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

Nerilee Hing[aff1]

Sally Gainsbury[aff1]

Centre for Gambling Education & Research, Southern Cross University, Lismore, NSW, Australia E-mail: nerilee.hing@scu.edu.au

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For correspondence: Nerilee Hing, Centre for Gambling Education & Research, Southern Cross University, P.O. Box 157, Lismore, NSW, 2480, Australia. Tel: +612 6620 3928, Fax: +612 6620 3565, Website: http://cger.scu.edu.au/index.php; E-mail: nerilee.hing@scu.edu.au
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Professor Nerilee Hing (PhD, M.ApSc, B.Bus) is Director of the Centre for Gambling Education and Research, Southern Cross University. She has a research focus on the management and strategic management of gambling venues, responsible provision of gambling, gambling policy, and problem gambling and other gambling impacts, particularly on vulnerable population groups, including gaming venue staff, Indigenous people, and women. Her research has been funded by the Australian Research Council, as well as by numerous state governments. She has published around 70 peer-reviewed papers, books, and book chapters and attracted AUD$2.5 million in gambling research grants in recent years.

Dr. Gainsbury (PhD, DCP, B.Psych) is a Post Doctoral Research Fellow at the Centre for Gambling Education and Research, Southern Cross University, and a Research Affiliate in the School of Psychology, University of Sydney. Dr. Gainsbury is a Clinical Psychologist with several years of experience conducting research, including obtaining nationally competitive research grants, and has authored many reports, papers, and presentations. Dr. Gainsbury's research has focussed on harm minimisation and responsible gambling strategies, Internet gambling, the impacts of gambling on youth, and online treatment options. Dr. Gainsbury is the Associate Editor of *International Gambling Studies*.

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 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 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 (χ^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 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 (χ^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 *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.

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 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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Tables

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

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).

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).

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.

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).

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.

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