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research

Intro

Feature

Research

Opinion

Profile

First Person

Review

Letters

Submissions

Links

Archive

Subscribe

Other research articles in this issue

The Effect of Skilled Gamblers on the Success of Less Skilled Gamblers

Internet Gambling: Preliminary Results of the First U.K. Prevalence Study

[This article prints out to approximately 9 pages.]

[Correction: Figure 1 was omitted from the original article. The first paragraph of the Results section has been altered accordingly. We apologize for this error. –Ed.]

Brief Research Report

Internet Gambling Among Ontario Adults

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Abstract

The increased popularity of the Internet among the general population is of particular relevance to the area of Internet gambling. This paper describes the prevalence of Internet gambling among Ontario adults. Data are based on a random telephone survey of 1,294 Ontario adults. Overall, 5.3% of the Ontario adults interviewed in 2000 reported having gambled on the Internet during the past 12 months. Although women were more likely to gamble on-line than males (6.3% vs. 4.3%), the difference was not statistically significant. Only marital status was significantly related to Internet gambling. Those previously married (divorced, widowed) were significantly more likely to report on-line gambling compared to those who were married (10.9% vs. 4.9%). There were no dominant age, regional, educational or income differences.

Introduction

The global growth of gambling and the increased popularity of the Internet have led to a greater number of people having the ability and willingness to engage in Internet gambling (Sinclair, 2000). Although Internet gambling is considered to be at an early stage, virtually all observers assume the rapid growth of Internet gambling will continue (National Gambling Impact Study Commission, 1999). According to some estimates, $2.3 billion (US) a year is being spent on Internet gaming worldwide, and the market has more than tripled in size since 1997 (Mitka, 2001). One study, which features details on more than 1,400 gambling sites available worldwide, estimates that the number of Internet gamblers will grow from approximately 4 million people in 1999 to 15 million by the year 2004 (Sinclair, 2000).

It has been argued that new technologies are linked to "technological addictions" such as computer game playing or gambling using video lottery terminals (Griffiths, 1995, 1996, 1999). Because the Internet can be used anonymously and is open 24 hours a day, concerns have been raised regarding its potential abuse by underage gamblers, seniors and pathological gamblers (National Gambling Impact Study Commission, 1999).

In Canada, legalized gambling experienced a rapid expansion in the 1990s and recent studies show that the prevalence of gambling and gambling-related problems in the general adult population is increasing (Jacques, Ladouceur & Ferland, 2000; Korn, 2000; Shaffer, Hall & Vander Bilt, 1999). Although Internet gambling represents another emerging public health issue (Korn, 2000; Mitka, 2001), to date, there is no published research in the professional literature on prevalence of Internet gambling among adults in Canada. The purpose of this paper is to provide epidemiological estimates of Internet gambling among Ontario adults.

Method

Our data are derived from the 2000 cycle of the Centre for Addiction and Mental Health *CAMH Monitor (CM)*, an annual cross-sectional telephone survey of Ontario adults. The *CM* cycle consists of 12 independent monthly

surveys with 200 completions expected each month. The 2000 survey used random-digit dialling (RDD) methods via Computer Assisted Telephone Interviewing (CATI).

The design employed a two-stage probability selection procedure. Each month a random sample of telephone numbers was selected with equal probability in the first stage of selection (i.e. households). Within selected households, one respondent aged 18 or older (who could complete the interview in English or French) was chosen according to which household member had the most recent birthday. To increase the precision of estimates from different areas of Ontario, the sample was equally allocated among six strata by area code. The design resulted in a total sample of 2,406 respondents, representing an effective response rate of 61%. To maximize content coverage without increasing the length of any single interview, two questionnaires were employed in CM 2000: Panel A, representing interviews conducted from January to June, 2000, and Panel B, representing interviews conducted from July to December, 2000. The gambling items discussed in this study were asked only of Panel B respondents (N=1,294). Further details about the CM 2000 are available (Adlaf, Ialomiteanu & Paglia, 2001).

Prevalence of Internet gambling refers to betting money on-line to gamble. Respondents were asked how often, in the past 12 months, they bet money using the Internet? Because our design employed complex sampling methods, we used Taylor linearization methods in order to ensure proper variance estimation for weighted complex sampling (Stata Corporation, 1999). Subgroup analyses were conducted by gender, age, marital status, region, education and income, using logit models. The significance of the group effect was determined by adjusted Wald statistics.

Results

As seen in Figure 1, Internet gambling was the least commonly reported form of gambling for both men and women. Overall, 5.3% (4.1% to 6.9%, 95% CI) of Ontario adults interviewed in 2000 reported having gambled on the Internet during the past 12 months (see Table 1). Although women were more likely to gamble on-line than males (6.3% vs. 4.3%), the difference was not statistically significant. There was a significant univariate effect for age, with people aged 50 to 64 reporting the lowest rates of Internet gambling, and those aged 65 and over reporting the highest rates (1.5% vs.

8.1% respectively), but after controlling for other demographics this effect did not hold.

Figure 1
Types of Gambling Activities in the Past 12 Months by Gender, Ontarians   Aged 18+ , 2000
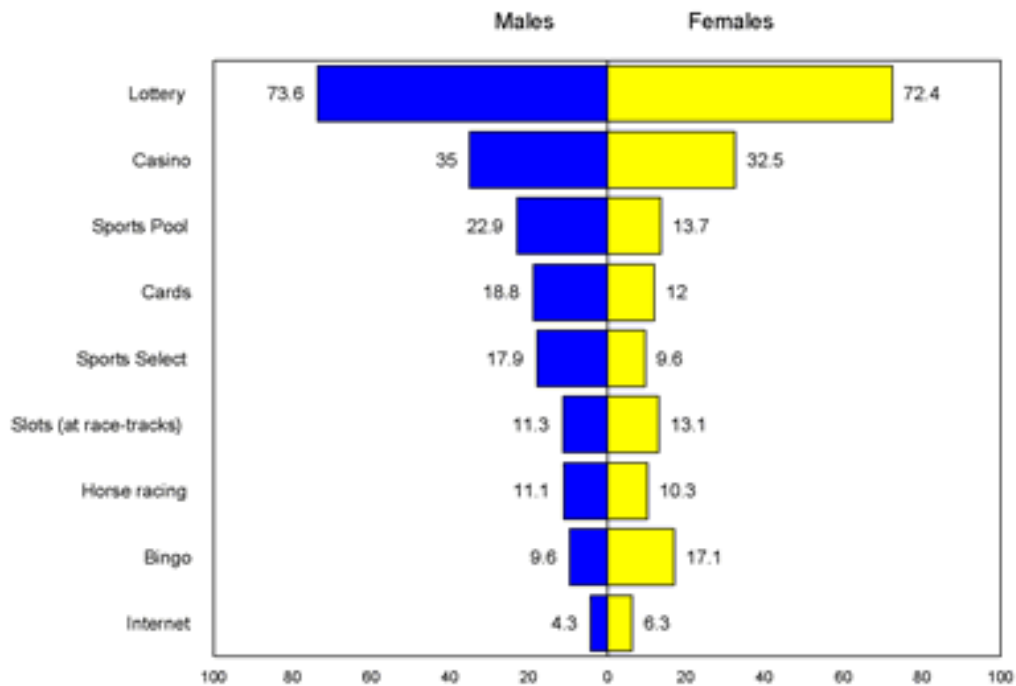
click for larger image

Only marital status was significantly related to Internet gambling. Previously married (widowed, divorced) people were significantly more likely to report on-line gambling compared to those who were married (10.9% vs. 4.9%). There were no dominant regional, educational or income differences.

Additional analyses revealed that 6.7 % (5.1% to 8.7%, 95% CI) of past year gamblers (N= 1,042) reported past year Internet gambling. Moreover, findings evident among the total sample also held for those who gamble among the respective demographic groups: women, people over 64, and previously married people reported the highest rates of Internet gambling. But only marital status was a significant predictor of gambling on-line after controlling for other variables (data not shown).

Table 1. Percentage reporting Internet gambling during the past 12 months, unadjusted and adjusted group differences, Ontario residents aged 18 or older, 2000

		N	%	95% CI	Unadjusted Odds Ratio	Adjusted Odds Ratio for Factors 1 to 6
Total Sample		1,294	5.3	(4.1, 6.9)		
1) Gender					NS	NS
Women	(Comparison Group)	722	6.3	(4.5, 8.6)	---	---
Men		572	4.3	(2.7, 6.8)	.67	.78
2) Age					*	NS
18-29	(Comparison Group)	294	4.4	(2.4, 8.0)	---	---
30-39		302	6.9	(4.3, 10.9)	1.59	1.09
40-49		266	5.6	(3.2, 9.6)	1.26	.86
50-64		242	1.5	(0.5, 4.2)	.32*	.19**
65+		205	8.1	(4.4, 14.5)	1.90	1.04
3) Marital Status					**	**
Married/Living with Partner	(Comparison Group)	768	4.9	(3.4, 6.9)	---	---
Never Married		272	3.5	(1.8, 6.9)	.72	.64
Previously Married		239	10.9	(6.4, 17.9)	2.38**	2.72**
4) Public Health Regions					NS	NS
Toronto	(vs. Provincial Average)	208	7.7	(4.4, 13.3)	1.63	1.79
Central South		120	5.0	(2.2, 10.9)	1.03	.95
Central West		167	3.2	(1.3, 8.1)	.66	.75
South West		224	5.2	(2.9, 8.9)	1.05	.98
Central East		155	3.2	(1.3, 7.7)	.65	.63
East		207	7.1	(4.3, 11.6)	1.49	1.64
North		213	4.3	(2.1, 8.6)	.87	.79
5) Education					NS	NS
Less than high school	(Comparison Group)	180	6.7	(3.3, 13.2)	---	---
Completed high school		370	6.0	(3.6, 10.1)	.89	.92
Some college or university		390	5.4	(3.5, 8.3)	.79	.77
University degree		343	3.6	(2.1, 6.3)	.52	.49
6) Income					NS	NS
< $30,000	(Comparison Group)	219	6.3	(3.3, 11.6)	---	---
$30,000-$49,000		217	4.4	(2.2, 8.7)	.69	.94
$50,000-$79,000		284	6.5	(3.9, 10.6)	1.03	1.72
$80,000+		278	5.3	(2.9, 9.5)	.83	1.79
Not stated		296	4.3	(2.4, 7.7)	.67	.97

Notes: *p<.05; **p<.01

Asterisks in shaded rows indicate the significance of the group effect, based on Wald test.

Odds greater than 1.0 indicate that gambling is more likely to occur in the group being compared to the comparison group.

Odds less than 1.0 indicate that gambling is less likely to occur in the group being compared to the comparison group.

(click figure for larger image)

Discussion

Although the data provide some unique and timely information regarding Internet gambling in Ontario, they are not without limitations. Indeed, we must recognize that the estimates of Internet gambling are potentially affected both by errors in reporting Internet gambling and errors due to missing respondents. It is likely that both types of error would understate the Internet gambling estimates. Also, no information was gathered regarding the prevalence and frequency of Internet use among Ontario adults.

Several implications and observations may be drawn from the findings. First, many traditional demographic factors, such as sex, age, region and socioeconomic factors, are not particularly forceful factors in Internet gambling. This form of gambling is robust and appears to span all configurations of individual social and economic status. Second, although rates of Internet gambling are not excessive, given the simultaneous expansion and diffusion of both Internet access and gambling, continued surveillance is important. Third, given the absence of a significant association between Internet gambling and low income, some may speculate the existence of a potential regressive influence of Internet gambling (Korn, 2000). In this context, investigations must assess the association between Internet gambling and disposable income, which was not examined in this study.

Some of the findings provide a conduit for future investigation. First, we need to assess what may be generalized and what are potential factors related to the elevated rate of Internet gambling among previously married respondents. Although this group also reported elevated rates of alcohol problems and psychological distress (Adlaf & Ialomiteanu, 2001), additional analyses indicated that such factors did not nullify the significant association between marital status and Internet gambling. Another finding worthy of attention is the elevated rate of Internet gambling among people aged 65 years and older. Although the association between age and Internet gambling was not significant, this finding still merits attention in future research.

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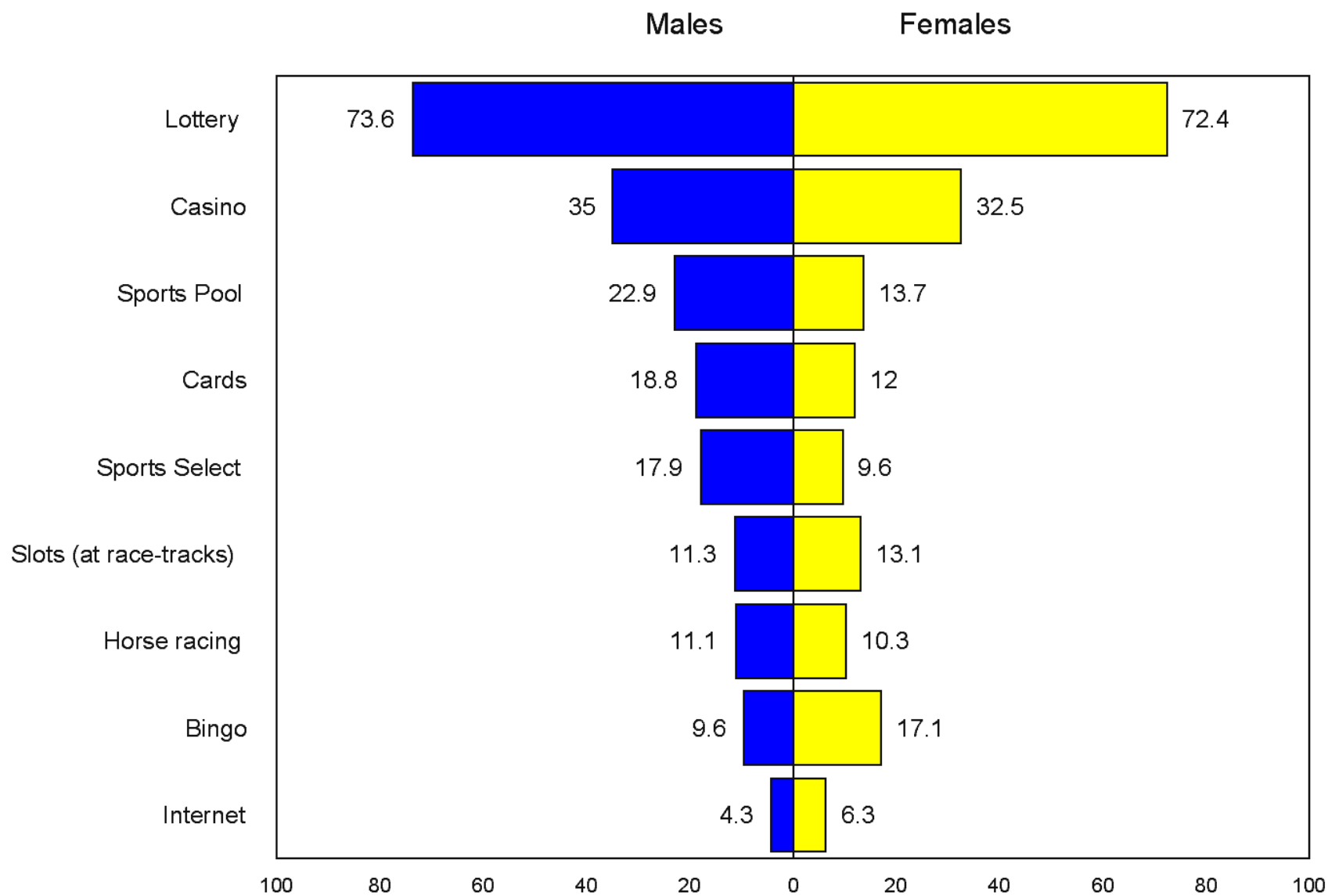
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