41,3 - 44,9
Bingo †	6,5	5,8 - 7,2	20,1	16,7 - 23,5
Horse racing †	0,9	0,6 - 1,2	17,0	!
Coin slot machines	14,4	13,4 - 15,4	7,3	5,0 - 9,5
Video lottery terminals	6,5	5,7 - 7,3	17,7	13,7 - 21,6
Table games †	3,4	2,9 - 4,1	7,0	!
Keno	1,9	1,6 - 2,4	6,9	!
Sports lotteries Loto-Québec	2,2	1,7 - 2,8	19,9	!
Non state-run activities				
Cash game poker‡	6,3	5,5 - 7,2	36,5	24,7 - 48,3
Betting on sports or sporting events ‡	4,3	3,6 - 5,0	20,7	13,6 - 27,9
Card games / Board games	4,5	3,9 - 5,1	16,0	10,7 - 21,3
Games of skill	5,3	4,6 - 6,2	14,8	!
Speculative investments	2,7	2,2 - 3,3	25,3	!
Casino gambling	14,7	13,7 - 15,8	5,2	3,8 - 6,7

† Activity could be non state-run as well; ‡ Activity could be state-run as well
! Coefficient of variation cannot be calculated, due to missing strata

It is interesting to note that different gambling activities are played more in specific venues (Table 5). A large proportion of cash game poker players play the game in private residences (78.2%) and to a lesser degree in bars, brasseries or taverns (19.4%) or casinos (13.5%). Bingo is

principally played in halls (76.1%) and on television or radio stations (15.4%). Finally, betting on VLTs occurs primarily in bars, brasseries or taverns (84.1%), followed by pool halls (29.4%) and Ludoplexes (6.8%).

Table 5.
Participation in Gambling Activities by Gambling Venue, Québec, 2009

	%	95% CI
State-run activities		
Coin slot machines (N=1,100)		
Casino ΔΔ	61,3	57,6 - 64,9
Video lottery machines (N=354)		
Bar / brewery/ tavern	84,1	78,6 - 88,5
Pool hall	29,4	23,2 - 36,5
Ludoplex	6,8	4,1 - 11,1
Bingo (N=569) †		
Bingo hall	76,1	71,5 - 80,2
Tele-bingo or Radio-bingo	15,4	11,6 - 20,2
Non state-run activities		
Cash game poker‡ (N=368)		
Private residence	78,2	72,5 - 83,1
Bars / brewery / tavern	19,4	14,3 - 25,8
Casino ΔΔ	13,5	9,2 - 19,3
Ludoplex	3,1 §	1,1 - 8,1

† Activity could be non state-run as well; ‡ Activity could be state-run as well
 ΔΔ Applies only to respondents who declared to have gambled in a casino in the past 12 months
 [coin slot machines (N=678); cash game poker (N=109)]

§ Coefficient of variation is between 16.5% and 33.3%; To be interpreted with caution

When gamblers are asked whether they have ever placed a bet or spent money in a casino, in Québec or elsewhere, 14.7% answer by the affirmative (Table 4). On average, gamblers who go to casinos visit them five times a year.

Compared to the population of past year gamblers, the average annual spending reported by gamblers who went to a casino during the past year is almost 5.5 times higher than that of those who did not go to casinos (\$2 381 vs. \$432).

HIGHLIGHTS

GAMBLING ACTIVITIES AND GAMBLER SPENDING

The most popular gambling activities in Québec

The most popular gambling activities among Québec gamblers are:

- The lottery, mentioned by nearly 92.6% of gamblers
- Casino slot machines, mentioned by nearly 14.4% of gamblers
- Table poker, mentioned by 6.6% of gamblers, primarily in private residences
- Video lottery terminals (VLTs), mentioned by 6.5% of gamblers, primarily in bars
- Bingo, mentioned by 6.5% of gamblers, primarily in bingo halls
- In general, nearly 15% of gamblers go to casinos

Average gambler spending is estimated at \$ 713 annually (median=\$132)

4. GAMBLING PATTERNS BY GAMBLER TYPES

In Québec, roughly nine out of 10 (93.8%) people who stated they had gambled in the past 12 months do not have gambling problems while 3.4% are at low risk of developing gambling problems, 1.8% are at moderate risk of developing such problems and 0.9% are probable

pathological gamblers. For analysis purposes, moderate-risk gamblers were grouped together with pathological gamblers in a single category. The three types of gamblers are distinct in terms of their sociodemographic characteristics and game-play patterns

Table 6.
Types of Gamblers, Québec, 2009

Type de joueurs	N	%	95% CI
Non-problem gamblers	7,994	93,8	93,0 – 94,5
Low-risk gamblers	258	3,4	2,9 – 4,0
Moderate-risk gamblers	133	1,8	1,5 – 2,3
Problem gamblers	60	0,9	0,7 – 1,3

Sociodemographic characteristics by Types of Gamblers

The data in Table 7 indicate that there are generally higher proportions of women, people between the ages of 45 and 54, married or living with a partner, vacationers or homemakers among non-problem gamblers. This group contains a higher proportion of people who say they have completed university studies and are in the upper household income bracket.

In addition, there are higher proportions of men, young people between the ages of 25 and 34 years, widowed, separated or divorced among gamblers identified as being at moderate risk of

problem gambling or probable pathological gamblers. A greater proportion of the latter are unemployed, have not completed their high school education, and are in the lower household income bracket.

Overall, we can conclude that a significant inverse relationship exists between problem gambling and age, level of education and income. Being male and not having a spouse are also factors that increase the risk of being a moderate-risk or pathological gambler.

Table 7.
Sociodemographic Characteristics of Different Types of Gamblers, Québec, 2009

	Gamblers		Non-problems gamblers (N= 7,997)		Low-risk gamblers (N= 259)		Moderate-risk and problem gamblers (N=194)	
	N	%	%	95% CI	%	95% CI	%	95% CI
Total	8,474	100,0	93,8	93,0 – 94,5	3,4	2,9 – 4,0	2,8	2,3 – 3,3
Gender								
Male	3,137	50,9	91,7	90,4 - 92,9	4,5	3,6 - 5,5	3,8	3,0 - 4,9
Female	5,337	49,1	96,0	95,3 - 96,6	2,3	1,9 - 2,9	1,7	1,3 - 2,2
Age group								
18 to 24 years	388	9,7	93,1	89,7 - 95,4	3,8	2,3 - 6,2	3,1	1,6 – 6,0
25 to 34 years	1,074	16,3	92,4	89,6 - 94,5	4,0	2,6 - 6,3	3,6	2,2 - 5,8
35 to 44 years	1,496	17,2	92,2	89,9 - 94,0	4,6	3,3 - 6,4	3,2	2,1 - 4,9
45 to 54 years	2,208	22,0	95,8	94,5 - 96,8	2,2	1,6 - 3,2	1,9	1,3 – 3,0
55 to 64 years	1,886	17,8	94,4	92,9 - 95,5	3,5	2,6 - 4,8	2,1	1,5 – 3,0
65 to 74 years	1,013	12,0	93,7	91,6 - 95,3	3,1	2,0 - 4,8	3,2	2,2 - 4,7
75 ans et plus	409	4,9	94,8	91,8 – 96,7	2,1	1,0 – 4,2	3,1	1,7 – 5,7
Marital status								
Single, never married	1,434	23,4	92,1	90,1 - 93,8	4,4	3,1 – 6,0	3,5	2,5 – 5,0
Married	3,331	39,8	94,8	93,6 - 95,8	3,2	2,4 - 4,1	2,0	1,4 - 2,9
De facto union	2,211	22,0	94,8	93,4 - 95,9	3,1	2,4 - 4,1	2,1	1,3 - 3,3
Widowed, separated, divorced	1,498	14,9	92,3	90,3 - 93,9	3,1	2,1 - 4,4	4,7	3,4 - 6,4
Employment status								
Full-time	4,349	52,2	93,9	92,8 - 94,9	3,5	2,8 - 4,4	2,6	1,9 - 3,4
Part-time	793	8,3	94,8	91,9 - 96,6	3,3	1,8 - 6,1	1,9	1,1 - 3,4
Student	286	7,4	92,6	88,4 - 95,4	4,0	2,3 – 7,0	3,4	1,5 - 7,2
Retired	2,128	22,3	94,3	93,0 - 95,4	3,1	2,3 - 4,1	2,6	1,9 - 3,5
Unemployed	294	3,9	87,8	81,0 - 92,4	4,8	2,2 - 10,2	7,4	3,9 - 13,4
On leave, stay at home, other	603	5,9	95,4	93,0 - 97,0	2,2	1,1 - 4,4	2,4	1,4 – 4,0
Education								
Some high school	1,327	14,4	91,5	89,2 - 93,3	3,5	2,4 - 4,9	5,0	3,5 - 7,0
High school diploma	2,883	33,3	93,0	91,6 - 94,1	4,1	3,3 - 5,2	2,9	2,2 - 3,9
College (CEGEP) degree	2,067	25,5	94,3	92,6 - 95,6	3,8	2,7 - 5,3	1,9	1,2 – 3,0
University degree	2,165	26,8	95,5	94,0 - 96,6	2,2	1,5 - 3,2	2,3	1,5 - 3,6
Household income								
Low income	538	6,0	89,9	86,2 - 92,7	3,9	2,4 - 6,2	6,2	4,0 - 9,6
Lower middle income	1,369	15,5	89,7	87,0 - 91,9	4,4	3,0 - 6,2	5,9	4,3 - 8,2
Upper middle income	2,520	28,8	93,6	92,1 - 94,8	4,0	3,0 - 5,1	2,5	1,7 - 3,6
Higher income	2,648	32,6	95,4	94,2 - 96,4	3,1	2,3 - 4,1	1,5	1,0 - 2,3
Other	1,397	17,2	96,1	94,5 - 97,3	2,2	1,4 - 3,6	1,7	1,0 - 2,7
Geographic region								
Rural	2,162	20,7	95,1	93,7 – 96,2	2,3	1,7 – 3,2	2,5	1,7 – 3,8
Urban	6,312	79,3	93,5	92,5 – 94,3	3,7	3,1 - 4,4	2,8	2,3 – 3,5

HIGHLIGHTS

SOCIODEMOGRAPHIC CHARACTERISTICS OF MODERATE-RISK OR PATHOLOGICAL GAMBLERS

Gamblers who are at risk of developing gambling problems or are probable pathological gamblers are generally:

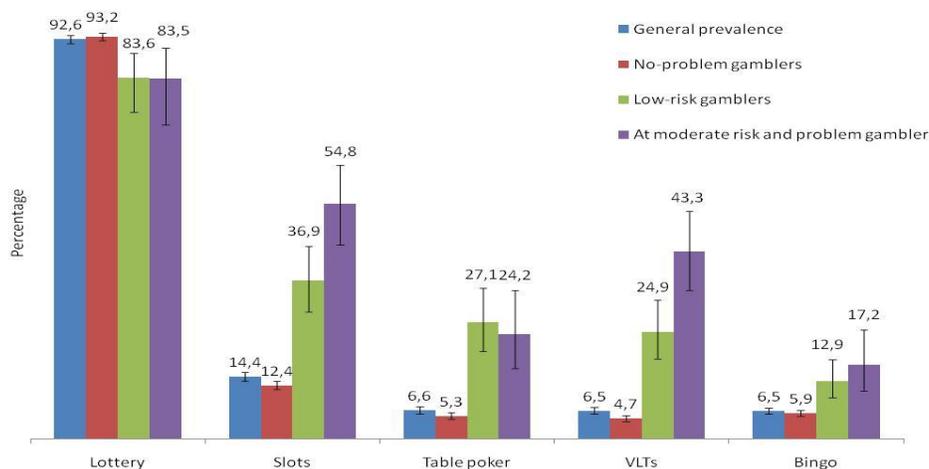
- Male
- Younger (between 25 and 34 years)
- Separated, divorced or widowed
- Have a low level of education
- Report a low family income

Game-play patterns by types of gamblers

The five most reported gambling activities for all types of gamblers are lotteries, poker, slot machines, VLTs and bingo. However, the proportion of gamblers who take part in each of these activities varies from one type of gamblers to another (Graph 1). In general, lotteries remain by far the most popular activity among non-problem gamblers (93.2%) as compared to low-risk gamblers and moderate-risk or probable

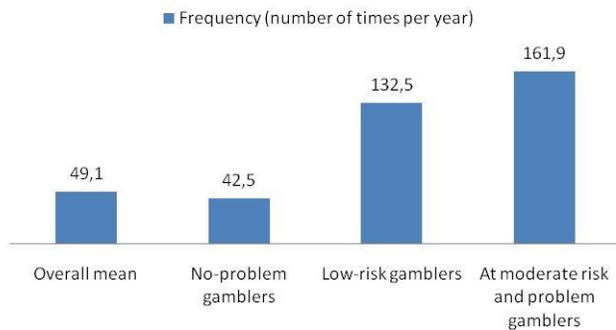
pathological gamblers (nearly 83%). In addition, slot machine and VLT betting is significantly more popular among moderate-risk and probable pathological gamblers (54.8% and 43.3% respectively) than among non-problem gamblers (12.4% and 4.7% respectively). Poker seems to be most popular among low-risk gamblers (27.1%) followed by moderate-risk or probable pathological gamblers (24.2%).

Graph 1.
Participation in Gambling Activities by Types of Gamblers, Québec, 2009



Graph 2 shows that the annual gambling frequency is higher among moderate-risk or pathological gamblers (162 times a year) compared to low-risk gamblers (133 times a year) or non-problem gamblers (43 times a year).

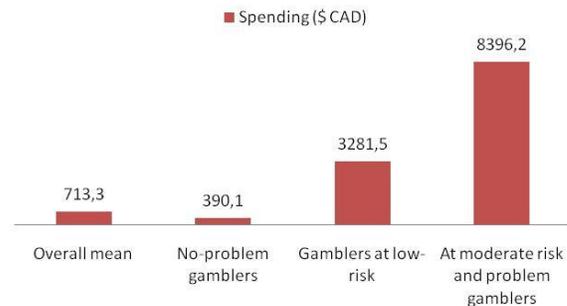
Graph 2.
Annual Gambling Frequency by Types of Gamblers , Québec, 2009



The same tendency is observed in terms of annual gambling spending, in that the sums of money spent are significantly larger among

moderate-risk or pathological gamblers (\$8 396 a year) as compared to low-risk gamblers (\$3 282 a year) or non-problem gamblers (\$390 a year) (Graph 3). It may be useful to remember that the median spending of these three types of gamblers is \$2 342, \$1 044 and \$120 respectively.

Graph 3.
Average Annual Gambling Spending by Types of Gamblers, Québec, 2009



HIGHLIGHTS

GAMBLING HABITS BY GAMBLER TYPE

Compared to non-problem gamblers and gamblers who are at low risk for gambling problems, moderate-risk gamblers and probable pathological gamblers:

- Place bets on slot machines in proportionally greater numbers.
- Place bets on video lottery terminals (VLTs) in proportionally greater numbers.
- Spend substantially more money on gambling.
- Gamble more frequently.

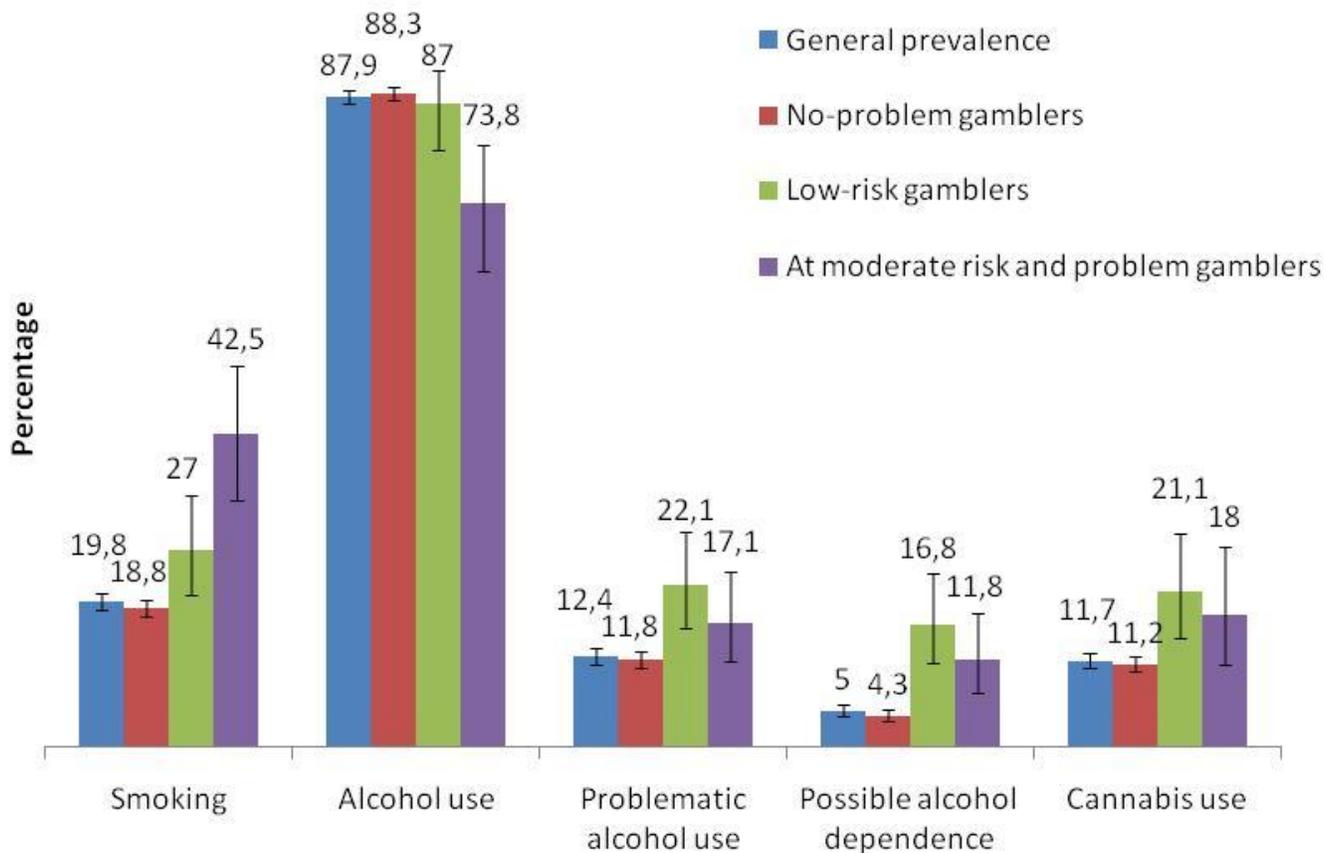
Lotteries are a popular activity among all types of gamblers, especially non-problem gamblers.

Types of gamblers and co-occurring problems

The different types of gamblers differ significantly with respect to other addictive. Among the behaviours observed (Graph 4), a gradient can be observed in the prevalence of smoking across different types of gamblers. The proportion of daily smokers is significantly higher among moderate-risk gamblers and pathological gamblers (42%) as compared to low-risk gamblers (27%), while the proportion of daily smokers among the latter is higher than among non-problem gamblers (19%). The most pronounced difference in the other behaviours

studied seems to be between non-problem gamblers on the one hand and low-risk, moderate-risk or pathological gamblers on the other. Proportionally fewer non-problem gamblers had used cannabis in the year prior to the survey. Furthermore, while proportionally more non-problem gamblers are drinkers, the proportion of problem drinkers or possibly alcohol-dependent drinkers in this group is lower than in the group of at-risk or pathological gamblers.

Graph 4.
Prevalence of Addictive Behaviours by Type of Gamblers, Québec, 2009



HIGHLIGHTS

CO-OCCURRING PROBLEMS IN THE DIFFERENT GAMBLER TYPES

Compared to non-problem gamblers and gamblers at low risk for developing gambling problems, moderate-risk gamblers and probably pathological gamblers:

- Smoke in proportionally greater numbers.

Compared to non-problem gamblers, gamblers at low or moderate risk for problem gambling and probable pathological gamblers:

- Are problem drinkers and possibly alcohol dependent in proportionally greater numbers.
- Use cannabis in proportionally greater numbers.

5. ONLINE GAMBLERS

Data analysis reveals that 1.4% of Québec adults (2% of past year gamblers) have placed a bet or spent money on gambling over the Internet (Table 8). Thus in Québec slightly more than 86 000

Characteristics of online gamblers

The proportion of online gamblers is higher among men, young people between the ages of 25 and 34 years, single or never-married people; students, people who have completed college-level education and individuals reporting high family incomes. Online gambling is more common among Quebecers living in urban settings.

There is also a significantly higher proportion of gamblers at moderate risk of problem gambling

(N=86 804) gamblers took part in gambling activities on the Internet in the year preceding the survey.

and probable pathological gamblers among online gamblers. Indeed, it is estimated that 25.9% of online gamblers are low-risk gamblers (vs. only 3.4% for gamblers as a whole) and that 11% (vs. 2.8%) are moderate-risk or pathological gamblers (data not presented).

Table 8.
Sociodemographic Characteristics of Online Gamblers, Québec, 2009

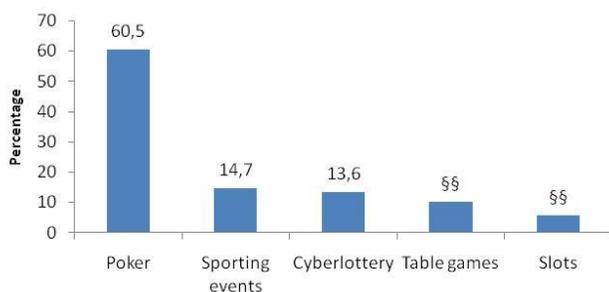
	%	95% CI	O.R.	95% CI
Total	2,0	1,5 - 2,5	-	-
Gender				
Male	3,2	2,4 - 4,2	=	
Female	0,7	0,5 - 1,1	0,22***	0,1 - 0,4
Age group				
18 to 24 years	3,8	2,0 - 7,2	4,61**	1,9 - 11,2
25 to 34 years	4,9	3,2 - 7,3	6,07***	2,9 - 12,5
35 to 44 years	2,8	1,9 - 4,2	3,51**	1,7 - 7,2
45 to 54 years	0,8	0,4 - 1,4	=	
55 to 64 years	0,6	0,3 - 1,2	0,77	0,3 - 1,9
65 to 74 years	0,3	0,1 - 1,3	0,42	0,1 - 1,9
75 ans et plus	0,1	0,02 - 1,0	0,19	0,1 - 1,5
Marital status				
Single, never married	3,6	2,3 - 5,6	3,09**	1,6 - 5,9
Married	1,1	0,7 - 1,7	=	
De facto union	2,8	2,0 - 3,8	2,48**	1,4 - 4,4
Widowed, separated, divorced	0,6 §	0,3 - 1,3	0,62	0,2 - 1,5
Employment status				
Full-time	2,1	1,5 - 2,8	=	
Part-time	2,0	0,8 - 4,7	1,26	0,5 - 3,3
Student	5,3	2,7 - 10,0	2,79**	1,3 - 6,0
Retired	§§	§§	0,23**	0,1 - 0,5
Unemployed	§§	§§	1,56	0,5 - 4,8
On leave, stay at home, other	1,9	0,8 - 4,1	1,70	0,7 - 4,1
Education				
Some high school	1,0	0,6 - 2,0	=	
High school diploma	1,9	1,3 - 2,7	1,78	0,8 - 3,8
College (CEGEP) degree	2,8	1,8 - 4,3	2,70*	1,2 - 6,0
University degree	1,8	1,1 - 3,1	1,66	0,7 - 3,9
Household income				
Low income	1,4	0,6 - 3,1	=	
Lower middle income	1,7	1,0 - 2,8	1,12	0,4 - 3,0
Upper middle income	2,3	1,4 - 3,7	1,49	0,6 - 3,8
Higher income	2,5	1,7 - 3,6	1,51	0,6 - 3,7

Game-play patterns of online gamblers

Graph 5 clearly indicates that poker is by far the most popular gambling activity among online gamblers. It shows that 60.5% of online gamblers report having played poker on the Internet in the past year. Sporting events, online lotteries and table games are the other gambling activities most reported by online gamblers.

Graph 5.

Prevalence of Internet Gambling Activities Among Online Gamblers, Québec, 2009



§§ Coefficient of variation greater than 33%; Results not publishable

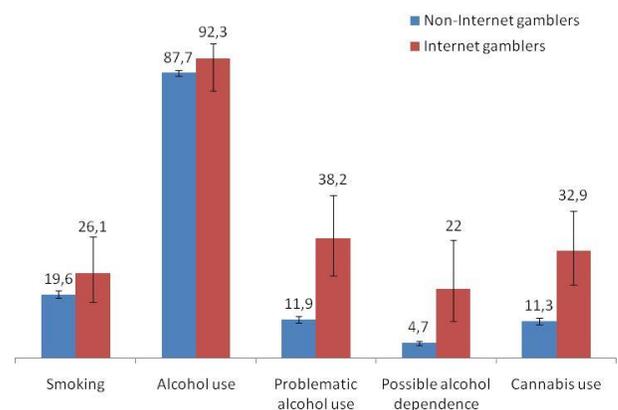
Co-occurring problems among online gamblers

The data presented in Graph 6 show that, compared to gamblers who do not gamble on the Internet, online gamblers are more likely to use cannabis (32.9% vs. 11.3%); to engage in problem alcohol use (score of 8+ on the AUDIT: 38.2% vs. 11.8%) and to display a probable dependence on alcohol (score of 11+ on the AUDIT: 22% vs. 4.7%). On the other hand, there is no noticeable difference between online gamblers and exclusively offline gamblers in terms of the proportion of drinkers and daily smokers.

Average annual spending on gambling activities is significantly higher among online gamblers than among other gamblers. Average annual spending by online gamblers is \$9 903 but \$527 for gamblers who have not gambled online in the past year. It is important to note that annual spending medians are considerably lower: \$856 for online gamblers and \$128 for gamblers who do not take part in Internet gambling activities. (Appendix 1–Table 1b)

Graph 6.

Prevalence of Addictive Behaviours among Online and Offline Gamblers, Québec, 2009



HIGHLIGHTS

ONLINE GAMBLERS

Nearly 2% of gamblers gamble online.

Compared to offline gamblers, online gamblers:

- Primarily place bets on poker (60.5%).
- Report spending 7 times more than offline gamblers (based on the spending median).
- Report other potentially addictive behaviours, notably smoking, problem alcohol use and the use of cannabis, in proportionally greater numbers.

6. VIDEO LOTTERY TERMINAL (VLT) GAMBLERS

Data analysis reveals that 4.6% of Québec adults (or 6.5% of past year gamblers) have placed a bet

or spent money on VLTs, representing close to 285 233 Québécois.

Characteristics of VLT gamblers

Table 9 shows that VLT gamblers are mainly men, between the ages of 18 and 24 years, single or never married. A proportionally greater number are students and fewer of them hold a university diploma.

VLT gamblers are overrepresented among gamblers at risk of developing gambling

problems. Among VLT gamblers (N=438), 13.2% are low-risk gamblers and 18.6% are moderate-risk or pathological gamblers, while the proportions for the gambling population at large are 3.4% and 2.8% respectively (data not presented).

Game-play patterns among VLT gamblers

On average, VLT gamblers spend \$3 972 annually on gambling and approximately one third of this amount, or \$1 388, specifically on VLTs. The median gambling spending of VLT gamblers

is \$767, a considerably larger amount than the median gambling spending of Québec gamblers as a whole (estimated at \$132 a year).

Co-occurring problems among VLT gamblers

Compared to gamblers who do not place bets on VLTs, VLT gamblers are more likely to be daily smokers (33.9% vs. 18.8%) and to have used cannabis in the year preceding the survey (27.7% vs. 10.6%). While the proportion of drinkers is roughly the same among gamblers who play VLTs and those who do not (88.4% vs. 87.8%),

the proportion of problem drinkers (score of 8+ on the AUDIT: 28.2% vs. 11.3%) and of potentially dependent drinkers (score of 11+ on the AUDIT: 15.1% vs. 4.3%) is higher among VLT gamblers than among gamblers who do not place bets on VLTs.

Table 9.
Sociodemographic Characteristics of VLT Gamblers, Québec, 2009

	%	95% CI	OR	95% CI
Total	6,5	5,7 – 7,3	-	-
Genre				
Male	8,3	7,0 - 9,7	=	
Female	4,6	3,8 - 5,6	0,54***	0,4 - 0,7
Age group				
18 to 24 years	15,4	11,4 - 20,4	3,36***	2,2 - 5,2
25 to 34 years	8,4	6,5 – 11,0	1,71*	1,2 - 2,5
35 to 44 years	6,3	4,5 - 8,7	1,24	0,8 - 1,9
45 to 54 years	5,1	4,0 - 6,6	=	
55 to 64 years	3,6	2,8 - 4,7	0,70	0,5 – 1,0
65 to 74 years	4,7	3,2 - 6,8	0,91	0,6 - 1,5
75 ans et plus	3,7	2,1 - 6,4	0,71	0,4 - 1,3
Marital status				
Single, never married	9,5	7,5 - 11,8	1,95***	1,4 - 2,8
Married	5,1	4,0 - 6,4	=	
De facto union	6,6	5,4 – 8,0	1,31	0,9 - 1,8
Widowed, separated, divorced	5,3	4,0 - 7,2	1,05	0,7 - 1,6
Employment status				
Full-time	6,6	5,6 - 7,8	=	
Part-time	4,9	3,4 - 7,1	0,73	0,5 - 1,1
Student	14,9	10,3 - 21,1	2,48***	1,6 - 3,9
Retired	4,3	3,3 - 5,6	0,64**	0,5 - 0,9
Unemployed	9,5	5,9 – 15,0	1,49	0,9 - 2,6
On leave, stay at home, other	3,1	1,8 - 5,3	0,45**	0,2 - 0,8
Education				
Some high school	8,7	6,7 - 11,3	=	
High school diploma	8,1	6,9 - 9,6	0,93	0,7 - 1,3
College (CEGEP) degree	6,2	4,6 - 8,3	0,69	0,4 - 1,1
University degree	3,5	2,6 - 4,8	0,38***	0,3 - 0,6
Household income				
Low income	9,1	6,1 - 13,4	=	
Lower middle income	9,7	7,5 - 12,4	1,07	0,6 - 1,8
Upper middle income	6,3	5,1 - 7,7	0,68	0,4 - 1,1
Higher income	6,2	4,8 - 7,9	0,66	0,4 - 1,1
Other	3,5	2,5 - 5,0	0,37**	0,2 - 0,7
Geographic region				
Rural	5,4	4,3 - 6,8	=	
Urban	6,7	5,9 - 7,8	1,27	1,0 - 1,7

Significance levels * p<=.05 **p<=.01 ***p<=.001

Controlled for age in all regression analyses

= indicates reference category

HIGHLIGHTS

VIDEO LOTTERY TERMINAL (VLT) GAMBLERS

Nearly 7% of gamblers place bets on VLTs.

- Compared to all gamblers, a proportionally greater number of VLT gamblers are at risk of developing gambling problems.
- The average annual spending of VLT gamblers is significantly higher than that of gamblers as a whole (\$3 972 vs. \$713) (\$767 vs. \$132 for the median).
- The proportions of daily smokers, cannabis users and problem drinkers are significantly higher among VLT gamblers than among gamblers who do not place bets on VLTs.

7. EVOLUTION OF GAMBLING IN THE QUÉBEC POPULATION BETWEEN 2002 AND 2009

To observe the evolution of gambling in Québec, we compared some of the results presented in this report with results from the report of the epidemiological survey on gambling conducted in 2002 [11]. We did not have access to the original database for the 2002 survey and comparisons are presented solely for indicative purposes. Furthermore, given that the report produced in 2002 usually contains point estimates without a confidence interval for estimate variance, commonly known as the margin of error, we must use an approximate approach to estimate possible differences between 2002 and 2009. When the estimate obtained in 2002 falls within the confidence interval produced in this survey, it may be concluded that there is no significant difference between the results obtained in 2002 and those of this survey, and that the phenomenon in question is stable. However, when the estimate obtained in 2002 falls outside the confidence interval established in the current survey, it may be concluded that a possible change, unconfirmed by direct comparison analyses, may have occurred.

Based on these precautions, the results show that since 2002, the proportion of Quebeckers who state they have gambled in the past year may have diminished, decreasing from 81% to 70.5%. (CI (95%) = 69.4 – 71.6). With regard to game-play patterns, it should be noted that between 2002 and 2009, the proportion of the adult population that placed bets or spent money on bingo (9% vs. 4.6%), gambled on video lottery terminals (7.8% vs. 4.6%), slot machines (16.3% vs. 10.1%) or in a casino in Québec or elsewhere (17.6% vs. 10.3%)

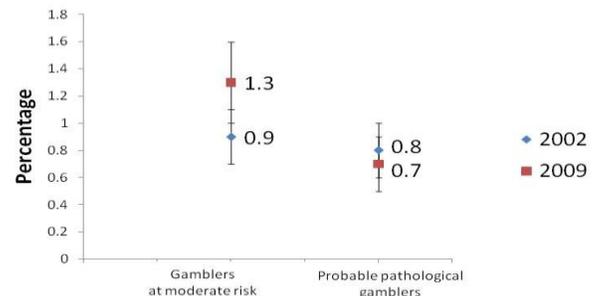
has probably decreased. However, the proportion of adults taking part in Internet gambling may have increased (0.3% vs. 1.4%).

Graph 7.
Prevalence of Gambling Activities in the Adult Population of Québec in 2002 and in 2009



With regard to the different types of gamblers, it appears that the prevalence of pathological gamblers did not increase between 2002 and 2009 (0.8% vs. 0.7%) nor did the proportion of gamblers at moderate risk of developing gambling problems (0.9% vs. 1.3%).

Graph 8.
Prevalence of Moderate-Risk Gamblers and Probable Pathological Gamblers in the Adult Population of Québec in 2002 and in 2009



Comparing these graphs in terms of gamblers, it would appear that in 2009, an estimated 1.9% [CI (95%) = 1.6% – 2.4%] of gamblers were considered at moderate risk of developing a gambling problem compared to 1.1% in 2002, while 0.9% [CI (95%) = 0.7% – 1.3%] were identified as probable pathological gamblers compared to 1.0% in 2002.

8. CONCLUSION

This document is a progress report for the ENHJEU-Québec project. It provides an overview of Quebecers' game-play patterns in 2009, and is intended to serve as an information document for the subsidizing organization, our collaborative funding program partners and various bodies working in the gambling field. It may also be consulted by the Québec population.

While population surveys remain one of the most effective means of examining the health and well-being of the population and related components, their limits must be acknowledged. Thus, it should be kept in mind that a statistical estimate based on survey data is primarily a crude, general snapshot of reality. The statistical probe provides a general impression that may be used to make an approximate assessment of the scope of a phenomenon. It must not, under any circumstances, claim to be absolutely precise due to the inherent margin of error. Given this fact, the statistical estimates produced in this report are always accompanied by a confidence interval establishing the interval within which estimates may vary.

Pathological gambling from a comparative perspective

Our neighbours to the South have also evaluated the level of pathological gambling in their population. The most recent survey, the *National Epidemiologic Survey on Alcohol and Related Conditions* (NESARC), uses a different measure from ours that is taken from the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM). As for other mental disorders,

this mental disorder classification manual defines pathological gambling based on diagnostic criteria. Based on the DSM-IV measure, the NESARC estimated the lifetime prevalence of pathological gambling at 0.4% in 2001-2002. The number of pathological gamblers was too small to establish the rate for the 12 months preceding the survey [12]. DSM-IV criteria-based assessment is considered more conservative than the CPGI assessment used in the current study.

Gambling determinants

Social epidemiology reminds us that health determinants are multidimensional and that all behaviour must be considered within an environmental and social context. Thus, to understand the determinants of gambling, it is useful to take into account both the structure of gambling and environmental factors.

First, with regard to the structure of gambling, the results of this study highlight how certain gambling activities entail more risks than others. This is especially true of VLT and online gambling. In fact, though few in number, online gamblers have a higher percentage of moderate-risk and probable pathological gamblers than offline gamblers; the same overrepresentation is also found among VLT gamblers. These two types of gambling stand out as activities that demand gamblers exercise caution and require that caution reminders be integrated into the very structure of the game so as to be visible to gamblers during the activity.

Next, with respect to environmental factors, the results point to social inequalities in gambling participation and in the distribution of gambling problems within the population. Not everyone is equal in terms of gambling-related risks, and certain sectors of the population are more vulnerable than others. One example is VLT gamblers who are not only overrepresented among at-risk gamblers but are also less educated and whose spending on VLTs is higher than average. This situation calls for primary and secondary prevention specifically targeted to these more vulnerable subgroups.

Co-occurrence with other mental health problems

Most moderate-risk and probable pathological gamblers' sole addictive behaviour is gambling. However, many gamblers also engage in risky use of psychoactive substances. They may also experience psychological distress. We have examined this situation in a little more detail.

To better contextualize the prevalence rate of pathological gambling, it is useful to review the prevalence rates of other mental disorders which, like pathological gambling, result in a significant incapacity or great psychological distress. Thus, in Québec, according to the *Canadian Community Health Survey* [13] (which used the DSM-IV criteria of the American study), the prevalence rates of alcohol and drug dependence in 2002 were assessed at 1.8% and 0.6% respectively [14]. The prevalence rate of the "alcohol abuse" diagnosis was not available, but it is generally twice as high as that of alcohol dependence. With

regard to mood disorders or depression, 5% of the population aged 15 years and older in Québec experienced an episode of major depression in the 12 months preceding the survey. As well, 4.2% experienced anxiety disorders, of which 2% experienced a social phobia. It is important to note that mental disorders frequently co-occur. Thus alcohol-, depression and anxiety related disorders are the most frequent disorders in the Québec population and excessive gamblers are often found among such psychologically vulnerable individuals.

In conclusion, it should be emphasized that the results of our study highlight the importance of reaching at-risk gamblers to help them and help the people close to them before their gambling habits reach a critical, pathological state. Comparisons with other addictive behaviours as well as with depression and anxiety also point to the importance of thinking of at-risk gambling and pathological gambling from a global perspective that takes into account not only the specific characteristics of gambling itself but also of other addictive behaviours often associated with gambling—risky alcohol use, the use of illicit drugs and tobacco—and of the psychological distress that often reaches a clinical threshold in gamblers. Clinicians who work with pathological gamblers remind us that gambling occurs within a complex personal context that a survey like ours cannot measure, but which must be taken into consideration in social and health policies as well as in the organization of services and treatment programs.

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10. ENDNOTES

- ¹ The estimates exclude spending on fundraising draws or day trading.
- ² In statistics, an outlier is a value that differs significantly from the overall tendency of the other values, a value judged to be atypical. The outliers identified in this study were determined to be valid despite their extreme position compared to the other observations.
- ³ In this report, a past year gambler is a gambler who has gambled at least once in the past 12 months.
- ⁴ In remaining sections of this report, results related to cash game poker exclude individuals who have bet or spent money on poker in tournaments.
- ⁵ In subsequent sections of the report, the data is analyzed in terms of the five most common gambling activities.



ENQUÊTE ENHJEU - QUEBEC

Portrait du jeu au Québec: Prévalence, incidence et trajectoires sur quatre ans

APPENDIX 1

Table 1a. Total annual spending (\$CAD) by gambling activity, Quebec, 2009

	N	Mean	Median	Mean excluding outliers	% of outliers	Range of outliers
Total (general population)	11,869	483	48	298	0.29	15,164 - 306,270
Total (current gamblers)						
Total excluding investments and fundraisers	8,176	713	132	440	0.43	15,164 - 306,270
State-run activities						
Lottery	7,994	306	130	253	1.44	2,102 - 20,800
Bingo	558	412	100	301	2.33	3,120 - 10,400
Horse racing †	44	1,029	44	625	2.27	20,800
Coin slot machines	931	687	80	322	0.86	15,600 - 104,000
Video lottery terminals	347	1,388	180	935	2.59	26,000 - 80,000
Table games †	172	1,379	100	523	2.33	15,600 - 38,400
Keno	121	254	40	241	0.83	8,600
Sport lotteries Loto-Québec	105	189	40	138	1.90	4,160
Non state-run activities						
Table poker‡	341	2,614	140	1,425	0.59	67,216 - 303,400
Betting on sports or sporting events‡	183	345	55	174	3.28	4,160-7,280
Card/Board games	283	376	40	187	1.06	9,360 - 26,000
Games of skill	261	440	50	267	0.38	41,600
Speculative investments	90	239,997	5,500	41,814	2.22	10 400,000-18 200,000

Table 1b. Annual spending among of different types of gamblers by gambling location, Quebec, 2009

	N	Mean	Median	Mean excluding outliers	% of outliers	Range of outliers
Internet gamblers						
Yes	111	9,904	856	2300	7.21%	21,305 - 306,270
No	8,070	527	128	406	0.33%	15,164 - 114,082
Casino gamblers						
Yes	1,057	2,381	349	950	1.99%	16,940 - 306,270
No	7,119	432	120	357	0.20%	15,164 - 114,082
VLTs gamblers						
Yes	432	3,972	767	1409	6.02%	15,164 - 114,082
No	7,744	483	120	376	0.12%	18,724 - 306,270

Table 1c. Annual spending by gambling severity, Quebec, 2009

	N	Mean	Median	Mean excluding outliers	% of outliers	Range of outliers
Gambling severity						
No-problem gamblers	7,700	390	120	333	0.05%	16,830 - 306,270
Low-risk gamblers	248	3,282	1,042	1740	2.82%	18,724 - 98,129
At moderate risk and problem gamblers	164	8,396	2,340	2,783	14.63%	15,164 - 114,082