

editorial

JGI now accepting French submissions – JGI accepte maintenant les soumissions en français

Dear colleagues:

We are pleased to announce that the *Journal of Gambling Issues* (JGI) is embarking upon a new endeavour – creating a French-language section of the journal. This will make JGI the first English journal in the gambling field to publish French-language papers from French-speaking authors around the world. We will not only be accepting French-language manuscripts, but to make the journal more accessible to our French readership, our next issue will see the abstracts of our English contributions translated to French. French articles will also have their abstracts translated to English to increase their accessibility to our large English-language readership. We hope that our modest contribution will ultimately lead to an even more comprehensively bilingual product down the road.

Contributors can go to the JGI website and follow instructions there for submitting a paper by clicking the Submissions tab. The JGI website outlines how to submit a manuscript through the online Manuscript Central system. The process for making a French-language contribution is identical to that for an English-language manuscript. Alternatively, French-language submissions can also be emailed directly to the editor or our newly-appointed associate editor, Serge Sévigny, who will be overseeing the French language section of the journal.

Also, visiting the journal website will give you an idea of the types of papers published in our journal; these include research articles, brief reports, policy papers, book reviews, editorials, service profile pieces, clinical case reports, and literature reviews in the gambling field.

We look forward to seeing the first set of French-language papers appearing in the journal soon.

Sincerely,

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Risky business: Gambling problems amongst gaming venue employees in Queensland, Australia

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Abstract

This study examines gambling and problem gambling among gaming venue staff and provides a quantitative analysis that is directly comparable to the general population. A sample of 511 staff from casinos, hotels, and clubs in Queensland, Australia completed a questionnaire. Results indicate that employees exceed the average for gambling participation, regular gambling, and usual gambling duration for every type of gambling for which comparisons could be made. Problem gambling rates amongst staff were 9.6 times higher than for the Queensland population. Problem and moderate-risk gamblers were typically males who worked around gambling facilities and assisted patrons with gambling. A substantial proportion of problem and moderate-risk gamblers report increasing their gambling since commencing work. These results are of interest, given the importance of understanding how exposure interacts with gambling behaviour, of debates about the nature of this interaction, and of industry-based responsible gambling policies that particularly focus on gaming venue employees.

Introduction

Gambling problems are recognized as an important public health issue in many jurisdictions, extending attention beyond the treatment of individual problem gamblers to interventions that promote healthy gambling in the wider population. In a seminal article, Korn and Shaffer (1999, p. 290) argue that a public health approach can “stimulate an understanding of gambling phenomena, elucidate the determinants of disordered gambling and point to a range of interventions.” This study contributes to the first of these areas in relation to gaming venue staff.

In their comprehensive analysis of gambling, Shaffer and Korn (2002) apply a public health approach to understanding the epidemiology of gambling-related problems and review research on the distribution and determinants of gambling and gambling problems. They note that most studies have focused on the psychological determinants of disordered gambling, with few examining contextual determinants or illuminating the nature of exposure to

gambling and its association with gambling problems (Shaffer & Korn, 2002). Research that focuses on individual risk factors is likely to overlook important sociological and environmental influences, limiting the understanding of problem gambling and strategies that can be implemented to prevent harm (Marshall, 2009).

The influence of exposure to gambling on the incidence and prevalence of gambling problems is of critical concern, given the unprecedented expansion of legalized gambling in many jurisdictions in recent decades. For example, a number of studies indicate that living in close proximity to gaming venues is positively associated with problem gambling (Rush, Veldhuizen, & Adlaf, 2007; Storer, Abbott, & Stubbs, 2009; Welte, Wieczorek, Barnes, Tidwell, & Hoffman, 2004). A better understanding of the role of exposure in determining gambling patterns in a population can inform public policy decisions about, as examples, expanding or constraining the supply of gambling, the provision of adequate treatment services for problem gamblers, and the need for other public health interventions.

In drawing attention to the need for more empirical evidence on the relationship between exposure to gambling and gambling problems, Shaffer and Korn (2002, p. 188) identify casino employees as “a unique and conceptually important segment of the population, with full access and exposure to gambling compared to the general public.” They explain that “if gambling is the cause of adverse health, then those with the greatest gambling exposure should experience more health problems than those with less exposure” (Shaffer & Korn, 2002, p. 188). Thus, “studying gambling industry employees might serve as an important harbinger of gambling patterns that others will experience if gambling becomes even more widely available than now” (Shaffer & Korn, 2002, p. 188).

This paper reports on an empirical study of gambling amongst employees of gaming venues, which extends previous qualitative research that examined how working in a gaming venue influences the gambling of employees (Hing & Breen, 2005, 2006a, 2007, 2008a, 2008b). This study involves a quantitative analysis of gambling behaviours and gambling problems amongst gaming venue staff. As such, it helps address the gap in knowledge highlighted by Shaffer and Korn (2002) that little empirical evidence exists about contextual influences on gambling behaviour. It also contributes to an understanding of the relationship between exposure to gambling and gambling problems. Additionally, by providing a solid quantitative understanding of gambling amongst venue employees, this study will enable subsequent research to evaluate the potential causes of problem gambling amongst venue employees, assisting gaming venues in implementing policies that encourage more responsible gambling amongst their staff.

Prior Research into Gambling and Problem Gambling Amongst Gaming Venue Employees

To the authors' knowledge, seven studies have examined the prevalence of gambling problems amongst gaming venue employees, as summarised below.

- Collachi and Taber (1987) asked 34 employees from three large casinos in Reno about their frequency of gambling, gambling habits, opinions of others who gamble,

and gambling itself. Although many of their findings were consistent with problem gambling (e.g., borrowing money between paydays), no consistent, quantifiable instrument was used to measure gambling problems.

- Shaffer, Vander Bilt, and Hall (1999) examined the prevalence of pathological gambling, drinking, smoking, and other health risk behaviours amongst casino employees. A sample of 3,841 full-time casino employees from four sites of one US casino was surveyed. The study found that the casino employees had a meaningfully higher prevalence of past-year Level 3 (pathological) gambling (2.1%) but a lower prevalence of Level 2 (problem) gambling (1.4%) than the general adult population when measured on the South Oaks Gambling Screen (SOGS; Lesieur & Blume, 1987). In addition, employees had a higher prevalence of smoking, alcohol problems, and depression than the general adult population.
- Duquette (2000) surveyed 271 employees of one hotel/casino in Las Vegas, also using the SOGS. The rate of pathological gambling was found to be 20.3%, compared with 1.14% for the general adult population. However, this research was presented as an unpublished Master's thesis and so has not been exposed to extensive peer-review.
- Shaffer and Hall (2002) conducted a prospective study into gambling, drinking, and other health factors among 1,176 full-time employees at six sites of one US casino at three observation points separated by intervals of approximately 12 months. Although still meaningfully higher than the general population, pathological and problem gambling rates, as measured by the SOGS, demonstrated placidity and as a whole, decreased over time. These results question conventional wisdom that gambling problems are always progressive and suggest that some employees may adapt to their exposure to gambling after an initial novelty effect.
- Wu and Wong (2008) examined disordered gambling amongst Chinese casino employees in Macao. They found a problem gambling prevalence rate of 7% (which they defined as 10 or more on the SOGS) amongst the 119 dealers surveyed. However, no comparison with the general population in Macao was provided.
- Hing and Breen (2008c) conducted a pilot study of gambling problems amongst 56 gaming venue employees in Queensland, Australia. Using the Canadian Problem Gambling Index (CPGI) to allow direct comparisons with the Queensland state figures, they found that the prevalence of problem gambling was 16 times higher amongst these employees than amongst the general population (8.9% for the former and 0.55% for the latter). The rate of moderate-risk gambling was 10 times higher (19.6% for the former and 1.97% for the latter), and the rate of low-risk gambling, at 16.1%, was triple the general Queensland population figure of 5.34%. Thus, nearly half the respondents were at some risk from their gambling.
- Lee, LaBrie, Rhee, and Shaffer (2008) used the SOGS to examine gambling problems amongst 353 employees of two casinos in South Korea. Three per cent met the SOGS criteria for lifetime Level 3 gambling (5 or more on the SOGS or pathological gambling), whereas 66% reported no gambling-related problems. Although not explicitly reported, presumably the remaining 31% met the criteria for Level 2 gambling (1–4 on the SOGS, or problem gambling). Although the Level 3 prevalence did not exceed the rate in the population, no comparison was given for Level 2 prevalence.

Previous studies have been conducted with different methodologies, instruments, cut-off scores, sample sizes, and degrees of rigour. As a result, the outcomes are somewhat inconsistent, yet indicate elevated levels of gambling problems amongst gaming venue employees when compared with the general population. The disparity between studies highlights the importance of examining a relatively large, recent sample of gaming venue employees, given the extensive changes that have occurred in the gambling industry in the past 10 years. The objective of this study was to provide a quantitative analysis of the gambling behaviour of Queensland gaming venue employees, particularly in terms of problem gambling. It was hypothesised that gaming venue employees would have greater gambling involvement and be more likely to have gambling-related problems when compared to the general population.

Method

This study was conducted in Queensland, Australia, where three types of gaming venues are operated. Four casinos collectively run 284 gaming tables and 3,593 gaming machines; 573 licensed clubs collectively operate 22,024 gaming machines, with a maximum of 280 per club; and 770 hotels collectively operate 18,556 gaming machines, with a maximum of 40 per hotel (Australasian Gaming Council, 2008). These venues also provide off-course wagering, sports betting, and keno facilities.

To address the study's objective, we sourced questions to measure the gambling behaviour of the survey respondents, mainly from the CPGI (Ferris & Wynne, 2001), to allow direct comparison with the *Queensland Household Gambling Survey 2006–07* (Queensland Government, 2008), which used a geographically stratified sample, selected proportionally to the population of 30 regions, of over 30,000 responses (estimated overall response rate of 49.6%). Specifically, this section of the staff survey instrument includes the following:

- The Problem Gambling Severity Index (nine questions from the CPGI, which are used to categorise respondents into non-problem, low-risk, medium-risk, and problem gamblers). The Index consists of nine items, with response categories and scoring being “never” = 0, “sometimes” = 1, “most of the time” = 2, and “almost always” = 3. The response categories and scoring used in this study adhered to those developed for the index (Ferris & Wynne, 2001). The analysis used the cut-off scores as recommended, where:
 - a score of 0 = non-problem gambler;
 - a score of 1 or 2 = low risk gambler;
 - a score of 3 to 7 = moderate risk gambler;
 - a score of 8 or more = problem gambler.
- The CPGI questions on frequency of play (10 questions specific to each type of gambling activity that Queensland residents have access to).
- The CPGI questions on duration of gambling (nine questions specific to each type of gambling. Duration of playing lottery-type games was not asked, as this was deemed not to be useful data).

- The CPGI questions on monthly gambling expenditure (10 questions specific to each type of gambling activity).
- One question developed specifically for the survey instrument, asking whether the respondent's gambling has "generally decreased, increased or not changed" since working in a gaming venue.
- Two questions developed specifically for the survey instrument, asking how frequently the respondent gambles on gaming machines and the Totalisator Agency Board (TAB, facilitator of racing and sports wagering) in their workplace.

In addition, questions were asked to ascertain key demographic, employment, and workplace characteristics of the respondents.

Various methods were used to administer the survey between March 2007 and January 2008. All casino surveys were conducted on-site at the four casino properties. The researcher aimed to collect around 300 responses from casino staff, with the number requested from each casino calculated in proportion to their total staff numbers. The number requested from each department in each casino was also calculated in proportion to total staff numbers in each department. Apart from requesting these numbers of respondents, the researcher had no control over which employees completed the survey. However, survey completion was entirely voluntary.

At the two smaller properties, each casino allocated a room to the researcher, and employees were released from duties for about 30 min to complete the survey on a nominated day, between about 9 a.m. and 7 p.m. At the two bigger casinos, the large number of staff required for survey completion meant that they could not all be released from duty to complete the survey within a reasonable time frame. Thus, the Responsible Gambling Manager of both properties distributed the required number of surveys to each department head, who then asked a number of employees to complete it. The department heads then collected the completed surveys (in sealed envelopes marked "confidential") or employees took their completed surveys direct to the properties' mail rooms for return to the researcher. A total of 319 responses were received.

Accessing a sample of hotel and club employees was inherently a more difficult task than for the casinos because of the large number of venues and therefore the inability to survey employees on-site. With the help of the two relevant industry associations, three surveys were distributed to each hotel and club in Queensland and accompanied by an article in the respective industry association newsletters that endorsed the survey and encouraged participation. Hotel and club managers were requested to ask three of their staff to complete the survey and return it to the researcher in the reply-paid envelope provided. Again, the researcher had no control over which employees were approached to complete the survey, and participation by both the venues in distributing the survey and by employees in completing it was voluntary.

The hotel survey distribution yielded 109 responses and the club survey generated 25 responses from staff, below the expected response rate. Thus, a second round of survey distribution was conducted via an on-line survey. Hotel and club staff were invited to

Table 1
Number and distribution of survey responses

Venue staff	Casino staff	Hotel staff	Club staff	Not stated	Total
Casino 1	25				25
Casino 2	37				37
Casino 3	134				134
Casino 4	123				123
Hotel employees (mail survey)		109			109
Hotel employees (on-line survey)		22			22
Club employees (mail survey)			25		25
Club employees (on-line survey)			34		34
Missing				2	2
Total	319	131	59	2	511

complete the on-line survey via a notice mailed out from the Queensland Branch of the Liquor, Hospitality and Miscellaneous Workers' Union, as this organisation is the only known one with a mailing list of gaming venue staff in Queensland (albeit not all staff). A \$20 shopping voucher was provided as reimbursement for completing the on-line survey. This generated another 22 responses from hotel employees and 34 from club employees. Although this response was below the expected outcome, given the delay which had then occurred in the data collection phase and with agreement from the funding body, it was decided that no further attempts would be made to boost the sample of hotel and club staff.

As shown in Table 1, 511 responses were received from 319 casino employees, 131 hotel employees, 59 club employees, and two respondents who did not indicate the type of venue where they worked. As the researchers were not directly responsible for distributing and collecting the questionnaires, the response rate and characteristics of non-responders cannot be determined.

Results

Characteristics of Respondents

Respondents ranged in age from 18 to 78 years, with a mean of 36.6 years ($SD = 11.3$) and a median of 36.0 years. The sample was predominated by females (56.8%), which aligns with the proportion of females employed across Australian gambling industries (Australian Bureau of Statistics, 2006a, 2006b). The majority of survey respondents were casino employees (62.7%): 25.7% worked in hotels and 11.6% worked in clubs, as shown in Table 1. Six respondents (1.2%) worked in venues with no gaming machines, 26.4% worked in venues with less than 40 machines, and 10% worked in venues with 41–280 machines, reflecting the maximum numbers of machines allowed in hotels (40 machines) and clubs (280 machines) in Queensland. The remainder (62.7%) worked in one of the four casinos, which are the only venues in Queensland allowed more than 280 machines.

The majority of respondents were permanent full-time staff (57.8%), followed by casual (25.6%) and permanent part-time staff (16.6%). Operational staff (53.5%) outnumbered supervisory (27.7%) and management (18.8%) staff. Many respondents had worked in gaming venues prior to their current position. Previous positions included work in hotels (44.5%), work in clubs (30.2%), work in casinos (53.9%), work in a TAB (12.0%), and work in a racetrack (7.9%). Respondents reported working in gaming venues on average for 9.1 years ($SD = 6.7$, median 8.0).

The majority of the sample (78.7%) assisted patrons with at least one type of gambling-related activity while at work. Highest levels of involvement were with gaming machine operations (46.8%), gaming promotions (40.7%), cashier or change booth operations (36.0%), keno (34.0%), and worked casino table games (33.0%). Reflecting the high involvement in workplace gambling operations, the vast majority of respondents had undergone some training in responsible gambling (95.6%), with most (55.8%) completing more than 1 day of this training.

Reflecting the large proportion of respondents who were actively involved with their workplace gambling operations, the majority worked in front-of-house (in view of customers) positions (62.1%) or a position with both front and back-of-house (not in view of customers) duties (31.4%). A small proportion worked only in back-of-house positions (6.5%). Not all front-of-house positions involved working around gambling activities, as 11.5% of the surveyed staff reported that they are “never” around gambling activities and facilities while at work. However, 72.4% reported being around these activities and facilities “almost always” or “most of the time.”

Few respondents were allowed to gamble in their workplace during time off. Only 3.4% of respondents were allowed to gamble on their workplace gaming machines, 6.6% were allowed to enter workplace gaming promotions, and 16.3% were allowed to gamble on the TAB in their workplace.

Although response rates from hotel and club staff were less than expected, the survey appears to have captured sufficient variation amongst the demographic, workplace, and employment characteristics of respondents to allow the necessary analyses to proceed and for the research objective to be addressed.

The Gambling Behaviour of the Employees

The gambling behaviour of the Queensland gaming venue employees was examined in terms of staff participation, regular gambling, usual duration, and expenditure on gambling activities and then compared, where possible, with results from the *Queensland Household Gambling Survey 2006–07* (Queensland Government, 2008).

Gambling participation. During the 12 months prior to the survey, 94.5% of the 511 respondents reported participating in at least one of the gambling activities surveyed, with those who gambled participating in an average of 3.5 different activities. As shown in Table 2, the most common forms of gambling were lotto/scratchies/lottery/pools, gaming

Table 2

Gambling participation in the past 12 months for each form of gambling for gaming venue staff (N = 511) and the general population of QLD (N = 30,000)

Type of gambling	% of Staff	% of QLD population
Lottery/scratch cards/pools	85.2	62.3
Electronic gaming machines	67.6	29.8
Keno	48.6	15.6
TAB	36.8	n/a
Private gaming	23.9	3.4
Racetrack betting	19.9	15.5
Sports betting	17.8	4.6
Casino table games	14.9	5.0
Internet casino games	13.1	1.5

Note. QLD = Queensland; TAB = Totalisator Agency Board; n/a = not available. Source: *Queensland Household Gambling Survey 2006–07* (Queensland Government, 2008).

machines, keno, and TAB gambling. When compared with the Queensland population, the staff participation rate was 8.7 times higher for gambling on Internet casino games and seven times higher for private gambling. The staff participation rate was 3.7 times that of the Queensland population for gambling on sporting events; about three times that for gambling on keno (3.1 times), casino games (3.0 times), and bingo (2.6 times); and over double the rate for horse and greyhound races (2.4 times) and gaming machines (2.3 times).

Regular gambling. As shown in Table 3, regular (at least weekly) gambling was most common for gambling on lotto/scratchies/lottery/pools, gaming machines, and TAB (Totalisator Agency Board). Higher proportions of staff than of the general Queensland population gambled once a week or more frequently on all activities for which comparisons could be drawn, particularly for gambling on sporting events (9.7 times higher). The proportion of staff respondents was substantially higher for weekly gambling on horse or dog races (7.0 times higher), keno (5.3 times higher), lottery products (5.1 times higher), and casino table games (4.3 times higher) and 3.1 times higher for gaming machines. The Queensland survey did not report gambling frequency data for Internet casino games or private gambling.

Profile of regular gamblers. To examine whether employment, workplace, and demographic characteristics differed significantly between regular and non-regular gamblers on the three most common activities, cross-tabulation and chi-square analyses were undertaken. Higher proportions of regular than of non-regular gaming machine gamblers assisted patrons with at least one gambling-related activity while at work ($\chi^2 = 10.817, p \leq .001, df = 1$), assisted patrons with gaming machine operations while at work ($\chi^2 = 9.396, p \leq .002, df = 1$), worked around the venue's gambling activities and facilities ($\chi^2 = 11.482, p \leq .009, df = 1$), and were male ($\chi^2 = 5.901, p \leq .015, df = 1$). Higher proportions of regular than of non-regular TAB gamblers held management or supervisory rather than operational positions ($\chi^2 = 8.927, p \leq .012, df = 1$), assisted patrons with at least one

Table 3

Weekly gambling participation in the past 12 months for each form of gambling for gaming venue staff (N = 511) and the general population of QLD (N = 30,000)

Type of gambling	% of Staff	% of QLD population
Lottery/scratch cards/pools	26.1	5.1
Electronic gaming machines	9.7	4.6
Keno	6.7	2.6
TAB	8.7	n/a
Private gaming	3.5	n/a
Racetrack betting	1.8	3.3
Sports betting	3.8	2.2
Casino table games	0.4	0.6
Internet casino games	4.1	n/a

Note. QLD = Queensland; TAB = Totalisator Agency Board; n/a = not available. Source: *Queensland Household Gambling Survey 2006–07* (Queensland Government, 2008).

gambling-related activity while at work ($\chi^2 = 4.783$, $p \leq .020$, $df = 1$), assisted patrons with TAB/Sportsbook operations while at work ($\chi^2 = 25.591$, $p \leq .000$, $df = 1$), worked around the venue's gambling activities and facilities ($\chi^2 = 11.482$, $p \leq .009$, $df = 1$), and were male ($\chi^2 = 14.234$, $p \leq .000$, $df = 1$).

Similarly, higher proportions of regular than of non-regular keno gamblers assisted patrons with at least one gambling-related activity while at work ($\chi^2 = 7.272$, $p \leq .012$, $df = 1$), assisted patrons with keno operations while at work ($\chi^2 = 12.455$, $p \leq .000$, $df = 1$), and worked around the venue's gambling activities and facilities ($\chi^2 = 11.466$, $p \leq .009$, $df = 1$).

Gambling session length. The lengths of typical gambling sessions are displayed in Table 4. Most staff normally spent more than 1 hr per session when gambling on private gambling (83.8% of those who gambled on this activity), Internet casino games (78.0%), bingo (74.7%), racetrack betting (59.8%), and casino table games (55.4%). Approximately 3 times the proportion of staff respondents than the Queensland population usually gambled for longer than 1 hr on horse or dog races (28.9% vs. 9.6%). Around double the proportion of staff respondents compared with the Queensland population usually gambled for longer than 1 hr on gaming machines (35.4% vs. 18.9%) and keno (19.9% vs. 7.7%). Slightly higher proportions of staff than of the Queensland population usually gambled for more than 1 hr on casino table games (55.4% vs. 41.5%). The Queensland survey did not report gambling duration for Internet casino games, private gambling, sports betting, or bingo.

Gambling expenditure. In the previous 12 months, most staff spent more than \$50 per month when gambling on casino games (56.4% of those who gambled on this activity), Internet casino games (43.2%), private gambling (35.9%), and gaming machines (32%). Typical expenditure based on each gambling activity is displayed in Table 5; as the

Table 4

Number of minutes usually spent gambling on each form (all gamblers)

Type of gambling	1–5 % ^a	6–10 % ^a	11–30 % ^a	31–60 % ^a	61–120 % ^a	121–180 % ^a	>180 % ^a
Bingo	0.0	10.9	5.5	8.2	28.5	28.5	17.7
Keno	13.4	17.5	28.7	20.4	10.7	3.3	5.9
Gaming machines	5.0	8.9	29.8	20.8	15.5	5.6	14.3
TAB betting	18.4	10.3	20.6	22.4	9.1	7.0	12.7
Racetrack betting	17.4	8.7	8.7	6.4	15.7	12.2	31.9
Casino games	1.5	4.4	15.3	23.4	12.4	5.8	37.2
Sports betting	10.2	18.4	28.6	10.2	15.7	5.5	10.2
Internet casino games	1.9	1.9	7.4	10.2	23.2	12.1	42.7
Private gambling	0.0	0.0	2.8	13.8	17.5	11.5	54.8

Note. TAB = Totalisator Agency Board.

^a Based on the valid percentage of the number of gamblers on that activity; therefore, *n* varies.

Table 5

Monthly expenditure in dollars on gambling on different activities (all gamblers)

Type of gambling	\$1–10 % ^a	\$11–20 % ^a	\$21–50 % ^a	\$51–100 % ^a	>\$100 % ^a
Lotto/scratchies/lottery/pools	40.4	25.0	24.1	7.6	2.9
Bingo	32.9	36.5	23.7	7.3	0.0
Keno	53.9	24.1	12.4	6.6	3.0
Gaming machines	25.3	18.2	24.5	14.6	17.4
TAB betting	37.7	15.8	19.5	12.7	14.4
Racetrack betting	35.1	15.3	18.5	14.1	17.2
Casino games	15.9	17.6	9.7	25.6	30.8
Sports betting	42.6	17.0	15.5	11.6	13.9
Internet casino games	20.8	14.4	20.8	17.6	25.6
Private gambling	20.1	21.3	22.5	13.4	22.5

Note. TAB = Totalisator Agency Board.

^a Based on the valid percentage of the number of gamblers on each activity; therefore, *n* varies.

Queensland Household Gambling Survey 2006–07 did not collect data on gambling expenditure, no comparisons are possible.

Reported changes in gambling since working in a venue. Since working in a gaming venue, about one quarter of respondents reported decreasing their gambling (25.8%), over one-half reported their gambling had stayed about the same (54.4%), and about one fifth reported increasing their gambling (19.8%).

Gambling problems amongst the employees. Table 6 compares the distribution of CPGI groups amongst the staff respondents with that of the Queensland population.

Table 6
Distribution of CPGI groups: staff versus the Queensland population

CPGI group	Staff % ^a	QLD % ^b	Difference % points
Non-gamblers	5.7	24.7	–19.0
Non-problem gambler	61.3	67.3	–6.0
Low-risk gambler	17.0	5.7	11.3
Moderate-risk gambler	11.5	1.8	9.7
Problem gambler	4.5	0.47	4.0

Note. CPGI = Canadian Problem Gambling Index; QLD = Queensland.

^a Based on the valid percentage of $n = 511$.

^b Based on results of the *Queensland Household Gambling Survey 2006–07* (Queensland Government, 2008).

The findings can be summarised as follows:

- At 4.5%, the problem gambling rate was 9.6 times higher amongst the staff respondents than amongst the Queensland population.
- At 11.5%, the moderate-risk gambling rate was 6.4 times higher amongst the staff respondents than amongst the Queensland population.
- At 17.0%, the low-risk rate was 3.0 times higher amongst the staff respondents than amongst the Queensland population.
- At 61.3%, the non-problem gambling rate of the staff respondents was about 90% of that of the Queensland population.
- At 5.7%, the non-gambling rate of the staff respondents was 20% of that amongst the Queensland population.

One third of the staff respondents were at some level of risk with their gambling, compared with about 8% of the Queensland adult population.

Gambling Behaviour Amongst the CPGI Gambler Groups

Table 7 presents the key aspects of gambling behaviour amongst the four CPGI gambler groups. The problem gambler group participated in more gambling forms and had the highest participation rate in all types of gambling, followed by the moderate-risk, low-risk, and non-problem gambler groups, respectively, for most gambling types. Similarly, the problem gambler group had the highest proportions of regular gamblers on most gambling forms, followed by the moderate-risk, low-risk, and non-problem gambler groups, respectively. This pattern is repeated for usual session length and monthly expenditure.

Characteristics of the CPGI Gambler Groups

The problem gambler group. Problem gamblers were more likely to be male and to have high exposure to gambling while at work. All problem gamblers reported working around their venue's gambling facilities and activities “almost always” and assisted patrons

Table 7

Key aspects of gambling behaviour for the four CPGI gambler groups

Gambling behaviour	% of Non- problem gambler group N = 300	% Low-risk gambler group N = 83	% Moderate- risk gambler group N = 56	% Problem gambler group N = 22
No. of gambling activities participated in previous 12 months				
Average number	3.0	3.8	4.7	5.9
Participation in previous 12 months				
Lotto/scratchies/lottery/pools	89.8	90.1	91.1	95.2
Bingo	7.6	12.0	11.3	20.0
Keno	40.9	74.4	66.7	85.7
Gaming machines	59.6	92.5	94.5	100.0
TAB betting	34.2	38.5	54.5	80.0
Racetrack betting	19.2	19.2	27.3	40.0
Casino games	13.1	11.5	29.1	35.0
Sports betting	13.4	21.8	32.7	55.0
Internet casino games	9.0	13.0	27.3	55.0
Private gambling	20.0	23.1	42.9	65.0
Regular (weekly) gambling in previous 12 months				
Lotto/scratchies/lottery/pools	25.8	30.9	35.7	28.6
Bingo	0.7	2.7	3.8	0.0
Keno	4.1	6.4	13.0	38.1
Gaming machines	2.7	15.0	23.6	59.1
TAB betting	5.8	10.3	12.7	45.0
Racetrack betting	0.7	0.0	7.3	15.0
Casino games	0.3	0.0	1.8	0.0
Sports betting	1.0	7.7	5.5	30.0
Internet casino games	1.7	5.2	9.1	25.0
Private gambling	1.7	5.1	8.9	15.0
Usual session length > 60 min in previous 12 months				
Bingo	3.9	6.2	10.9	18.2
Keno	5.3	22.2	14.5	9.1
Gaming machines	23.2	56.8	67.3	86.4
TAB betting	7.5	7.4	16.4	40.9
Racetrack betting	7.8	9.9	20.0	31.8
Casino games	5.0	7.4	18.2	27.3
Sports betting	2.1	4.9	12.7	22.7
Internet casino games	6.0	7.4	14.5	40.9
Private gambling	14.2	21.0	34.0	45.5
Monthly expenditure >\$50 in previous 12 months				
Lotto/scratchies/lottery/pools	6.0	6.3	21.4	13.6
Bingo	0.0	0.0	1.8	4.5
Keno	1.4	5.0	10.7	22.7
Gaming machines	6.5	28.8	55.4	77.3
TAB betting	5.5	7.5	16.1	27.3
Racetrack betting	4.4	1.3	7.3	22.7
Casino games	5.5	2.5	10.9	27.3
Sports betting	1.5	1.3	7.3	27.3
Internet casino games	0.7	2.5	5.5	22.7
Private gambling	2.5	3.8	18.5	31.8

Note. CPGI = Canadian Problem Gambling Index; TAB = Totalisator Agency Board.

with at least one gambling activity. Further, 72.7% of problem gamblers reported increasing their gambling since working in a gaming venue (63.6% increasing their gambling “a lot” and 9.1% increasing their gambling “a little”). Of the remaining problem gamblers, 13.6% reported that their gambling had remained “about the same” and 6.1% reported that it had decreased “a little.”

The moderate-risk gambler group. Like the problem gambler group, moderate-risk gamblers were more likely to be male. Exposure to gambling was also associated with moderate-risk gambling. Moderate-risk gamblers comprised 14.4% of those who “almost always” worked around the venue’s gambling facilities, 15.5% who did this “most of the time,” and 7.1% who did this “sometimes.” Yet only 1.9% of those who “never” did this were moderate-risk gamblers. Further, 40.0% of the moderate-risk gamblers reported increasing their gambling since working in a gaming venue, with 27.3% reporting increasing their gambling “a lot” and 12.7% reporting increasing their gambling “a little.” A substantial proportion (37.5%) reported that their gambling had not changed since working in a gaming venue, and 21.5% reported that it had decreased.

The low-risk gambler group. Nearly equal proportions of male (17.3%) and female (18.6%) respondents were low-risk gamblers. Nearly one fifth (19.7%) of those who assisted patrons with gambling activities at work, but only 11.2% who did not, were in this CPGI category. However, there was little difference amongst the low-risk gamblers in terms of frequency of working around the venue’s gambling facilities. One third (33.3%) of the low-risk gamblers reported increasing their gambling since working in a gaming venue, with 7.4% reporting increasing their gambling “a lot” and 25.9% reporting increasing their gambling “a little.” A further one third (33.3%) reported that their gambling had remained the same, 16.0% reported that it had decreased “a little,” and 17.3% reported that their gambling had decreased “a lot.”

The non-problem gambler group. Most of the non-problem gambling group were female, with 69.8% of all female respondents and 59.4% of all male respondents being in this CPGI group. Over two fifths (84.3%) of respondents who did not assist patrons with gambling activities, but only 60.6% of those who did, were in this group. Similarly, most (81.1%) of the respondents who “never” worked around the venue’s gambling facilities were non-problem gamblers, compared with 78.6% who sometimes did this, 64.8% who did this “most of the time,” and 58.3% who “always” worked around gambling. Less than one tenth (9.3%) of the non-problem gamblers reported increasing their gambling since working in a gaming venue, with 3.4% reporting increasing their gambling “a lot” and 5.9% reporting increasing their gambling “a little.” The majority of non-problem gamblers (64.8%) reported that their gambling had remained unchanged since commencing work in gaming venues, and 25.9% reported that their gambling had decreased.

Discussion

The results confirm the hypothesis and indicate that gaming venue employees are a very active group of gamblers as compared with the general Queensland population. They exceed the state average for gambling participation, regular gambling, and usual gambling

duration for every type of gambling for which comparisons can be made. These results have fulfilled the research objective of exploring the gambling and problem gambling behaviour of gaming venue employees. In seeking an explanation for this, several causal factors can be considered.

The results lend support for exposure theory, given that gaming venue employees have the greatest exposure to gambling of any group in the broader population. First, the high prevalence of gambling problems amongst this cohort supports Shaffer and Korn's (2002) contention that those with the greatest gambling exposure should experience more related problems than those with less exposure. As gaming venue employees are constantly surrounded by gambling while at work, this may "normalize" gambling and increase the view that gambling is an acceptable form of entertainment, given the large number of people seen gambling on a regular basis. This exposure may encourage individuals who may not have previously been exposed to gambling to engage in these activities. Second, working around gambling and assisting patrons with their gambling activities while at work were associated with an increased likelihood of being at the problematic end of the gambling continuum. This also held true for regular gambling: Of note is that assisting patrons with a particular gambling activity while at work was associated with regular staff gambling for the same activity. The increased familiarity with a particular form of gambling may lead to gaming venue staff believing that they have a better understanding of the game than general players do and, subsequently, that they have a greater chance of winning. Although by definition gambling is based on chance outcomes, illusions of control are commonly found in both gamblers and non-gamblers (Dixon, Hayes, & Ebbs, 1998; Langer, 1975) and may encourage initiating and sustaining gambling sessions.

Third, it seems that heightened exposure to gambling, rather than just physical access alone, is a determinant of gambling uptake, given that all the casino staff and most of the hotel and club staff could not gamble in their own workplaces. That is, gaming venue staff have less physical access to gambling than the general population does, at least in terms of three dimensions of accessibility identified by the Productivity Commission (1999) — number of opportunities to gamble, number of venues, and conditions of entry. The literature on exposure and accessibility to gambling does not delineate clearly between these two constructs, and there is even less clarity on what these constructs entail. However, exposure to gambling clearly goes beyond just physical accessibility to gambling opportunities and seems the more operant influence in this setting.

Fourth, the preceding point is further supported when the comparatively high staff participation rates for Internet casino gambling and private gambling are considered. It is notable that three of the four casinos that participated in this study are owned by the same company, and staff from these venues cannot gamble at any time in any of those casinos, nor in the company's casino in Sydney. Thus, gaming venue employees have to travel considerable distances to play casino table games. Attractive substitutes may therefore be casino games on the Internet and private card gambling. Indeed, previous research has documented the desire of table game dealers in particular to play casino table games, particularly the one(s) they deal on; their aversion to playing gaming machines as a substitute; and the holding of regular private card gambling nights (Hing & Breen, 2006b). As one table games dealer in

that study noted, “. . . poker night isn’t just a friendly game. I have heard of people losing their pay packet in the private residence of people’s home. All the props, chips, felt cloth, proper cards, the serious environment . . . A lot of the staff take part in these events, normally younger guys as they don’t have a lot of monetary commitments” (Hing & Breen, 2006b, p. 78). Thus, even limited physical access to certain types of gambling may not result in less gambling uptake, but instead in higher participation in substitute types of gambling. Again, exposure to certain types of gambling (in this case, casino games) appears to increase staff participation in these games, albeit in a modified format.

Finally, a substantial minority of staff reported increasing their gambling since working in a gaming venue, with most of the problem gamblers reporting this effect. Although this finding may support the exposure hypothesis, it is not known whether these staff would have increased their gambling in the absence of workplace exposure to gambling.

Although the exposure hypothesis appears to be supported by the results, it is important to consider other potential factors that may increase gambling activity and problem gambling severity amongst this cohort. One alternative explanation is that individuals with existing gambling problems, or those who are at greater risk of developing gambling problems, may be more likely to seek work in gaming venues. In this study, employees with gambling problems were more likely to be men than were those who did not have gambling problems. This finding confirms results from previous studies (Delfabbro, 2008; Lee et al., 2008) that male gender is a significant risk factor for gambling problems. Research has also shown that adults aged 18 to 30 years are more likely to experience gambling-related problems (Delfabbro, 2008; Dickerson, Baron, Hong, & Cottrell, 1996). As the age of the sample matches this risk category, it suggests that the young age of gaming venue employees may play a role in the heightened gambling and problem gambling found in the sample.

It is reasonable to hypothesise that individuals may seek employment in gaming venues because of their interest in gambling, consistent with the findings and arguments put forward by Shaffer and Hall (2002). Individuals may seek greater familiarity with types of gambling in an effort to improve their own chances of success. The high participation rates for employees in forms of gambling where skill or knowledge may be perceived to be involved (Internet casino games, private card games, wagering on sporting events) may be explained in this manner. Additionally, the type of shift work and working hours generally offered to gaming venue employees may be attractive to individuals without family commitments who have excess time and money to spend on gambling. This predisposition to gambling problems may explain the finding of high gambling activity amongst gaming venue employees, including the 54.5% whose gambling behaviour has not changed as a result of their employment.

Conversely, individuals may seek to work in gaming venues in an effort to reduce their gambling, given that the majority of gaming venues do not permit employees to gamble. Staff with a history of gambling problems attempting to reduce their gambling may find the constant reminders and alternate opportunities to gamble with other staff members difficult to resist, leading to continued problem gambling behaviour. However, the majority of respondents indicated that their gambling behaviour had stayed the same or decreased

since working in gaming venues, indicating that some aspects of working in venues may protect individuals from developing gambling problems. These results are consistent with previous research on casino staff (Shaffer & Hall, 2002) and suggest that venue staff do not all move towards more disordered states of problem gambling. Staff with little interest in gambling may seek such employment, as they are not concerned with the risk of developing gambling-related problems. Alternatively, working in venues may reduce staff's interest in gambling or access to gambling, given that they cannot gamble in the workplace. The environmental factors that may increase or decrease risks of developing gambling problems in staff should be examined to elaborate on this discussion.

The strengths of this research include the detailed quantitative exploration of the gambling behaviour and problem gambling severity of venue employees, as well as the direct comparison possible with the general population of Queensland. However, there are a number of limitations to the research. Despite efforts made to generate a representative sample of gaming venue employees, for privacy reasons, researchers were not permitted to contact employees directly to solicit participation. The recruitment methods used were not completely successful in producing a sample that was entirely representative of the population in question. For similar reasons, the recruitment strategies were modified during the research, resulting in potential differences between participants, for example, between those who completed the survey on-line and received compensation and those who did not. Furthermore, because the researchers were not directly responsible for distributing and collecting the questionnaires, the response rate of participants and characteristics of non-responders cannot be determined. This may have resulted in a somewhat biased sample, as participants were essentially self-selected. As such, the results should be interpreted with some caution because the extent to which they can be generalised to gaming venue staff as a whole is difficult to determine. Although this is a limitation to the results and study outcomes, the importance of compromising with the gaming operators in gaining access to gaming venue staff was essential to the success of this research. It is suggested that future studies make efforts to increase the representativeness of recruited staff and record basic response rate details where possible.

Despite these potential limitations, it is expected that the results of the current study can be used as a strong basis for further exploration of the potential environmental risk and protective factors related to problem gambling in gaming venues and for the development of effective harm-minimisation strategies for employees. Furthermore, the results may be generalised to other similar populations, including other jurisdictions with similar gambling regulations and venues, for example, other Australian states, and jurisdictions in New Zealand and Canada.

Conclusion

This paper provides a quantitative analysis of the gambling behaviour of a sample of Queensland gaming venue employees, particularly in terms of problem gambling. The results indicate that the surveyed staff are more active gamblers than the general Queensland population, with higher gambling participation rates on all types of gambling surveyed, but particularly so for Internet casino gambling and private gambling. Regular (at least weekly)

gambling was also more common amongst the staff respondents for all types of gambling. Of concern, the problem gambling rate was 9.6 times higher, the moderate-risk gambling rate 6.4 times higher, and the low-risk rate 3.0 times higher amongst staff respondents than amongst the Queensland population. Problem and moderate-risk gamblers were typically males who worked frequently around the venue's gambling facilities and activities and held positions that involved assisting patrons with at least one type of gambling activity while at work. About three quarters of the problem gamblers and two fifths of the moderate-risk gamblers reported increasing their gambling since commencing work in a gaming venue.

Exposure theory provides a likely explanation for these results, although the cross-sectional survey methodology precludes any evidence of cause and effect. An alternative explanation is that gaming venue employees are drawn to work in the gambling environment because they already have an attraction to gambling (Shaffer & Korn, 2002). Nevertheless, the current research findings are of particular interest, given the importance of understanding how exposure to gambling interacts with gambling behaviour and recent debates about the nature of this interaction (Abbott, 2006). Additional research is needed to explore this issue further by providing a quantitative analysis of workplace influences on gambling problems amongst this cohort.

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Mahjong and Problem Gambling in Sydney: An Exploratory Study with Chinese Australians

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Abstract

Gambling is accepted as an integral part of Chinese cultural heritage. Epidemiological and clinical studies indicate that problem gambling rates among Chinese community members residing in Western countries are substantially higher (2.1–2.9%) compared with those reported for mainstream populations (0.5–1.7%). However, these studies failed to differentiate culturally specific forms of gambling and their association with problem gambling within Chinese samples. Thus, it is not possible to determine if, or what proportion of, Chinese problem gamblers exhibit a propensity to experience problems with culturally specific, as opposed to mainstream, forms of gambling. Mahjong, a popular game deeply entrenched in Chinese tradition, is played among peers and family members. In a recent study conducted by Zheng, Walker, and Blaszczynski (2008), high rates of Mahjong-associated problem gambling were found in a sample of Chinese international students attending language schools and universities in Sydney, Australia. The aim of the current study was to explore the extent of Mahjong-associated problem gambling in a broader community sample of Chinese Australians. Results showed that in a sample of 229 respondents, males and those 35 years or older were more likely to gamble on Mahjong and that 3.1% met the Canadian Problem Gambling Severity Index criteria for Mahjong problem gambling.

Introduction

Gambling has been a central part of the Chinese culture since ancient times (Chinese Family Life Services of Metro Toronto, 1995), with fate and luck believed to influence the course of history and an individual's personal life (Pickett, 2004). Some forms of gambling have become so entrenched within Chinese social life that they are considered acceptable and even healthy hobbies (Chinese Family Life Services of Metro Toronto, 1995). Almost any chance-related event can become the basis for a wager, for example, cockfights, dice, cricket fights, and Mahjong (Chinese Family Life Services of Metro Toronto, 1995). It is claimed that Chinese are optimistic, expect to win (GAMECS Project, 1999), and are more likely to celebrate good luck by gambling. Mahjong, a popular game deeply entrenched in

Chinese tradition, is played among peers and family members. Gambling, and Mahjong in particular, is popular during festivities such as Chinese New Year, weddings, birthdays, and social gatherings of family and friends: “It is common to hear the crisp sounds of Mahjong tiles clicking against one another, as they are mixed by intense players, who execute their moves without pause, and who sit for hours as the stakes rise” (Oxfeld, 1993, p. 107).

For many, Mahjong is an opportunity for socialization, and the monetary reward for winning may be a relatively unimportant motivation or one that is absent altogether (Leung, 2003; Li, 2007). However, many players use the game as a means to earn quick money, and anecdotal evidence suggests that a proportion of retrenched workers in China play to make a living. In this respect, it has been suggested that a large percentage of the Chinese population suffer poverty. A big win at gambling represents a hopeful option that may turn one’s life around (Chien & Hsu, 2006). Unfortunately, players often lose life savings, with newspaper accounts describing fathers selling daughters and mothers prostituting themselves to feed their gambling habits (Papineau, 2000).

Because of the widespread acceptance and popularity of Mahjong, many Chinese people do not consider such an activity to be gambling (McMillen, Marshall, Murphy, Lorenzen, & Waugh, 2004; Scull, 2003), or they tolerate it when reasonable sums of money are involved and where conducted legally and with respectable peers (Chinese Family Life Services of Metro Toronto, 1995). Under these conditions, there is the risk that early warning signs indicative of problem gambling may remain either unrecognised or overlooked until the condition becomes severe. At that stage, it is the negative consequences rather than the activity itself that becomes condemned, and the problem gambling becomes stigmatised, especially if business activities, studies, or family functioning are adversely affected (McMillen et al., 2004).

In 2008, of 20 million Australian residents, 3.4% self-described their ancestry as Chinese (Australian Bureau of Statistics, 2009). A number of Australian studies have reported high rates of problem gambling in samples of Chinese Australians. For example, Blaszczyński, Huynh, Dumlao, and Farrell (1998) distributed 2,000 survey questionnaires to parents through children attending a local Chinese-speaking school in Sydney and obtained a response rate of 27.4%. Using a Chinese translation of the South Oaks Gambling Screen (SOGS; Lesieur & Blume, 1987) and a cut-off score of 10, these authors found a higher prevalence rate of 2.9% for problem gambling compared with the estimate of 1.2% for the general population (Productivity Commission, 1999), with rates higher for Chinese males (4.3%) than for females (1.6%).

Raylu and Oei (2004) compared Chinese and Caucasian gamblers in the Australian general community. Again, using a Chinese translation of the SOGS and a cut-off score of 10, they found a similar prevalence estimate of 2.1% for the Chinese compared with 1.3% for the Caucasian participants. From these results, the authors speculated that the Chinese community might be more at risk of developing gambling problems (Raylu & Oei, 2004).

Scull and Woolcock (2005) used snowball sampling to investigate gambling among Chinese, Greek, and Vietnamese community samples in Queensland. This qualitative research found

that social gambling is popular in the Chinese community, often taking place among friends, in a home environment, and usually for relatively small sums of money. Chinese men, particularly married men with families, experienced more problems than women did.

These studies have not differentiated culturally specific from commercially available Western-oriented forms of gambling. Accordingly, it remains unclear whether Chinese community members have a propensity to differentially gravitate toward games such as Mahjong and whether Mahjong is associated with problem gambling. Evidence that Mahjong may be potentially associated with problem gambling is found in a study conducted by Zheng et al. (2008). These authors found that 2.9% of a sample of Chinese international students met the criteria for problem gambling, with male students and students from Hong Kong more likely to wager on the game.

The extent to which this finding can be generalised to the wider Chinese population remains unknown. It is possible that results from Zheng et al.'s (2008) study are specific to Chinese international students and that language difficulties, study pressures, and lack of adequate support structures are instrumental in leading some Chinese students to gamble in a problematic fashion. In addition, members of the general Chinese community with longer periods of residency and acculturation in Australia may have developed a preference for mainstream commercially available forms of gambling. The aim of the current study is to investigate whether results found for international students in relation to Mahjong and problem gambling are applicable to the wider Chinese community.

We hypothesised that more male than female members of the Chinese community would participate in, and meet the criteria for, problem gambling associated with Mahjong play, consistent with the literature and findings in relation to gambling, gender, and Mahjong gambling (GAMECS Project, 1999; Scull, 2003; Scull & Woolcock, 2005; Zheng et al., 2008).

Further, given that Mahjong tends to be played by older people (Scull, 2003; Scull & Woolcock, 2005), we hypothesised that participants aged 35 years and over would be more likely to gamble on Mahjong and would be over-represented among the population of problem gamblers.

Finally, as Mahjong is essentially a Chinese gambling game, we hypothesised that participants who scored lower on an acculturation scale (representing a greater Asian or Eastern orientation) would be more likely to gamble on Mahjong than would those with a more Western orientation.

Method

Participants

The current study included a convenience sample of 229 (90 males and 139 females) members of the Sydney Chinese community. Recruitment of participants was achieved by

using a snowball sampling technique to access the community through the use of word of mouth by family and friends of the researcher.

Of the total sample, 127 (55.5%) respondents were aged 24 years or less, 36 (15.7%) were between 25 and 34 years, 45 (19.7%) were between 35 and 55 years, and 21 (9.2%) over 55 years. A total of 140 participants (61.1%) were single, 77 (33.6%) were married, and the rest ($n = 12$) classified as “other.” The mean duration of residency in Australia was 12.9 years ($SD = 9.15$), with 91 (39.7%) participants being born in the People’s Republic of China; 44 (19.2%) in Hong Kong; 48 (21%) in Australia; and 46 (20.1%) in Singapore, Taiwan, Malaysia, or Indonesia. Seventy-six (33.2%) participants had obtained secondary school education, while 128 (55.9%) had tertiary undergraduate and 25 (10.9%) had tertiary postgraduate qualifications.

Measures

Participants completed questionnaires designed to elicit socio-gambling demographic details, level of acculturation, and the presence and severity of problem gambling behaviours.

Socio-gambling demographic questionnaire. This self-report questionnaire was designed to elicit data relating to gender, country or place of origin, length of residency, marital status, education, history of Mahjong play and other forms of gambling, and general attitudes towards gambling treatment services (for example, best options for problem resolution and utilization or appropriateness of mainstream versus culturally-specific services).

The Canadian Problem Gambling Index – Problem Gambling Severity Index (CPGI-PGSI; Ferris & Wynne, 2001). The Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index (CPGI) was used to assess problem gambling status. The screening instrument consists of five items that address problem gambling behaviour and four items on the consequences of gambling (Ferris & Wynne, 2001). Each item is scored on a 4-point Likert scale from 0 (*never*) to 3 (*almost always*); a score of 8 or more across the nine items defines the category of “problem gambling.” The CPGI has an internal consistency of .84 and a 4-week test-retest correlation of .78 (Neal, Delfabbro, & O’Neil, 2005). McMillen and Wenzel (2005) found that the CPGI demonstrated better measurement properties than the SOGS and the Victorian Gambling Screen.

The Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA; Suinn, Khoo, & Ahuna, 1995). The SL-ASIA was used to assess cognitive, behavioural, and attitudinal aspects of student acculturation and to explore the relationship between acculturation and participation in Mahjong gambling. The SL-ASIA is composed of 21 multiple-choice questions covering language (4 questions), identity (4 questions), friendship (4 questions), behaviour (5 questions), generation or geographic history (3 questions), and attitudes (1 question). A low score on the scale is reflective of a high Asian cultural orientation or identification, whereas high scores indicate a more Western identification (Suinn et al., 1995). A reliability alpha coefficient of .88 was reported for the scale by the original authors.

Procedures

Ethics approval for the study was obtained from the University of Sydney's Human Research Ethics Committee. Participants recruited by the researcher (family members and friends of the researcher) were given a Participant Information Sheet explaining the nature and purpose of the study. Although all distributed questionnaires were completed and returned, there were no tabulations of the number of people who were approached but who refused to participate, thereby precluding an estimate of the overall response rate. The current sample therefore constitutes a convenience sample that is not necessarily representative of the broader Chinese community.

Participants were requested to complete a battery of questionnaires in English and Chinese, thereby giving participants the option of answering in either language. Participants completed the questionnaires at a nominated place of convenience, which typically took 15 to 20 min to complete and were either returned immediately to the researcher or later by mail. Participants were reimbursed a token amount of \$5 for their involvement in the research.

Results

Mahjong Problem Gambling

Only participants who had gambled money on Mahjong were requested to complete the PGSI of the CPGI, specifically in relation to their Mahjong gambling habits. Results indicated a high rate of Mahjong problem gambling in the current sample of Chinese community members, with 3.1% ($n = 7$) meeting CPGI criteria. Of the remainder, 3.5% ($n = 8$) met the criteria for moderate-risk gambling and 12.2% 28 ($n = 28$) for low-risk gambling.

Overall, gender was a significant predictor of scores on the CPGI (Mahjong problem gambling), with males ($b = 1.011$, $\beta = .205$, $p < .05$) scoring higher on the scale. Data showed that significantly more Chinese males were identified as Mahjong problem gamblers (6.7%, $n = 6/90$) compared with females (0.7%, $n = 1/139$, Pearson chi-square = 11.28, $p = .02$).

Mahjong and Other Gambling Among Sydney Chinese Australians

Participants were categorised into one of four groups in relation to Mahjong and gambling. Mahjong gamblers were those who had played Mahjong as a gambling game at least once in the past 12 months; social players had played Mahjong in the last 12 months, but not for money; other gamblers included those who had not played Mahjong in the last 12 months but had participated in other forms of gambling; and non-gamblers had not gambled with money in any way in the past 12 months and also had not played Mahjong as a recreational game over the same period. Of the total sample, 79.5% ($n = 182/229$) had a lifetime history of playing Mahjong, 24.5% ($n = 56/229$) played socially in the past 12 months, and 33.2% ($n = 76/229$) gambled on Mahjong in the past 12 months. Table 1 shows the classification of participants.

Table 1
Classification of participants by Mahjong play

Category	Frequency	Percentage
Mahjong gamblers	76	33.2
Mahjong social players	56	24.5
Other gamblers	41	17.8
Non-gamblers	56	24.5
Total	229	100

Table 2
Logistic regression with money involvement (yes/no) in Mahjong as the dependent variable

Variable	Level	<i>n</i> (Gamblers)	%	Wald	Significance	Exp(B)
Gender	Female	38/139	27	5.565	.017	2.155
	Male	38/90	42			
Age (years)	34 and under	36/163	22	11.876	.001	7.028
	35 and over	40/66	61			

Overall, participants who engaged in other forms of gambling reported a main preference for lotteries ($n = 69$, 30.1%), followed by poker machines ($n = 59$, 25.8%), casino games ($n = 42$, 18.3%), and private card games ($n = 32$, 14%). Few wagered on horse or dog racing ($n = 16$, 7%) and sports betting ($n = 9$, 3.9%).

Age and Gender

As shown in Table 2, logistic regression analyses revealed that male participants were significantly more likely (2.2 times) to gamble on Mahjong than their female counterparts, with participants aged 35 and over also significantly (7 times) more likely to wager on Mahjong compared with those aged 34 and under.

With “involvement in other forms of gambling” as the dependent variable, logistic regression revealed no significant gender or age differences. Closer examination of individual types of gambling with logistic regression revealed no significant gender or age differences in participation for electronic gaming machines, casino games, and sports betting. However, significant gender differences were found for participation in private card games and horse or dog racing, with males 4 times more likely than females to wager on private card games (Wald = 10.877, $p < .05$, Exp(B) = 4.016) and 3.2 times more likely to bet on dogs or horses (Wald = 3.935, $p < .05$, Exp(B) = 3.151).

Table 3

Multivariate model of acculturation and age (independent variables) and CPGI score (problem gambling) as the dependent variable

Variable	Coefficient	Standard error	95% CI	<i>t</i> Statistic	<i>p</i> -Value
Acculturation	−0.69	0.38	(−1.44, 0.06)	−1.79	.10
Age	−1.11	0.98	(−3.04, 0.82)	−1.13	.26

Note. CI = confidence interval; CPGI = Canadian Problem Gambling Index.

Characteristics Associated With Mahjong play

Forty-five percent of the sample ($n = 103/229$) identified family members as the source from which Mahjong rules were acquired, with 28.4% ($n = 65$) learning the game from friends. The mean age at commencement of play was 15.8 years ($SD = 7.2$). Linear regression analysis revealed that male Mahjong players were on average 2.3 years younger than female players at the age of commencement ($b = -2.323$, $\beta = -.159$, $p < .05$; males = 14.3 years, $SD = 4.7$ years; females = 16.6 years, $SD = 8.4$ years).

Level of Acculturation as a Predictor

Using raw scores from the SL-ASIA as the dependent variable, results indicate community members who favour mainstream mental health services (mean score = 58.93, $SD = 11.97$) over cultural-specific (Chinese) facilities (mean score = 49.16, $SD = 12.67$) were significantly more Western in their level of acculturation ($b = 4.568$, $\beta = .167$, $p < .001$). Age was negatively correlated at a significant level with acculturation ($r = -.44$, $p < .001$), but neither age nor acculturation was predictive of problem gambling (Table 3). No significant differences were found in the level of acculturation of Mahjong gamblers compared with Mahjong social players.

Counselling Preferences in Relation to Problem Gambling

Overall, more than half of the participants reported a preference to resolve gambling problems through professional counselling ($n = 135$, 59%), with almost two thirds ($n = 144$, 62.9%) preferring Chinese services as opposed to mainstream mental health facilities. Of those preferring Chinese services, 59% were female ($n = 85$) and 50.7% ($n = 73$) were under the age of 24. Almost half ($n = 114$, 49.8%) of the current sample considers gambling to be a major social issue in the Chinese community.

Discussion

The current study investigated the prevalence of Mahjong gambling in a convenience sample and explored its association with problem gambling by gender, age, and acculturation. The results indicate that Mahjong gambling occurs frequently in the general Chinese community,

with a minority suffering from Mahjong problem gambling. This is consistent with the findings of Zheng et al. (2008) in which Chinese international students were identified as Mahjong problem gamblers. Thus, results lend support to the hypothesis that Mahjong is not merely a harmless cultural-specific game played during social gatherings of family and friends, but is also a form of gambling that carries with it a range of negative consequences for players who over-commit their resources.

As predicted, male participants in the sample were more likely to wager on Mahjong than were their female counterparts. This is consistent with the gender hypothesis, which points to gambling as a male-dominated activity (Aasved, 2003). The result may be explained in part by the fact that male Mahjong players in the current sample were on average 2.3 years younger than female players at the age of commencement. This supports the age of initiation hypothesis (Aasved, 2003), which states that early exposure to gambling will increase the likelihood of continued gambling and problem gambling. Indeed, there was a large discrepancy in the problem gambling rates between Chinese males and females in the sample. The likelihood of a higher disposable income for the male population may also encourage spending on gambling. The fact that Chinese gamblers prefer games of skill (Oxfeld, 1993) may direct their attention to casino table games, such as blackjack and poker, and to cultural-specific games, such as Mahjong, which gamblers believe they have intimate knowledge of and hence a greater chance of winning (GAMECS Project, 1999). Furthermore, greater gambling involvement by Chinese males could be due to the belief that they gamble because they have the right to do so. Typically, as breadwinners of the family, Chinese men are financially accountable only to themselves. Hence, no family member has the right to question how they spend their money. They are inclined to give up only a portion of their income to their spouse for groceries and utilities, with the remaining amount under their own control. As observed by a participant in Scull & Woolcock's 2005 study: "It is not the wife's business to know what happens to the rest." In dealing with the family member in financial debt, the Chinese emphasis on the welfare and harmony of the family (Slote, 1998) leads to the practice of the family unit repaying gambling debts of individuals (Chan, Mok & Tang, 2008). This may be further vindication for gamblers to carry on with their behaviour.

Participants aged 35 and over are significantly more likely to wager on Mahjong than those aged 34 and under. This finding suggests that Mahjong gambling may be preferred by the older generation, as younger Chinese may be attracted to the immediate rewards of gambling on electronic gaming machines or the higher social status associated with casino gambling. Older Chinese may also prefer to gamble within the safe confines of their homes, with a set group of gamblers known to them, and on a game that they feel comfortable with. Even though Mahjong may not be considered a serious form of gambling by the general community, its presence in the Chinese community should not be underestimated.

Chinese are also keen on other types of gambling. Participants indulged in gambling on electronic gaming machines, casino games, private card games, racing, sports betting, and/or the lotteries. Chinese males were significantly more likely to be involved in private card games and horse or dog racing than were their female counterparts. Interestingly,

similar to Mahjong, both card games and horse or dog racing may involve elements of skill, including card counting and bluffing while playing cards and analysis of form guides and weather conditions before placing bets on horse or dog races. It seems that Chinese men prefer types of gambling that allow for elements of control, with the gambler having the possibility of influencing the end result. This illusion of control may help to explain persistent gambling despite heavy losses.

Many Chinese recognise problem gambling as an issue within the community. Problem gambling brings shame and stigma, putting into question parenting skills and even genetic purity of a person's ancestry (Scull, 2003). Professional counselling is not regarded as a viable solution for sufferers of mental health problems in the Chinese community. Talking to a stranger about one's personal problems is actively discouraged. All family business should be kept within the confines of the immediate family (McMillen et al., 2004). Hence, it is interesting that over half of the current sample prefer resolving problem gambling (should it arise) through professional counselling. It may be that raising children within a Western society has encouraged parents to educate them to voice their concerns and seek help from trained professionals. Alternatively, integration into the mainstream community may well have revealed the benefits of effective counselling. However, it is also possible that responses may be biased as a reflection of snowball sampling. Almost two thirds ($n = 144$, 62.9%) of participants prefer Chinese counselling services as opposed to mainstream facilities, perhaps because of an absence of trust and fear of the possible connection between mainstream bodies and government departments such as Centrelink (social security). Those who favoured mainstream services over Chinese services were found to be significantly more Western in acculturation. It is likely that, for some, the language barrier and the lack of acculturation may greatly reduce the effectiveness of the counselling experience. Even with interpreters, some expressions and ideas may be lost in translation, and a counsellor who speaks the language and understands the cultural etiquettes may be the only way these problems can be avoided.

The limitation of the current study is the non-random nature of the sample. Even though results indicate substantial Mahjong gambling involvement and relatively high rates of Mahjong problem gambling in the Chinese community in Sydney, snowball sampling may have biased the sample in favour of Mahjong players. Current results showed that age and acculturation are not significantly related to problem gambling. Perhaps only a longitudinal study can disentangle age from acculturation and provide meaningful insight into their relationship with problem gambling. The current study did not assess the role of acculturation stress in Chinese immigrants and its possible role in instigating and maintaining Mahjong or other types of gambling problems. This would be an interesting area for future research. Further, the fact that the current sample is skewed towards younger Chinese may have rendered comparisons in terms of acculturation less accurate. An investigation into the role of Chinese culture on gambling may prove to be more fruitful with a larger and more age representative sample. Nevertheless, this study is important in that it builds on the findings obtained from the Chinese international students in Zheng, Walker, and Blaszczynski (2008), suggesting that there is a need to further explore Mahjong gambling and its association with problem gambling within a representative sample of the wider Chinese community.

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Parents' Perceptions of Adolescent Gambling: A Canadian National Study

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Abstract

Previous unsubstantiated reports by children and adolescents suggest tacit parental acceptance of their gambling behaviour. A Canadian national survey of parents with teens between the ages of 13 and 18 revealed that in general parents view adolescent gambling as a relatively unimportant issue compared to other potentially risky behaviours. Parental attitudes toward youth gambling, their knowledge and awareness of youth gambling prevention programs, and their gambling behaviours with their children suggest that gambling has become normalized, with few parents being aware of the potential seriousness of youth gambling. The results are interpreted with the aim of improving harm minimization and prevention initiatives.

Introduction

Adolescent Gambling in Canada

Approximately 80% of Canadian adolescents reported having gambled at least once during their lifetime on regulated and non-regulated activities (Gupta & Derevensky, 1998; Jacobs, 2000; Shaffer & Hall, 1996). The legal age for regulated gambling varies in Canada from province to province. Currently, the legal age for purchasing lottery tickets in the provinces is either 18 or 19, with provincial laws differing with respect to the age at which individuals are allowed to gamble in casinos or play provincially regulated electronic gambling machines (Canadian Partnership for Responsible Gambling, 2009). Lottery scratch tickets are often a favourite pastime for underage youth, and the enforcement of existing statutes is not always adhered to by retailers who sell lottery products. A recent study by St-Pierre (2008) examining retailer compliance with lottery laws in and around the city of Montreal found that youth aged 15 to 17 were frequently able to purchase lottery products without providing any form of identification, in spite of existing legislation. Underage participants were found to be able to purchase lottery tickets 42% of the time. Evidence further suggests that youth

under the age of 18 are able to access casino gambling in Canada (Adlaf, Paglia-Boak, & Ialomiteanu, 2006).

Adolescent Problem Gambling

Although adult problem gambling is an issue of considerable concern, rates of problem gambling and numbers of individuals at risk for problem gambling are reportedly higher among adolescents than among adults. Studies have found prevalence rates for youth and adolescent serious problem gambling to range from 4% to close to 8% (Jacobs, 2000; Shaffer & Hall, 1996; Shaffer, Hall, & Vander Bilt, 1999; Volberg, Gupta, Griffiths, Olason, & Delfabbro, in press). By comparison, pathological gambling rates among adults are much lower, with approximately 1% to 2% of Canadian adults suffering from pathological gambling (Cox, Yu, Afifi, & Ladouceur, 2005). Problem gambling during adolescence may lead to problem gambling as an adult (Winters, Stinchfield, & Kim, 1995; Winters, Stinchfield, Botzet, & Anderson, 2002) and is associated with higher than normal rates of problem behaviours including smoking, drinking, drug use (Hardoon, Gupta, & Derevensky, 2004; Stinchfield, 2000; Winters & Anderson, 2000), and school-related problems (Gupta & Derevensky, 1998; Ladouceur, Boudreault, Jacques, & Vitaro, 1999).

Despite evidence showing the multiple negative consequences of problem gambling, many individuals do not view gambling as a problematic issue. In a study by Shaffer (1996), only 25% of adolescents viewed gambling as potentially dangerous. By comparison, 60% of adolescents viewed alcohol, 64% viewed smoking, and 75% viewed stimulants and narcotics as potentially dangerous. Studies on adult perceptions of gambling reflect a similar attitude. A national study examining Canadian attitudes on gambling found that when asked to compare gambling to a number of other issues, participants viewed gambling as being a less serious problem than drug use, alcohol addiction, smoking, and driving above the speed limit, although the variance in the responses on the seriousness of gambling was considerable (Azmier, 2000).

The general population is thought to lack knowledge about problem gambling. Although approximately 90% of adults could identify at least one warning sign related to problem gambling, less than half were aware of the term “responsible gambling”; had observed a public notice about problem gambling; or were cognizant of any program initiated by governments, social service agencies, or other organizations to reduce and/or minimize problem gambling (Turner, Weibe, Falkowski-Ham, Kelly, & Skinner, 2005). No studies to date have assessed parental knowledge about resources available for children who may have a gambling problem, although the results from Turner et al. (2005) would suggest that this knowledge is limited at best.

Reports of Parental Attitudes Toward Youth Gambling

Prior research studies have examined parental attitudes/perceptions about the gambling participation of their children by questioning the children rather than the parents about these perceptions. A number of empirical studies have reported that youth believe their parents

are not very concerned about their gambling behaviour and even purchase lottery tickets for them (Felsher, Gupta, & Derevensky, 2001; Gupta & Derevensky, 1997; Ladouceur & Mireault, 1988). Parents who purchase lottery tickets for their children provide tacit approval, which may lead to much more serious involvement in gambling or serve to support already problematic behaviour (Felsher, Derevensky, & Gupta, 2004). If this is indeed the case, then current parental attitudes toward youth gambling as reported by their children are of significant concern.

Thus far very little has been done to directly examine parents' attitudes toward youth gambling, although early work by Fisher (1999) suggests that having a parent who is indifferent to his or her child's gambling significantly increases the probability that the child will experience significant gambling problems. A small-scale adult study investigating parental perception toward youth gambling reported significant ambivalence (Vachon, Vitaro, Wanner, & Tremblay, 2004). Such ambivalence or tacit acceptance of children's gambling is likely an important contributing factor to their gambling behaviour.

Prevention of Youth Gambling

In spite of the lack of empirically based gambling prevention programs designed for youth, a conceptual framework has been developed by Dickson, Derevensky, and Gupta (2004b) based on empirical evidence from prevention efforts aimed at other addictive behaviours utilizing a risk-protective factor model, adapted from Jessor's (1998) model of adolescent risk behaviour theory. The model outlines several risk and protective factors previously identified from empirical research, including those specific to gambling, those that influence both gambling and other addictive behaviours, and those that have been identified for addictive behaviours other than gambling. Risk factors identified through research specific to gambling outlined in the model include paternal pathological gambling, access to gambling venues, a positive media portrayal of gambling, and an early onset of gambling experience. Being male, having models for deviant behaviour, having low conformity, and having school difficulties are all risk factors that adolescent problem gambling shares with other high-risk behaviours. Although the model requires further refinement, it is an important framework that may be particularly useful in the development of prevention programs aimed at youth gambling.

Despite adolescents' not being of legal age to participate in government-regulated forms of gambling, numerous prevalence studies have suggested that they remain at risk for developing gambling problems. Ascertaining parents' perceptions of adolescent gambling behaviour may be particularly important in the development of programs and strategies, especially if parents are to become partners in helping prevent adolescent problem gambling. The purpose of this study is to determine parental attitudes and perceptions of youth gambling, especially as it relates to their children, and to compare these attitudes and perceptions to other risky behaviours in an effort to determine how to involve parents in the prevention of youth problem gambling. The study also aims to determine parents' current level of knowledge and awareness of adolescent problem gambling and speculate how best to involve parents in efforts aimed at preventing youth gambling problems.

Table 1
Number of Participants by Province: Actual and Weighted Responses

Province	<i>N</i>	Percentage	Percentage of Canadian residents	Weighted response rates
Alberta	500	18.45%	9.3%	239
British Columbia	500	18.45%	13.9%	355
Manitoba	36	1.33%	3.9%	101
N.B./Nfld./P.E.I.	43	1.59%	0.8%	19
Nova Scotia	500	18.45%	6.9%	177
Ontario	394	14.54%	40.8%	1044
Quebec	237	8.75%	21.1%	540
Saskatchewan	500	18.45%	3.3%	85
Total	2710	100.0%	100.0%	2560

Method

Participants

Participants who had one or more children between 13 and 18 years of age were recruited via the Internet. Approximately 40,000 Canadian individuals were contacted via email to complete the survey, with 3,315 people responding to the survey and 2,710 individuals completing the entire survey. The survey was originally developed in English and then translated into French, so it was available in both official languages. In total, 237 parents completed the survey in French, representing 8.7% of completed surveys.

The inclusion criteria included being the parent of at least one child between the ages of 13 and 18, residing with one or both parents. This criterion ensured that parents were aware of the issues facing adolescents. Participants with multiple children between the ages of 13 and 18 were asked to report on the oldest child within that age range. The sample included responses from residents of all Canadian provinces but did not include residents of the three territories. The number of participants from each province is provided in Table 1. An unequal distribution across the country was included, as only certain provinces contributed to the overall funding of the project. The data were then weighted to reflect the Canadian population distribution by province as outlined by Statistics Canada (2008). Participants from the provinces of Alberta and Quebec were required to have at least one child between 13 and 17 years of age, as the legal restrictions on gambling in those provinces exclude individuals under 18 years of age (rather than 19 in other provinces). Participation in the survey was monitored to ensure that the final sampling encompassed a balanced gender distribution and that it also included parents with children of varying ages.

In total, 846 participants were male (31.2%) and 1,864 were female (68.8%). The data used in the analysis were again weighted by parent gender to obtain an approximate equal number of men and women to use with the analysis. The mean age of respondents was

Table 2
Ages and Genders of the Children of Respondents

	All ages <i>N</i> (Percentage)	13–14 years	15–16 years	17–18 years
Male	1383 (51.0%)	416 (15.4%)	532 (19.6%)	435 (16.1%)
Female	1327 (49.0%)	398 (14.7%)	528 (19.5%)	401 (14.8%)
Total	2710 (100%)	814 (30.0%)	1060 (39.1%)	836 (30.8%)

Note. Includes answering questions on household income and level of education obtained.

45, with most parents falling between the ages of 45 and 54. The distribution of children by gender and age is presented in Table 2. Compared to the recent Canadian census data, participants are more likely to live in a town or rural area, have higher levels of education, and have higher levels of income.

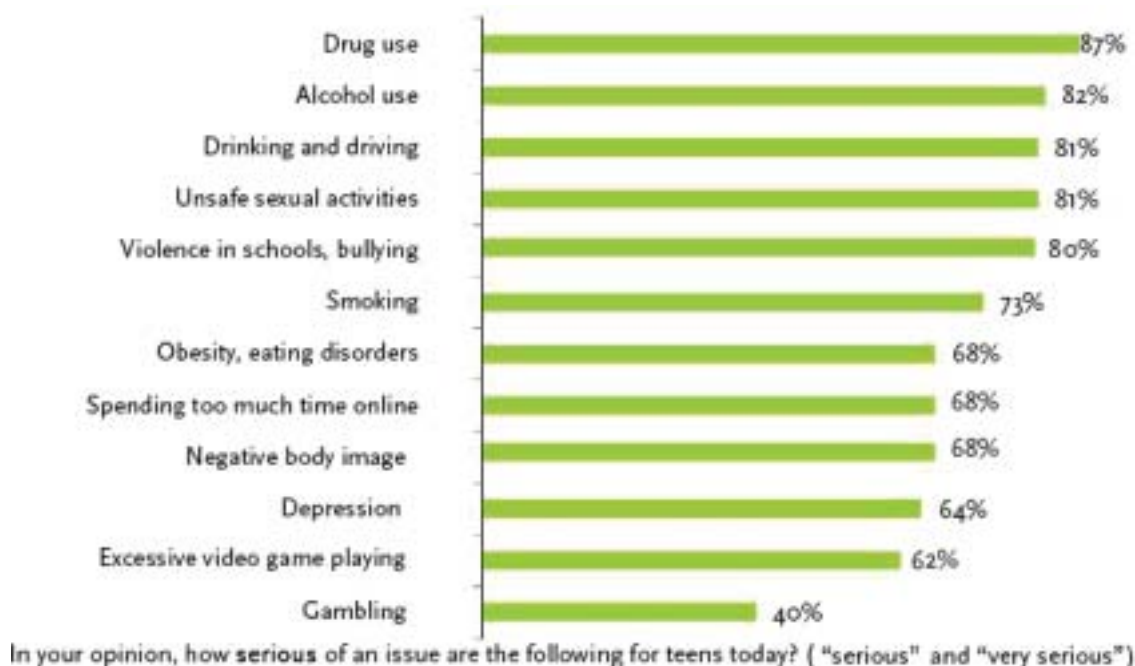
Measures

The survey assessed the attitudes that parents held toward gambling in comparison to other risky behaviours, parental involvement in gambling with their children, and attitudes/awareness regarding youth education and prevention for gambling and other risky behaviours. Questions were developed by the research team and pilot tested, and data were collected over a four-month period. Some of the questions used in the study were adapted from the Parent Smoking Communication Survey-II (Herbert & Schiaffino, 2007) and the South Oaks Gambling Screen (Lesieur & Blume, 1987). In addition, participants were also required to complete a section with demographic information.

Procedure

Participants were contacted via e-mail to participate in the study electronically. They were selected from a database (available to the research company *Research Now*) that contained contact information for individuals registered to complete online surveys. Included in the email were the inclusion criteria, a list of the tasks required to complete the study, and a description of any risks involved. Upon reading the message, participants provided their consent by selecting the “continue” option. The sequence of questions was determined automatically by the survey software (e.g., questions that were not relevant to specific participants based upon their responses were skipped and not presented). The program automatically removed incomplete surveys from the database, so that only completed surveys were accepted. Upon completion of the study, participants were entered into a draw for a \$1,000 prize or received \$5, depending upon recruitment procedures. The entire survey took approximately 30 minutes to complete.

Figure 1. Parental perception of the seriousness of certain issues that adolescents may encounter.



Results

In general, measures of central tendency were computed for all questions. Where comparisons were made between groups, either chi-square analyses or ANOVAs were performed.

Seriousness of Gambling as an Issue

Parents were asked to rate the overall seriousness of a diverse set of 12 adolescent issues that may affect their child by indicating their level of agreement on a 5-point Likert scale (1 = *not at all serious*, 5 = *very serious*). These issues were gambling, drug use, alcohol use, drinking and driving, unsafe sexual activities, violence in schools/bullying, smoking, obesity/eating disorders, spending too much time online, negative body image, excessive video game playing, and depression. As shown in Figure 1, drug use was perceived by parents as being the most serious issue (87% viewed the issue as either *serious* or *very serious*), followed by alcohol use (82%), drinking and driving (81%), and unsafe sexual activities (81%). Of all the potential problematic behaviours, gambling was viewed by parents as being the least serious. Overall, only 40% of all parents viewed adolescent gambling as either serious or very serious. Parents were also asked whether each of the 12 issues had affected their child personally. The most commonly reported issue was bullying/violence, with 28.3% of parents indicating that their child had been personally involved. Gambling was the issue that parents were least likely to mention as having affected their child personally (1% of parents), with no differences based on the gender or age of the child. Interestingly, approximately a

Table 3
Parents' Support of Gambling

Statements in support of gambling	Mean	SD
If you really know the game, gambling can be an easy way to make money.	1.86	0.95
Gambling is a good way for community organizations to raise funds.	2.78	1.11
Gambling can be a good way to relieve boredom.	2.16	1.04
It is acceptable for teens to watch professional poker tournaments or TV shows featuring gambling.	2.70	1.00
Gambling for money is acceptable if you are just playing with friends.	2.30	1.00
There is nothing wrong with teens' gambling occasionally.	2.18	1.03
Statements against gambling	Mean	SD
It is impossible to gamble responsibly.	2.70	1.17
Lottery and scratch tickets should be kept out of sight in stores.	2.75	1.17
Teens are more at risk for problem gambling than adults.	2.85	1.50

Note. Based on a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*.

third of parents (34.2%) noted that their child had not been affected by any of the issues presented.

Perceptions About Adolescent Gambling

Parents provided their opinion on a number of gambling statements attempting to assess their acceptance of their child's gambling behaviour. Examples of the statements are, "There is nothing wrong with teens gambling occasionally," "Gambling can be a good way to relieve boredom," "Gambling is a good way for community organizations to raise funds," and "Gambling for money is acceptable if you are just playing with your friends." The majority of parents disagreed with these positive statements about gambling, although at least one parent strongly agreed with each of the statements (see Table 3). Parents strongly disagreed with the statement, "If you really know the game, gambling can be an easy way to make money." There were some differences with respect to parents' agreement with these statements based upon the age of their child. Parents of 13-to-14-year-old children were more likely to disagree with the statement, "Nothing is wrong with gambling occasionally" ($F(2, 2412) = 4.22, p < 0.05, \eta_p^2 = 0.004$), while parents of 17- to 18-year-olds reported being more likely to think that it is acceptable for them to watch poker on television ($F(2, 2224) = 4.45, p < 0.05, \eta_p^2 = 0.004$). Parents disagreed that teens are more at risk for problem gambling than adults, that it is impossible to gamble responsibly, and that lottery and scratch tickets should be kept on retail store counters. Although parents were unlikely to agree with many of the positive statements about gambling, they were also not very likely to strongly endorse statements that portray gambling as a negative activity for adolescents.

Information about Gambling for Parents

Only 8.1% of parents replied that their child had ever brought home information from school related to gambling prevention. In addition, a small number of parents (9.7%) reported that their child had participated in a school-based prevention or education program concerning the potential risks of gambling. By comparison, parents reported that their school had provided considerable prevention programs or educational material for their child on other adolescent risky behaviours, including sex education (82.9%), bullying (79.9%), drug use (79.8%), cigarette smoking (66.7%), alcohol use (64.2%), and eating disorders (39.4%). Only a small number of parents (7.7%) reported that their child had not received any educational material or been provided with prevention programs for any of the above-mentioned behaviours.

Parents were also requested to rate the resources available on a number of adolescent topics, including gambling, smoking, alcohol use, drug use, eating disorders, and safe sex. Parents perceived the best information was available for smoking (69%), with gambling rated as having the poorest available information (35% of parents rated the information available as *good* or *excellent*). Parents noted that they would prefer receiving gambling information via school bulletins (57%), brochures (46%), and websites (42%).

Participation in Gambling with Children

To assess the impact of parental behaviours, parents were asked to indicate those gambling activities in which they participated with their child for money. Overall, approximately 60% of parents reported having engaged in some form of gambling (for money) with their child. The most commonly participated-in activities were purchasing joint lottery scratch tickets (40%), raffle tickets for fundraising (36%), and lottery draw tickets (12%). Many of the activities had very low participation levels, including video lottery terminal (VLT) gambling and casino table games, in which only 1% of parents reported having participated with their child.

Children's gambling behaviour, without parent involvement, was also investigated based upon parental reports. Overall, 12.5% of parents stated that they were aware their child was gambling. Parents were more likely to be aware of their son taking part in such an activity (17.7%) than of their daughter (7.3%) ($\chi^2(1, N = 2559) = 62.59, p < 0.001$), with the level of awareness of this activity increasing with their child's age ($\chi^2(2, N = 2559) = 60.28, p < 0.001$). Only 7.6% of parents of 13- to 14-year-olds reported being aware of their child's gambling, whereas 11.1% of parents of 15- to 16-year-olds and 20.1% of parents of 17- to 18-year-olds reported being aware of their child's gambling.

Approximately half of all parents (52.1%) reported that they would be concerned if their child gambled with any amount of money, with 71.7% being concerned with amounts less than \$5. Only 9.3% of parents noted that their child would have to gamble with amounts greater than \$20 before they would become concerned. As the age of children increased, parents became less concerned about the amount of money their child wagered ($F(2, 2233) = 58.77, p < 0.001, \eta_p^2 = 0.05$). Overall, 60.4% of parents of 13- and

Table 4

What Parents Would Do if Their Child Came to Them with a Gambling Problem

Action	Mean	SD
Have a discussion about the dangers of gambling	4.67	0.62
Seek information on teen gambling	4.52	0.80
Set controls and monitor child's internet activity	4.46	0.84
Set strict curfews	4.33	0.90
Seek help from a professional	4.28	0.96
Restrict child's access to money	4.24	1.00

Note. Based on a 5-point Likert scale ranging from 1 = *not at all likely* to 5 = *very likely*.

14-year-olds were concerned when their child gambled with any amount of money, with 51.9% of parents of 14- to 15-year-olds and 42.5% of parents of 17- to 18-year-olds being similarly concerned.

Helping with Children's Gambling Problems

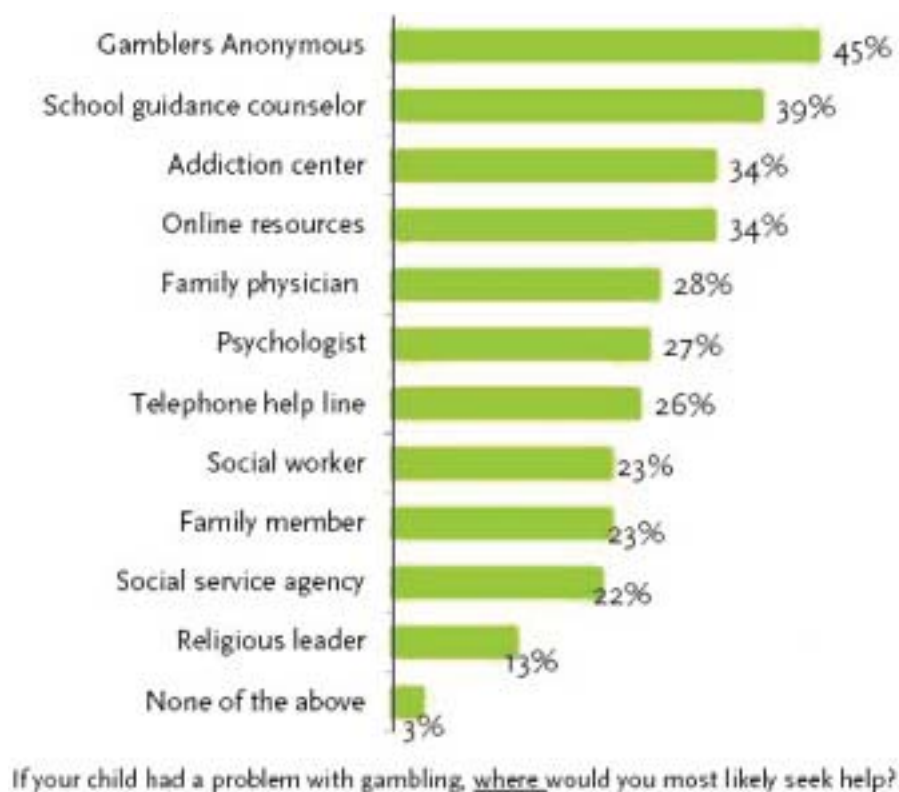
Parents revealed their priorities for help-seeking strategies should their child have a gambling problem. Discussing the dangers of involvement in gambling activities ($M = 4.67/5.00$, $SD = 0.63$) was the predominant response, followed by seeking additional information about teen gambling ($M = 4.52/5.00$, $SD = 0.80$). Parents were most likely to restrict their child's access to money ($M = 4.11/5.00$, $SD = 0.97$) if it was suspected they were gambling or had a gambling problem (see Table 4).

The resources that parents were most likely to use if their child came to them with a gambling problem were Gamblers Anonymous (45%), their child's school guidance counsellor (39%), an addiction centre (34%), and online resources (34%). Figure 2 shows a complete breakdown of the utilization of all resources. Although there was no single resource that the majority of parents reported they would use, only 3% of parents indicated that they would not seek help or use any of the resources available.

Discussion

Adolescents have been reported to be at increased risk for developing a gambling problem in comparison to adults and have high rates of gambling participation (see the recent comprehensive review by Volberg et al. (in press). Previous studies have shown that adolescents perceive that their parents generally approve of their gambling and report that gambling with family members is a relatively common occurrence (Gupta & Derevensky, 1997; Ladouceur & Mireault, 1988). Rather than merely relying on adolescents' perceptions, the current study, using a Canadian national sample, examined parents' knowledge and attitudes toward their child's gambling behaviour.

Figure 2. Resources parents would access if their child developed a gambling problem.



Canadian parents clearly revealed that gambling is not viewed as a potentially serious issue, with fewer than 50% of parents rating it to be a serious or very serious concern. Similar to other studies, drug use, alcohol use, and drinking and driving were identified by parents as being the three most serious issues (Beck, 1990; Beck, Scaffa, Swift, & Ko, 1995; Blanchard, Gurka, & Blackman, 2006; Kypri, Dean, & Stojanovski, 2007). It would be difficult to argue that youth gambling is a more serious issue than drug or alcohol use by teens, as the latter activities have potentially addictive properties along with well-established negative impacts upon physical health, psychological well-being, and relationships.

The risks associated with drug and alcohol abuse have largely been portrayed in the mass media, and the effects that these substances have on individuals are established and well known by adolescents and their parents. More recently, drinking and driving has received similar attention from the media, with its potential consequences being acknowledged. It is thus not surprising that parents viewed gambling as a less serious issue than drug and alcohol consumption. Nevertheless, it is surprising how relatively unimportant youth gambling is perceived to be by parents, considering that excessive gambling does have well-established and recognizable problems associated with it, including negative financial consequences, impaired relationships, mental health issues, and academic problems. The fact that provincially regulated gambling is prohibited to minors, similar to alcohol consumption and smoking, seems to suggest that gambling among youth should be viewed by

parents on a somewhat similar scale. Of the 12 potentially problematic and risky adolescent behaviours presented to parents, gambling was the issue of least concern. However, some caution is necessary, given the concerns about the generalizability of this current study's sample.

Despite parents' identifying gambling to be the least serious issue facing adolescents, a number of findings suggest that parents perceive teen gambling to be of some concern. Parents accurately noted the potential risks associated with excessive gambling. Youth gambling was not perceived to be a harmless activity. Very few parents agreed with the statement that there is nothing wrong with occasional teen gambling. However, one could ask the question: Are they aware of their child's gambling problem, or, as is the case with other adolescent risky behaviours, have they chosen to ignore it?

Gambling, especially youth gambling, has often been referred to as a hidden addiction. As such, it was not surprising that only 1% of parents reported that their child had been directly negatively impacted by excessive gambling. Given that teens are quite capable of hiding their gambling and/or gambling problems from their parents, the concerns raised by their parents may be negligible. Contributing to the lack of concern is the normalization of gambling within Canadian society. Provincial governments are expanding and promoting gambling, and advertisements for multiple forms of gambling are becoming widespread in Canada. Government ownership of much of the gambling and advertising for gambling activities may have removed any stigma associated with gambling. Advertising of gambling as a socially enjoyable recreational activity has supplanted the drawbacks and negative correlates associated with excessive gambling. Since many gambling activities are restricted to adults, and depictions of adolescent gambling in the media are uncommon, individuals typically do not view gambling as an adolescent activity, despite multiple studies showing that gambling in general and problems associated with gambling are common among youth (Dickson, Derevensky, & Gupta, 2004a; Jacobs, 2004; Shaffer & Hall, 1996; Shaffer et al., 1999; Volberg et al., in press).

Parental gambling involvement with children

Similar to previous studies, the current study found that the majority of parents report some form of gambling with their children. Only 40% of parents reported that they had never gambled for money with their child. However, it is important to note that the frequency of gambling is not high, as most parents report gambling with their child infrequently. The type of gambling that parents most often participated in with their children was purchasing lottery scratch tickets and raffle fundraising tickets. Fewer than 2% of parents participated in Keno, VLTs, or casino table games with their children. It is plausible that some parents are introducing their children to forms of gambling that they otherwise would not have access until they reach the legal age. Ample evidence also suggests that early initiation is a predictor of later gambling problems (Gupta & Derevensky, 1998; Productivity Commission, 1999).

Despite the majority of parents' reporting that they have gambled at least once with their child, only a relatively small percentage of parents reported being aware of their child's gambling participation without their involvement. This is interesting in light of findings

that indicate that between 70% and 90% of adolescents report having gambled for money in the past year (Gupta & Derevensky, 1998; Jacobs, 2000; Shaffer & Hall, 1996; Shaffer et al., 1999), making prevalence reports by parents in the current study significantly underreported. Multiple studies of adolescents have confirmed that the rate of adolescent gambling is much higher than the 32% reported by parents in the current study. These results support the theory that parents, in general, remain unaware of their children's gambling behaviour. This finding, while disconcerting, is not particularly surprising, given that parents also underestimate their children's alcohol and drug use (Beck et al., 1995; Stanton et al., 2000).

Despite the majority of parents' reporting they had gambled with their child, parental opinions and attitudes toward gambling suggest that they are not comfortable with the idea that their children may be gambling. While parents generally do not believe adolescent gambling to be a serious problem, they would nevertheless be concerned if they became aware that their child was gambling. Very few parents strongly agreed with the statements, "There is nothing wrong with teens gambling occasionally," "Gambling can be a good way to relieve boredom," and "If you really know the game, gambling can be an easy way to make money." Although most parents tended to disagree with statements that endorse gambling, a small but identifiable minority of parents suggested that there is nothing wrong with teens' gambling occasionally.

Information and resources available to parents

The lack of readily available information and programs concerning youth gambling remains a significant problem. Only 35% of parents that were aware of programs thought that the available information on gambling was good or excellent. In contrast, 69% of parents thought that the information available to them on smoking and drug use was either good or excellent. The information that children are currently provided with concerning gambling is perceived by parents to be less useful in comparison to other issues facing teens. The minimal information currently available to parents about youth gambling may need to be re-examined for its quality and effectiveness, although it is possible that this perception by parents is due to their limited exposure to such programs about gambling.

In general, parents would like to receive more information on youth gambling. Such information can be provided to them through school newsletters or bulletins. Using schools to distribute information on adolescent gambling is highly advantageous. In addition to materials for parents, new initiatives should be reviewed toward educating youth about the risks associated with excessive gambling (see Derevensky, Gupta, Dickson, & Deguire, 2004).

Several new public service announcements raising the risks associated with youth gambling have been developed for parents and are currently being evaluated. This seems like a viable way to reach a large majority of parents, as the overwhelming majority of households in Canada with school-age children has a television (98%) and access to the Internet (83%) (Statistics Canada, 2005; Statistics Canada, 2008). However, using the Internet to raise awareness about adolescent gambling may be difficult, as individuals are not likely to open

web links on issues not of interest. While advertising on popular general websites that receive considerable Internet traffic may be useful, the costs are likely prohibitive.

Limitations

Despite the large sample size, only individuals with access to the Internet were able to participate. In particular, individuals were part of a target population previously identified by the research company specializing in Internet data collection. Such individuals were more likely to have high-speed access, be willing to participate in online surveys, have higher than average incomes, and have attended a postsecondary educational institute. Thus, the current study may be overrepresented by individuals belonging to these groups. Second, the overall response rate was not high. Over 40,000 individuals were contacted and invited to participate in the study, with only 3,315 responding and 2,710 completing the study. However, many of those contacted may not have met the criteria for inclusion in the study (this number is unknown). Since only fully completed surveys were used to calculate the results, the response rate was less than 7%. Response rates to Internet-based surveys are typically lower than for mail-based surveys (Kaplowitz, Hadlock, & Levine, 2004; Kongsved, Basnov, Holm-Christensen, & Hjollund, 2007) and usually have a response rate that is 11% lower than for research incorporating other methods (e.g., mail, telephone, and fax surveys) (Manfreda, Bosnjak, Berzelak, Haas, & Vehovar, 2008). Finally, a disproportionate number of females participated in the study. While their responses were weighted, it would be important to try to balance the numbers by gender in the future. Questions remain as to the representativeness of the sample, and no reliability or validity checks were performed. As such, further research is warranted.

Conclusions

Gambling, despite being a growing issue, is not perceived by parents to be a serious concern. If we are to curtail adolescent gambling, thereby reducing the number of youth that are negatively impacted, parents must become a partner in effective prevention initiatives. It is problematic that the majority of parents report having gambled at least once with their child in the past year, given that such behaviour is often not accompanied by discussions urging caution. Despite what appears to be parental indifference, there does seem to be a growing concern, and parents appear willing to receive information and work with professionals. Further follow-up with parents seems warranted.

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Socially responsible and accountable gambling in the public interest

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Abstract

While much has been written about the need for governments and the gambling industry to act responsibly in their provision of gambling, only modest advances have been made to establish best practices in this area. Worldwide, few governments even approach what William Eadington, in *Trends in gambling and responsible gaming in the US and elsewhere* (2003, http://www.888betsoff.com/links/04_presentations/Eadington.pdf), calls a stage-four level of responsible gambling stewardship, that is, the unconditional acceptance of strong measures to attenuate gambling-related harms. One of the cornerstones of a gambling regime oriented toward consumer safety and public interest is a commitment by government and the gambling industry to meet commendable standards for accountability and social responsibility. After studying the government's legislative framework for the operation and regulation of gambling in the province of Ontario (Canada), reviewing the province's gambling-related mission and public-policy statements, and interviewing key actors in the government's gambling administration, a template was developed for an optimally socially responsible and accountable gambling regime that operates in the public interest. The template, along with suggestions for improving accountability and social responsibility in the provision of gambling, is presented.

Introduction

While all Canadian provinces now subsidize problem gambling prevention and treatment programs, no Canadian jurisdiction had the foresight to implement these initiatives before getting heavily into the provision of legal gambling. Responsible gambling practices that did exist two decades ago were more happenstance than the result of prudent planning, consisting of industry self-regulation and voluntary codes of practice. Reith (2008, p. 149) says that "responsibility is based on the possession of power and implies accountability — to another for something." However, when it comes to the provision of gambling, what is the nature of the accountability relationship? That is, who is responsible to whom, and what are they responsible for?

Eadington (2003) proposed a four-stage model to assess North American state and provincial responsible gambling offerings: stage one is characterized by inaction and government and gambling industry denial; stage two refers to governmental and gambling industry “lip service” — in essence, acknowledging that problem gambling exists but doing little of substance to lessen harm; stage three is a partial commitment by governments and the gambling industry to implement responsible gambling measures; and stage four represents an unconditional acceptance of strong directives to attenuate gambling-related harms by governments and the gambling industry, even if this conflicts with other objectives and implies the sacrifice of revenues. Eadington’s appraisal of the North American responsible gambling landscape was that state and provincial gambling regimes were generally positioned somewhere between stages two and three, well short of an ideal engagement.

The responsible gambling movement has been hindered by governments’ reluctance to accept empirical research findings, the goals of a robust responsible gambling initiative, and the means to reach these goals (Hing & Mackellar, 2004). While modest progress has been made in the six years following Eadington’s observations, recent commentary indicates that the risk of legal liability could be the stimulus that spurs governments and the gambling industry to be more proactive in making gambling safer for consumers (Hancock, Schellinck, & Schrans, 2008; Miers, 2008; Livingstone & Woolley, 2007). In addition, recent scandals involving the Ontario Lottery and Gaming Corporation and the British Columbia Lottery Commission have increased public awareness about lax oversight and accountability deficiencies in these organizations, hence creating in them a heightened sense of vulnerability and a greater emphasis on responsible gambling initiatives (Marin, 2007; British Columbia Ombudsman, 2007).

In analyzing the inner workings of Ontario’s gambling regime, we sought to determine the fit between policy and practice (and identify gaps, if there were any), and ascertain whether (and to what extent) the operation of gambling in Ontario was meeting acceptable standards of accountability and social responsibility. A detailed account of the inquiry is beyond the scope of this article. Here, we focus on the building blocks for an accountable and socially responsible gambling regime. The end product is a framework for offering gambling in the public interest.

Justification for the Study

Whether gambling is detrimental, neutral, or beneficial to individuals and society in general depends upon social, cultural, situational, and individual factors, as well as how the activity is operated and regulated. While gambling in Canada “is marketed as a form of entertainment for its consumers, state-run gambling for the purpose of revenue generation has consequences for citizens and communities” (Cosgrave & Klassen, 2009, p. 3). The full force of these side-effects is often obscure because citizens seldom have the appropriate information to hold governments accountable.

The challenges that confront Canadian provincial governments in conducting and managing gambling are manifold: how to offer the activity so that it is fair to players and tightly regulated; its proceeds are directed toward important social betterments; its related crime

and corruption are constrained; and its harm is minimized for citizens and the community at large. Governments must also reconcile gambling's stigmatized reputation, that is, explain why it is that even though most forms of gambling have been illegal until recently, it is now a worthwhile leisure pursuit and proper for them to promote and operate it. While governments' sanctioning of gambling gives the activity legitimacy, caveats associated with it make it a confounding undertaking to operate and regulate in the public interest. By caveats we mean verities concerning the nature of gambling (e.g., historical links with crime, addiction, and social breakdown) that hinder jurisdictions from harnessing the activity and using it to produce a net community benefit.

Accountability and social responsibility are gardens that need regular tending by gambling regimes that purport to operate in the public interest. In an attempt to more closely align gambling policy and practice with the common good, we identify core questions that need answering to make governments more accountable for their gambling operations, and we introduce a template for an optimally socially responsible gambling regime.

Caveats of Commercial Gambling

Caveats of gambling that gambling providers should be mindful of when formulating public policy are as follows: (1) *Gambling is not an essential product or service*. Unlike core programs provided by governments, such as health care, education, and environmental protection, gambling is unnecessary. Not only is the provision of gambling products and services not part of a government's mandate, it is an activity that entails the transfer of money without creating new money, and, when government-run, represents a form of regressive taxation (Sweeney, 2009). Concern has also been expressed that government-promoted gambling implies that citizens should rely on luck to achieve financial success, which is "inconsistent with encouraging characteristics such as effort, industry and perseverance" (Lippke, 1997, p. 61). Given the expendability of gambling, there would seem to be an extraordinary onus on governments to justify their involvement in the activity and ensure it is operated in the public interest. (2) *Gambling is a morally contested industry*. Morally contested industries are those industries that polarize public debate and attract the question, "Is this activity moral?" In order to minimize public concern, morally contested industries need tight regulatory structures and governance processes that promote integrity, advance public trust, and cultivate public confidence (Magendanz, 2003). (3) *Gambling is harmful to some participants*. A small percentage (2 to 5 percent of adults, depending on the Canadian jurisdiction) of gambling consumers bet excessively, thus creating misery for themselves and those close to them. This potential for gambling-related personal suffering and social disruption has accountability implications for governments in terms of duty of care, informed consent, and articulating priorities vis-à-vis revenue generation and protection of citizen welfare. The lack of case law in these areas means that the responsibilities of the gambler, the gambling provider, the machine manufacturer, the regulator, and others are still unclear. (4) *Profit-seeking overrides other goals*. Canadian governments have acted as entrepreneurs in providing gambling; as a result of this managerial style, a conflict has been created between their desire to generate revenues and their mandate of upholding the public interest. Cosgrave and Klassen (2009, p. 11) assert that legal gambling in Canada "has become constituted on the basis of revenue production, which suits the interests of the

state, but not necessarily the needs of the gamblers, or the larger community.” Once established in the gambling arena, provincial governments moved to “protect their investment and maximize their profits” (Adams, 2008, p. 32), which meant creating infrastructures of control (policies and practices) that encouraged gambling expansion and revenue enhancement, often at the risk of slighting the public good. This focus on profit-seeking can compromise a gambling regime’s integrity along with its accountability and social responsibility standards (Marin, 2007).

Consequences of Failing to Heed Gambling-related Caveats

By soft-peddling the hazards of gambling and fixating on the profits, Canadian governments place a higher priority on revenue generation than citizen welfare (Smith & Campbell, 2007). Provincial governments are in a conflict of interest with regard to their gambling operations, because not only do they have a monopoly on the activity within their borders, but they authorize and promote gambling opportunities, legislate the gambling landscape, regulate legal gambling, and prosecute illegal gambling, while at the same time being the major beneficiary of gambling proceeds (Campbell, Hartnagel, & Smith, 2005; Adams, 2008). One way to avoid this conflict is to privatize gambling services, thus making provincial governments strictly regulators of the industry. Since this would require a major change in the Criminal Code, reduce government revenues, and possibly allow the gambling industry to dominate the regulatory system (Denton & Morris, 2001), it is a highly unlikely scenario. A more salutary approach might be for governments to continue operating gambling but make them answerable to independent tribunals. This prospect is explored in a later section.

The collaboration between governments and private-sector gambling corporations “gives the gambling interests extraordinary bargaining power” (Room, 2005, p. 1226) and has, over the years, resulted in increasingly relaxed gambling regulations. For example, gambling venues can now be open seven days a week and for longer hours, alcohol can be consumed on the gaming floor, maximum bet limits have increased, bank machines (ATMs) are permitted in gambling premises, telephone and Internet wagering are allowed, and electronic gaming machines (EGMs) can be equipped with bill acceptors. By and large these changes were the result of aggressive gambling industry lobbying and were designed to increase profit—public consultation was seldom part of the process (Azmier, 2000; Campbell & Smith, 2003; Smith & Campbell, 2007).

Gambling, unlike most other commodities or services provided by provincial governments, “carries serious risks of personal and social harm” (Orford, 2005, p. 1223). In comparing EGMs to the tobacco industry, Doughney (2007) declared that both products impair control and that regular use as intended by the manufacturers works to extinguish player control. Given the potential hazards of gambling, it is recommended that governments abide by the precautionary principle before introducing policies or activities that could irreversibly damage citizens or the community, even when there is no definitive proof that the harm will result (Myers & Raffensperger, 2001). The precautionary principle is particularly relevant for gambling, where it is much easier to expand the activity than undo it.

All legal gambling formats are weighted against a player “beating the house”. In addition, Goldlist and Clements (2008, p. 11) contend that “government-run gaming monopolies maintain artificially high prices in the form of lower pay-out ratios.” Campbell (2009, p. 85) concurs when he notes that Canadian jurisdictions have yet “to address the fundamental fairness of proffered games such as the odds or rates of return paid by EGMs, which are overwhelmingly advantageous to the gaming operator.” The lack of fairness makes governments vulnerable to charges of “duping the gullible” (Sweeney, 2009, p. 220).

While their financial records are made public in annual reports, gambling regimes are averse to openly discussing their business, marketing practices, and expansion strategies. And, because gambling is such a sensitive topic for governments, there is often a disconnect between official rhetoric and routine practice; by this we mean that the high-minded ideals contained in gambling mission statements and objectives “cannot be assumed to translate into implementation of policy in a straightforward manner” (Borrell, 2008, p. 266). Government language pertaining to gambling operations is often devoid of content (it speaks of a commitment to values, but not what this means in practice) and focuses on the caring side of the enterprise while ignoring the darker regions of the activity (e.g., addiction, corruption, and consumer exploitation). This is an example of what Orwell (cited in Hitchens, 2002, p. 71) called “political language,” that is, verbiage “designed to give an appearance of solidity to pure wind.”

Provincial governments have been known to describe themselves as “gaming neutral” and require their funded agencies to adopt this stance as well. The notion of government as an impartial and disengaged bystander is a distortion of its role as gambling provider and promoter and has implications for government accountability and social responsibility when a crisis arises. For instance, in 1998 when Alberta communities held referenda on whether to allow or terminate video lottery terminals (VLTs), the government forbade problem gambling counsellors from participating in public debates on the issue by directing them to be gaming neutral. This gag order resulted in valuable information about the problems associated with VLTs being withheld from the public, thus compromising the openness of the dialogue (Smith & Wynne, 2004).

Principles of Socially Responsible Gambling

In our review of the gambling studies literature pertaining to offering gambling in the public interest, the following key principles were identified:

- *Fact-finding missions.* Independent national and provincial reviews of gambling are needed to determine the nature and scope of gambling in each jurisdiction; how gambling is rationalized, implemented, and regulated; the extent to which gambling consumers are protected and the harms of gambling addressed; and the degree to which provincial gambling regimes are accountable and socially responsible in their gambling offerings. The last federal government inquiry of note into gambling occurred in 1954 (Campbell et al., 2005), and most provinces have yet to do an independent and comprehensive examination of their gambling regimes.

- *Explicit mission statements and objectives.* A critical observation raised in Australia by their Productivity Commission (1999, chap. 12, p. 16) was that “governments’ failure to follow good regulatory process and design principles, compounded by and combined with revenue raising imperatives, may well lead to perverse regulatory outcomes in gambling.” It was argued that for gambling to be operated in the public interest, the ultimate goal of a gambling regime should be to maximize net community benefits. Precision in language is critical to establishing public confidence in the processes of government. Vague terms lead to confusion and weakened accountability; consequently, public-policy statements must be unambiguous and priorities clearly stated.
- *Culture of social responsibility.* A culture of social responsibility starts with a respect for the dignity of all citizens and is a prerequisite for a just, ethical, and caring society. In a gambling context, this refers to
 - social responsibility and harm minimization taking precedence over profit-seeking
 - the precautionary principle undergirding all gambling public policy
 - consumers being informed to the extent that sound decisions can be made about gambling formats based on a knowledge of probabilities, how games work, what the house edge is, and the foreseeable consequences of participating in the activity
 - definitive jurisprudence that outlines the gambling provider’s duty of care to discourage improvident gambling and safeguard against contributing to the incidence and prevalence of problem gambling
 - the provision of therapies to assist those at risk for developing or who have already developed gambling problems and to help them stop or curb their reckless gambling behaviour and temper the impact of these behaviours on the problem gamblers, their families, their friends, their employers, and the community at large
- *Transparency.* Openness is a strong indicator of a government that is citizen focused and service oriented and is a primary tool for holding public officials accountable and combating corruption. Provincial governments are noted for embracing gambling through legislation, but because gambling policy is often seen as controversial, government officials tend to be defensive and restrained when discussing the subject — showing a preference for understatement, deception, and trivializing contrary viewpoints in order to rationalize their own behaviour (Marin, 2007; British Columbia Ombudsman, 2007). The main forms of communication between a government and its citizens in a gambling context are annual reports that include financial data but little or no information about how social responsibility obligations are being met. Gambling regime transparency can be improved with the timely distribution of pertinent information (no burying or delaying the release of controversial material), declarations of financial contributions to political campaigns by gambling interests, and details of contracts with gambling corporations.
- *Evidence-based research.* It is axiomatic to state that public policy should be informed by timely, independent empirical research; regrettably, this is seldom the

case with gambling because of governments' reluctance to interrupt the revenue flow. Quality research that could improve the administration of gambling in the public interest exists, but often goes unheeded. Inattention to or dismissal of research developments leaves governments open to allegations of neglect and failing to promote the public interest.

- *Community consultation.* It is important to note that legal gambling is generally supply driven and not a case of consumer demand. As Goodman (1995) maintained, there is no known incidence of a grassroots community group clamouring for more gambling outlets. Public consultation is seldom sought in the development of gambling policy, and when invited, the openness and independence of the process is often questioned. As part of the gambling licensing process, the affected community should play a role in determining public interest in the activity, assessing the appropriateness and location of the proposed venue, and preparing a social and economic impact assessment to confirm that the benefits of the proposal outweigh the costs.
- *Independent oversight.* The conflict of interest noted earlier, whereby provincial government gambling regimes perform multiple overlapping roles including self-regulation, has led to administrative entities that lack transparency and accountability, give special treatment to their private-sector gambling industry partners, and value revenue over reducing the social costs associated with gambling (Campbell et al., 2005). A gambling regime that is free of conflicting objectives and interests; open, consultative, and informed by empirical research; and conducted in the public interest can best be administered by an independent commission with powers akin to those of an ombudsman or provincial auditor (Productivity Commission, 1999; Campbell et al., 2005).

Sound regulatory practice requires independence to ensure that the regulator functions without influence or fear of reprisal and operates in the public interest. An independent oversight body's duties would be detailed in legislation along with a proviso that public processes be used to inform its decisions. The Australian Productivity Commission Report (Productivity Commission, 1999) suggested how this statutory body might be structured and what its responsibilities would be (for example, gambling control, enforcement, adjudication, and administration) and, most importantly, considered the following criteria as central to its mandate:

- It should have no revenue or taxation functions.
- It must have no industry development or tourism-related functions, or in any way be involved in promoting gambling.
- It should cover all legal gambling formats offered in the jurisdiction.
- Its processes should be open and transparent.
- It should be required to hold public consultations.
- It should have responsibility for funding counselling, harm minimization, and community awareness programs; funding research and information gathering; and disseminating and evaluating these programs.

Table 1
A Framework for Accountable and Socially Responsible Gambling in the Public Interest

Principles of social responsibility	Critical caveats of commercial gambling				
	Not essential	Morally contested	Hazardous to some	Consumer protection?	Risk of revenue dependency
1. Fact-finding mission	Why is it necessary or desirable for government to provide gambling?	What do the majority of citizens want? What are citizens' attitudes toward gambling?	What gambling formats should be allowed? In what numbers, and in what locations? Are there adequate protections for the vulnerable?	How should consumer protection apply to gambling?	Are Crown agencies the proper vehicles to achieve the public interest? Is the search for profit eclipsing other values such as social responsibility?
2. Explicit mission statements & objectives	What are the government's objectives in providing gambling?	What is a proper balance between revenue generation and social responsibility?	Why is it that a level of harm built into policy is assumed to be acceptable?	What are provincial objectives in the area of consumer protection for gamblers?	What social outcomes do operators and regulators of legal gambling intend to achieve? What outcomes are achieved?
3. Culture of social responsibility	How intrusive should self-exclusion measures be? Should there be a review of gambling regulations such as the granting of credit at casinos, maximum bet limits, and hours of operation?	Is there a threshold of harm beyond which gambling should be severely restricted?	Are harm minimization measures effective? What else can be done to reduce the incidence and prevalence of problem gambling?	Do provinces have a duty of care to gambling consumers? To what extent are informed consent and the precautionary principle applied to gambling policy and practice?	Does the gambling operator have a duty of care to track the gambling patterns of frequent gamblers and intervene before severe harm occurs?

Table 1
Continued.

Principles of social responsibility	Critical caveats of commercial gambling				
	Not essential	Morally contested	Hazardous to some	Consumer protection?	Risk of revenue dependency
4. Transparency	Have provinces made a credible case for gambling, as opposed to other means of raising revenue, creating economic development, or funding charities? Are citizens clear on the amount governments invest in gambling infrastructure, where the money comes from, and where it goes?	Is there full, fair, and open discussion of the pros and cons of gambling?	Should the amount of revenue from problem gamblers and the efficacy of harm minimization and mitigation strategies be disclosed?	Do gamblers know whether or not they are protected by provincial consumer protection laws?	Is there frank and comprehensive disclosure (on a sectoral basis) of the effects of commercial gambling in the annual reports of the operator and regulator of commercial gambling? Is it clear to citizens whether a desire for profit is balanced by adherence to the principles of honesty, integrity, and social responsibility?
5. Evidence-based research	Should citizens be provided with a cost/benefit analysis of gambling?	How does the entertainment value for non-risk gamblers compare to the personal and social cost of problem gambling?	How does government know whether efforts to protect problem gamblers are effective?	Does government know whether its gambling policies are consistent with the public interest?	Are Crown agencies effective in discharging a duty of care, promoting informed consent, and adhering to the precautionary principle in major decisions affecting the scale and nature of commercial gambling?

Table 1
Continued.

Principles of social responsibility	Critical caveats of commercial gambling				
	Not essential	Morally contested	Hazardous to some	Consumer protection?	Risk of revenue dependency
6. Community consultation	Has the government created a dialogue with citizens on why gambling is provided and what the expected outcomes are?	Has the province consulted citizens before expanding the scale and nature of gambling?	Has there been a frank and comprehensive dialogue on the costs and benefits of gambling?	Has there been a public discussion on the extent to which gamblers should be protected by consumer protection legislation?	Have Crown agencies (operator and regulator) conducted public consultations on the nature, scale, and type of gambling to be provided (and on possible major expansions)?
7. Independent oversight	Is there a need for an independent oversight agency charged with reporting on whether the gambling regime is promoting the public interest and adhering to the principles of honesty, integrity, and social responsibility?	Is there a need for an independent body that can inform the debate?	Is there a need for independent oversight and reporting on the extent to which the vulnerable are protected?	Is there a need for independent oversight of the extent to which the province has exercised a duty of care and adhered to the precautionary principle and the principle of informed consent?	Is there a need for independent oversight and regular reporting on the extent to which Crown agencies (operator and regulator) are providing accountable and socially responsible gambling in the public interest?

Framework to Facilitate Optimal Accountability and Social Responsibility in a Gambling Regime

In analyzing the Ontario gambling regime, we detected gaps between the government's expressed ideals and its routine practices. In particular, consumer protection for gamblers is uncertain; citizens lack the appropriate information with which to hold the government accountable for its gambling operations; responsible gambling initiatives lack rigor; and the government's inherent conflict of interest as gambling provider, regulator, and major beneficiary of gambling proceeds compromises its ability to act in the public interest. On the plus side, Ontario is a leader in separating gambling operations from regulatory oversight; declining to offer EGMs in convenience locations; and committing substantial funds to problem gambling research, treatment, and prevention. While the following template was derived from our analysis of Ontario's gambling regime, we believe it has utility for any Canadian provincial gambling regime seeking to reach a stage-four level of responsible gambling oversight.

The Accountable and Socially Responsible Gambling in the Public Interest framework (Table 1) is a grid containing sample questions bracketed on the vertical axis by the principles of socially responsible gambling and on the horizontal axis by the caveats of gambling. It is meant as a guideline for citizens seeking to hold governments accountable for their provision of gambling.

Conclusion

Collins (2007, p. 639) noted that “gambling is not ultimately very important in the greater scheme of things”; perhaps as a result of this realization, policy-makers and administrators of the activity have been lax in “not devoting the necessary time and intellectual energy to mastering the complexities of the subject.” Hence, we have conducted this study of what ought to be, or at least how the present way of governing gambling in Canada might be improved. Certainly, we do not pretend to have definitive answers to the perplexing questions that surround the administration of gambling; we do, however, believe that much can be done to mitigate the harms to individuals and communities caused by improvident gambling. It is our hope that this framework stimulates discussion around accountable and socially responsible gambling in the public interest and is improved upon by future research.

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Approaching problem gambling with a discursive sensibility

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Abstract

In this paper, I outline some aspects of what I describe as a “discursive sensibility.” Drawing from discourse theory and research, I consider problem gambling in terms of this sensibility: an appreciation for and flexibility in working with differences in how language is used in describing and addressing gambling. I look specifically at how this discursive sensibility can be reflected in particular approaches to practice and research.

Language is at one and the same time helping and retarding us in our exploration of experience. (Sapir, 1964, p. 8)

Introduction

What can be gained by considering and addressing problem gambling using the ideas and practices of discourse analysts and theorists? Answering this question is the primary aim of this paper, particularly given the recent proliferation of therapeutic and research approaches derived from discursive ideas and practices. Although discursive ideas and practices have featured in the addictions literature for some time (e.g., Arminen, 1998; Booth, 1997; Pollner & Stein, 1996), their appearance in the problem gambling literature is more recent (e.g., McGowan, 2003; Reith, 2007; Rossol, 2001). However, the words *discourse* or *discursive* have been quite varied in their use and often present conceptual (and other) challenges. Discursive ideas and practices have also encountered a mixed reception in the psychotherapy and problem gambling literatures (Held, 1995; Truan, 1993). Updating and unpacking these words, highlighting the controversies associated with their use, and considering what a “discursive sensibility” might offer to research and therapeutic practice with respect to problem gambling provides the focus for what follows.

Problem Gambling as a Discursive Challenge?

For a problem as destructive or potentially self-limiting as gambling, it might seem dismissive or reality denying to consider gambling in terms of language use or discourse.

Underlying a discursive approach is the view that there can be many ways to describe and relate to phenomena such as gambling. Language is how people *bething* aspects of their experience (Heidegger, 1962) — enabling varied ways of relating to, as well as understanding, experiences such as gambling. For the discourse theorist or analyst, where things get contentious is if someone claims to work from correct or true articulations and evaluations (see Habermas, 1975). Words such as *correct* or *true*, for them, derive their meanings from contextual uses specific to discourse. To a forest industry representative, a stand of trees may be “harvestable biomass”; to the nature lover, it maybe a wildlife sanctuary. Try telling either individual that their meaning is incorrect; then listen to the words of their response, to the discourses through which they describe and relate to that stand of trees. Discourses in this relative sense refer to how people understand and evaluate phenomena such as trees or gambling through the languages they use.

At a more basic level, discourse theorists such as Derrida (1976) advocated post-structuralist notions of how language development and use are ways of imposing human linguistic order on realms of social and physical reality. Trees or gambling, through such linguistic objectification, could thus acquire the different kinds of meanings related earlier. This post-structural view of language runs counter to a notion of correct scientific “discovery” in any absolute sense. Words, and the discourses they are derived from, may offer sense-making and reality-shaping resources for understanding phenomena, but, for Richard Rorty (1979), they cannot be mirrors of nature.

The assertion that discourse or words cannot reflect reality as “it” is (Potter, 1996) relates to language itself being socially and culturally constructed and imbued with meanings particular to the people using it. Paraphrasing Bakhtin (1984), the words or discourses we use come “peopled” with others’ meanings and intentions and then are used in social and cultural interactions where differences in meaning can feature. The varied ways that language has been put to use to understand and relate to gambling as a personal and cultural phenomenon illustrates this point (Raylu & Oei, 2004). “Problem” gambling is variously discussed as leisure time activity, an accepted cultural practice, a vice, and so on. Controversies over articulating (as opposed to discovering) problems with gambling in medical terms (Bernhard, 2007; Suissa, 2008; Wedgeworth, 1998) further highlight such discursive differences.

Until recently, modern science seemed capable of yielding a meta-discourse, a correct language for understanding any phenomenon. Problem gambling, by such a modern view, was capable of a culture-free or value-free comprehensive understanding. Postmodern writers on science (Toulmin, 1990) now see such “meta”-efforts as inherently social and political. This was evident when homosexuality was removed from a previous *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed., *DSM-III*) as a psychiatric disorder (Spitzer, 1981); such politics feature in current deliberations over what should or should not be included in *DSM-V*. The origins of today’s modern scientific discourse were in response to the “truth” claims of corrupt religious officials. Requirements for rigour and peer-review were developed and welcomed to curb problematic biases in scientific claims making (Potter, 1996; Toulmin, 1990). Unsurprisingly, people now put more stock in scientific

findings than other, less rigorously proven, truth claims. But, seldom, in the social sciences, did such findings establish scientific laws, such as those that physics could offer engineers. Lyotard's (1984) postmodern conclusion was that a humanly developed social science was incapable of creating a meta-discourse or *truth* for any experience.

One upshot of these discourse-informed critiques was concern about relativist knowledge claims and the “culture wars” they were accused of fostering (e.g., Gergen, 2006) on campuses and within disciplines. The authority of (or belief in) science — for those who regarded science and its knowledge claims as culturally and socially constructed (e.g., Bernstein, 1983) — was disparagingly referred to as a kind of scientism. For Wittgenstein (1953), rigorous efforts (scientific and otherwise) were needed to keep our understandings and actions fresh, efforts directly at odds with finalizing understandings in areas such as problem gambling.

Relating this tour through discourse theory to problem gambling, a few comments seem in order. Problem gambling, as a research and therapeutic concern, has witnessed some of its own tensions over the kinds of issues raised. Some of the tension has been over the field's ambivalence on whether to consider problem gambling a medical, moral, or cultural concern (e.g., Castellani, 2000; Reith, 2007; Rossol, 2001). Different implications follow from how problem gambling is “language[d].” As a medical problem, problem gambling is diagnosable and treatable; as a moral problem, personal faults are to be corrected; as a cultural problem, laws can be enacted — and so on (Bernhard, 2007; Conrad & Schneider, 1980). Foucault's historical examination of madness (1965) highlights how differently that personal and cultural concern was understood and related to, as articulated in the discourses of each era. For Wittgenstein (1953), each kind of discourse evokes a distinct “form of life,” a particular constellation of shared understandings and social practices. Relating scientifically to any concern with discourses (plural) can present challenges. Although problem gambling remains undeniably real to members of each discursive community, how it is understood and related to can be profoundly different when compared across communities. These kinds of discursive differences can pose challenges for scientists and practitioners alike: should there be an official medical understanding of problem gambling, or should the field accept diverse understandings that come with approaching problem gambling with a discursive sensibility? Such questions can seem initially silly until one turns to efforts to systematize or standardize knowledge and practice.

Problems with Systematizing Understanding and Practice to Singular Discourses?

To some extent science is a social mapping activity that enables new social interactions and interventions (Hacking, 1983). As new areas of research open up, specific scientific discourses and related social practices follow. The history of addictions as a field of research shows this well, as different conceptualizations of addictions (and practices to address those conceptualizations) were mapped and lost traction over time (e.g., Rossol, 2001). In approaching problem gambling as a field of scientific endeavour, questions can arise as to how best to do such mapping, intervening, and interacting. Because discourses help to map

or coordinate understandings about concerns according to particular values, language, and social practices, decisions as to which discourse best addresses such concerns and values are inescapably human. In bringing a discursive sensibility to problem gambling, the human concerns and values at stake are not matters that science or scientists alone can address. Our varied political, historical, and cultural responses to other potentially addictive behaviours, such as drug or alcohol use, remind us that other cultural and institutional discourses show how such concerns are mapped and addressed.

Of course, discourses, like maps, are not the same as the territory or phenomena they purportedly depict (Bateson, 1972). Discourses are commonly understood as distinct but systematized ways of understanding and communicating experience. To critical discourse analysts (e.g., Fairclough, 1993; Wodak & Meyer, 2001), discourses exhibit identifiable properties associated with distinctly recognizable uses of language (as in our earlier forest example). A common and problematic idealization of language is that we all share the same linguistic system, with local, moral, or cultural variations in language use to be understood as distortions of that linguistic system. Such an idealization is furthered by what phenomenologist Edmund Husserl (1913/1983) described as the “natural attitude”: the generally unproblematic ways we use language. Language, in this sense, serves as an effective stand-in for the reality of our experience. The fact that people effectively use different languages and cultural variations of languages (i.e., discourses) belies any notion that there are singularly correct ways to use language. This would be like telling a Spaniard or Russian, a Democrat or Republican, or a Christian or Jew that her or his language for understanding and relating to experience is scientifically incorrect. The discourses of gambling are not much different; describing gambling in Gamblers Anonymous (GA) discourse overlaps with, but is also distinctive from, psychiatric discourse for depicting gambling. Such differences in discourse get at what linguist Herbert Clark (1993) described as “arenas of language use,” or what Wittgenstein (1953) more evocatively referred to as “forms of life.” GA is one such arena wherein one gets acculturated to particular ways of describing, understanding, and evaluating experiences associated with gambling (cf., Pollner & Stein, 1996; Raylu & Oei, 2003). Talk of gambling as a legitimate leisure pastime at a GA meeting would raise eyebrows, if not reproach. Talk of gambling as a disease (i.e., pathological gambling) maps out a different discourse of medical understandings and responses. Problems arise when one claims one discourse should make others unnecessary.

Historically, human efforts to prescribe or advocate one discourse over others have been contentious, regardless of the religious or scientific warrant behind the efforts (Hallward, 2005). In science, this problem acquires complexity, given scientists’ needs to work from common understandings. However, it is when such understandings escape from the lab that language that is standard for scientists can problematically dominate those engaged in everyday life and clinical practice (e.g., Rose, 2006). Discursive thinking, in large part, has arisen as a response to such dominance; it now features in approaches to clinical practice (e.g., Friedman, 1993; Strong & Paré, 2004) and in research that exposes such dominance, particularly in psychology (e.g., Danziger, 1997; Edwards & Potter, 1992). A discursive sensibility, as I will describe it, involves welcoming and working flexibly with such differences in meaning and conversational practice. I will now turn to how such a sensibility might feature in research and clinical practice.

Discursively Oriented Research?

A number of research methods have developed from what I am describing as a discursive sensibility, many of these being qualitative research methods embracing a social constructionist or discursive epistemology. The *Handbook of Qualitative Research* virtually doubled in size between its first and third editions in a little over a decade (Denzin & Lincoln, 1994, 2005), much of this growth attributable to a creative uptake of discursive research ideas and practices. These research approaches tend to cut in three directions: those critiquing the mainstream research literature (e.g., historical and critical discourse approaches); those which study discursive interaction itself (conversation analysis, discursive psychology); and those promoting emancipatory or generative meanings and practices through discursive interaction.

For example, say a non-discursive researcher conducts an ethnographic study of the culture of lottery ticket buying. From such a non-discursive stance, the aim is a single, normative account of that culture, presuming a commonly shared experience and set of cultural practices. For the discursively oriented researcher, a problematic reduction would occur with any account from the previous stance. For starters, different discourses (e.g., GA and “leisure”) provide varied positions from which one could relate to lottery ticket buying — with no discursive position capable of articulating lottery ticket buying correctly as a cultural phenomenon. What is needed for the discursively oriented ethnographer is an account reflective of the different discourses that the study participants use in participating in this culture of lottery ticket buying. The discursive assumption would be that such discourses translate to literally different realities for those who relate to lottery ticket buying (Schatzki, 2002; Wodak & Meyer, 2001).

Particularly since the historical research of Foucault (1965) and hermeneutic scholarship such as that by Cushman (1996), it has been fascinating to relate what is discursively and historically upstream to how dominant knowledge and practice features downstream. The modern scientific narrative (Toulmin, 1990) is a Darwinian account of ideas scientifically proven or failed, en route to knowledge deemed ultimately correct. Historical examinations of science indicate discontinuities in this narrative, whether such discontinuities can be depicted as “paradigm shifts” (Daston & Galison, 2007; Kuhn, 1962), “epistemes” for Foucault (2001, shifting conditions for knowing) or Hacking’s (2005) “historical ontologies.” Such histories illustrate how vocabularies, methods of research, and clinical practice took hold (e.g., Cushman, 1996; Danziger, 1997; Lesieur & Custer, 1984; Suissa, 2008) while indicating what language and actions were passed over along the way. What can be taken away from such research is a sense of how scientific understanding and practice is discursively tied to cultural and historical contexts. This is not a derogation of such research, but a reminder that science is an inescapably human activity, however rigorously understood and practiced (Gergen, 1994). Some sociologists explicitly focus on science as a human activity. Latour (1987) examined science as a social activity while discourse analysts (e.g., Potter (1996)) turned to analyses of actual scientific communications used to establish facts. Peer-review illustrates one such communicative context. One point of these critical forms of research is to deconstruct or link knowledge and practice back to differences in discourses reflective of varied human values, activities, and understandings.

Discourse is also an analyzable activity. Conversation analysts, linguists, and symbolic interactionists share an interest in language use and what arises from it. Whether this be of therapeutic dialogues (Peräkylä, Antaki, Vehviläinen, & Leudar, 2008; Pollner & Stein, 1996; Rossol, 2001; Roy-Chowdhury, 2006), on-line self-help interactions (McGowan, 2003), or professionals' on-line discussions about their work with problem gamblers (Grunfeld, Zangeneh, & Grunfeld, 2004), what such studies make evident is how people's use of language is consequential. For example, how therapists conversationally use and clients respond to a particular therapeutic intervention in working with problem gamblers (e.g., probing clients' ambivalence to change in motivational interviewing, Miller & Rollnick, 2002) is an analyzable activity for discourse analysts. Unlike psychological studies focused on self-reported experiences and participant evaluations, these approaches aim to understand discourse as an activity, examining how people use language to influence and make sense of each other. The focus is on how people interactively "do" conversational interactions, such as negotiating post-consultation homework tasks during a therapeutic consultation (Strong & Massfeller, 2010; ten Have, 1999).

Research interviews are a form of discursive activity that can have transformative potentials as well. The common metaphor of discourse as consisting of receipts and transmissions of information (Lakoff & Johnson, 1980) is inconsistent with the kind of discursive sensibility that I have been describing. Conversational interaction can be a primary means by which social reality is kept the same, or it can be transformed by those involved in sustaining that social reality (Berger & Luckmann, 1967). According to this performative view of discourse (Austin, 1962), our words and ways of talking reflexively "do things" socially. Thus, interview questions and survey items can be seen as more than neutral data-gathering tools. Used with intention, they can become reflexive invitations for participants to expand understandings, take positions on challenges, articulate preferred futures, and so on (Finlay & Gough, 2003). This insight applies as much to therapeutic dialogue (e.g., Friedman, 1993) as it does to what can be accomplished through collaborative research (e.g., Moore & Charvat, 2007).

Appreciative inquiry (Cooperrider, Whitney, & Stavros, 2008) and participatory action research (Reason & Bradbury, 2001) have been two research offshoots of this discursive insight. The emphasis in these forms of research is less on understanding things as they are and more on learning from collaboratively developed and emergent processes of inquiry as to what can be transformed by them. There is another discursive element involved in these research approaches that makes them purposefully collaborative. Specifically, and also contrary to the earlier mentioned information reception-transmission metaphor of communication, it is a dialogic (Linell, 2005) view of human interaction. Dialogic communications are seen as both interpreted and socially negotiated for the understandings and communicative processes co-developed (Roy-Chowdhury, 2006) or shaped by those communicating. Resistance to the aims and proceedings of such inquiries is a sign that the process is no longer dialogical for one of the parties involved. We will return to these dialogic and reflexive aspects of dialogue when we later examine how a discursive sensibility can feature in therapeutic dialogues with problem gamblers.

With respect to problem gambling, different qualitative research questions arise from a discursive sensibility. These questions often relate to how participants make sense of and communicate their experiences and what is produced by this sense making and communicating. Experiences of gambling are, of course, different from interpretive accounts (Scott & Lyman, 1968) of them occasioned by researchers interviewing participants (cf. Ervin-Tripp & Kuntay, 1997; Gubrium & Holstein, 2003). To ask someone for their account of an experience, in other words, is to disrupt the experience they may be having; talking *about* gambling is not the same as being engaged in it. The research methods that follow from this recognition tend to focus on interpreted meanings (narrative analysis; social constructionist approaches to grounded theory such as that of Clarke, 2005; and postmodern ethnographies such as that of van Maanen, 1988), or they focus on processes and products of social interaction (Heritage, 1984; Latour, 2005; ten Have, 2004) — sometimes to highlight what dominates such processes (Fairclough, 1993; Smith, 2006). A discursive research sensibility entails recognizing that humans' language use and patterned interactions are how humans bring discursive order and social intelligibility to otherwise anarchic realities. Data clearly do not speak; humans interpreting data according to particular theoretical premises and their associated methods do, however. This is how researchers bring discursive order to making sense of messy phenomena such as gambling (Law, 2004).

Discursive Sensibilities and Therapeutic Practice

A discursive sensibility has increasingly featured in recent approaches to therapeutic practice. Specific discursive therapies (Strong & Paré, 2004) have emerged: narrative, solution focused, and collaborative, for example. Informing these therapies is a view that language and dialogue is an interpretive and generative resource, but that, for the most part, clients' language is used uncritically and unconstructively in understanding problems and addressing them. From this perspective, the therapeutic consultation can become a context to reflect upon such client understandings and transform them through new meanings and actions. That is the simple view.

The role of language in making sense of experience is at first not obvious, given Husserl's (1983/1913) natural attitude. Experience does not name itself, yet it often seems unfiltered or unmediated by humanly constructed language. Still, cultural differences point out how differently an experience can be shaped by the languages and cultural practices brought to understand it (Harre & Gillett, 1994). Within narrative therapy, for example, much emphasis has been given to conversationally deconstructing the taken-for-granted understandings that clients present (Strong & Schultz, 2010). For example, clients presenting their understanding of problem gambling as a disease offer therapists an opportunity to invite such clients to consider how that understanding of problem gambling became unquestioned over other understandings. Such a deconstructive conversation can promote consideration of alternative, preferred, and actionable understandings.

Discourses — the ways we make experience intelligible to ourselves and others — comes freighted with other peoples' past uses and expectations. To paraphrase Russian literary theorist Mikhail Bakhtin (1984), such discourse is only half ours, given that others have

claims on the words we use. How such words shape one's understandings and attitudes of phenomena such as gambling or addiction is shown in the media (Mitchell, 2007). For most critical discourse analysts, the discourses that dominate public life tend to dominate one's private inner experiences as well (Fairclough, 1993; Wittgenstein, 1953). Addressing how critically unreflected language qualitatively shapes one's natural attitude toward experience is a basic tenet of cognitive therapy (e.g., Dobson, 2001). Where the discursive or social constructionist therapies (Gergen, 2006; Strong & Paré, 2004) generally depart from the cognitive therapies is on the critical and generative potentials of therapeutic dialogue.

It is the reflexive dimension of therapeutic dialogue — the intentional therapeutic use of questions and styles of discourse to socially construct client-preferred outcomes — that is most unique about discursive approaches to therapy (e.g., Tomm, 1988). Eschewing an information transmission- reception metaphor of communication (see Lakoff & Johnson, 1980), these therapists literally see their dialogues as helping clients talk preferred actions and understandings “into being” (Strong, 2007). A good example of this is with solution-focused therapy's miracle question (Berg & Miller, 1992), which invites clients to think and talk from a sense of how they specifically would be living their lives differently — if they weren't “addicted” to gambling.

Motivations to change, seen this way, can also be a focus and by-product of such generative dialogues (Lewis & Osborn, 2004). But, so too, can be the identity stories by which people live. Addiction stories of identity (e.g., “I am an addict”), for narrative therapists (e.g., Diamond, 2002; White & Epston, 1990), do more than describe: They can prescribe client thoughts and actions consistent with those stories unless such stories are re-authored. For the narrative therapist, this line of thought extends further: problems, not people, are problems. Thus, narrative therapy offers a context in which client and problem can be separated (the problem is linguistically externalized from the client's personality or character) so that the client can mobilize her or his resources against problem gambling. Therapist questions, used with reflexive intent (e.g., Tomm, 1988), can be seen as rhetorical interventions to invite — if clients take up such invitations — reflection on taken-for-granted understandings and articulation of new understandings. Questions, in this sense, can be story-making, reality-altering therapeutic tools.

An example of this occurred in my practice (Strong & Flynn, 2000) when a client seen during a single consultation reported symptoms of anxiety and alcohol abuse. When asked what he put his symptoms down to, he recounted witnessing a massacre in a Korean prisoner-of-war camp. Efforts to share his story were not believed and were actively discouraged. He began down a path of isolation, drinking, and anxiety. When I asked him: “Do you want this story to die with you?”, he first grew upset and then very responsive to a plan we developed together whereby he swore legal testimony to a notary and had his sworn testimony circulated among war historians. They not only vouched for the story he had been discouraged from telling, but they also linked him up with other soldiers present at the massacre. Subsequently, he invited television and newspaper journalists to discuss this story and became active and engaged with others, whereas before he had been isolated and abusing alcohol. My point in recounting this story is to point to the reflexive or interventive power of a question such as, “Do you want this story to die with you?” The answer to that

question engaged a very different kind of story telling for a client who had otherwise come to understand himself and his circumstances on very different terms.

Some might be concerned about such reflexive questioning for how it leads clients. For therapeutic approaches that purportedly focus on client-preferred outcomes and processes, ironically, potential ethical concerns can arise about how therapists might use such questions in ways that clients find or respond to as objectionable (McMartin, 2008). Thus, an important dimension in the use of such questions is clients' capacities to resist answering them and to have such resistance inform therapists' subsequent responses to them (Strong & Sutherland, 2007). As conversation analysts point out (Peräkylä et al., 2008), therapeutic dialogue is negotiated between therapist and client to varying extents, even if such dialogues occur according to particular scripts or protocols. How such negotiations in therapy transpire has been a considerable focus for discursive therapists, as new sensitivities to, and flexibilities with, language use are central to the conversational practices of these therapies (e.g., deShazer, 1984; Strong, 2007). A collaborative ethos, among the discursive therapies, has inspired democratizing decisions for clients in the therapeutic process (Anderson & Goolishian, 1992). This ethos, when animated in addictions counselling (e.g., Berg & Miller, 1992; Diamond, 2002), suggests therapists avoid confronting or directing clients toward recovery. Therapeutic dialogue instead, for discursively oriented therapists, is depicted as a negotiated or collaborative process in which client preferences, resources, and recovery-facilitating understandings are talked into significance and action (Lewis & Osborne, 2004; Seikkula & Arnkil, 2006).

Claims regarding what transpires or is accomplished within these therapeutic dialogues can be empirically researched in several ways (Gale & Lawless, 2004). Discursive research of discursive therapies helps to bring to light a tacit dimension of how therapists and clients use language (their "sayings and doings"; Schatzki, 2002) to negotiate or construct some outcomes, *in and through* their talking, over others. What such research does not account for, however, is how the immediacies of therapeutic dialogue, and its accomplishments, translate to the world beyond therapy. What is the relationship between a better story or a solution constructed in therapy and its possible enactment in the client's normal life contexts? Outcome research into these therapies has faced challenges, given that standardizing or manualizing such therapies into reliably replicable protocols, a normal expectation of outcomes research (American Psychological Association, 2002), runs counter to the improvised ways that many therapists practice these therapies. Still, preliminary evaluative overviews of the effectiveness of these therapies have been published (e.g., Corcoran & Pillai, 2009; Etchison & Kleist, 2000; Gingerich & Eisengart, 2000), and increasing numbers of therapists engage clients by using these therapies.

A discursive sensibility applied to clinical practice has several dimensions. First, experiences and concerns do not author what clients present to practitioners; clients do, using the languages and understandings gained from their interactions with others, interactions with the media included. One clinical question that follows is, Relative to their goals in seeking treatment, how well have clients been served by the language used to understand their concerns and act on them? Hermeneutic scholar Paul Ricoeur (1976) suggested two basic therapeutic moves with respect to language: (a) distance oneself from language used

to stand in for problems, to reflect on its adequacy; and (b) imaginatively re-language those linguistic stand-ins. Some might feel aghast at seeing therapy reduced to such basic moves, possibly ready to cite Alice in Wonderland's Humpty Dumpty for his assertion that he could make words mean whatever he wanted them to mean (Carroll, 1984). Such assertions can sound psychotic because not just any words will do. Any new words have to be plausible as well as effective in how clients use them in addressing their concerns and goals. Ricoeur's general suggestions of distancing and imagination take up different emphases in the discursive therapies (e.g., Strong & Paré, 2004), but boil down to deconstructing and reconstructing understandings through generative dialogues and critical reflection upon language's potentials. Thus, discursive therapy dialogue is partly devoted to a co-editing (i.e., therapist and client) process of finding language that clients deem as apt and effective. There still are, of course, important relational and other dimensions to therapeutic dialogue. These dimensions extend to discursive therapists' reflexive use of questions to promote reflection and invite resourceful and actionable descriptions.

Possible Tensions Raised By a Discursive Sensibility

The discursive sensibility I have been describing, with respect to research and practice, has made recent, though not always welcomed, inroads into areas of social concern, such as problem gambling. Where the modern, enlightenment view of science promised correct knowledge and convergence on ration-technical solutions (Toulmin, 1990), postmodern or discursive researchers and practitioners offer up a "mess" (Law, 2004). Such a mess, as Law suggests, is something humans overcome partly with the help of language. But, each response to the mess — for discourse analysts and hermeneutic scholars — affords opportunities while closing down others. A discourse view suggests that our uses of language are always inescapably partial, however systematized they may be. The *DSM-IV-TR* (4th ed., text rev.; American Psychiatric Association, 2000) view of mental health, for example, offers a symptom-based language while absenting languages of desire or cultural differences (cf. Watters, 2010). I have suggested an analogy between a discourse and a Wittgensteinian (Wittgenstein, 1953) view that, to know a discourse, is to know a distinct "form of life." Although there can be some overlaps in discourses — for example, that of Gamblers Anonymous and psychiatric discourse — there are still undeniable differences in how one conducts oneself in either discourse.

Politics can feature when deciding what criteria should determine how problems should be articulated and addressed. A current example relates to the recent deliberations on evidence-based practice by psychologists (Presidential Task Force on Evidence-Based Practice; American Psychological Association, 2006). Are there ultimate evaluative criteria and procedures that can be used to decide which therapies merit scientific recognition as evidence based and which should be dropped from professional practice? This is no small point. The government of the United Kingdom for a brief moment authorized only the use of cognitive behaviour therapy for this reason, a position they retracted when it was met with torrents of protest (Prime Minister's Office, 2008). Expertise itself has been a target of criticism for discursively oriented therapists (e.g., Anderson & Goolishian, 1992) and researchers (Potter, 1996). For dialogue theorist Bakhtin (1984), there are no finalizable understandings — no last word on how things are or should be. What saves people

from Law's mess, or anarchy, are the coordinating capacities afforded by the languages and discourses people use, regardless of their partiality.

The Canadian philosopher of science Ian Hacking (1999) suggested a necessary tension between the efforts of discourse thinkers and those of committed realists. In trying to better understand and therapeutically respond to problem gambling, researchers and clinicians have faced their own tensions. For example, when constructing systems of care, institutional discourses offer common sets of understandings, practices, and ways to be understood while dismissing others (Smith, 2006). In emulating biomedicine, the addictions field predominantly chooses one discursive form of life, or therapeutic discourse: addictions discourse. But understandings and therapeutic practices are far from a settled matter in problem gambling. Our research and treatment narratives might converge on a single Lyotardian meta-narrative, but such an achievement might reflect the will of practitioners and researchers and not be taken up by clients. As Foucaultians would contend (Rose, 2006), efforts to arrive at such meta-narratives often end up being legislated or imposed as political or institutional solutions. From a discursive perspective, a challenge is to avoid getting ensnared in the limitations of any discourse or narrative (Shotter, 1993). Where some saw scientific modernity promising narratives capable of settling controversies (e.g., Toulmin, 1990), of finalizing things, discursive and postmodern thinkers see a field in constant dialogue about limitations seen as inescapable. For other historians and philosophers of science, this is what healthy scientific discourse is about — keeping our best understandings and practices at the forefront of any discipline's discussion.

The tensions I have been describing as occurring in the field of problem gambling also translate to the conversations occurring between practitioners and clients. Clients present to therapists wondering if there is a correct way of understanding their concerns and wanting proven ways of addressing those concerns. Therapists recognize that a conversational mess will not be helpful to clients. Whereas modern views of practice promoted a standardized approach to clinical dialogue and its meanings, discursively oriented practitioners tend to focus on how therapeutic dialogue is variably performed (e.g., Friedman, 1993; Strong & Paré, 2004). Therapeutic dialogue, for this latter group, can range from highly structured solution-focused conversation (Berg & Miller, 1992) to one that involves more improvised, collaborative language systems (Anderson, 1997). Regardless, their focus is on how the meanings and talk of therapy are performed and what reflexively gets “talked into being” from that talking (Pain, 2009). This is not a case of talking first so that interventions can be designed from the information gained from the talk; the talking is intentionally “interventive” (Tomm, 1988).

With such a focus come concerns about whose talk and words are privileged and how meanings and conversational processes can be imposed, even hijacked by therapists (Strong, 2008). Such concerns can extend to the cultural constructions of therapy that clients bring to their dialogues with therapists. Because clients have come to view therapy as a place to be expertly understood and directed, might therapists who prefer to invite clients to hold the expert role (e.g., Anderson & Goolishian, 1992) impose collaboration on such clients? Or, might it even be more helpful to invite clients to join therapists in deconstructing the roles of client and therapist, so that a more democratized dialogue can result (Parker, 1999)?

To what extent can the therapeutic process — its meanings and ways of talking — be beneficially or detrimentally negotiable? To what extent should therapists be the evaluators or promoters of best or correct meanings *for* clients? In discursive therapies that embrace the “co-” prefix (e.g., Anderson, 1997) to denote collaborative decision making on process and meaning, are there occasions when therapists’ decisions should still trump those of clients? These questions come after those about whether or not to consider a discursive sensibility or approach to practice.

A related set of tensions has accompanied developments in social science research, erupting into what some have called a “politics of evidence” (Denzin & Giardina, 2008; Lerner, 2004). Some of these tensions relate to how to regard evidence and the methods used to obtain it. Can psychotherapy outcome research be premised on the same principles that guide clinical trials of pharmaceutical interventions, for example (Stiles & Shapiro, 1989)? Are the accounts or evaluations of experience offered by participants in therapy equivalent to the experiences clients have in the immediacies of their dialogues with therapists? Another source of tension relates to a philosophy of science concern that evidence is always tied to the theories or conceptual schemes used to identify and evaluate evidence — data do not interpret themselves; scientists using particular conceptual frameworks do (Potter, 1996). Problem gambling can no doubt be well accounted for within a biomedical conceptualization or discourse, but should that discourse supersede or make irrelevant a spiritual, moral, or financial discourse on gambling? In the absence of absolute evaluative criteria or methods, discourse communities (these are subject matter for resolution in political discussions within disciplines such as the American Psychological Association), like the problem gambling field, are faced with human choices to decide what will guide the field’s understandings and practices.

Conclusion

Problem gambling, like other fields of social science research and therapeutic practice, has seen several decades of discursive ideas and practices. These ideas and practices, although not mainstream, are an enduring feature of the research and practice landscape in problem gambling. These ideas and practices are based on a very different view of human science (Gergen, 1994; Harre & Gillett, 1994), one in which language is treated as an interpretable resource for understanding and social influence. Such a human science arises from a different paradigm (Kuhn, 1962) from the cause-effect Newtonian view of social science that has dominated the field. An interpreted social reality, one seen as understood and shaped by those engaged in it (Giddens, 1984), presents different challenges from a social reality that can be correctly understood and predictably responsive to intervention. Thus, a discursive view of research and practice acknowledges the role of researcher and practitioner in shaping the understandings and actions that come from her or his uses of language and discourses of social interaction. There is a humbler offer made by researchers and practitioners who bring a discursive sensibility to an attempt to address problem gambling than has seemed the case in clinical sciences and practices in the past. Plural discourses suggest and promise less certainty and effects than a singular scientific discourse. The diverse social reality of problem gambling — as a field of study and a realm of therapeutic intervention — continues to spark robust dialogue with respect to discursive

ideas and practices. That, from the sensibility I have been describing, is how I hope such dialogues continue.

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A typological study of gambling and substance use among adolescent students

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Abstract

Cluster analysis was used to define subpopulations of youth involved in drugs, alcohol, and gambling. Data from a 2001 cross-sectional survey of Ontario grade 7 to 13 students ($N = 2,243$; mean age 15 years; 51% males) were examined. The analysis suggested four clusters: Mainstreamers (66.0%), Party Goers (26.2%), Drug Takers (5.9%), and Heavy Gamblers (1.9%). This cluster structure was validated across a number of additional external variables that were not used in the original cluster analysis. The findings indicated that Drug Takers and Heavy Gamblers formed two distinct clusters. Probable pathological gamblers were found in all four clusters, but they were most concentrated in the heavy gambling cluster. The results suggest that troubled youths are not a single entity, but display heterogeneity in their configuration of risk behaviours.

Introduction

Since the 1970s, there has been an exponential expansion of gambling opportunities for adults across Canada and around the world (Ladouceur, 1996; Shaffer, Hall, & Vander Bilt, 1999). This rapid expansion of legalized gambling has raised concerns about the potential for gambling disorders in vulnerable populations (Korn, 2000; Ladouceur, Jacques, Ferland, & Giroux, 1999; Room, Turner, & Ialomiteanu, 1999). One population that has been viewed as vulnerable to gambling and gambling disorders has been adolescents (Derevensky & Gupta, 2000; Shaffer et al., 1999). Youth are exposed to marketing campaigns about gambling on television, on websites, in junk e-mail, and through corner store lottery displays. Gambling can be a fun or relaxing way of spending time and money, but youths, lured by the promise of excitement, prestige, and instant wealth, may be particularly vulnerable to these messages.

Given the ubiquity of gambling messages, it is important to examine behavioural and gambling problems among adolescents. The basis for this concern is threefold. First, research on

problem gambling among youth suggests that a substantial number endorse a wide variety of gambling problem symptoms (e.g., more than 20% endorse at least one SOGS item; Adlaf & Ialomiteanu, 2000). In fact, the prevalence of problem gambling amongst youth has been found to be 2 to 3 times higher than that of adults (Shaffer & Hall, 2001). However, the higher prevalence has been questioned by some researchers (Ladouceur et al., 2000; Welte, Barnes, Tidwell, & Hoffman, 2008). Second, it has been argued that gambling disorders tend to originate in adolescence (Griffiths, 1995; Gupta & Derevensky, 1998a; Kaminer & Petry, 1999; Shaffer & Hall, 1996). Third, because the current cohort of adolescents are immersed in a society awash in legal gambling opportunities, this cohort may experience higher rates of future gambling disorders compared with previous cohorts.

In order to develop effective prevention and treatment strategies, we first need to examine the distribution of problem gambling, substance use, and emotional distress in the youth population. In particular, we need to know if troubled youth form a single homogeneous group or if they comprise several different types. High rates of comorbidity are the norm in psychiatric disorders (Beitchman et al., 2001) and this is also true for problem gambling and substance abuse (Derevensky & Gupta, 2000; Gupta & Derevensky, 1998a; Hardoon & Derevensky, 2002; Welte, Barnes, Wieczorek, Tidwell, & Parker, 2004). Welte et al. (2004) found that probable pathological gamblers were significantly more likely to also report alcohol abuse or dependence. Barnes, Welte, Hoffman, and Dintcheff (2005) also reported a strong correlation between drug use, alcohol use, gambling, and delinquency. Derevensky and colleagues have found that, in general, problem gambling is correlated with other addictive behaviours (smoking, drinking, drug use/abuse), and with emotional problems such as depression, low self-esteem, and suicide ideation (Derevensky & Gupta, 2000; Gupta & Derevensky, 1998a; Hardoon & Derevensky, 2002). Vitaro, Wanner, Ladouceur, Brendgen, and Tremblay (2004) have shown that the nature of gambling problems may vary depending on the age at which gambling starts. They found that adolescents who had an early or late onset of gambling took more risks than did those adolescents who did not gamble (low gamblers). In addition, adolescents who had an early onset of gambling showed lower inhibition and were more impulsive compared with low gamblers.

Strong correlations between substance use and problem gambling suggest that probable pathological gamblers and substance abusers are part of a single underlying deviant population and those at high risk for one type of problem, substance use, are also at high risk for problem gambling. However, variable-based analyses techniques (e.g., regression, factor analysis) can mask group differences (Beitchman et al., 2001). A key question in the present study is whether or not adolescent probable pathological gamblers, problem drinkers, and substance abusers are all part of the same basic deviant group or if they form a number of subtypes.

Cluster analysis

In this paper, we used cluster analysis to identify groups of students who are similar to each other across a variety of variables. This method, which is inherently exploratory in that it tries to uncover hidden structures, is a useful strategy for classifying individuals into

relatively homogeneous groups on the basis of their similarity across variables (Beitchman et al., 2001). Cluster analysis has several advantages over other statistical techniques such as regression and factor analysis. First, a wide variety of variables can be incorporated into a single cluster analysis. Second, contingent and non-linear relationships between variables that might be hidden in a regression analysis become the basis for defining groups in a cluster analysis. Third, although factor analysis only estimates quantitative linear differences between people, clustering allows the researcher to find categorical distinctions between groups of individuals. Fourth, the cluster typology lends itself to the pragmatic needs of mental health service providers. Indeed, the small number of subpopulations defined by the analyses can be used as the basis for developing screening tools to identify specific groups and for offering specific services for different clusters (Slater, Basil, & Maibach, 1999).

However, because of its exploratory nature and the possibility of finding chance results, the cluster structure must be validated (Sharma, 1996; Slater et al., 1999). In this paper, we employed two methods of validating a cluster structure. The first method is replication. Does the same analysis with a different set of data produce the same sort of cluster structure? In the present study, we randomly divided the sample in half and used one half to uncover the cluster structure and the other half to confirm it. This cross-validation is necessary, but not sufficient to give us confidence in the reality of the cluster structure. The second method is predictive validity (Slater et al., 1999). Do the groups found through the analysis also differ on a number of other variables that were not used in the initial analysis? In the present study, we assessed group differences between clusters on a number of external variables to confirm that we had actually discovered distinct groups of people.

Method

Sample

The data analysed in this paper were derived from self-report questionnaires completed by 2,243 students (mean age = 15 years; 51% males). The analytical sample size was reduced to 2,032 as a result of listwise deletion. The data were collected as part of the 2001 *Ontario Student Drug Use Survey* (OSDUS; Adlaf & Paglia, 2001), a cross-sectional anonymous survey of Ontario students enrolled in grades 7 to 13. A total of 41 school boards, 106 schools, and 272 classes participated in the survey. The completion rate was 71% of all eligible students. The two main reasons for non-completion were absenteeism (13%) and the absence of parental consent (16%).

The study employed a stratified (region and school type) two-stage (school, class) cluster sample design. In elementary schools (students 12 to 14 years old), two classes were randomly selected (one grade 7, one grade 8) and in secondary schools (students 14 to 18 years old), three classes were randomly selected regardless of grade. To promote anonymity and privacy, trained staff of the Institute for Social Research, York University, administered self-report questionnaires on a classroom basis.

Measures

In total, our analysis employed 31 variables: 17 variables for the cluster analysis and an additional 14 external variables to examine the validity of the final cluster solution. For the cluster analysis, we selected 17 variables, including measures of behaviour (gambling, drug use, alcohol use, and tobacco use), gambling problems, and substance use problems.

The *gambling variables* included seven gambling activity frequency items, one item asking what was the largest amount of money gambled in the past 12 months and the 12-item South Oaks Gambling Screen Revised for Adolescents (SOGS-RA; Winters, Stinchfield, & Fulkerson, 1993). The preface for the gambling frequency items was, “How often (if ever) in the past 12 months have you done each of the following?” The seven activities included (a) played cards for money; (b) played bingo for money; (c) bet money in sports pools; (d) bought sports lottery tickets (such as Sports Select or ProLine); (e) bought any other lottery tickets, including instant lottery (such as 6–49, Scratch & Win, pull-tabs); (f) bet money on video gambling machines, slot machines, or any other gambling machines; and (g) bet money at a casino in Ontario. Students were asked to indicate the number of times they engaged in the activity (range 0–99). To measure gambling problems, we used the continuous SOGS-RA score (range 0–12; $M = 0.41$; $SD = 1.18$). Scale scores were computed by summing across the 12 binary items (1 = yes/0 = no).

The *substance use measures* included six variables: use of alcohol, tobacco, cannabis, depressants, stimulants, and hallucinogens in the past 12 months. Alcohol use was measured by the frequency of use (nine categories, from never to drinking almost every day, coded 0–8); tobacco consumption was measured by the number of cigarettes smoked daily (nine categories, from 0 to more than 20 per day, coded 0–8); and cannabis use was measured by the number of times cannabis was consumed in the past 12 months (seven categories, from never to 40 or more times, coded 0–6).

Use of depressants was defined by summing across three non-medical depressant drugs used in the past 12 months: barbiturates, heroin, and tranquillizers (from 0 to 3); use of stimulants was measured by summing the total number of the five non-medical stimulant drugs used: methamphetamine, crystal methamphetamine, cocaine, crack, and stimulants pills (from 0 to 5); and use of hallucinogens was defined by summing the total number of the four hallucinogenic drugs used in the past 12 months: LSD, PCP, ecstasy, and other hallucinogens (e.g., psilocybin; from 0 to 4).

Substance use problems included alcohol-related problems and drug use problems. To measure *alcohol-related problems*, we used the Alcohol Use Disorders Identification Test (AUDIT), a 10-item screening instrument developed by the World Health Organization (1992). The AUDIT assesses hazardous drinking, an established pattern of drinking that increases the likelihood of future physical and mental health problems (e.g., liver disease), and harmful drinking, a pattern of drinking that is already causing damage to health (e.g., alcohol-related injuries, depression). Responses were scored by using a Likert scale and then summed (range 0 to 40) such that a higher score indicated a greater likelihood of alcohol-related problems. In our analysis, we used the continuous AUDIT score ($M = 3.5$;

$SD = 4.8$). *Drug use problems* were measured by using a shortened version of the Drug Abuse Screening Test (DAST; Skinner, 1982). The DAST yields a quantitative index of drug problems, including dependence items and other consequences resulting from the abuse of psychoactive drugs (not including alcohol). We used four binary DAST items, with the response options yes (coded 1) or no (coded 0). The wording of the four items was as follows: (a) Are you always able to stop using drugs when you want to? (reverse coded); (b) Have you gone to anyone for help for a drug problem?; (c) Have you had “blackouts” or “flashbacks” due to your drug use?; (d) Have you had any medical problems as a result of your drug use? Responses were summed (range 0–4) such that a higher score indicates a greater likelihood of drug-related problems. As with the other measures, we used the continuous score for our analysis ($M = 0.15$; $SD = 0.46$).

Items Used as External Variables

In addition, 14 external variables were included to determine whether the clusters found in the analysis also predicted other differences in variables not directly related to any of the clusters. This validation determines whether the clusters we found were linked to meaningful differences amongst the groups. These external variables, *z*-standardized for plotting, pertained to demography, scholastic achievement, distress, mental health (self-esteem and depressive symptoms), and delinquent activity. *Demographic* measures included age (range 12–19); gender (males = 1, females = 0); non-intact family (living with a single parent or with neither natural parent = 1, else = 0); amount of money free to spend each week (more than \$50 = 1, less than \$50 = 0); and family’s socio-economic status (a composite index, incorporating self-reported family financial situation, the number of automobiles and personal computers owned by the family, and parental education, range 1–10). *Scholastic achievement* measures included poor grades (lower than an average letter grade of C = 1, C and higher = 0; note that a letter grade of C is typically equivalent to 60% to 70%) and low school attachment. School attachment was based on a summation score (range 0–8) from the level of agreement on two statements: “I feel close to people at this school” and “I feel like I am a part of this school.” Responses were summed such that a higher score indicates lower school attachment.

Our measure of *psychological distress* was based on the General Health Questionnaire (GHQ-12; Goldberg & Hillier, 1979), a 12-item screening instrument used to detect current psychological distress. Each item started with “Over the last few weeks” and then ended with questions such as “have you been able to concentrate on whatever you’re doing?”; “have you felt constantly under stress?” or “have you felt you couldn’t overcome difficulties?” Response categories were based on a 4-point scale ranging from “better (more so) than usual” to “much less than usual” (coded 0–3). Positive items (e.g., “Have you been able to enjoy your normal day-to-day activities?”) were negatively keyed. Responses were scored on a Likert scale and summed (range 0 to 36) so that higher scores indicated elevated psychological distress ($M = 10.5$; $SD = 5.8$). When we examined the factor structure of the 12-item questions, we found two eigenvalues greater than 1 (5.1 and 1.6). We extracted a two-factor solution that corresponded closely to Goldberg’s scales for depression (e.g., feeling unhappy and depressed, losing confidence, constantly stressed) and social dysfunction (e.g., capable of making decisions, playing a useful part, able to enjoy activities).

In the Results section below and in the accompanying tables, we report the GHQ total scale score and the two factor scores for depression and social dysfunction.

Self-esteem was measured with six items derived from Rosenberg's Self-Esteem Scale (Rosenberg, Schooler, & Schoenbach, 1989). The items were based on the following statements: (a) I feel good about myself; (b) I feel that I'm a person of worth; (c) I am able to do most things as well as other people can; (d) Sometimes I feel that I can't do anything right (reverse coded); (e) I feel I do not have much to be proud of (reverse coded); (f) Sometimes I think I am not good at all (reverse coded). The response options were based on a 5-point scale, ranging from *never true* to *almost always true*. The summated six-item scale resulted in values from 1 to 30 ($M = 23.9$; $SD = 4.7$). A higher score indicates higher self-esteem.

Depression was measured by using a shortened four-item version of the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). The following four CES-D items were asked: (a) How often have you felt sad? (b) How often have you felt lonely? (c) How often have you felt depressed? (d) How often have you felt like crying? The time frame was the "past 7 days." The response options were based on a 4-point scale, ranging from *never or rarely* (scored as 0) to *always* (scored as 3). The summated score resulted in values from 0 to 12 ($M = 2.4$; $SD = 2.7$). A higher score indicates greater likelihood of being depressed.

Delinquent activity included violent delinquency and theft. Violent delinquency (or violence) was scored 1 for each of the following items that were endorsed, for a total ranging from 0 to 4: (a) beat up, hurt anyone; (b) taken part in gang fights; (c) carried a weapon (e.g., gun or knife); and (d) taken part in physical fights at school. Theft was reported as a percentage of the sample who endorsed either one of two theft items: (a) number of times the student took things worth \$50 or less or (b) worth more than \$50.

Data Analysis

We used a two-stage procedure to determine the number of clusters. First, prior to the data analysis, the sample was randomly divided into an exploration sample and a cross-validation sample. In the first stage, the exploration sample ($n = 1,031$) was used to explore clusters. We used the SPSS method of hierarchical cluster analysis, using Ward's method between groups as the merging criterion and squared Euclidian distance as the similarity measure to form the initial cluster solution. In hierarchical clustering, clusters are formed by grouping cases into larger and larger clusters until all cases are members of a single cluster. Ward's method, which constructs clusters by minimizing within-cluster sums of squares, has been found to provide reasonable cluster solutions in empirical studies (Sharma, 1996). All 17 variables employed in the cluster analysis were first z-standardized to ensure equal weighting. We used two strategies to determine the number of clusters: first, we examined the Euclidean distance schedule for large increases in coefficients between agglomeration steps; second, we examined cluster profiles for meaningful cluster differences. Based on this analysis, three-, four-, and five-cluster solutions were selected for further tests.

Table 1

Mean absolute within-cluster distance from cluster centre for three-, four-, and five-cluster models in exploratory (n = 1,031) and confirmatory samples (n = 1,007)

Sample		3 Clusters	4 Clusters	5 Clusters
Exploratory (n = 1,031)	<i>M</i>	1.015 ^a	0.954 ^b	1.309 ^a
	<i>SD</i>	1.068	1.1	1.34
Confirmatory (n = 1,007)	<i>M</i>	1.030 ^a	0.886 ^b	1.050 ^a
	<i>SD</i>	1.046	1.062	1.406
Total (N = 2,038)	<i>M</i>	1.029 ^a	0.916 ^b	0.904 ^b
	<i>SD</i>	1.102	1.086	1.05

Note. The average within-cluster distance was computed by using the absolute difference of the observed distance of a score from the mean distance of the cluster. Significant differences within a row are indicated by different superscripts.

In the second stage, we used the cross-validation sample ($N = 1,007$) to confirm the cluster structure. We conducted the same analysis of three-, four-, and five-cluster solutions on the cross-validation sample. The goal was to select the largest number of distinct clusters that could be replicated across samples.

Results

Initial clustering with exploration sample

We evaluated three-, four-, and five-cluster solutions. The three-cluster solution did not separate heavy gamblers from moderate gamblers. The five-cluster solution included only four people in the fifth cluster, and core features of the fifth cluster did not replicate across samples. In addition, the first four clusters were easily interpretable (see Description of clusters section below), but the fifth cluster, which included only a small subgroup of people mostly taken from Cluster 4 in the four-cluster solution was not interpretable as a distinct group. The average within-cluster distances for the three-, four-, and five-solutions are displayed in Table 1.

Cross-validation Clustering

The three- and four-cluster solutions were replicated across the samples, but the fifth solution was not (details available from authors). The four-cluster solution yielded the largest number of clusters that were interpretable and were replicated across samples. Thus, we chose the four-cluster solution as the best fit to the data.

Final Cluster Derivation

Because the cluster solution appeared to be robust, producing similar results on the validation sample, we decided to recombine the two half samples and re-estimate the clustering

process again on the total sample as a double check on the validity of the four- cluster solution. Again, the four-cluster solution was the best fit to the data.

Having determined the number of clusters by using hierarchical methods, we then performed non-hierarchical methods (K-means). Using the cluster centroids derived from the hierarchical solution in the K-means method has the advantage of further refining the cluster solution (Sharma, 1996).

We then used one-way analysis of variance to compare the clusters on the variables used in the cluster solution (see Table 2) as well as the validation variables (see Table 3) not employed in the cluster analysis.

Description of Clusters

These groups were assigned names on the basis of their modal behaviour. These names are mainly a mnemonic device and not intended to oversimplify the differences or similarities between the groups or within groups (Slater et al., 1999). The solution revealed four clusters of differing size and behavioural configurations: (a) “Mainstreamers” ($N = 1,346$; 66.0%); (b) “Party Goers” ($N = 533$; 26.2%); (c) “Drug Takers” ($N = 121$; 5.9%); and (d) “Heavy Gamblers” ($N = 38$; 1.9%). In Table 2, we present data on the 17 variables employed in the cluster analysis. To understand better the character of the four clusters and to provide further evidence of meaningful cluster differences, we also present data for the 14 external variables not employed in the selection of the cluster solution (Table 3). Figures 1 and 2 illustrate the different profiles of the four groups across the cluster (Figure 1) and validation variables (Figure 2). These figures present the data in standard units (z -scores) so that the reader can assess effect size by simply reading the distance that separates two points on the figures. The rest of the Results section illustrates the profiles of the clusters across both cluster and external variables. Although one of the groups was defined as Heavy Gamblers, and another group was defined as Drug Takers, it should be noted that alcohol and drug use and gambling problems occurred in all four groups. As such, we will examine the drug and alcohol use and gambling problems in each of the four groups.

Mainstreamers. Mainstreamers accounted for about 66% of the sample. They were more likely to be female (56.9%), and were the youngest group, with an average age of 14.4 years. They had the lowest rate of alcohol, cigarette, and drug use; the lowest gambling frequency and lowest SOGS-RA score; and the highest self-esteem. They were less likely to have poor grades and low school attachment. They had the lowest delinquency and were the least depressed. None of the Mainstreamers had a drinking problem and only two scored 2 or more on the DAST, indicating a drug problem. Nearly a quarter (23.8%) of the Mainstreamers reported some psychological distress.

Party Goers. Party Goers accounted for about 26% of the sample. Over half were male (54.6%), and they were more likely to be older compared with Mainstreamers, but not significantly older than the other two groups. Compared with Mainstreamers, they had higher rates of alcohol, cigarette, and cannabis use and higher AUDIT scores. In addition, they reported gambling more frequently (mostly cards and lotteries) and spending

Table 2
Profile of variables employed in the cluster solution (raw score means and 95% CI)

Variable ^a	Clusters									
	Total sample N = 2,038		Mainstreamers n = 1,346		Party Goers n = 533		Drug Takers n = 121		Heavy Gamblers n = 38	
	M	95% CI	M	95% CI	M	95% CI	M	95% CI	M	95% CI
SOGS-RA (range 0–12)	0.39	(±0.05)	0.20	(±0.04)	0.57	(±0.11)	0.94	(±0.33)	2.97	(±1.02)
Cards	1.61	(±0.29)	0.60	(±0.15)	2.76	(±0.84)	3.50	(±1.78)	15.1	(±6.41)
Bingo	0.63	(±0.16)	0.29	(±0.08)	0.62	(±0.17)	1.17	(±0.67)	11.1	(±6.94)
Sports pools	1.13	(±0.22)	0.31	(±0.06)	1.30	(±0.25)	1.91	(±0.69)	25.2	(±7.60)
Sport lottery	1.08	(±0.25)	0.21	(±0.08)	1.04	(±0.33)	1.91	(±0.78)	30.0	(±7.33)
Any lottery	2.00	(±0.31)	0.77	(±0.215)	2.90	(±0.61)	4.69	(±1.80)	24.5	(±8.92)
Video/Slots	0.63	(±0.22)	0.13	(±0.06)	0.77	(±0.29)	0.92	(±0.45)	15.5	(±10.00)
Casino (in Ontario)	0.12	(±0.06)	0.01	(±0.01)	0.21	(±0.16)	0.21	(±0.20)	2.63	(±2.43)
Money spent gambling	1.20	(±0.07)	0.75	(±0.06)	1.87	(±0.14)	2.31	(±0.33)	4.00	(±0.56)
Alcohol	1.86	(±0.08)	0.82	(±0.06)	3.78	(±0.11)	4.57	(±0.29)	3.26	(±0.69)
Cigarettes/day	0.99	(±0.08)	0.24	(±0.04)	2.18	(±0.18)	4.01	(±0.43)	1.21	(±0.57)
Cannabis	0.89	(±0.08)	0.10	(±0.02)	1.95	(±0.17)	4.91	(±0.29)	1.26	(±0.63)
Depressants	0.07	(±0.01)	0.01	(±0.01)	0.07	(±0.02)	0.64	(±0.15)	0.24	(±0.19)
Stimulants	0.16	(±0.02)	0.03	(±0.01)	0.12	(±0.03)	1.64	(±0.20)	0.37	(±0.22)
Hallucinogens	0.22	(±0.03)	0.02	(±0.01)	0.26	(±0.05)	2.22	(±0.20)	0.42	(±0.33)
AUDIT (range 0–40)	3.47	(±0.22)	0.99	(±0.08)	7.63	(±0.40)	11.36	(±0.94)	7.89	(±2.55)
DAST (range 0–4)	0.15	(±0.02)	0.03	(±0.01)	0.19	(±0.03)	1.19	(±0.17)	0.47	(±0.29)

Note. M = mean; CI = confidence interval; DAST = Drug Abuse Screening Test; AUDIT = Alcohol Use Disorders Identification Test; SOGS-RA = South Oaks Gambling Screen Revised for Adolescents.

^bThe significance column indicates which means differed at the .05 level after Bonferroni adjustment. Numbers indicate cluster membership: 1 = Mainstreamers, 2 = Party Goers, 3 = Drug Takers, and 4 = Heavy Gamblers.

^aCards, bingo: average number of times played; sport lottery, any lottery: average number of times bought; sports pools, video/slots, casino: average number of times bet; alcohol, cannabis: average frequency of use; cigarettes: average number of cigarettes smoked daily; depressants: count of all depressants used; stimulants: count of all stimulants used; hallucinogens: count of all hallucinogens used.

Table 3
Profile of external variables (raw score means or percentages, and 95% CI)

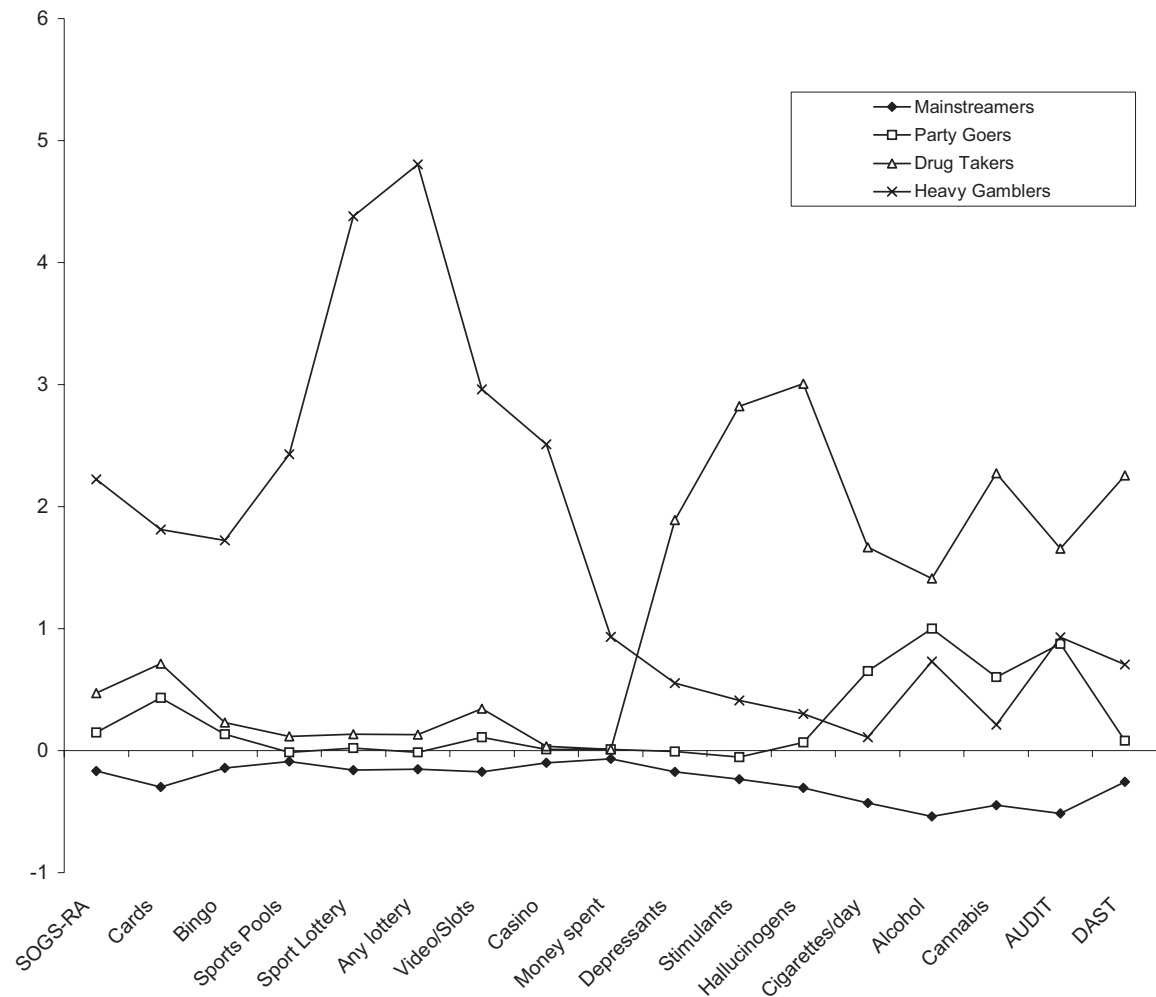
Variable	Clusters										Significance ^a
	Total sample N = 2,038		Mainstreamers n = 1,346		Party Goers n = 533		Drug Takers n = 121		Heavy Gamblers n = 38		
	M or%	95% CI	M or%	95% CI	M or%	95% CI	M or%	95% CI	M or%	95% CI	
Age (range 12–19 years)	14.93	(±0.08)	14.36	(±0.10)	16.07	(±0.14)	15.91	(±0.26)	15.78	(±0.65)	1<(2, 3, 4)
% Male	48%	(±2%)	43%	(±3%)	55%	(±4%)	59%	(±9%)	92%	(±9%)	1<(2 = 3)<4
GHQ-12 (range 0–36)	10.51	(±0.25)	9.76	(±0.29)	11.81	(±0.53)	12.34	(±1.08)	12.95	(±2.63)	1<(2, 3, 4)
GHQ – Depression ^b	0.03	(±0.04)	-0.09	(±0.05)	0.22	(±0.09)	0.47	(±0.20)	0.18	(±0.33)	1<(2,3)
GHQ – Social Dysfunction ^b	-0.01	(±0.04)	-0.05	(±0.05)	0.08	(±0.08)	-0.13	(±0.20)	0.53	(±0.52)	4>(1,2,3)
Depression (CES-D; range 0–4)	2.40	(±0.12)	2.21	(±0.14)	2.69	(±0.24)	3.13	(±0.51)	2.92	(±1.08)	1<(2,3)
Self-esteem	23.77	(±0.22)	24.09	(±0.25)	23.45	(±0.39)	22.17	(±0.84)	21.97	(±2.04)	1>2>3; 1>4
SES	6.75	(±0.07)	6.74	(±0.09)	6.80	(±0.13)	6.53	(±0.29)	7.13	(±0.47)	NS
Money free to spend (% able to spend \$50/week)	22%	(±2%)	15%	(±2%)	33%	(±4%)	35%	(±9%)	47%	(±15%)	1<(2,3,4)
% Non-intact family	24%	(±2%)	22%	(±2%)	25%	(±4%)	41%	(±9%)	34%	(±15%)	3>(1,2)
% Poor grades (<C)	16%	(±2%)	11%	(±2%)	20%	(±3%)	38%	(±9%)	37%	(±16%)	1<2<(3,4)
Low school attachment	3.44	(±0.05)	3.36	(±0.07)	3.51	(±0.11)	3.83	(±0.24)	3.73	(±0.59)	3>1
Theft (%)	14%	(±2%)	7%	(±1%)	22%	(±3%)	45%	(±9%)	29%	(±15%)	1<(2 = 4)<3
Violent delinquency (range 0–4)	0.42	(±0.04)	0.25	(±0.03)	0.57	(±0.08)	1.40	(±0.24)	1.03	(±0.39)	1<2<(3,4)

Note. M = mean; CI = confidence interval; GHQ = General Health Questionnaire; CES-D = Center for Epidemiological Studies Depression Scale; SES = Rosenberg's Self-Esteem Scale.

^aThe significance column indicates which groups differ significantly at the .05 level after Bonferroni adjustment. Numbers indicate cluster membership: 1 = Mainstreamers, 2 = Party Goers, 3 = Drug Takers, and 4 = Heavy Gamblers.

^bThe scores for the GHQ depression and GHQ social dysfunction are standardized factor scores.

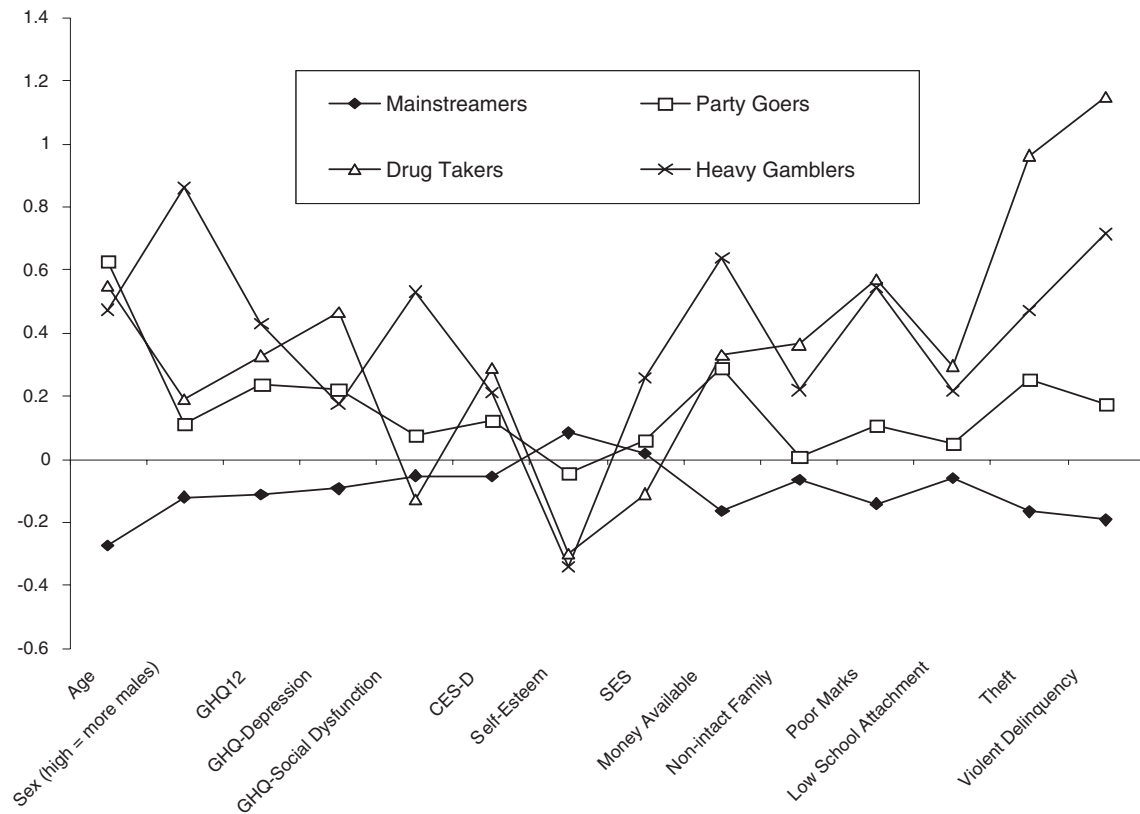
Figure 1. Final four-cluster typology based on the total sample ($N = 2,032$): z-scores of cluster variables. DAST = Drug Abuse Screening Test; AUDIT = Alcohol Use Disorders Identification Test; SOGS-RA = South Oaks Gambling Screen Revised for Adolescents.



more money on gambling and had a higher SOGS-RA score, poorer grades, lower self-esteem, higher psychological distress, and higher delinquency. However, compared with Drug Takers, they reported lower rates of substance use; had lower AUDIT and lower DAST scores; and were less likely to come from a non-intact family, to have poor grades, and to be involved in delinquent activities. Compared with Heavy Gamblers, Party Goers gambled significantly less.

Drug Takers. Drug Takers accounted for about 6% of the sample. Slightly more than half (59%) were male. They had the highest rates of alcohol, cigarette, cannabis, and other drug use and the highest AUDIT and DAST scores. Compared with Party Goers, Drug Takers gambled more frequently (but this reaches significance only for lotteries and money spent) and had a higher SOGS-RA score. However, compared with Heavy Gamblers they

Figure 2. Final four-cluster typology based on the total sample ($N = 2,032$): z-scores of external variables. GHQ = General Health Questionnaire; CES-D = Center for Epidemiological Studies Depression Scale; SES = Rosenberg's Self-Esteem Scale.



gambled less frequently, spent less money on gambling, and scored lower on the SOGS-RA. They had the highest delinquency and, compared with Party Goers and Mainstreamers, they were more likely to be from a non-intact home and to report lower grades. Almost half (47.9%) of the Drug Takers reported psychological distress as measured by a GHQ-12 score of 3 or more. Interestingly, when we separated the GHQ according to its two factors, we found that Drug Takers scored high on depression, but very low on social dysfunction.

Heavy Gamblers. Heavy Gamblers accounted for about 2% of the sample. They had the highest proportion of males (92%); the highest gambling frequency, especially on sports and lotteries; the highest SOGS-RA score; and the most money to spend freely. In terms of substance use, they reported smoking fewer cigarettes and having lower cannabis use than Party Goers and having lower substance use and lower rates of theft than Drug Takers. However, no difference was found between Heavy Gamblers and Party Goers in terms of alcohol consumption and abuse. Heavy gamblers had the lowest self-esteem compared with other groups. However, this group scored no higher on the GHQ depression scale than the Party Goers, but scored very high on the GHQ social dysfunction scale. This cluster was defined mainly in terms of frequency of gambling, but this group also includes a substantial

Table 4

A breakdown of the number of adolescents with drug, alcohol, and gambling problems by cluster

Group	DAST 2+		AUDIT 8+		SOGS-RA 4+	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Mainstreamers (<i>n</i> = 1,346)	2	0.1	7	0.5	11	0.8
Party Goers (<i>n</i> = 533)	8	1.5	228	42.8	25	4.7
Drug Takers (<i>n</i> = 121)	45	37.2	93	76.9	13	10.7
Heavy Gamblers (<i>n</i> = 38)	5	13.2	14	36.8	13	34.2
Entire sample	60	2.9	342	16.8	62	3.0

Note. DAST = Drug Abuse Screening Test; AUDIT = Alcohol Use Disorders Identification Test; SOGS-RA = South Oaks Gambling Screen Revised for Adolescents.

number of students who score above the criterion on the SOGS-RA for probable pathological gambling (34.2%). A further 23.7% report subclinical problem scores (SOGS-RA of 2 or 3).

Breakdown of Problem Gambling, Drug Use, and Alcohol Abuse Across the Four Groups

In the Introduction, we posed the question of whether or not adolescent probable pathological gamblers, problem drinkers, and substance abusers are all part of the same basic deviant group or if they form a number of subtypes. In this section, the clusters are examined to determine how the different groups are related to these problem behaviours. Recommended cut-off scores (e.g., Paglia-Boak, Mann, Adlaf, & Rehm, 2009) were used for the DAST (2 or more), AUDIT (8 or more), and SOGS-RA (4 or more). As shown in Table 4, very few Mainstreamers scored in the problem range of any of the problem measures. Nearly half (42.8%) of the Party Goers group reported some hazardous drinking, but only 4.7% reported gambling problems and 1.5% reported drug problems. Over a third of the group we call Drug Takers reported drug use problems, 76.9% reported hazardous drinking, and 10.7% reported gambling problems. Finally, for the Heavy Gamblers, over a third (34.2%) reported gambling problems and hazardous drinking (36.8%), and 13.2% reported drug-related problems. Clearly, these groups differ substantially in the proportion of students who have problems with substances and gambling.

Although we have labelled Cluster 4 as “Heavy Gamblers” on the basis of their gambling behaviour, probable pathological gamblers in fact appear in all four clusters. In total, 62 adolescents reached the criteria for problem gambling as identified in this study. Several probable pathological gamblers were members of the Heavy Gamblers, but some probable pathological gamblers were also members of the Drug Takers and the Party Goers, and a small number were even in the Mainstreamers. Less than 1% of the Mainstreamers scored in the range for probable pathological gamblers (SOGS-RA ≥ 4); however, there were 11

probable pathological gamblers in the Mainstreamers group, and they make up 18% of the probable pathological gamblers that were identified in the study. Bearing in mind that the Mainstreamers make up a majority of the sample (66.1%), when we examined subclinical cases (SOGS-RA = 2 or 3), nearly half of them (49.5%) were Mainstreamers.

Discussion

These results revealed several interesting findings about the nature and distribution of substance use and problem gambling among a non-clinical community-derived sample of youths. First, we found and replicated a four-cluster solution. Second, these clusters were different on several validation variables in addition to their differences on the cluster variables. Of particular interest is that Drug Takers and Heavy Gamblers formed two separate clusters that not only differed in terms of addiction, but also in terms of social dysfunction and depression. These results suggest that adolescent probable pathological gamblers, problem drinkers, and substance abusers are not all part of a single group but form a number of subpopulations.

It could be argued that these groups really only differ in terms of delinquency, with Mainstreamers at one extreme and Drug Takers at the other extreme. Indeed, for both violent delinquency and theft, the Drug Takers had the highest scores and the Mainstreamers the lowest, with Heavy Gamblers and Party Goers falling in-between. However, on the measure of social dysfunction, Heavy Gamblers scored higher than any of the other three groups. In addition, Party Goers scored significantly higher than the Heavy Gamblers on cigarette smoking and cannabis use.

A cluster analysis is an exploratory method that does not always divide people into groups that are perfectly clear. In the current study, some problematic behaviours occurred in all of the groups. Even amongst Mainstreamers, we found a small number of people who apparently have a drug problem, engage in hazardous drinking, or gamble problematically. Although probable pathological gamblers were concentrated in the Heavy Gambling cluster, some probable pathological gamblers were found in all four clusters. A small number of probable pathological gamblers were Mainstreamers. This finding suggests that probable pathological gamblers are not a single unified group.

The group of students who were most strongly defined by their gambling behaviour also reported having the most money to spend freely, had the lowest self-esteem, and scored highest on the social dysfunction scale. These findings have important implications for parenting and prevention. In particular, parents need to be aware of the amount of money their adolescent children have available to spend.

Turning now to the broader context, today's youth are amongst the first to be exposed to ready access to gambling opportunities (Gupta & Derevensky, 1998a; Hardoon & Derevensky, 2002; Jacques, Ladouceur, & Ferland, 2000). They are inundated with advertisements that encourage their interest in gambling by the promise of wealth, success, status, and excitement. Not surprisingly, a large number of youth engage in some form of gambling and some even score in the problem range on the SOGS-RA. Previous studies have shown

strong correlations between gambling, alcohol, and drug problems (Barnes et al., 2005; Derevensky & Gupta, 2000; Gupta & Derevensky, 1998a; Hardoon & Derevensky, 2002; Welte et al., 2004). The current study replicated these previous findings, and in addition revealed that troubled youth do not form a single unitary group, but are made up of different subgroups. Although gambling and alcohol and drug use overlap, there were significant differences between each of the groups identified that suggest that the behaviours examined do not vary as a simple linear function of delinquency.

In order to develop effective prevention and treatment strategies, we first need to understand the nature of problem gambling amongst these youths. Co-morbidity of drug and alcohol use was high amongst probable pathological gamblers, but nearly 18% of the probable pathological gamblers and 49.5% of the subclinical probable pathological gamblers were in fact Mainstreamers. Our findings suggest that messages targeted at identified high-risk groups (e.g., Drug Takers) would, in fact, miss a large percentage of subclinical problem gamblers.

Characteristics of the Heavy Gambler and Drug-Taker clusters are consistent with the general addiction model (Gupta & Derevensky, 1998b; Jacobs, 1986) in that we found evidence in support of a fairly high co-morbidity between problem gambling and drug and alcohol use. Furthermore, Heavy Gamblers report high levels of psychological distress (social dysfunction). Both Drug Takers and Heavy Gamblers scored low on self-esteem and high on depression and delinquency. Also consistent with the general theory of addiction, Drug Takers report high levels of depression, low school attachment, and poor grades.

The data are also somewhat consistent with Blaszczynski and Nower's (2002) pathways model. According to their model, some pathological gamblers are otherwise normal, some are emotionally vulnerable, and others are impulsive. In our study, we found some probable pathological gamblers in all four clusters. Drug Takers appear to be the most distressed group, and roughly 10% of this group scored as probable pathological gamblers. The Mainstreamers had strong school attachment, high grades, and in general did not consume alcohol or drugs. This group was the least depressed of the groups and had the highest self-esteem. Very few Mainstreamers reported having drug or alcohol problems or gambling problems; nonetheless, 11 Mainstreamers (0.8%) had high scores on the SOGS-RA. The pathological gamblers in the Mainstreamers group appear to be consistent with Blaszczynski's (2000) "otherwise normal" problem gambler. Furthermore, although only 18% of the pathological gamblers identified in the study were in the Mainstreamers group, half of the subclinical problem cases found in the sample were Mainstreamers. This is consistent with the idea that people who are otherwise normal except for gambling problems have relatively mild cases of problem gambling (see also Turner, Littman-Sharp, & Zangeneh, 2006). However, more study is needed to help understand why some probable pathological gamblers were placed in the Mainstreamers group.

There are limitations to this study. The data were based on an anonymous survey of students in a classroom setting using self-report measures. The study has the advantage of being a probability sample of students in the school system, but it is possible that so-called troubled youth or high-risk youth may be less likely to be in attendance on the day that

the questionnaire was administered. Another important limitation is that cluster analysis is inherently exploratory in nature. As such, there is always the possibility that the method produced sample specific clusters that will not generalize. This possibility was controlled by randomly dividing the sample into initial exploratory and confirmatory half samples. Nonetheless, the results may still not generalize to other samples.

In conclusion, in this paper we set out to determine whether youths that engage in deviant acts such as gambling, drug use, alcohol consumption, and crime were all members of a single deviant group or whether they belonged to different subpopulations. We found that although drug use, gambling, and alcohol use are correlated, clusters can be defined that separate groups of adolescents into those who consume only alcohol (Party Goers), those who consume both drugs and alcohol (Drug Takers), and those who gamble extensively (Heavy Gamblers). The Drug Takers appear to be a particularly troubled group of adolescents. In addition to their reported use of alcohol and drugs, they scored high on depression, violent delinquency, and theft and low on self-esteem and school attachment. The Heavy Gamblers were similar to the Drug Takers on most variables, but scored substantially higher than all other groups on social dysfunction. Although gambling, alcohol, and drug use overlap, there were significant differences between each of the groups identified, which suggests that the people who are at high risk for one problem (e.g., drugs) are not necessarily those at high risk for another (e.g., gambling). Cluster analysis is inherently exploratory in nature and thus more research is needed to determine whether these group differences generalize to other samples.

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service profile

Continuing Professional Development for General Practitioners in the United Kingdom

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This article describes the setting up, delivery and impact of general practitioner (GP) postgraduate training sessions on problem gambling in the United Kingdom (UK). Four sessions were delivered in a pilot project conducted in South East England and 140 GPs attended a session of approximately one hour in duration.

Background and Why GPs Were Targeted for Continuing Medical Education

Psychiatric co-morbidity is commonly found in problem gamblers, as well as drug, alcohol problems and other symptoms of ill-health (Morasco, vom Eigen, & Petry, 2006; Petry, 2005; Wardle, Sproston, Orford, Erens, Griffiths, Constantine & Pigott, 2007). However, most problem gamblers do not seek help from specialist services until they reach a crisis and by that time the gambling will have had a major impact on their financial and personal circumstances (Evans & Delfabbro, 2005; Productivity Commission 1999). Identification of problem gamblers by other involved services is therefore difficult, especially as no one particular group can be considered to be at particularly high risk (McMillen, Marshall, Murphy, Lorenzen &! Waugh, 2004; Tiffany, Dal Grande & Taylor, 2006; Wardle et al, 2007).

One service that a problem gambler is likely to have visited prior to specific gambling treatment agencies is his or her family doctor or GP (Sullivan, 2000; Sullivan, Arroll, Coster, Abbott & Adams, P, 2000). Symptoms commonly presented include depression, anxiety, stress, headaches and tiredness; gambling may not be mentioned (Goodyear-Smith, Arroll, Kerse, Sullivan, Coupe, Tse, Shepherd, Rossen & Perese, 2006). While GPs may be well placed to identify problem gamblers and to provide support and referral, they do not routinely ask patients about their gambling habits (Setness, 1997).

Encouraging GPs to consider the need to investigate for gambling problems is not straightforward. Just writing to them is not enough as leaflets or documents are unlikely to be read

or digested (Tolchard, Lyndall & Battersby, 2007). Literature may also fail to bring about change as it may be necessary to convince GPs that gambling issues merit their involvement (Tolchard et al, 2007).

One way to influence and inform GPs is to provide postgraduate education training on gambling issues. This has been found to be effective in the case of alcohol dependence (Malet, Raynaud, Llorca, & Falissard 2007). Training may have more impact on GPs' day-to-day practice than supplying information or practice visits.

In the UK, all GPs are required to undergo continuing professional development (CPD) in order to keep up their registration. These training sessions are usually co-coordinated by the GP tutor covering their area, whose role is to arrange a number of relevant speakers.

The Pilot Project

The aims of the pilot project were to find out whether a GP postgraduate session on problem gambling was a feasible way of raising a GP's awareness of problem gambling; encouraging GPs to use a screening measure or probes to measure extent of gambling; and giving information about treatment services.

Sessions were set up by contacting the Postgraduate Deanery in South East England. Three one-hour sessions were arranged as part of a lunch time CPD session arranged for GPs. The fourth was conducted as part of a three day GP refresher course.

The sessions covered the following areas (see Table 1):

The sessions were supplemented with short details of problem gamblers' case histories. This was added to provide interest but also to show how serious the problem could become. This included the risks of suicide both during gambling and when trying to give up. Handouts were given with details of the screening instruments and a list of contact details for treatment services.

Table 1
Topics covered in the GP training sessions

General information/ who is at risk	Impact of gambling/treatments available
Definitions/terms	Impact on health
Prevalence	Impact on family, finances, work, other domains
Signs/signals	Difficulties of giving up
How problem gambling develops	Different treatment services available including residential, outpatient, telephone, internet
Who is most "at risk"	Description of different treatment approaches
Examples of screening instruments	How to help and support families

Figure 1. Findings from general practitioner (GP) questionnaire and subsequent discussion

GPs considered that: • Gambling was a relevant issue for GP involvement and further education. • While many of their patients might have gambling problems, GPs were rarely consulted directly for a gambling problem. • Those GPs that had treated gamblers were likely to have prescribed medication for them, talked through issues, referred to a counsellor, mental health professional or suggested contacting gamblers anonymous. They rarely had referred to a specialist treatment agency. • Their role was mainly treating associated health problems, supporting family members, referring on, rather than trying to treat the gambling problem. • The session increased their awareness of the problem and gambling's potential to cause harm. They recognised the need to ask their patients specific questions about gambling in the future, especially for those considered most likely to be "at risk". A small proportion indicated that they would use a screening instrument. • The information on the difficulty in stopping gambling, and the risk of suicide, was helpful for GPs. • GPs lacked knowledge about specific gambling treatment agencies. • GPs wanted information that would help support families of problem gamblers.
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Evaluation

The 140 GPs filled out a questionnaire before and after the session. They also discussed issues at the end of the session. The findings are shown in Figure 1.

Conclusions

GPs in the UK are notoriously difficult to contact by letter or by email. Continuing medical education on gambling may be relatively straightforward to set up and arrange. Most sessions are up to one hour's duration and so there is time to consider a range of relevant issues, including screening, referral and treatment. In addition, a group format may have some advantages. The GPs may not feel under individual pressure, they have time to think about the issue and reflect.

Increased GP awareness might also be supplemented by posters and materials on gambling being displayed in the practice or in the waiting room. Leaflets and posters may give a signal to patients that this is an appropriate issue for discussion with their GP.

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first person account

The addictiveness of online brokerage services: A first person account

By David

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In the story below, David describes the personal challenges he has faced in controlling his on-line stock market investing. Following David's account, Nigel Turner presents some general observations that tie David's story to the research literature on problem gambling. The viewpoints in David and Nigel's sections reflect the ideas and opinions of their respective author—although this account is collaborative, both authors worked independently and take credit only for their contribution¹.

David

I am a recovering compulsive gambler who placed his last online trade on June 12, 2009.

I have struggled with online stock trading for 10 years, and during that time, experienced a terrible journey. On this journey, I walked a path leading toward self-destructiveness and inner distress, and lost almost everything. I believe that as a miracle from God, I eventually found a path to recovery that involved faith, counseling, group therapy, and family support. I say *recovery* because of my newly acquired awareness of gambling triggers and the underlying psychological causes that serve to distort conceptions about risk. In reality, however, one is never *cured* of a compulsive gambling ailment. Continual willpower and therapy help to combat triggers and ultimately provide the self-control necessary to build a happier life. However, as with all progressive behavior disorders, this disease typically flares back with unrelenting vengeance.

The story of my gambling problem begins in December 1999. I had bought a personal computer a couple of years prior and with the internet growing in popularity, I developed a natural curiosity for online discount brokerages. The stock markets were reaching untold heights, fueled by the "dot.com era" and analyst hype. Prior to December 1999, my wife and I had amassed savings of about \$10,000 through bank-managed bond investments. At

that time, and with significant financial help from my wife's family, we had purchased a house and secured mortgage of \$150,000 through YZ Bank². Life was pretty good until I began exploring self-managed investments using an online brokerage. I gravitated to YZ Bank's services, since YZ was the holder of my mortgage. Being a proud YZ client, I quickly went through the application process and completed a short questionnaire about my investment profile and risk tolerance. There were no other tests around the extent of my investment sophistication and certainly none around my propensity for addictions or gambling. At the time, I was driven by my cockiness and firm belief of earning greater returns than my bank-managed bond investments.

After liquidating my safe bond investments, I made an initial deposit into my trading account of \$10,000. I patiently waited a couple months before placing my first trade, which was for 100 shares of the YZ Bank at \$35 on Feb 17, 2000. Again, I was a proud client and thought: "What better way to execute my lust for online trading". Perhaps with no coincidence, I executed my last sell trade in June 12, 2009 selling YZ at \$51, making a capital gain of \$1,600. I wish the story could end happily there. The darker side of my on-line brokerage experience entailed racking up capital losses of around \$300,000, with roughly \$275,000 from borrowed money facilitated through online banking services and a line of credit. I find it hard to understand how a service could facilitate this level of indebtedness for a middle-class client. I spent the better part of 10 years struggling with my ailment, constantly trying to concoct investment approaches and spreadsheet modeling to win back my money and fulfill my dream to strike it big. In reality, I was never a qualified investor and suffered from a compulsive gambling ailment.

My youth

As a youth, I lived in two households due to the divorce of my parents. During childhood, I was constantly picked on because of my personality and single parent upbringing. For some reason, I was somewhat slower and not as mentally acute as my peers. I believe this was due to some form of undiagnosed attention deficit disorder (ADD) or learning disability. During my teenager years, I suffered from social anxiety and self-esteem issues. I had few friends and mostly kept to myself. I had conflict issues with my stepmother and did not feel wanted or respected by my father and stepmother. At age 17, I finally decided to move with my mother and stepfather to New Brunswick where I was able to start anew. I got along well with my mother and stepfather at that time, although later in adulthood I found myself in constant conflict with my maternal mother. Being new to this small town, I found popularity among my peers, but this further magnified my social anxiety problems. I would mask the anxiety issue by engaging in unusual behaviors, such as walking over parked cars, breaking windows, and climbing on roof tops. During my high school years, I would drink at least once per weekend and would engage in behaviors such as drinking on school premises, skipping classes, and vandalism. Upon entering university at age 19, I continued to engage in some of these behaviors. Fortunately, I was never charged, but at age 20, I had to pay an insurance company \$1,200 for breaking a shop merchant's window. I methodically paid this debt with earnings from three part-time jobs.

I eventually broke away from these behaviors, but was dragged down by alcohol during my first year of university, and almost failed. I also had trouble communicating with the opposite sex and had difficulty with friendships. My insecurities would appear when I was involved in close relationships, and I would typically do something to offend the other person. I would use alcohol to unleash my hidden personality of arrogant assertiveness. At about age 20, I had my first serious relationship. It felt good and I tried feverishly to change my ways. I worked hard in my business degree program. When this relationship ended I was greatly hurt, but this was a catalyst that pushed me through the third and fourth years of my degree. In my final year of university I had a solid B+ average, even while taking on some of the more challenging business courses.

Upon graduating from university, I found work in a large company. I found working amongst peers in the professional world difficult, and my soft personality was easy prey for those who choose to pick on me. Through continuous hard work, I gained the respect of my bosses and peers. As I look back on this, I was beginning to find acceptance, but was unsure how to handle that feeling. As such, at age 24, I decided to shake my life up and quit my job to move to the West Coast. I found employment quickly, and later met my current wife, who was away from her home country on a temporary work visa. We lived together for several years and eventually married. During our common-law relationship, we managed to save over \$10,000 in safe investments. I owe her a lot for putting up with my odd ways and seeing me through my gambling struggles with online investment trading.

My lost decade

I call the period from December 1999 to June 2009 my “lost decade”. Sadly, it should have been the happiest period of my life. I lived in nice homes and raised three healthy sons with my beautiful wife. During this time, I was at the prime in my professional career, growing with large companies and eagerly trying to develop and learn more. My employment earnings were not enormous, but steadily grew from \$40,000 in 1999 to \$130,000 by 2008. As my bank debt mounted from stock losses, my compulsiveness with the stock market grew alongside my desire to excel within my career. One addiction grew into the other. I became a workaholic and withdrew more and more from home life. With my intense career focus and unrelenting stock losses, I showed little affection for my wife and family. I now realize that I might have been over working to numb the pain from my gambling addiction and trying to avoid the bitter truth from entering my home life. After 10 years of pushing hard in my career and striving for promotions, I eventually burned out. With my final phase of gambling in 2008—betting \$327,000 on Nortel (all through bank debt)—my work performance suffered and stamina wavered. I was eventually terminated from my job after 6 successful years of having an above average performance rating and two promotions. It was dreadful going to work each day struggling with the stress of my losses. As my work focus deteriorated, I used every spare moment to check the internet for the latest stock market news. Now, after these 10 years, I am left with a massive bank debt, and without a job in the worst recession since World War II. The good news—I am getting great therapy through an organization called ADAPT in Toronto, and know God will see me through my financial ruin.

Looking back, my gambling problem began in May 2000, when I accelerated my online trading activity with a 100 share purchase and sale of Telus for \$39 and \$41.50 respectively, netting \$190 in twelve days (after \$60 in trade commissions). One month later, I did the same trade with 200 shares – buying at \$37.40 and selling \$41.50, this time netting \$350 after commissions. I managed similar gains with Bell Canada, buying at \$38.10 and later selling for \$41.00. With this taste of winning, the addiction unfolded.

I began listening to people about more speculative stocks on the Vancouver venture exchange and made a \$7,300 bet for 2,000 shares of Meridex. Several months earlier, this stock hit a high of \$12.00. A work colleague's father—an investment broker—said that he “heard it was going up.” Subsequently, I made another \$6,370 bet for 4,000 shares of a venture exchange stock called Midasco Gold. These two stocks steadily decreased during the summer of 2000 as the “tech bubble” deflated. After my equity dried up I was unable to fund my trading account, but still felt compelled to continue buying these risky venture exchange stocks at reduced values.

On July 17, I applied and my account was easily upgraded to margin trading (borrowing against equity³). The bank made it very easy, and even filled out the application for me to have my account upgraded to margin trading. I just had to sign. In October, I was later able to increase my bank line-of-credit from \$10,000 to \$38,500. Unfortunately, as the bank was increasing my borrowing capacity, there were no checks on my trading account or even warning on my account's heavy weight in highly speculative stocks. In fact, the bank's account service agreement states that there is risk associated with borrowing money to finance securities. I would submit that the current regulation governing client risk disclosure is inadequate, particularly when one's personal residence and health are at stake. In fact, the service agreement does not elaborate on the definition of *risk*. I believe greater accommodations are required to create client awareness on mental disabilities causing problem gambling and extreme risk taking. Examples of such accommodations include: simple testing at the time of application; webinars on the potential connection between online trading and other forms of gambling; and electronic alerts for clients exhibiting reckless online trading behavior and compulsive borrowing.

Once armed with my bloated line-of-credit, on November 9, 2000 I placed a bet for 15,000 shares of Meridex at \$1.80 (totaling \$27,000). One trigger for this erratic behavior was a trivial argument I had with one of my parents and a resulting threat about being cut from the family will. In fact, the will had always hung over my head and I now realize it as a mechanism for control. On my first son's birthday, five days after the Meridex bet, the stock decreased by 60%. I was devastated and have lived a hidden life of shame ever since. I even personally met with the Meridex CEO, but was only told about prospects and nothing of the company's bleak outlook. I spent most of that November and December buying and selling the stock, trying to average down. I kept sinking more and more debt into a losing cause. Later, after further exploration of the company's financial statements, I discovered they had close to zero sales. Shortly after Christmas of 2000, I learned that my wife was pregnant again. This should have been the joy of my life, but it wasn't. I kept thinking about how to raise two children with the massive debt I was accumulating. Now that the online trading addiction had seized control of my life, I was unable to experience joy or happiness.

In March 2001, I sold Meridex at \$0.21, losing over \$25,000. I also cleared myself of Midasco Gold, selling at \$0.53 and losing \$4,000. In May 2001, I would dabble into Nortel and make \$1,000 off 500 shares. I was not so lucky in June 2001 with Nortel, placing a larger bet by buying 2,000 shares in several lots at \$16, only to lose \$6,000 two weeks later. These were terrible days for me, being constantly fixed to my computer in the evenings and taking peeks during the day at work. In July 2001, my grandparents traveled a great distance to come visit. I had just placed a new bet for 1,500 shares of Nortel at \$12.95 (totaling \$19,418, all borrowed money). The visit was difficult since I could not enjoy myself, harboring a constant desire to seek updates on how the markets were performing. Two days later on my birthday, I sold Nortel at \$14 and made \$1,537. It was a nice feeling to finally win and that probably helped me rationalize my actions.

Almost akin to a roulette player, I changed my bet to JDS Uniphase later in July 2001 and spun the proverbial wheel, only to lose \$2,507 in two days. In my distorted thoughts, I clearly had to change the game—it seemed that every time I placed a *buy* bet, the market went down. So, I requested an upgrade on my trading account to enable *short selling* and was approved on September 6, 2001. Short selling, for the purposes of this story, is in some ways a more advanced and risky form of stock market trading⁴. By this point, I was already indebted with the YZ Bank by over \$35,000, lost over \$15,000 of my own equity, and spent thousands in commissions. In retrospect, I believe that short selling should be restricted to expert traders. However, no checks were done on my account, and I am baffled as to why my application was approved. I believe I must have had some sort of preferential status with the kind of money I was borrowing. My first short sell trade was for 400 shares of Research in Motion (RIM) at \$23.50 on September 11, 2001, right before the terrorist attacks on New York's World Trade Centre. To my amazement, the stock dropped to \$19 because of a panic within the equity markets. With great remorse, I was not thinking about the many people who had lost their lives, but only about myself and the potential winnings. Because of greed, I did not close the short sell and buy RIM back, because I thought the stock would go even lower. But it did not go lower, and RIM quickly rebounded. I nearly lost money on the transaction. I remember blogging to badger the stock on a website called Stockhouse.com in an attempt to undermine its price. I tried shorting other stocks but quickly gave up because of the difficulties in timing the market. Later in September 2001, I went back to an old habit and placed a buy bet for 20,000 shares of Meridex (trading at \$0.11) only to sell 19,500 shares at \$0.06 a month later, losing half my money. After a 10:1 reverse split, I still own 50 shares of Meridex today, worth about \$0.01 and undoubtedly on the verge of nonexistence.

By November 2001, through some spiritual coaching from a relative, I reached out to God to save myself from the misery of the internet and my betting compulsion. I felt disconnected with my family and in my social interactions. I was unable to concentrate and had the markets in mind constantly. I developed an addiction to compulsively research stocks, reading and writing blogs in the hope to predict or influence the stock. I would get up early to see how the Asian and European exchanges fared. Following the spiritual advice that was to given to me, I put my trust in Jesus and strived for faith. It worked. I focused on paying my debt and ignored the markets completely for nearly a full year, until September 2002.

In September 2002, Nortel's share price crumbled to \$1.45, largely spurred by the saturated market for telecom gear and emerging competition. I felt an urge and purchased 4,000 shares for \$5,811 (all borrowed money). Five days later the stock dropped to less than \$0.70. I was devastated but swore I would hold my position and not chase the loss. In fact, I held Nortel until April 4, 2004 and saw it appreciate to almost \$12 at one point, which would have been a gain of over \$40,000. With my unrelenting greed to see higher returns, I did not sell at \$12. In April 2004, after the accounting scandal news broke under the leadership of Frank Dunn, Nortel's CEO at the time, I was persuaded by a friend to sell at \$7.81 and secured a \$25,000 gain. In the same month, I could not control my urge and had to bet the gain on something else. So, later in April 2004, I went back to JDS Uniphase, betting \$48,725 for 9,000 shares at \$5.41. Like Nortel, JDU was also a high flying stock that once hit a high of \$1,620 per share. The fantasy of winning ran rampant in my mind, and I convinced myself that there was more upside potential, given several prior years of JDU's downward spiral. Within a week, JDU dropped by \$1.00 and I decided to hold, losing \$9,000. Eight months later, on November 4, 2004, I decided to cut my losses and sell JDU at \$3.81 netting a loss of \$14,425. I stayed positive, reminded myself of the unrelenting torture I experienced from the stock markets, and decided to leave online trading for good.

A brief pause in the action, and relapse

In 2005, after receiving a promotion, I was transferred by my employer to a job outside the country. For three years I ignored the markets and lost the impulse. I focused on my job and was largely successful. After returning from my assignment in 2007, I had almost completely eliminated my gambling sins. I experienced a material gain on my personal residence of about \$300,000 and moved into a larger home. I decided to renew my mortgage of about \$200,000, again with the YZ Bank, and because of my substantial equity the bank gave me a \$300,000 secured line of credit intended for renovations and other similar expenses. Having this kind of borrowing capacity was a dangerous blessing.

My life was pretty stable and financially secure by the end of 2007. In January 2008, my interest became renewed in Nortel. The therapy sessions I have since taken give me insight into the triggers that caused my unusual behavior with online trading. At this point in my life, I was recently promoted to a new and stressful job, and I found solace dreaming of a big financial win. I was also taking on debt for home renovations and dreamt of an easy windfall to pay this back. Being more confident and financially secure, I experienced a twisted thought process around making money from Nortel's stock. At the time, Nortel was trading near all time low and I felt it would sharply rebound. My folly was founded on my prior experience of winning with Nortel, and I honestly thought it would happen again. I bought 2,100 shares for \$28,674 on margin because I felt the stock was battered down to historically low levels, at \$13.65 (after a reverse split⁵). As the stock progressively dropped in February to \$10.93, I bought 2,900 more shares for \$31,691. Given the continued favourable announcements from the Nortel Investor relations group, I felt these bets were safe. In fact, in the first quarter of 2008, Nortel's investor relations posted over 30 favourable announcements on Yahoo Finance (a website) about business wins around the world, which served as a gambling trigger for me. When Nortel announced their 2007 results for the

fourth quarter in March, the stock crumbled and descended downward to around \$6.50. During the month of March, I averaged down, and bought another 7,000 shares for \$56,055 over several days (\$8.01 per share). At this point, I had lost \$37,981. At around the same time, I took a trip over March Break with my boys to see my mother. During the whole visit I was haunted by these losses and could not enjoy myself, constantly looking at the internet for new information on Nortel. On the return trip, I kept thinking about doubling down on my Nortel bet and rationalized this idea to myself as a sound investment plan. Toward the end of March, I made a series of bets totaling 6,000 shares for \$40,729 (\$6.78 per share). In April, Nortel stock began to improve, reaffirming my earlier decision, especially after learning that Mike Zafirovski (Nortel's CEO) made a \$524,000 share purchase on March 24th. Also, during the fourth quarter earnings release, Nortel spoke positively of its business performance and conveyed a favourable outlook for 2008 and beyond. In April, I again made a series of bets totaling 6,000 shares for \$46,780 (\$7.80 per share). By April, I had 20,000 shares of Nortel with a book value of \$183,989 (\$9.20 per share) all from borrowed money through online access to debt and trading margin. As I reflect, these trades were also enabled by preferential brokerage fees of \$10/trade (as reduction from \$30/trade) and prime rate interest on the borrowed money.

Nortel share value recovered over May and June 2008, and at one point reached \$10.50 per share, which netted me a paper gain of \$25,000. I was too greedy and obsessed to take my winnings and leave this proverbial online brokerage casino. Instead, I decided to hold and hoped for higher gains. In July the company announced poor results but still reaffirmed its strong outlook for the balance of the year. As such, over a series of bets, I bought another 11,000 shares for \$77,200. My faith continued in Nortel and I had confidence in their guidance. In August, as Nortel began sliding downward, I kept betting and purchased another 6,000 shares for \$37,929. In early September, Nortel stock slipped to \$5.35 and margin was close to being called. The stock was going down, and I wondered, "Does someone know something that the market does not know?" With two clicks I made a transfer from my line-of-credit. I made two more bets for 4,000 shares, valued at \$21,520. Then two days later, after Nortel announced a worsening outlook for 2008 on September 17, the stock crashed to \$3.22. My margin⁶ was called, and to fuel my habit I was forced to make transfers from my line-of-credit (which totaled \$95,000). My third son's first birthday was 11 days later, and I had to retreat back into a hidden life of shame and deceit with my family.

Hitting bottom and seeking recovery

My equity was enough to mask the financial impact for quite some time. Online trading is with you 24–7. Typically, I would watch the markets, read trade blogs and review blogs, and read articles. The losses hurt, and made me numb. I found it difficult to focus at work and fulfill the leadership role I was being paid for. I was constantly distracted at work, watching the markets and placing trades, hoping to catch a rebound and upward trend. After six straight years of above-average performance and three job transfers, my hidden life caught up with me. The Chief Financial Officer (my boss) took me out to dinner and asked whether there was anything bothering me or impacting me personally. I was put on a performance improvement plan and had three months to enhance performance or face termination.

Nonetheless, I could not resist the low prices for Nortel stock, and so returned to betting on Nortel with a modest 2,000 shares for \$4,680. I was nervous but believed the stock would rebound since the company came across as confident. As quoted from Mike Zafirovski on September 17, 2008: “Great companies survive, and then thrive based on their ability to adjust to changing market conditions. We will move with speed to do what is right for customers and shareholders alike” (CisionWire, 2008). In October, I bought 11,000 more shares for \$24,612. When Nortel began to reach dismal lows I had over \$300,000 at risk, funded with debt; I was crushed and grew more and more numb. I continued to trade, hoping for the rebound. I tried to remain focused at work, but my performance disappointed my employer. Meanwhile, I was still hearing confidence from Nortel’s CEO Mike Zafirovski about the company’s viability as a going concern, and no bond debt was due until 2011. Plus, given Nortel’s prominent status as Canada’s largest research and development (R&D) spender, I fell for many rumors around possible government support. Although the stock was plummeting in November 2008, I purchased another 3,000 shares for \$2,740. In the midst of this market turmoil in November, I was terminated from my job and celebrated my first son’s ninth birthday a day later. My mind was ruined and I was unable to focus or enjoy the moment. For the nine months prior, I had been suffering from a chronic sleep illness and taking medication. I was a mess, and now jobless.

In December, I continued the addiction with another purchase of 2,000 shares for \$1,389, or \$0.69 per share. Based on the news and announcements I did not see anything that would lead me to believe Nortel would cease as a going concern. Mind you, there were many negative blogs and other social media suggesting Nortel was heading for bankruptcy and that management was concealing the truth. How true this was. But akin with a slot machine player mentality, I could not leave the machine. I was possessed with the need to keep pumping money until payout. I had to keep betting in fear that if I was to sell, the stock would go up. I made my last Nortel bet on January 6, 2009 for 4,000 shares at \$0.32. Eight days later, the company announced bankruptcy and the stock deteriorated to almost nothing. I had lost over \$220,000 on Nortel, all borrowed from the YZ Bank. At this point, I was immune to pain and was happy the news was finally out. They say in gambling, “the house always wins”. In my case with online brokerages, I am still scratching my head trying to identify the “house.”

I would say I hit bottom once Nortel announced bankruptcy in January 2009. I lost \$188,000 when my margin was called in September and then another \$36,000 from September to January. If it was not for counseling, I would have borrowed and lost more money through online trading. I believe hitting bottom is the turning point for recovery for many problem gamblers. Recovery for me involved dealing with losses and making amends within my personal life. Being unemployed allowed me to spend more time with my family and repair years of damage. Finally being honest with my wife around the losses and my disease was difficult, but a required component of my new foundation. I have many upcoming financial amends to make, because I will eventually be forced to sell my home and uproot my family.

In the past year, I have been honest with my wife and she has since tried to find employment. My treatment taught me to be honest with my family and to explore feelings. It was very difficult to admit a mistake that put my whole family at risk. For 10 years I was able to hide

my habit, but after losing my job, the financial losses were too great to hide. Generally our relationship has improved over the last $1\frac{1}{2}$ years as we both try to recover from this awful financial mess and massive debt. Over several months in 2010, I did not have enough cash for food and relied on the Salvation Army Food bank. My children have suffered as well, since we had to make many household cutbacks. I see more strength in my children as they try to cope and live more modestly. My hope is to ensure my children feel emotionally secure and never enter this hidden mental curse of self-destructiveness.

How do you finally know you have a problem and reach out for help? Typically folks will reach out at the point of complete destruction and utter hopelessness. For me, I accidentally stumbled on a help resource for problem gamblers—given my sleep issues and anxiety levels, I was seeking psychological services, and following my job termination, I stumbled on hope after meeting a gambling counselor. I went through screens and was diagnosed as compulsive gambler. From here I was involved in monthly counseling one-on-one sessions, weekly group therapy, and a one-week day treatment program. I have learned that whether you are slot user, sports bettor, card player, or online stock trader, we are all made of the same fabric and share many psychological commonalities. I have been recovering since January, 2009 and now am aware of my gambling triggers. Admittedly, I still have difficulties dealing with the heavy losses and also had to seek medication for depression. Given the magnitude of the debt owed to my bank, I can only pay the monthly interest of about \$2,000—a tough situation since my monthly employment insurance (EI) payments are \$1,616. However, I know I will persevere and will strive to find goodness from this terrible situation and hopefully influence change within the online brokerage world to prevent this from happening to other families and individuals with this disability.

What have I learned from my experience?

- First, until you know whether you are prone to compulsions or other addictions, think twice before signing up with an online brokerage. Spare yourself the pain of watching your investments every day, and of tediously asking the “what-if” question and lamenting your prior trading actions.
- Keep your money in safe vehicles that pay steady dividends or guaranteed interest. Stay away from speculative stocks with flamboyant CEOs. Never listen to the opinions of people about stocks. Also, use caution when listening to investment analysts.
- If you feel mentally withdrawn from social and family situations because of your preoccupation with online stock betting or you find yourself borrowing to chase losses, seek help immediately. At this point, your brain chemistry may be altering and distorting your ability to make sound decisions about managing risk.
- There are strong parallels between online brokerage services and other forms of gambling. One does not have to play cards or use slot machines to become a problem gambler. If you think you are suffering from a gambling issue, seek counseling to help build awareness of the root causes and triggers for your actions. The lure of money can drive reckless behavior and extreme borrowing.

- If you are experiencing work or personal pressures, you may resort to gambling to escape day-to-day reality. Watch for this and seek help.
 - If you often dream and believe you can win the lottery, you may be prone to other forms of gambling. Even today, I think somehow a major windfall will come from chance.
 - If you dream about timing or predicting the stock market through spreadsheet modeling or reading blogs and other news, tread carefully, as this might be an illusion.
 - If you think you have ADD (attention deficit disorder), social anxiety disorder, or a compulsive disorder, you may be prone to problem gambling.
 - If you have experienced other addictions with drugs or alcohol, you may be more prone to gambling. I personally had an issue with alcohol in my youth, as well as other risky behavior.
 - If you have experienced a tough childhood with peers or parents, you may be more prone to gambling. My parents divorced when I was five and both remarried. As result, I never felt part of any one family. Also, my mother was controlling and tough on my self-esteem. My father and step mother also created self-esteem challenges growing up and often ridiculed me. As a result, folks typically in this situation have a tough time with feelings and may even find it tough with interpersonal relationships. Gambling provides an escape and sense of feeling . . . you need to watch for this.
 - In the end, spending time with your family and friends matters most. Also, ensure you are taking care of yourself through exercise, continued educational development, and hobbies (other than gambling).
 - For me and many others, seeking spiritual guidance and having faith in God are important components of one's success in problem gambling treatment.
 - If you are a recovering gambler, be cognizant of a reoccurrence of your problem. It may reappear with greater magnitude, since more money is required to get the same adrenaline rush. I call this "unrelenting vengeance".
- Anecdotal evidence suggests that some online traders are impacted by a problem gambling disorder. As mentioned earlier, my mission is to create goodness from my situation and hopefully help others. Thank you.

Commentary

By Nigel E. Turner

David contacted me during the summer of 2009 for information about gambling problems. After a lengthy discussion about his experience, David said that he wanted to write his story and asked for advice. I suggested that his story was well-suited for the *First Person Account* section of the *Journal of Gambling Issues (JGI)*. David is somewhat different from most of the problem or pathological gamblers I talk to because his problem relates to stock market investment rather than slot machines or casino games. I feel David's story gives *JGI* readers insight into a type of problem gambler that does not often interact with treatment services. David asked me to help him write his story, and I felt I could contribute by adding a few comments that link his story to the problem gambling literature.

Stock market gambling problems are interesting for a number of reasons. The line between investment and gambling is fuzzy. There is no clear point at which one can state that a

particular investment is a gamble and when it is a wise investment. Abraham (2009; see also Investopedia Staff, 2009) highlights some key differences between investing and gambling. Stocks may go up or down in value, but rarely lose all their value. In contrast, a lost bet is worth nothing. A stock that is purchased is a partial ownership of a company (Investopedia Staff, 2009). Such investments allow companies to produce products or services and are a key component of the wealth of the economy. The value of stocks for companies that are earning a profit increases over time and those companies pay out dividends so that investors can earn a profit in the long term. In contrast, all commercial gambles have a long term negative expected return (a house edge).

In addition, an investor engages in risk management by choosing a diverse portfolio of stocks (Abraham, 2009). Some gamblers will also apply this to gambling, by hedging their bets (e.g., covering several numbers at the same time, buying multiple tickets, taking an insurance bet in Blackjack). However, because of the negative expected return, hedging bets in gambling typically just speeds up losing. In contrast, a diverse portfolio of stock reduces the chance of losing. Another difference is that an investor also can write off stock losses against future capital gains to avoid taxes on those gains. Recent events have shown that even very large companies with a proven track record such as General Motors can drop to nearly nothing. Nonetheless, it is important to remember that a careful investment plan in a diversified portfolio that manages risk appropriately can be a good basis for building wealth. Abraham (2009) is correct in arguing that investing is not a form of gambling; however, some people do gamble with investments. David was clearly gambling with stocks. Moreover, as shown in David's story, a person with a gambling problem who plays the stock market is unlikely to be able to use sound investment strategies.

According to Turner, Wiebe, Falkowski-Ham, Kelly, and Skinner (2005) nearly half (48.4%) of the adult population in Ontario invest in some kind of long term investment, and only 4.8% engage in speculative investments. Of the 18 forms of gambling examined in their study, speculative investment was ranked 16th in terms of prevalence. Only private bets on dominoes and mahjong were less frequently endorsed. Males were nearly twice as likely to engage in this form of gambling compared to females. Only 27.2% of the population surveyed considered long term investments to be a form of gambling, but 60.5% of the population considered speculative investments to be a form of gambling. Most people who invest make relatively safe investments through mutual funds or well-established companies, or investment in a diversified portfolio that includes both established companies and more speculative investments. Even high risk investments only become a form of gambling when the bulk of a person's portfolio consists of a small number of risky investments.

When one opens an account with an investment firm, the firm is required by law to ask the investor about their risk tolerance. However, according to David he was not warned about the dangers of gambling on the market. In addition, the margin application process was very easy. All David had to do, as they say, was sign. The application process is one area where there is an opportunity to create more education and screening to prevent market investment from turning into gambling. However, according to David, little was done to prevent him

from gambling excessively. My own experience of investing includes having a broker talk me into buying 1500 shares in a penny stock company (Infolink Technologies) which rose briefly before plunging in value and eventually being delisted⁷ a few years later. At one point after the stock value plummeted, I considered pushing more money into the stock just as David did on several occasions, on the belief that my purchase itself might stimulate renewed interest in the stock. The idea of downward averaging or buying a stock that has fallen in price is similar to chasing, but is actually a common strategy used by investors. Unlike chasing in other forms of gambling, this approach is not necessarily irrational. If the market is generally down but the fundamentals of a company are strong (e.g., earnings, dividends, book value, and cash flow [see Investopedia, 2009]), this strategy can take advantage of a short term dip in the share prices. In addition, a very large investment might encourage other investors to buy that stock, stimulating a rebound in the price. Indeed one of the best strategies for investing—value investing—also involves investing in companies whose stock prices are undervalued (e.g., the price has gone down). But value investing is different in that the focus is on the value of the stock (e.g., its price to earning ratio and its future prospects), rather than just the stock price. However, Budai (2009) points out that downward averaging “often places far too much reliance on the performance of one company and certainly compromises the benefits of diversification.” He goes on to say that “acquiring additional shares of a company, particularly where the reason for the decline is not clearly evident, may be considerably more risky than purchasing a new stock and creating a more diversified portfolio.” Most of the disasters in David’s investing career seem to be centered on downward averaging into companies whose stock values were plummeting. Fortunately, when confronted with a similar situation I did not waste any additional money on Infolink. My decision not to follow this plan was in part based on assessing the profit and total market capitalization of the company. Nonetheless, because of this experience, I understand the thought process that can lead one to keep chasing a stock (though on a much smaller scale) and the rationalization to justify a decision.

In his personal account of his own gambling career, Arnie Wexler (2002) lists investment gambling as one of his problematic forms of gambling. On the other hand, statistics from the Ontario Problem Gambling Helpline suggest that only a small number of callers (< 1%) listed investment gambling as a major area of concern (Counter & Davey, 2006, April; Anne Counter, personal communication Oct., 24, 2006). In addition, treatment centres typically do not see many stock-market related gambling problems. Recently, I posted a request for information about investment-related problem gambling on a listserv for problem gambling professions—the percentage of treatment-seeking gamblers who report investment-related problem gambling varied widely, from 20% in Hong Kong, to less than 1% at some treatment centers in the central US. The number of investment gamblers may depend on the location of the service. One treatment professional from Brooklyn, NY reported that 15% to 20% of his clients are engaged in investment gambling and noted that this was related to the proximity of the New York Stock Exchange. On the other hand, Stinchfield, Winters, and Dittel (2008) reported that only 4% of the clients in Minnesota engaged in speculative investments and only 1% engaged in it monthly or more often. However, it is not clear if the low numbers of clients with investment-related gambling problems is a result of the rarity of this form of problem gambling, or rather that the people who suffer from this type of problem gambling do not identify it as a form of gambling and therefore do not

seek gambling treatment. Stock market gamblers may end up in another setting, perhaps bankruptcy protection. Further research is needed on the life course of different types of gamblers to flesh out a more complete picture.

There are a number of interesting aspects of David's story that are relevant to the field of gambling studies:

- Like many gamblers, David started off making small safe bets and progressed gradually to larger and more risky bets after some initial success.
- He experienced a number of small early wins. These successes lead to larger and more speculative investments. This is consistent with the experiences of many other problem gamblers who report early wins (see Turner, Littman-Sharp, & Zangeneh, 2006).
- There is clear evidence of chasing his losses, but stock market chasing is different from other forms of chasing. In particular the stock losses were often only paper losses so it was possible that the stock would rebound. His chasing involved investing even more money into the same stock in the hope that when it rebounded, he would score an even bigger hit. Indeed this did happen several times to him, strongly reinforcing this strategy. Although downward averaging is considered a poor strategy because it limits diversity (Budai, 2009), unlike chasing in an EGM (electronic gaming machine), this form of chasing is not *necessarily* irrational.
- One thing that comes out clearly in David's story is that there is little in the way of regulation to prevent problem gambling through investments. Brokers are limited in terms of the size of the margin their customers are allowed to borrow, but nothing stops the investor from borrowing money to transfer into their brokerage account. In addition, David was approved for shorting stocks even though he had no experience in selling shorts. Shorting a stock is sometimes called playing the "dark side" of the market because the investor tries to profit if a stock goes down in value, and also because it can be quite risky.
- David draws a link between stock market gambling and slot machines. He says "akin with a slot machine player mentality, I could not leave the machine. I was possessed with the need to keep pumping money until payout." The slot player often believes they are due to win from a particular machine, something that often results in a cognitive entrapment (cf. Rogers, 1998) that keeps them at the machine. David described a similar situation with the stocks. He kept pumping money into the same stocks. He had to cling to the hope that that stock was going to rise again. If he was to cut his losses and cashed out of the stock, he would have to admit to himself that the investment had been a bad choice. By throwing money into the stock, he could continue to rationalize his actions.
- Like other gamblers (Turner et al., 2006), David shows a number of the cognitive distortions that are common to problem gamblers, including selective memory, the gambler's fallacy, rationalization, and a narrowing of attention as he focused on particular stocks (e.g., Nortel).
- Another interesting aspect of his story is the manner in which the market was apparently manipulated by the owners of the company, who have been accused of lying to their investors. David appears to be the victim of misinformation, but to

some extent this was because he specifically focused on the information he wanted to hear. I also find it interesting that he also admits at one point to making an unsuccessful attempt at creating misinformation himself.

- In common with many other problem gamblers, David reports having experienced family-related stress in his youth. In addition, he describes himself as having an attention deficit disorder and social anxiety. He also describes himself as engaging in impulsive and delinquent behavior and abusing alcohol. His description of a feeling of numbness after losing is also reminiscent of reports of dissociation during gambling (Jacobs, 1986). These characteristics draw additional parallels between David's case and other problem gamblers (cf. Blaszczynski, & Nower, 2002; Turner et al., 2006).
- An improvement in his career and a change of work location helped him temporarily regain self control for three years. Away from the action he was able to get on with his life and was successful with his career and with his family. This illustrates that a gambler's career is not a steady downward progression. It also shows that recovery can be facilitated not just by negative events, but also by positive events such as an improvement in one's career (cf. Koski-Jännes, & Turner, 1999); however, in David's case, this recovery was only temporary.
- The availability of money was a clear trigger. When he had a "\$300,000 secured line of credit for renovations", he returned to the market. There is a clear message in this story to anyone who is worried about losing control over gambling or has a history of losing control. They should limit their access to such credit vehicles.
- David says "I am still scratching my head trying to identify the "house." The house in investment gambling really has two parts. First, the brokerage firm itself always wins if the market goes up or down because they take a commission from every trade (buy or sell). In long term investments, brokerage fees only take a small chunk out of the investor's profit, but for frequent short term trades, the fees add up and can take a large bite out of any gains. Second, the brokerage firm or bank also earns interest from any borrowed money.
- David was clearly absorbed in the "action". This absorption includes the act of purchasing the stock, but also includes watching the values change from day to day. In addition, he appears to have spent a lot of time searching for information on these companies. Unfortunately, he did not use the best available sources.
- David's story contains very precise detail about his investments and trades in this paper. One key difference between trading and slot games is that the trader has to keep track of every trade in order to file income taxes related to capital gains or losses. In conversation with an addiction treatment professional, I was told that this level of detail was a sign that David was engaging in an unhealthy level of rumination, and that this was not necessarily a positive sign in terms of relapse potential. It was also pointed out that he had "certainly been advised by treatment providers not to ruminate on such details". However, this may be related to his profession (i.e., accounting) and the specific nature of investment activity (e.g., maintaining files for tax purposes).
- What is particularly interesting about his precise memory of his costs and losses is that it challenges the argument that increasing a gambler's awareness of losses will result in a reduction in problem gambling. However, given the large number

of differences between investment gambling and other forms of gambling, it is not clear if these results generalize.

- It is ironic that David is a professional accountant and cannot manage his own finances. David's story challenges any notion that people who suffer from gambling problems lack intelligence or are uninformed. However, information about the risks of this form of gambling might have prevented his problems.
- David is deeply committed to the 12-step approach to addiction treatment, and this appears to be very effective for him. The 12-step approach, however, is not the only approach available to those who find themselves trapped by a gambling disorder. Many treatment agencies use an eclectic approach that may include the 12-step approach, but also might focus more on identifying and correcting cognitive errors (cognitive therapy), an examination of learning conditions (behavioral therapy), or a more detailed examination of the emotional aspects of the disorder (emotion focused therapy).

In summary, there are a number of interesting features of his story that illustrate similarities between risky investments and other forms of gambling, but there are also some key differences between risky investments and other forms of gambling.

Post script

David is current working as an accountant. He is still burdened with a large debt, but has so far stayed away from further gambling. He admits to still following certain stocks daily, but has not made any investments in part because he has no money or debt capacity. He plans to bring this up with his counselor.

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¹Nigel Turner, PhD, is a researcher specializing in problem gambling at the Centre for Addiction and Mental Health (CAMH). Support to CAMH for salary of scientists and infrastructure has been provided by the Ontario Ministry of Health and Long Term Care

(OMHLTC). The views expressed are those of the authors and do not necessarily reflect those of OMHLTC, CAMH or the University of Toronto.

²“YZ Bank” is a pseudonym for a popular Canadian banking institution.

³Margin trading means the investor can borrow money from their broker in order to buy stocks. The broker would have a minimum equity requirement of say 30% of the total value of the account that would have to be paid in cash. If the total value of the account was worth \$100,000, a maximum amount borrowed would be \$70,000.

⁴In conventional stock market trading, one purchases a stock in the hopes that in the future the same stock can be sold at a higher price. Short selling, on the other hand, involves selling the stock first, in the hopes that it can be bought back in the future at a lower price. To complete this “reverse trade”, a short seller will typically borrow the stock that he or she wants to sell from a third-party (e.g., a brokerage), under the condition that they will buy back and replace the brokerage with the same amount of stock in the future. If the stock price drops in the interim, the short seller will earn money, because the cost of the replacement stock will be less than the value of the stock that was originally borrowed from the brokerage. Short selling is a way to make money in a falling market; however, it can be considered a risky practice, because if the stock increases in price, the short seller can theoretically lose an unlimited amount of money.

⁵Although this price appears to be high compared to the previous price of \$7.81 that the stock was sold for previously, the stock had underwent a reverse split in the meantime, so this price actually represents a considerable drop in value. In a stock split, single shares are divided into multiple shares. This is often done when a company’s stock value is getting too expensive for small investors, and is generally a good indication that the company is doing well. A reverse split occurs when the stock value drops sharply and indicates a desperate move to raise the stock’s value to make it more attractive to investors. In the case of Nortel, on Dec 1 2006, the company effected a 1 for 10 reverse split that reduced the number of outstanding shares from 4.3 billion to about 505 million.

⁶A brokerage firm must maintain a minimum margin requirement in equity, such as 30% of the total value of the account. For example, suppose that an investor had an account worth 100,000, of which \$50,000 (50% equity) was purchased with money borrowed from the broker (purchased on margin). If the stock dropped in value to 60,000 (equity of 16.7%), the broker would have to issue a margin call for \$8000 to bring the minimum equity back up to 30%.

⁷My rationalization of this investment at the time was that as a gambling researcher I needed to understand the relationship between gambling and the stock market to get a complete picture of gambling in modern society. Although Infolink technologies turned out to be a bad investment, I did learn first hand about high risk stocks, and about market-specific terms such as market capitalization, price to earning ratio, delisting, and loss carry back.

conference report

Report from the Global Gaming Expo, Las Vegas, November 17–19, 2009

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Abstract

This paper is a review of the Global Gaming Expo, November 17 to 19, 2009. A number of new innovations in gambling equipment are described, including multi-game slots, multi-player electronic games (e.g., competitive bonus rounds), advances in card-based bonusing systems, and the explosive growth of new electronic table games. In addition, the conference included 3 panel sessions hosted by the National Center for Responsible Gaming.

NCRG and G2E

In 2009, the annual conference of the National Center for Responsible Gaming (NCRG) was held in Las Vegas in mid November, the same week as the Global Gaming Expo, also known as G2E. As a special offer, attendees of the NCRG conference were given access to the G2E conference. I attended the NCRG conference at Mandalay Bay and then spent a day at G2E “spying” on the industry. The Expo was surprisingly busy given how hard the recession had hit the gambling industry (Schulz, 2009). Although there were fewer exhibitors at the 2009 G2E event compared to 2008, there was an increase in the number of buyers (Leon, & Lehman, 2009) perhaps indicating that the industry had expected an economic recovery in 2010.

Electronic Gambling Innovations

The G2E floor was crammed full of the latest electronic gambling machines, but other than different images, these slots were not substantially different from those already on the market. The points listed below are based on an examination of the technology presented at the Expo, conversations with industry representatives on the floor of the Expo, advertisement information provided by the vendors, and internet websites.

Video slot machines, and slot machines using the older physical reel technology, were both well represented. I was surprised by the large number of physical reel slots at the Expo, including those designed with five reels and multiple betting lines. Some of the physical reel slots had markedly more colorful reels that sparkled as they turned. The main change for video slots appeared to be the introduction of widescreen and HD video screens for the games. According to International Gaming Technology (arguably the gaming industry's most profitable manufacturer of computerized gambling equipment, and more commonly referred to as IGT), one-fourth of all IGT video slot titles planned for 2010 are expected to have 3-D attributes (i.e., have graphics with shading and shadow) (2009, p. 36). The larger screen also facilitates the move towards multi-play games (G2E, 2009, p. 57; IGT, 2009, p. 32–35; see also Bally, 2010). Some gamblers like to play on two or three machines at the same time, and IGT will now accommodate this desire by introducing multi-play slots (2009, p. 32–35). A player has two, three, or four slot screens in front of them and they can spin them all at the same time. According to the advertisements, these machines perform two times the house profit averages in all regions (IGT, 2009, p. 28). Multi-play games are available on some video reel games and some physical reel games.

Another big innovation is the idea of group play electronic games, which appears to be an attempt to make machine gambling a more social experience (G2E, 2009, p. 57; see also “blazing hot tournaments”, Bally, 2010). Instead of playing one-on-one against the machine, the entire bank of machines can be competing for one goal, or players can be in competition against each other (e.g., in a simulated racing car experience), or all eligible players can enter a bonus round together in a “group play bonus” (IGT, 2009, p., 24). Also, a multi-player version of video poker has also been developed that may make video poker more like a real poker game (IGT, 2009, p. 42). In this game, video poker players will be able to share or compete for bonuses.

IGT has also introduced a video poker game based on Texas Hold'em that apparently uses *neural net* technology to allow the customer to compete against an intelligent machine, rather than a payable. According to the advertisement (IGT, 2009, p., 42), the game is marketed towards less experienced poker players. The current neural net program does not learn the player's strategy.

Table Games

According to Geller (2009), the growth of electronic table games has been explosive and the *e-pit* (electronic pit boss) has “come of age” (p. 43). The 2009 G2E Expo featured a particularly large number of automated table games, including electronic versions of roulette, blackjack, poker, sic-bo, craps, baccarat, Hold'em poker, and keno. Some of these games use electronically simulated cards or dice; other games have integrated physical objects such as cards or dice with the electronic media. In one variant of Sic-bo, three giant dice with rounded corners are located in the middle of a table that is enclosed by a plastic dome. Once the bets have been made the dice are shaken around as if by an earthquake for a few seconds, and then winning bets are paid off. At another vendor display, mechanical pulleys and gears dealt actual blackjack cards underneath a protective clear plastic table top. Yet another company had constructed a fully automatic keno game. The keno table

featured a large roulette-like wheel with 2 circles of 40 red and black slots (for a total of 80 numbers) that were constantly spinning, all encased inside a large clear plastic dome. After the bets were placed, a shower of white balls exploded into the wheel's dome, followed shortly by larger pink balls. The smaller white balls slipped through holes in the wheel, but the pink balls gradually settled in the numbered slots around the wheel. As an enthusiastic student of chaos theory, this game was simply a joy to watch.

Although many games replace the dealer with an electronic dealer, one version of baccarat by IGT has a human dealer who deals the cards from a "smart shoe". As in most games of baccarat, only two hands are dealt, the "player" and the "banker" hand. Players can bet on either hand. The cards dealt are sent to as many as 100 electronic player stations. The individual terminal screen allows the players to bet with virtual chips and follow the game in real time. The player can also access information on the "recent history of streaks, natural wins and other information" about the game. The particular terminal can be linked to several dealer tables, giving the player a choice in terms of which table to follow, thus simplifying the player's search for the mythical "hot" table. Other games can be run in fully automatic mode with no actual dealer or a partially automatic mode with some dealer interaction.

Some of these electronic table games look nearly identical to a traditional table game, except that the cards are displayed electronically. Other games essentially look like bar top electronic gaming machines, similar to those that currently offer video poker to the patrons of drinking establishments. Still other games look more like a control console on the USS Enterprise than a gaming machine. For me, the oddest set-up is called "PlayMe Dueling Piano", which features an automated or semi-automated physical roulette wheel surrounded by 2 (or more) functioning pianos. Each piano has 1 keyboard, and 4 places along its side for the roulette players to place their bets.

Most of the games are merely electronic versions of standard table games; however, one Swiss company has created a hybrid of Texas Hold'em and Baccarat called Tango, in which players compete against each other rather than the house.

According to the G2E preview (2009) the main advantages of many of these electronic table games are security for both operator and player, and lower fixed costs for the operator in terms of reduced table game operator wages. Many are designed for casinos that either do not operate table games at all hours or for which dealer costs are prohibitive (G2E preview, 2009). According to IGT (2009), the games are flexible enough to conform to almost every jurisdiction, thus giving operators in slots-only environments the opportunity to offer the table game experience to their customers. Some of these electronic table games (e.g., roulette) have already been implemented in Ontario race track slot machine venues.

Networks, Cards, Security, and Aroma

In addition to the games, there were several displays on security technology and innovations in player cards. Player card innovations included cards linked to one's bank account. In addition, player cards are now being increasingly extended to table games, particularly

electronic table games. As such, bonus features such as Lucky Seat[®] (IGT, 2009, p. 53) where players are randomly selected from a pool of “rated” players for a bonus, are now available to table game players as well. The IGT Advantage System improves the delivery of perks (i.e., *comps*) to customers by automating the process. According to the company’s literature the IGT Advantage System includes features such as Lucky Coin[®] that “create floorwide” excitement and increase play by randomly selecting a winner from all qualified players (IGT, 2009, p. 55). Plasma screens also allow the casino to alert players that a bonus draw is occurring. In addition, new players can be enticed with Xtra Credit[®] awards that can be sent to players as non-cashable credits that are easy to earn and redeem (IGT, 2009, p. 55). Finally Celebration[®] prizes reward all eligible players a smaller prize when the larger bonus jackpot is won.

In the past, in order to organize a slot tournament the casino staff would have to haul the machines around in order to set up an isolated tournament area on the casino floor. IGT is now offering a tournament manager system which allows a casino to set up a slot machine tournament in any bank of slot machines (IGT, 2009, p., 56; see also Bally 2010).

One particular interesting exhibit included a demonstration of visual face recognition technology. According to the literature that was being distributed (Engle, 2006), a computer will store information about 80 nodal points on a human face, including the distance between eyes, width of the nose, depth of eye sockets, cheekbones, jaw lines, and the chin. Once the system has stored a *faceprint*, it can compare it to other faceprints stored in various databases. The technology takes only seconds to compare and match faceprints. In addition to the benefit of speed, facial recognition technologies do not get tired like human employees. However, the technology is not foolproof. The system usually brings up several matches so human casino surveillance staff must still make any final decision. One product offered by Biometrica puts the self exclusion program directly into the slot machine. The patron can enroll himself into the program via a self-service kiosk. This enables the patron to input his photo and any other info and select the program duration (Pepin, 2009). The database can be set up to search by name, face, and physical descriptors as desired.

Another exhibit I found fascinating was a display of aromatherapy for casino patrons presented by AromaTech, the self-described world leader in scent diffusion technology. I had heard about this before, but thought it was an urban myth. But the company is real, and it specializes in supplying hotels, casinos, fitness facilities, offices, retailers, and other public areas with distinctive scents intended to improve business. According to their advertising literature (AromaTech, 2009), smell plays an important part in memory and emotions and their scents provide a “fresh stimulating experience”. Their system uses essential oils, which they claim can eliminate bad odors such as cigarette smoke, and kill bacteria in the air.

NCRG at G2E

The 2009 G2E occurred during the same week as the annual conference of the National Center for Responsible Gambling. In addition to its own conference, the NCRG organized three panels for G2E and offered free admission to the first day of the G2E for NCRG attendees. The panels were part of the G2E’s session on “Corporate Social Responsibility”.

The first panel discussed the issues related to running responsible gaming programs during a recession, which was a fairly straightforward summary of the impact of the recession on the availability of funds.

The second session was entitled “Myth vs. Evidence: Native Americans and Problem Gambling”, and supposedly addressed the myths of Native American gaming. Exactly what these myths are was never mentioned, and the impact of Native casinos on Native communities or surrounding communities (good or bad) was never really discussed. Most of the time was taken up with complaints about past research and a discussion on the importance of involving Native communities in research. However, they did not address resolving any issues of conflict of interest.

The third panel was entitled “Demystifying Gaming Machines: Can a Slot Machine Cause Addiction?” The panel, which consisted of industry insiders, did not demystify gaming machines, nor did they really address the issue of causation. Most of the discussion centered on weaknesses in the data on the causal link between gambling machines and pathological gambling (a weakness that could be resolved by giving researchers more access to loyalty card data or by allowing research in their casinos). One study was criticized for its small sample sizes and variability, but the speaker did not mention the replications of those finding. Considering that the audience was made up of industry executives, it is unfortunate that NCRG did not use the opportunity to examine the issue from a more balanced perspective.

Summary

Although the NCRG panel sessions were very disappointing, the G2E conference overall was quite fascinating. The advances in technology are truly astonishing and innovative, but the potential harms of these advances were nowhere discussed during the conference. For example, the innovations that encourage the social and competitive aspect of gambling may be a positive move. However, the shared bonus may enhance machine entrapment. People may be even more reluctant to leave their machines for fear that someone else might sit down and participate in the next bonus round or mystery jackpot. Unlike a traditional jackpot, some of these bonus rounds may actually move closer with each play (e.g., “tournament meter”; see Bally, 2010). Such innovations may in fact reify the very myths that we have been trying to correct. Similarly, facilitating the small stakes gambler to play 4 games at the same time (e.g., multi-play) may greatly increase his or her exposure to the addictive potential of gambling.

One of the most interesting innovations was the use of neural nets in a video poker game. It is somewhat disappointing that after more than 20 years of research by cognitive scientists on neural net technologies, that one of its first commercial applications would be in a video poker game. Nonetheless, I look forward to trying to match wits with this machine sometime in the near future.

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book review

Casino state: Legalized gambling in Canada

By James Cosgrave & Thomas Klassen. (2009). Toronto, ON: University of Toronto Press. 268 pp. ISBN 978-0-8020-9688-3. \$50.00 (hardcover edition).

Reviewed by: Jonathon Taylor, The Taylor Policy Group

In contrast to Australia, the United States, and the United Kingdom, gambling legally in Canada requires interacting directly and nearly exclusively with government—interacting not only with government as regulator and tax collector as usual, but also government as developer, marketer, profit maximizer, consumer protector, social investor (especially in First Nations), and in extremis, gambling counselor. To an extent not possible elsewhere in the Anglophone world (except perhaps on military bases), most of the social ledger for gambling falls under one roof; provincial government in Canada is both the residual claimant of profit-maximization in the casinos and lotteries as well as the bearer of ancillary harms. Also in contrast to these countries, Canada has not convened a national commission to review the consequences of its two-decade explosion in gambling.

These two features of Canadian gambling—government ownership and lack of comprehensive government review—present a ripe opportunity (and perhaps a special responsibility) for academic research. The questions are rich, and the possibilities for positive and normative analysis are wide and varied. For the gamblers that can participate responsibly, do consumer benefits under government ownership match those under laissez-faire competition, or does government ownership lead to “monopolization-plus”—extractive profit maximization abetted by state coercive power? For those gamblers who cannot control their play, does government ownership provide more protection from the venues and games they find so hard to resist, or less than would be the case under private or mixed public–private oversight? Does government ownership ameliorate the public choice challenges posed by interest group rent-seeking in a democracy, or does a dirigiste approach create more harmful possibilities for successful agency capture? Does public investment under First Nation regional quasi-monopoly or under provincial directed allocation (to education funds, etc.) exceed what would take place otherwise, or does the fungibility of revenue mean little net change in post-gambling public expenditure? At the broadest level: What can be said about the Benthamite question—Does gambling in Canada provide the maximum benefit for the maximum number? Within that question, what are the distributional consequences, and what do they imply for Canadian notions of a just society—multitudinous as those notions are?

Sociologists James F. Cosgrave and Thomas R. Klassen, of Trent and York Universities, respectively, recently enlisted nine other researchers in an edited volume whose central

question is, “What are the implications for citizens, consumers, and the state of the recent legitimization, legalization, and expansion of gambling in Canada?” (p. 15). It is an ambitious agenda, appropriate for the unique attributes of Canadian gambling and self-consciously endeavoring to address the lack of a national gambling review. The book brings the tools and methods of history, psychology, sociology, criminology, public administration, and regulation to bear on this question. In the editors’ words, it “brings a critical and holistic social science perspective to the most recent developments in, and debates on, legalized gambling in Canada” (p. 4).

Following the editors’ introductory chapter, sociologist William Ramp and archivist Kerry Badgley compare historic and modern moral discourses about gambling. They find that modern Albertan views encompass rhetoric from the turn of the last century—from the moral-reform consensus—and from practical neoliberal philosophy: “The moral-reform concern that vice led to dependency, and dependency to a drain on social vitality, is today reconfigured as a concern about a drain on the public purse and about the individual rights of taxpayers” (p. 42).

Chapter 3, a Cosgrave essay on the legitimization of gambling in Canada, cites the state’s “alibi” for intervention—the regularization of illegal markets and the underwriting of just causes with gaming revenue—in the self-justification of provincial gambling monopolies and the provinces’ ultimate choice to “govern through markets.” In Chapter 4, Colin Campbell, criminologist at Douglas College, reviews the changes to the Criminal Code of Canada that made the dramatic expansion of gambling possible, and he argues that “ad hoc, reactive, and incrementalist” policies accreted into variegated implementations across the provinces.

Jan McMillen, an experienced Australian regulator and researcher, recounts in Chapter 5 the Australian experience with gambling liberalization. She contrasts Australian preventive approaches—especially the restriction of particularly high-risk gambling devices—with the Canadian “medicalized” and after-the-fact approach to problem gambling. In Chapter 6, Klassen and Cosgrave present the evolution of gambling in Ontario as an example of the provincial governments’ co-opting opponents and building allies to further the end of revenue generation. Ray MacNeil, a provincial government official, provides an insider’s view in Chapter 7 of gambling liberalization in Nova Scotia and draws attention to the province’s disproportionate reliance on problem gamblers playing video lottery terminals.

Garry Smith, Timothy Hartnagel, and Harold Wynne investigate the association between crime and gambling in Edmonton in Chapter 8. Their review of 5,196 gambling-related crime files and the detailed interviews they conducted with 10 law enforcement and casino security officials make them reluctant to infer that widespread gambling causes crime. Though their analysis does not predate the introduction of gambling and therefore cannot identify a correlation between gambling liberalization and crime, they do identify three important linkages between crime and gambling: (1) problem gamblers are associated with fraud, domestic disputes, and suicide, (2) gambling venues attract criminals who prey upon the facility and its customers, and (3) greater social acceptance of gambling and diminished law enforcement attention have allowed illegal gambling to flourish. In the volume’s closing chapter, psychologist Jeffrey Derevensky, founder and co-director of McGill’s International

Centre for Youth Gambling Problems and High-Risk Behaviors, reviews the literature on youth gambling. Until very recently, little research attention has been directed toward adolescents, notwithstanding the growing number who gamble and the general challenges youth have with risk assessment and self-control.

While these chapters cover a great deal of comparative and topical ground, the promise of “holistic social science” goes unfulfilled. As for “holistic,” the volume omits social science tools essential to the inquiry, particularly those developed in economics and political economy. The volume does not turn to public choice theory for insights on rent-seeking behavior, regulatory capture, state enterprise ownership, or the various means of addressing their harms. It does not examine consumer welfare under state monopoly through the lens of industrial organization. It does not bring to bear the lessons of market failure and government failure that have been gleaned from the economic analysis of public health externalities. It illuminates with public finance theory neither the question of policymaking under social cost uncertainty nor the question of long-term fungibility in ostensibly dedicated revenue streams. Most obviously, the book does not engage the machinery of cost-benefit analysis to calculate—or even estimate—a social balance sheet for gambling in Canada. Without deploying these and other implements of economics and political economy, the claim of holism oversells the book.

As for “scientific,” the volume does not amount to an inquiry robust to its task of informing citizens and policymakers about the implications of gambling expansion. The reasonably aware and sensible layperson already knows the odds favor the house. The average citizen knows that the lottery is a particularly bad bet, and that playing video lottery at the convenience store presents a different temptation from a weekend at the casino. People know that money is fungible and that parliaments cannot credibly commit that gambling profits will add to the budgets of certain just causes over the long run. Finally, people know that gambling will really hurt some individuals, and they can probably surmise that such gamblers will pay into provincial coffers for lengthy periods before they stop or get help.

In short, what the typical citizen needs to know is, “How much?” and “Compared to what?” and “How concerned should I be?” More than 40,000 Canadians are employed in the gambling industry (see p. 70). Are those net new jobs? How does that economic benefit compare with the social costs? Are the aggregate net benefits roughly maximized, or could other arrangements (even a return to prohibition and black markets) yield more, and if so, how much? Did Canadian provinces err in choosing government-dominated gambling? If so, how do the consequences compare with Australian, British, or American consequences? If gambling’s net benefits are substantially positive, are the social costs effectively prevented or efficiently put to rights? Does putting benefits and costs under the same governmental roof generate a conflict of interest (per Chapter 1) that proves fiscally irresistible (per Chapter 7), yielding outcomes that are roughly the same as privatized gambling (not shown in any chapter)? Or does government ownership yield lower social costs than private ownership, because social costs fall on the governments’ ledgers with the profits? As voters, should citizens care more about alcohol addiction than gambling addiction? The Americans’ commission implied yes, lots more, but what about Canada’s relative costs?

Casino State marshals interesting and apposite facts to speak to these questions. MacNeil reports that fully half of Nova Scotia video lottery terminal revenue comes from the 0.9 percent of the adult population that comprises problem gamblers. Cosgrave and Klassen cite research from Ontario showing that 4.8 percent of the gamblers account for 36 percent of revenues. They also note that 80 percent of the patrons at the Windsor Casino, which is located across the border from Detroit, are American, so presumably at least those social costs will be exported. Campbell notes that between 3 and 6 percent of government revenues are now derived from gambling, depending upon where and how one counts. Yet readers turning to this compendium for a systematic, encompassing inquiry may be disappointed.

The chapters generally concur that the state's dominating role in gambling is fraught with potential difficulties, without helping the reader calibrate his or her level of concern. How bad does it actually turn out to be? How should state dominance of gambling rank against Canada's other governance challenges? Several chapters concur that a disproportionate share of provincial revenues come from problem and pathological gamblers, but do not put that fact in context nor conclude what should be done. Do alcoholics provide a disproportionate share of revenue in New Hampshire's state-owned liquor stores? Indubitably so—no, tautologically so, unfortunately, but what should practically be done about it? Many of the chapters recommend that Canada should adopt the precautionary principle. Precaution seems sensible enough—avoid policies with the potential to harm members of the public or at least shift the burden of proof of safety to the proponents of innovation. Yet the direct effect of adopting the precautionary principle is to allocate resources on the basis of suppositions. The secondary effect is to incentivize at least suppositions, if not paternalism. What can Canadian taxpayers and gamblers expect from precaution in the long run?

If it is quintessentially English to muddle through, the Anglophone countries each have their way. A fitting question for academics studying Canadian gambling is, Did Canadian policymakers wend their way to better or worse outcomes than England, Australia, or the United States? Alternatively, the frame could be absolute rather than relative: Has Canada muddled through to a roughly acceptable outcome, or is there a great deal of work still to be done? Either way, without a national gambling commission, Canadians deserve to know: Are we there yet?

Generally, the stance of *Casino State* is apprehensive, even worried, but many chapters and the book as a whole leave the reader with only a vague sense of whether Canadian gaming policy merits a repeal, an overhaul, or just tweaks at certain margins. The omission of economics and political economy further confounds the matter, because the book's general policy idealism is untempered by fiscal, institutional, and political realism. The authors rightly point out that there have been few free lunches and a fair number of unintended consequences in gambling policymaking to date. The same applies from here forward. *Casino State* certainly adds to the literature on gambling in Canada, but voters, MPs, and ministers seeking to know whether Canadian gambling policy can or should aim for a better set of outcomes will need more social science.

book review

The Godfather of Poker

By Doyle Brunson, with Mike Cochran. (2009). Cardoza Publishing, Las Vegas, USA. 383 pp. ISBN 978-1-58042-257-4 (hardcover edition). \$26.95 USA, \$34.99 CAN.

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With the upcoming release of the DSM-5 (scheduled for May 2013), professionals in the fields of gambling research and treatment will be working with the reclassification of disordered gambling as a “behavioral addiction.” Because of the increased popularity of Texas Hold’em poker on television, the availability of round-the-clock online gambling, and a generally more liberal legislative attitude towards gambling in recent years (McMullan & Miller, 2008), it is also likely that we will be seeing an increase in people seeking help for problem gambling, including poker players.

The Godfather of Poker, an autobiography by Doyle Brunson with journalist and fellow Texan Mike Cochran, is an engaging and sometimes frighteningly honest look at his life and the changing world of poker. The book sold more than 35,000 copies its first year, and is scheduled for paperback release in May 2011.

It is not an understatement to say that Brunson single-handedly changed the perception of the professional gambler. He is certainly held in the highest esteem by professional and amateur gamblers alike and serves as a father figure to an entire generation. His story has many of the elements of a great Hollywood drama. Growing up in a small town in Texas, he scraped and fought for every penny and every opportunity, and he even earned the chance to play professional basketball in the NBA, only to suffer a bizarre career-ending injury when his leg was broken by sheetrock. After discovering his talent for poker, Brunson spent several years on the notorious Exchange Avenue in north Fort Worth, an illegal gambling hotspot where all but 1 of his 32 friends died at the hands of thugs and gangsters.

Having survived through such adversity, and determined to have some sense of normalcy in his life, Brunson married and made good faith efforts to settle down and earn a living. But despite the best of intentions, the gambling lifestyle soon lured him back. An unexpected battle with aggressive cancer seems only to have hardened his resolve to be a professional poker player. The next few decades were marked by stretches of penury as well as success, but Brunson nevertheless maintained belief in his ability as a high-level professional gambler.

Known throughout the gambling community as a master of the bluff, Brunson has won tens of millions of dollars. He has 10 World Series of Poker Bracelets, second only to Phil

Hellmuth and tied with the great Johnny Chan. He is also one of only four players to have won the main event multiple times.

Though he is known as an honest man and a “straight shooter” at the tables, Brunson has maintained relationships with less savory characters. Of special note is mobster Benny Binion. In his typically humorous style, Brunson writes, “I know people wondered how or why an honest, educated Texas farm boy would befriend a known gangster and suspected killer whose victims included the King’s English.” But ironically, this relationship enabled Brunson to lobby for and help establish the first legitimate, safe venue for professional poker players in Las Vegas.

Reading *The Godfather of Poker* feels a lot like sitting around the kitchen table with an elderly relative. Its writing style is conversational and unpretentious. The Texas “twang” is easy to hear in the mind’s ear as the narrative unfolds. The latter half of the book seems to lose a bit of chronological focus but is still entertaining and informative. Even though his style is never overly florid or emotional, the gravity of the events themselves gives it a certain understated power.

In many ways, *The Godfather of Poker* is a story of resilience and persistence. Poker was what he felt he was best at, and there were costs to being a gambler. Being mugged and beaten, witnessing murders, and living life on the road away from his wife and children were all part of the costs of doing business. Even winning huge sums of money and then almost immediately going broke was normalized within his group of gambler friends.

This is a story of success and failure, control and helplessness. It is also a story with mixed messages. At one moment he celebrates his “blessed life” as a gambler, then turns around and confesses that he tried to steer his son away from gambling. After Brunson’s irate wife informed him that their son dropped out of college his senior year to play poker professionally, Brunson reported that he responded, “Louise, I didn’t even know he knew how to play!” Though he frequently encourages his readers to be willing to lay it all on the line, he certainly did not encourage those close to him to follow that same advice.

While there are many ethical considerations associated with Brunson’s story for therapists, researchers, and policy-makers, it is important to keep in mind that the rate of lifetime adult pathological gambling in the United States is estimated to be about 3 percent (Martin, Usdan, Nelson, Umstattd, LaPlante, Perko, & Shaffer, 2010). While it remains to be seen how increased acceptance and the repackaged media image of gambling will affect this proportion, it seems safe to say that gambling as a recreational activity and as a profession is here to stay.

Brunson’s life story blurs many lines. While most of his early career was illegal, he maintained a code of ethics which earned him respect both inside and outside of the law. Throughout the septuagenarian’s life, we can certainly see addictive behaviour: sports betting, poker, and his battle with overeating. His successes and failures are illustrative of the ongoing debates concerning the cultural and clinical definitions of addiction. As a history, a case study, and the story of a poker legend, *The Godfather of Poker* is well suited to

the researcher, therapist, or policy maker who wishes to better understand motivations for gambling and the history of Texas Hold'em as a cultural phenomenon.

References

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