THE CHARACTERISTICS OF GAMBLERS SEEKING HELP THROUGH EMPLOYEE ASSISTANCE PROGRAMS (EAPS)

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Abstract

Clients that accessed an employee assistance program (EAP) for gambling problems were compared to other EAP clients on the basis of demographic variables, stress, and other presenting problems. Six years of Canadian EAP data were examined (2001-2006; n=221,397). Gambling-related accesses accounted for 0.3% of all EAP accesses and 10% of all addiction-related accesses. Clients that presented to EAP for gambling problems were more likely to be male, older, working full-time, and in lower status employment positions. 'Problem gambler segments' were identified on the basis of several demographic variables. Segments included Newfoundland males (1.5%), Nova Scotia and Prince Edward males, Alberta males, and Alberta females, 50 years of age or older (all 1.0%). When gambling-related clients re-accessed the EAP, they tended to present additional gambling problems, as well as debt/credit, marital/relationship, depression, and personal stress problems. Gambling-related clients did not differ significantly from other clients in their re-access rates for these problems. Finally, compared to other clients, a greater percentage of gambling-related clients reported high levels of stress at EAP intake (52% vs. 41%). The findings of the study were interpreted and discussed in the context of past research on problem gambling. Some of the findings are commensurate with past research while other findings are new. Overall, it is believed that the current study makes a significant contribution to the understanding and treatment of problem gamblers.

Introduction

Literature Review

There has been a wealth of research published over the past 20 years on gamblers and gambling behaviour (see Petry, 2005; Shaffer, Stein, Gambino, & Cummings, 1989). However, there remains a dearth of accurate information on the characteristics of problem gamblers. This stems partly from an unwillingness of problem gamblers to seek professional help (National Gambling Impact Study Commission, 1999). As a result, profiles of gamblers and gambling behaviour derive largely from treatment samples.

While researchers continue to profile problem gamblers in community samples, there remains some value in focusing attention on problem gamblers in treatment populations. Research on treatment populations often enables more in-depth analyses of gambling correlates and manifestations. Additionally, since most research on treatment populations involves clients of publicly-funded agencies, there is additional merit to examining problem gamblers in alternative treatment populations such as employee assistance programs (EAPs). EAPs may be viewed by clients as an attractive alternative to medical or mental health practitioners. Hence, further insights may be gained into the characteristics of problem gamblers through research with EAP samples. Moreover, there is a pressing need to identify barriers to treatment for problem gamblers. Research on problem gamblers in EAP populations may provide new clues with respect to these barriers since many gambling-related clients will have rejected the option of using public services.

Purpose of the Study

The purpose of the study is to profile clients who access EAPs for gambling problems. This includes describing their rate of access, re-accesses for other problems, levels of self-reported stress at intake, and demographic characteristics. This group will also be compared to other EAP clients. It is hoped that the findings will be a significant contribution to the growing body of research on problem gamblers, particularly with respect to gamblers who seek alternative or non-traditional forms of professional help. It is also hoped that the findings will inform future research on barriers to seeking help.

Research Hypotheses

The current study is exploratory, since it utilizes a convenience sample from an EAP (e.g., archival, non-random sampling). While strict research hypotheses could be generated and tested, the resulting inferences may not generalize well beyond EAP client populations. The findings are intended to inform future research on problem gamblers and their help-seeking behaviour.

Method

Participants

The total sample consisted of 221,397 Canadians (65,148 men, 106,782 females, 50,351 undeclared) who accessed Shepell·fgi's employee assistance program between 2001 and 2006 for a variety of problems, including gambling. Shepell·fgi provides workplace health services to approximately six million employees and their families in Canada and internationally. Thirty-eight percent of the total sample was between 30 and 39 years of age. A further 31% of the sample was between 40 and 49 years of age. The majority of individuals (89%) worked full-time and had five or more years of service with their employers (52%). A minority (23%) were supervisors, managers, or professionals in their occupation. The overwhelming majority (84%) were employees rather than non-employees (e.g., spouses, dependents). Over half of the individuals (53%) resided in Ontario, reflecting both the population of Ontario in relation to Canada as well as the EAP provider's substantial book of business in that province.

Materials

Materials for the study included a standardized EAP intake protocol to triage clients to appropriate services. Other materials included an AS400 server from which archival data was drawn.

Procedure

Individuals presented themselves to the EAP via telephone intake. They were asked to provide, among other information, demographic characteristics and self-reported stress level. They were also asked to describe the problem for which they seeking assistance (i.e., presenting problem). Presenting problems were coded into one of 98 pre-defined categories, including 'gambling'. The sample was restricted to individuals who accessed the EAP from client organizations that neither 'joined' nor 'left' the EAP between 2001 and 2006. To some degree, this controlled for changes in sample composition over time associated with certain organizations (e.g., demographics, organizational culture). Six years of data were aggregated for most analyses to enable the detection of relationships among variables with low base rates (e.g., gambling).

The data were also cleaned to enhance statistical conclusion validity. This included treating missing data, combining presenting problems that are known to be co-morbid, and collapsing levels of other variables in theoretically-meaningful ways. Data analyses also focused on first accesses by clients. Analyzing multiple accesses (or 'cases') by the same individual violates the assumptions of many statistical tests. Such practices can also inflate the prevalence of individual difference variables that are correlated with outcomes variables (e.g., personality, psychopathology). Constraining the analysis to first accesses constitutes a 'one person, one count' approach to estimating the prevalence of mental health problems in the general

population. Six years of data were aggregated for most analyses to enable the detection of relationships among variables with low base rates (e.g., gambling).

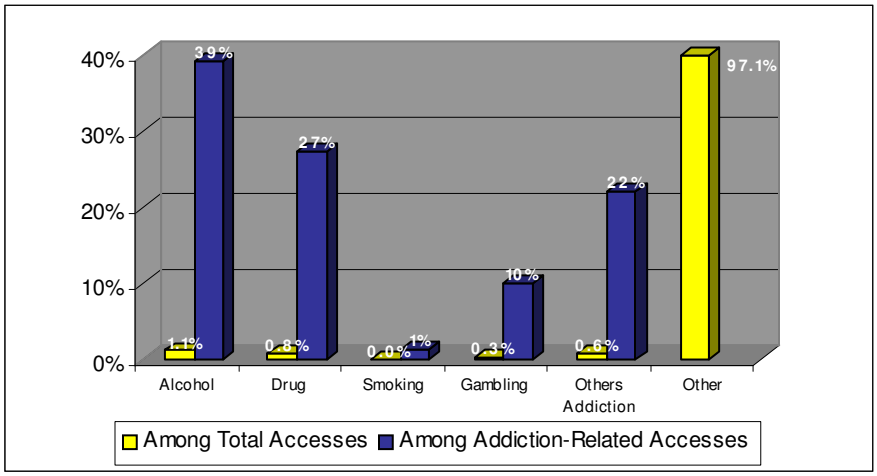
Results

With respect to data analysis, the following methods were undertaken: univariate and bivariate frequencies (i.e., crosstabulations), Pearson chi-square tests, t-tests, Mann-Whitney U tests, and chi-squared automatic interaction detection (CHAID). The results of statistical tests (i.e., significance) are sometimes reported for descriptive purposes. However, they are not considered appropriate for the current study because 1) EAP samples are explicitly non-random, 2) there is no appropriate population of inference, and 3) the sample is large enough that even very small effects are statistically, though not meaningfully significant.

Rates of Gambling Problems Among EAP Accesses

Frequencies were tabulated to identify what percentage of EAP accesses were accounted for by clients with gambling problems. Rates were examined among both total accesses and addiction-related accesses only (see Figure 1). Gambling, as a presenting problem, accounted for 0.3% of all presenting problems in Canada. Among addiction-related problems, which included alcohol, drugs, smoking, and significant other's addiction, the figure increased to 10%. These figures contrast greatly those related to alcohol problems, which accounted for 1.1% and 39% of accesses, respectively.

Figure 1. Gambling Problem Accesses as a Percentage of Total and Addiction Accesses



Figures 2 and 3 break out the findings, above, for each Canadian province. There were robust provincial differences for gambling accesses as a percentage of total accesses (see Figure 2). For example, Newfoundland and Labrador (1.0%) and Saskatchewan (0.8%) were associated with higher percentages. British Columbia and Ontario were associated with lower percentages (both

0.2%). This pattern of differences was similar when gambling accesses were examined against addiction-related accesses, only (see Figure 3).[1] [2]

Figure 2. Gambling Problem Accesses as a Percentage of Total Accesses (By Province)

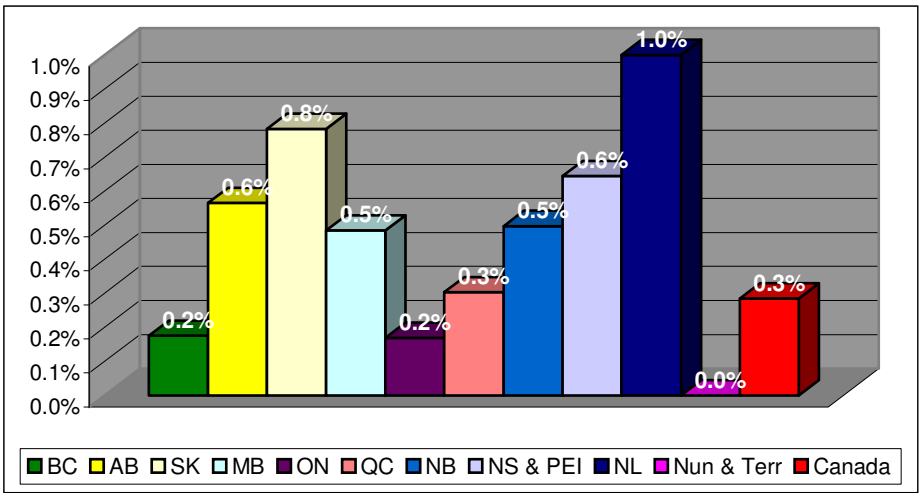
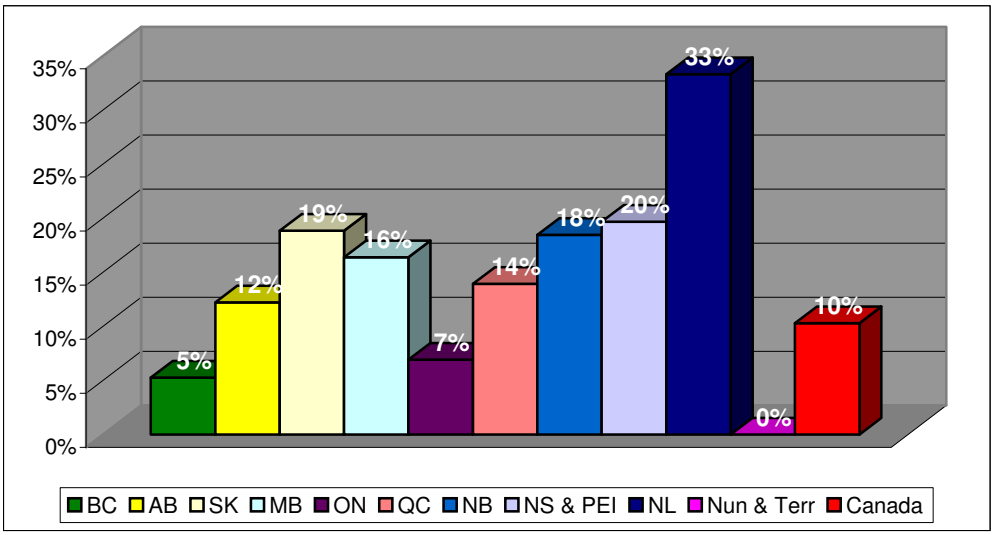


Figure 3. Gambling Problem Accesses as a Percentage of Addiction-Related Accesses (By Province)



[1] BC = British Columbia, AB = Alberta, SK = Saskatchewan, MB = Manitoba, ON = Ontario, QC = Quebec, NB = New Brunswick, NS & PEI = Nova Scotia and Prince Edward Island, NL = Newfoundland, Nun & Terr = Nunavut and the Territories.

[2] There were no gambling accesses from Nunavut and the Territories between 2001 and 2006. In fact, there were only 110 total accesses from these regions. Based on a national rate of 0.3%, we would expect less than 1 individual to access the EAP from these regions with a gambling problem.

Trends in Gambling Problems Among EAP Accesses

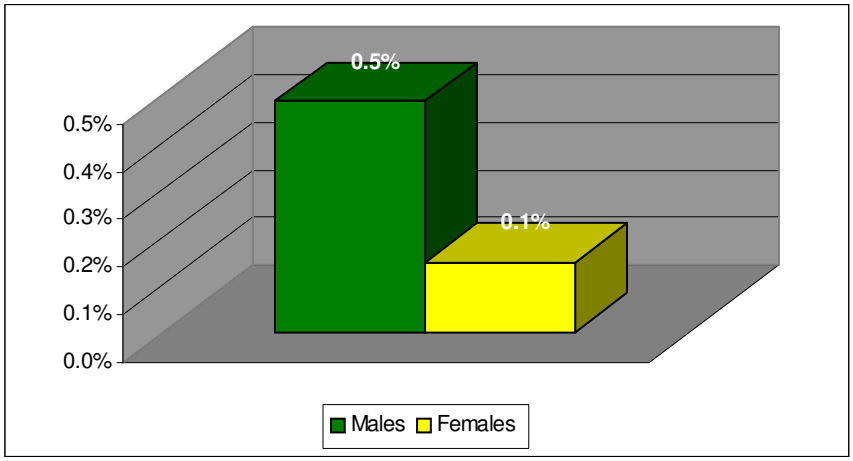
There were no substantive trends in gambling-related accesses at the national level. In other words, the relative rate of 0.03% for gambling-related accesses held fairly constant from 2001 to 2006. The same can be said for each province, although Saskatchewan peaked in 2001 and 2004 (1.3% and 1.1%, respectively). Newfoundland and Labrador peaked at 1.9% and 1.7% in 2001 and 2002, respectively, and dropped suddenly to 0.4% in 2005 and 2006.

Group Differences in EAP Access for Gambling Problems

Demographic Differences

A greater proportion of males (0.5%) than females (0.1%) accessed the EAP for gambling-related problems ($\chi^2(1) = 167.33$, $p = .001$; see Figure 4). Among gambling-related clients, 67% were male versus 38% of clients with other problems.

Figure 4. Gambling Problem Accesses as a Percentage of Total Accesses (By Gender)



There was also an association between age and gambling-related accesses, with rates climbing steadily from clients under 30 years of age (0.2%) to clients 50 years of age or over (0.4%; $\chi^2(3) = 24.49$, $p = .001$). For example, 18% of all gambling-related clients were 50 years of age or over. Twelve percent of clients with other problems were in this age group.

A greater proportion of full-time employees (0.3%) than non-full-time employees (0.1%) accessed for gambling problems ($\chi^2(1) = 8.20$, $p = .001$). Among gambling-related clients, 94% were employed full-time versus 89% of clients with other problems. Finally, there was a slightly lower rate of gambling-related accesses among supervisors, managers and professionals (0.2%) compared to other workers (0.3%; $\chi^2(1) = 4.62$, $p = .05$). The former group accounted for 14% of gambling-related clients versus 23% of clients reporting other problems.

There were no substantive trends in gambling-related accesses for any demographic group between 2001 and 2006. This was true at the national level and for Ontario in isolation.

Industry Differences

Some industries were associated with higher access rates for gambling problems. However, these differences were based on very small sub-samples and would require replication with larger samples. Compared to the national average (0.3%), a greater proportion of clients from the following industries presented gambling problems to the EAP: aboriginal public sector (1.4%; n=7/491), mining and exploration (1.0%; n=3/309), associations (0.8%; n=49/6,442), agriculture (0.6%; n=7/1,216) and food and beverage (0.5%; n=43/8,322).[3] Overall, the relationship between gambling-related accesses and industry was significant ($\chi^2(41) = 169.67$, $p = .001$).

Problem Gambler Segments

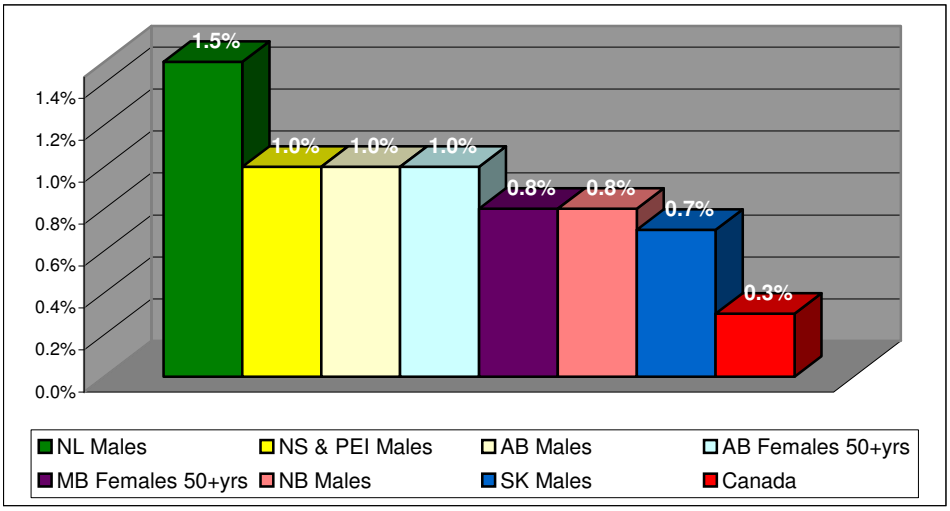
The above findings suggest that single demographic and industry variables are poor predictors of EAP accesses for gambling problems. What is needed is a finer-grained analysis of how several such variables simultaneously predict gambling accesses. Chi-squared automatic interaction detection (CHAID) was utilized to identify significant interactions among demographic and industry variables that predict gambling versus other EAP accesses. This analysis also enabled the researchers to identify 'problem gambler segments' that are defined on the basis of multiple variables. The predictor variables were age, gender, employment status, employee/non-employee status, years of service, occupation, industry, and province.

Figure 5 displays seven problem gambler segments that were more likely to access EAP for gambling problems. Clients from within these complex demographic groups were even more likely to access the EAP for gambling problems than the average EAP client (i.e., 0.3% of total accesses).[4]

[3] Denominators represent the number of total accesses from these industries.

[4] The CHAID analysis was run on a larger sample of EAP clients than the one described in the Procedure to capitalize on available data and obtain more robust clusters. Still, the sample sizes associated with problem gambler segments were small, ranging from n=4 to 115.

Figure 5. Problem Gambler Segments



As shown in Figure 5, males figure prominently in five of the seven segments, as they do among gambling-related clients in general. However, the CHAID analysis adds a layer of understanding to this basic finding by providing additional context. For example, males from Newfoundland (1.5%) were even more likely to access the EAP for gambling problems than the average male EAP client (i.e., 0.5%, see Figure 4). The reader will also note the absence of problem gambler segments from British Columbia, Ontario, and Quebec.

Re-Access Patterns Among Clients with Gambling Problems

Clients that both accessed the EAP for gambling problems and accessed the program more than once were examined for their re-access patterns.[5] There were two objectives: 1) to describe the problems presented by gambling-related clients when they re-access the EAP, and 2) to determine if gambling-related clients re-accessed the EAP for other problems at significantly higher rates than other clients. The purpose of examining re-access patterns, in general, was to determine if other presenting problems could be viewed as co-morbid with gambling problems.

Among clients who accessed the EAP at least twice, and presented a gambling problem at the *first* access:

- Twenty-seven percent (27%) subsequently presented a gambling problem...
- Twenty-one percent (21%) subsequently presented a debt/credit problem...
- Six percent (6%) subsequently presented a marital/relationship discord problem...
- Five percent (5%) subsequently presented a depression symptom-related...

...at *second* access.

[5] The sample used for most data analyses in this study included only first accesses by clients. The re-access pattern analyses involved the examination of multiple accesses (i.e., 'cases').

Among clients who accessed the EAP at least twice, and presented a gambling problem at the *second* access:

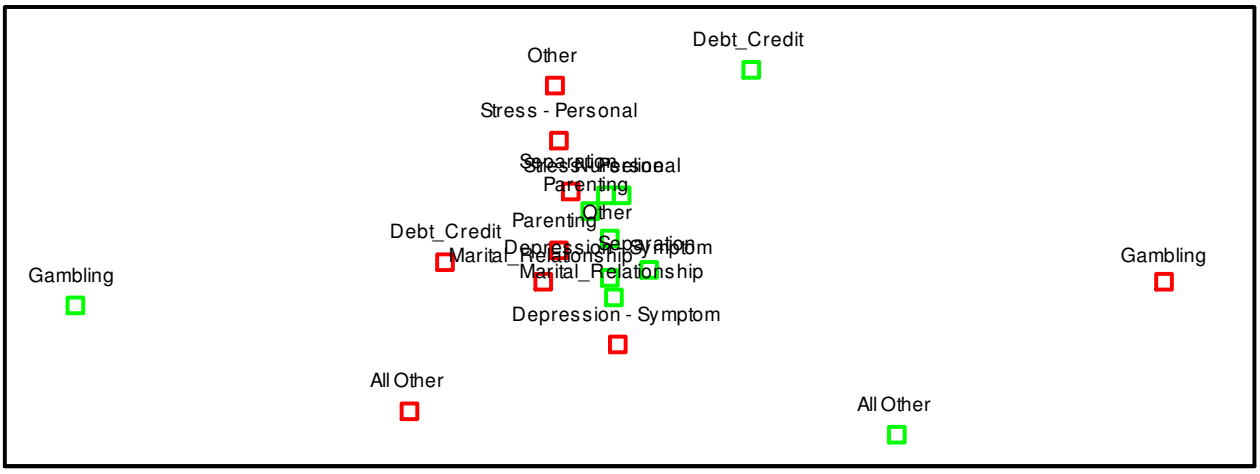
- Thirty-five percent (35%) had presented a gambling problem [6]...
- Nine percent (9%) had presented a debt/credit problem...
- Seven percent (7%) had presented a marital/relationship discord problem...
- Seven percent (7%) had presented an 'other' personal-emotional problem...
- Five percent (5%) had presented a personal stress problem...

...at *first* access.

The above findings may be instrumental in validating known co-morbidity patterns among problem gamblers. However, it is interesting to note that over *half* of the clients that presented a gambling problem to the EAP, and that accessed the EAP at least twice, presented one of 92 *other* presenting problems tracked by the EAP at the other access (i.e., six of the 98 tracked problems are listed above; the others are not listed). This would suggest that problem gamblers experience a diverse range of concurrent problems and difficulties.

The above-noted pattern is also depicted in the results of a correspondence analysis, below (see Figure 6). Types of problems that were presented at first and second access were crosstabbed and graphically-represented in two-dimensional space. First and second access points that are closer together suggest more frequent continuity from first to second EAP access. As shown in Figure 6, when clients presenting gambling problems re-accessed the EAP, they were most likely to present a problem from a combined category of 'All Other' problems.[7]

Figure 6. EAP Re-Access Patterns Among Clients With Gambling Problems



[6] The clients who accessed the EAP twice for gambling problems are the same group of clients (regardless of first or second access, above). The percentage changes from 27% to 35% because the base is different in the first and second access sub-samples.

[7] It is not essential to see all of the content in Figure 6. The reader's attention is drawn to the points labeled 'Gambling' and 'All Other'.

With respect to the second objective of this section, it was found that gambling-related clients did not re-access the EAP at significantly higher rates than other clients for other presenting problems. Clients with other problems (i.e., non-gambling) re-accessed the EAP at significantly higher rates for emotional problems (i.e., depression or anxiety; clients with gambling problems, $M = 0.03$, $SD = 0.22$; clients with other problems, $M = 0.12$, $SD = 0.39$), $t(648.83) = -10.81$, $p < .001$), stress problems (i.e., personal or work-related stress; clients with gambling problems, $M = 0.03$, $SD = 0.18$; clients with other problems, $M = 0.18$, $SD = 0.46$), $t(662.71) = -21.58$, $p < .001$), relationship-related problems (i.e., marital/relationship discord, divorce, or separation; clients with gambling problems, $M = 0.04$, $SD = 0.21$; clients with other problems, $M = 0.34$, $SD = 0.64$), $t(673.43) = -36.17$, $p < .001$) and work-related stressors (clients with gambling problems, $M = 0.00$, $SD = 0.07$; clients with other problems, $M = 0.07$, $SD = 0.28$), $t(699.02) = -21.79$, $p < .001$).

Clients with other problems were also associated with a significantly greater number of EAP accesses overall (clients with gambling problems, $M = 1.44$, $SD = 0.898$; clients with other problems, $M = 1.60$, $SD = 1.36$), $t(645.52) = -4.38$, $p < .001$).[8] In summary, gambling-related clients re-access the EAP at lower rates than other clients, and less often for the problems described above.

Gambling Problems and Stress Levels

When clients access the EAP at intake, they are asked to self-report their current level of stress on a 4-point Likert scale (1=*None*, 4=*High*). Clients that accessed the EAP for gambling problems were compared to other clients on their levels of self-reported stress (see Figure 7). A greater percentage of clients with gambling problems reported a 'high' level of stress at EAP intake at the national level (52% versus 41% for other clients). With the exception of British Columbia, this finding was replicated for each province. The rate of high stress levels among clients with gambling problems was especially prevalent in Newfoundland (62%) and Manitoba (56%).

[8] Some presenting problems are combined for greater reliability. T-tests were followed by non-parametric Mann-Whitney U tests due to equality of variance violations. The results were commensurate with that of t-tests.

Figure 7. Percentage of Clients With Gambling Problems and High Stress at Intake

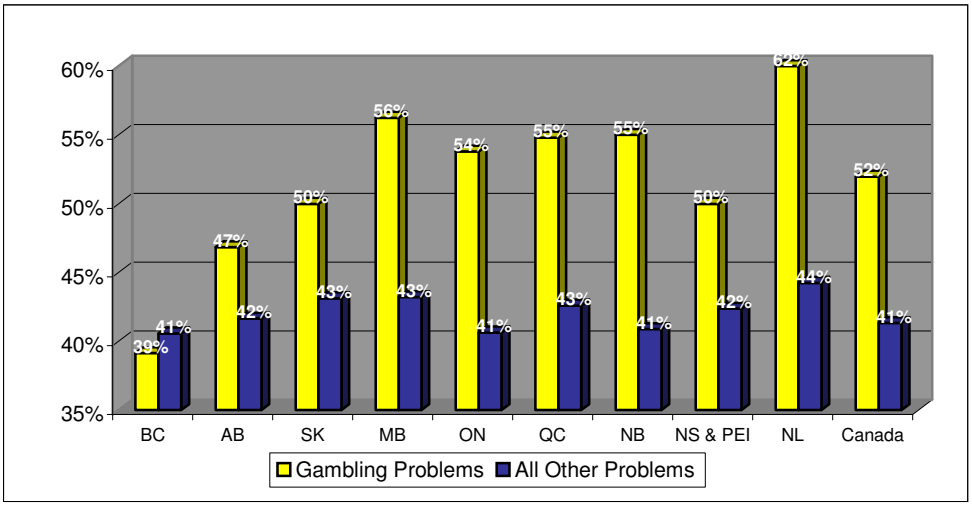
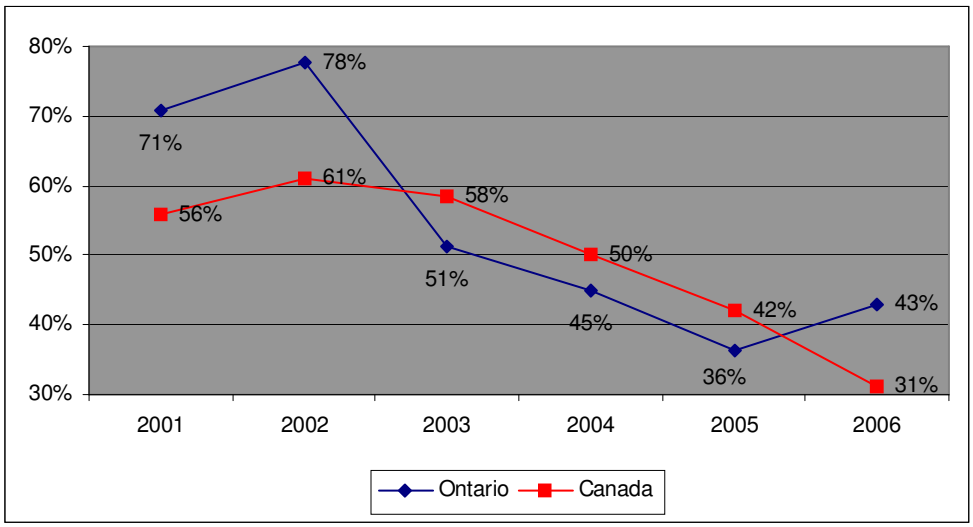


Figure 8. Trends in High Stress at Intake Among Clients With Gambling Problems



While stress levels among gambling-related clients may seem high relative to other clients, it is important to note that these rates are based on six years of aggregated data. Reported levels of stress among gambling-related clients actually decreased over time from 56% to 41% (see Figure 8). The trend for Ontario, alone, was 71% to 43% over time.

Discussion

General Implications

The results of frequency analyses indicate that gambling problems account for 0.3% of all EAP accesses. Although this figure was derived from EAP data, it is nonetheless tempting to compare this to prevalences for gambling problems in the general population. Prior research suggests that only the most problematic gamblers tend to seek treatment. The lifetime prevalence of 'Level 3' gamblers (National Research Council, 1999) has been estimated at 1.6% of the American population (Shaffer, Hall, & Vander Bilt, 1999). The past-year prevalence rate has been estimated at 1.14% (Shaffer et al., 1999). Commensurate rates for Canada range from 0.8% to 1.7% (Ladouceur, 1996). While our current finding of 0.3% does not match any of these rates, it is within reasonable range, especially when confidence intervals are taken into consideration.

Despite these similarities in rates, it is important to note that the current sample is non-random and consists of individuals who self-selected for EAP counseling. Thus, the rate of gambling problems found in our study cannot stand as a valid prevalence estimate. The lesser rate found in our study is understandable when one considers that more problematic gamblers, although more likely than less problematic problem gamblers to seek help, are still under-represented in treatment samples in general. One general implication that follows from this rate disparity is that EAP, like other treatment options, may be under-utilized by problem gamblers. This would be regrettable, since brief interventions of the kind typically administered through EAPs may be effective for treating problem gamblers (Dickerson, Hinchy, & England, 1990; see Petry, 2005). The rate disparity may have also occurred because the base against which gambling-related clients were counted consists of clients with *other* personal problems. This contrasts with published prevalence rates, which are computed against a more heterogeneous general population. These factors could deflate prevalence estimates of gambling problems based on EAP samples.

The current EAP sample appears more representative of problem gamblers when rates of some demographic variables are compared to published rates. For example, males were slightly more likely to report gambling problems to the EAP. Many studies have identified males at elevated risk for gambling problems (e.g., Shaffer et al., 1999). Additionally, and similar to the current findings, other research suggests that gamblers in treatment are more likely than the general population to be working full-time (Petry & St. Oncken, 2002).

The current findings on age and gambling accesses does not corroborate past research. Most research shows an inverse relationship between gambling problems and age, with adolescents and young adults appearing more affected (see Petry, 2005 for a review). The current findings show a small, but opposite relationship. However, younger age groups are often underrepresented in mainstream treatment populations. Older adults have also been underrepresented in published gambling studies (e.g., Gerstein et al., 1999; Welte et al., 2001; see Petry, 2005). Perhaps for these reasons, some prevalence studies fail to identify age as a predictor of gambling problems (e.g., Volberg, 1994). The disparity between past and present findings on age and gambling signals that EAP data may be useful for elucidating relationships among these variables.

Notwithstanding the above findings, there were no substantive differences, overall, among demographic groups with respect to gambling accesses. The demographic profile of gamblers who access EAP appears somewhat heterogeneous. If the current sample is representative of the general population, these findings would suggest that a 'one size fits all' approach to prevention and intervention may be ineffective.

Unlike analyses of single demographic variables, the discovery of 'problem gambler segments' appears to offer more value for identifying individuals at risk. The majority of the reported segments were comprised of males. This is to be expected since males are over-represented in gambling treatment populations. However, the current research has also identified two problem gambler segments that are comprised of women, particularly those that are 50 years of age or older. These findings illustrate the value of data analytic methods such as CHAID for discovering additional, high-risk individuals. The identification of problem gambler segments is also relatively novel. Few studies have been published on gambler 'taxonomies' based on various characteristics. Those that have been published were based on European samples (e.g., Meyer, 1991). The results of segmentation analyses should be instrumental in helping researchers to identify causal factors in problem gambling based on other information that is known about these complex demographic groups (i.e., what else is known about Newfoundland males?). The results could also assist employers, clinicians, and EAPs to target certain populations for assessment, prevention and intervention.

With respect to re-access patterns, the current results corroborate those obtained by other researchers. Although not significantly different from other clients, gambling-related clients re-accessed the EAP at higher rates for some problems relative to others. These included marital/relationship discord and depression symptoms. These two problems have been identified in past research as co-morbid with gambling problems. For example, the marriages and family relationships of problem gamblers are often strained (Angele, 1996; Heineman, 1994). Compared to other gamblers, Level 2 and 3 gamblers are more likely to be divorced, separated (Cunningham-Williams et al., 1998) or unmarried (Ladouceur, 1991; Volberg, 1994). Problem gambling has also been associated with depression, other mood disorders, and suicide (see Petry, 2005 for a review). Additionally, it was noted that debt/credit problems appear more frequently in the re-accesses of gambling-related clients. This is intuitive, and supports past research. One finding that was not replicated in the current study was co-morbidity among gambling and substance use problems (Shaffer et al., 1999). Rates of EAP re-access for alcohol- and drug-related problems were not substantial for gambling-related clients. There may be several reasons for this result. For example, it is possible that some co-morbidity issues will not emerge in EAP samples as often as they do in other samples because of the single-issue assessment methods that are typically employed by EAPs. This could lead to deflated estimates of co-morbid problems in EAP samples. True co-morbidity studies usually involve a concurrent measurement of both co-morbid states in the same sample (i.e., within-subject analysis).

While the re-access patterns, above, replicated past research on several co-morbid factors, it is interesting that more than half of all gambling-related clients that re-accessed the EAP presented over 90 *other* problems at re-access. Taking the representativeness of the sample into consideration, the results suggest that problem gambling has negative impacts on a wider range of life functioning domains than previously thought. The results also suggest that co-morbidity rates may be under-estimated with respect to these problems based on published research. The study also found that gambling-related clients, while more likely to re-access the EAP for some problems more than others, did not re-access for these problems at higher rates than other *clients*. This lack of significance, however, does not in any way de-value the current findings. It is important to identify other issues that are experienced by problem gamblers, regardless of

whether these issues are also shared by individuals without gambling problems. These findings provide useful, descriptive information on the life functioning issues faced by gamblers and suggest avenues for prevention and intervention.

One of the more robust findings from the study was an association between high levels of self-reported stress and EAP access for gambling problems. It is intuitive that problem gamblers would be more likely than other individuals to experience high levels of stress. For example, problem gamblers tend to 1) engage in gambling behaviour to mitigate life stressors and regulate negative emotions, 2) become irritated when they attempt to control their gambling behaviour, and 3) jeopardize their social and financial resources, which are required to cope with exigencies of daily life. Despite these reflections, a recent review of problem gambling failed to mention state stress as a co-morbid factor (Petry, 2005). In general, there is very little published research on the role of self-reported stress in problem gambling behaviour (e.g., Coman, Burrows, & Evans, 1997; Rae & Haw, 2005). Most studies of gambling and stress have focused on stressful life events, posttraumatic stress disorder, or were conducted on narrow populations (e.g., adolescents). Other studies failed to find strong associations between state stress and gambling behaviour (Lightsey & Hulsey, 2002). The current finding on gambling and stress may bode well for the inclusion of the latter variable in future models of gambling behaviour.

Limitations of the Study

The current study appears to make valuable contributions to the literature on problem gambling. However, it is not without limitations. Since the sample was non-random, the results may not generalize well to the Canadian general population.[9] It may be argued that the results best generalize to Canadians that have access to EAPs and are willing to utilize them. In fact, there is some question as to whether the demographic variables that define problem gambler segments are 1) risk factors for individuals in the general population, or 2) characteristics of individuals who seek professional help for gambling problems. The valence of these demographic factors in models of problem gambling hinges on this distinction.[10]

An additional limitation of the study is that gambling-related clients were compared to clients who reported *other* problems to the EAP, rather than members of the general population. In other words, problem gamblers were compared to a base of other help-seekers with problems of lesser or greater severity. This may have led to an inflation or deflation of certain factors associated with problem gambling. For example, depression symptoms among problem gamblers may be easily detected in community samples. In the current sample, however, re-access rates for this issue by problem gamblers may be 'swamped' by those of other clients with more serious problems overall.

The study was also limited in the number and range of individual difference variables that were measured. For example, it is typical for EAPs to record a single presenting problem at intake. This creates problems for researchers who seek to identify multivariate predictors of problem gambling and complex co-morbidity patterns. For example, there are demographic variables associated with problem gambling that are not recorded at EAP intake, such as education (Volberg, 1994), income (Petry & Oncken, 2002), socioeconomic status (Shaffer et al., 1997), and ethnicity (Gerstein et al., 1999; WEFA Group et al., 1997).

[9] This limitation is associated with many studies of problem gambling.

[10] Some researchers may be tempted to weight unrepresentative data (e.g., weight males 'up' to make the gender ratio 50:50). However, unmeasured psychological factors that are associated with both self-selection and outcome variables of interest may also be weighted up or down in the sample, creating spurious effects.

A fourth limitation of the current study involves the measurement of trends among study variables. Although analyses were conducted on a stable set of organizations that neither joined nor left the EAP during the study period, there was no way to control for hiring and turnover patterns *within* organizations. This may have introduced a source of random error and diminished statistical conclusion validity.

Finally, the study's findings may have been limited by a lack of clinical assessment associated with problem gambling and its correlates. The EAP intake procedure, while reliable in determining the categorical nature of presenting problems (e.g., gambling versus alcohol abuse), involves minimal quantitative measurement of psychological constructs. Additionally, the intake procedure does not include an actual diagnosis of gambling problem severity in line with established criteria (e.g., Levels 0 to 3; Shaffer et al., 1997).

Directions for Future Research

There are many directions for future research that follow from the current study. Following are a few examples. First, the current study involved, at times, the analysis of composite demographic and presenting problem variables. Future research may involve the analysis of more specific scalings of some variables to detect more specific loci of effect. High-level, multivariate models of problem gambling may also be entertained through the employment of data analytic methods such as loglinear analysis.

A great deal of future research could be concentrated on validating the present findings in other samples, including other treatment (e.g., other EAPs) and community samples. In particular, the problem gambler segments should be replicated using other measures, methods, and samples.

Finally, efforts are currently under way to supplement EAP intake data on gamblers with self-report survey data. These data, related to previous barriers to seeking professional help, will add a layer of information to the profile of problem gamblers who access EAPs, and hopefully reveal characteristics of gamblers who do *not* access EAP or other treatment facilities.

Conclusion

The results of the current study provide a more complete picture of individuals who access EAPs for gambling problems, both in terms of their demographic profile and other problems that they face. This picture was arrived at through a systematic comparison of gambling-related clients and other EAP clients. Given the breadth and volume of data that can be collected on problem gamblers in EAPs, the findings are expected to be a welcome complement to the existing knowledge base on this vexing social problem.

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