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Nerilee Hing
Southern Cross University

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RESEARCH ARTICLE

Examining gambling by staff from Victorian gaming venues: A comparison with the general Victorian population

NERILEE HING

Centre for Gambling Education and Research, Southern Cross University, Lismore, Australia 2480.
Email: nerilee.hing@scu.edu.au

Abstract

Ready accessibility to gambling suggests employees in gaming venues may be an at-risk group for gambling problems. However, little related research exists. This paper reports on a study that measured the gambling behaviour of gaming venue employees in Victoria, Australia. Primary data were collected through a survey of 533 hotel and club employees during 2007. The staff survey found substantially higher gambling participation rates than for the Victorian population. In addition, staff respondents were more likely to be regular gamblers than the Victorian population, gambling at least weekly on electronic gaming machines, Club Keno, instant scratch tickets, horse or greyhound races, and sportsbetting. Most notably, the prevalence of problem gambling was almost six times higher for gaming venue employees than for the general population, as measured by the Problem Gambling Severity Index.

Keywords: gambling, gaming venue staff, problem gambling, Victoria, Australia

Introduction

In Australia, problem gambling has been defined as behaviour "characterised by difficulties in limiting money and/or time spent on gambling which leads to adverse consequences for the gambler, others, or for the community" (Neal, Delfabbro & O'Neil, 2005, p. i). Numerous environmental, social and psychological factors influence the development and maintenance of gambling problems (Productivity Commission, 1999; Tse, Abbott, Clarke, Townsend, Kingi & Manaia, 2005). One of these is gambling accessibility. However, little research has been conducted into the link between problem gambling and gambling accessibility. An understanding of this link is of critical concern for governments because its existence implies the need for caution in liberalising access to gambling (Productivity Commission, 1999). Therefore, this paper explores potential links between problem gambling and accessibility to gambling. It does this by comparing gambling behaviour and levels of problem gambling between a population with high accessibility to gambling – gaming venue staff working in hotels and clubs in the state of Victoria, Australia – and the general adult population of that state. Thus, the current paper is also of significance to gaming venue managers and their workers if the gambling behaviour and gambling problems of staff exceed the average. Such a finding would invite consideration of policy responses and practical measures that might better prevent and ameliorate gambling problems among this cohort.

Accessibility to Gambling by Gaming Venue Staff

The genesis of problem gambling is multifactorial, with accessibility to gambling just one possible influence (Productivity Commission, 1999; Tse et al., 2005). However, accessibility itself is a multidimensional construct, with the Productivity Commission (1999) identifying the following dimensions: the number and distribution of gambling opportunities, the number of opportunities to gamble in any given venue, opening hours, conditions of entry to venues, ease of use of the gambling form, initial outlay required, and social accessibility. Consideration of these dimensions logically suggests that gaming venue staff have high accessibility to gambling, compared to the general population.

Hing and Nisbet (2008) identify several dimensions of accessibility to gambling that are heightened among this cohort. First, opportunities to gamble are more easily accessed, especially where staff are allowed to gamble in their workplace during time off. These staff have extensive opportunities to gamble before and after work, given the proximity and convenience of gambling in their place of employment. Even for staff who cannot gamble in their workplace, physical accessibility may be enhanced if their workplace is proximate to other venues, which is commonly the case. These venues can attract staff from other venues before and after their work shifts. Second, social accessibility to gambling is also higher for gaming venue staff than for the general population. The workplace typically provides a familiar, non-threatening and attractive environment for staff to gamble in, if they are allowed to do so. It generally ensures safety, a sense of inclusion, an opportunity for social interaction with known patrons and fellow staff, and social acceptance in the venue. Even staff who cannot gamble in their own workplace may have enhanced social accessibility to gambling because gaming venues are familiar environments, and staff often know employees at other venues which enhances their social acceptance. Staff are also sometimes encouraged to gamble with work colleagues after work and on days off. Third, because of their work roles, staff have greater knowledge and familiarity with how gambling products work. For example, they may be required to have expert knowledge about certain table games, keno and TAB bets, gaming machine features, and the like. This knowledge and familiarity then leads to greater ease of use when staff gamble themselves. Finally, opening hours of gaming venues relative to a gambler's spare time also influence accessibility. Staff not working a closing shift can readily access the gaming facilities in their workplace after work, if allowed, while those working closing shifts typically find that other venues are the only places open if they want to go out after work.

It is clear from these dimensions of accessibility that gaming venue staff have greater accessibility to gambling than the general population. Thus, if there is a link between problem gambling and accessibility to gambling, it is expected that gaming venue staff would also display higher rates of problem gambling than the general population. The next section reviews previous studies examining problem gambling among gaming venue staff.

Problem Gambling and Gaming Venue Staff

While typically limited by small and non-random samples, several studies have found higher rates of problem gambling among gaming venue employees than in the general population. However, these estimates display several variations. Collachi and Taber (1987) examined the frequency of gambling, gambling habits, and opinions of others who gamble among 34 employees from three large casinos in Reno, Nevada USA. Although findings were generally consistent with the

identification of problem gambling (e.g., borrowing money between paydays), unfortunately no consistent, quantifiable instrument was used to measure problem gambling, limiting the conclusions that could be drawn. Shaffer, Vander Bilt and Hall (1999) examined gambling problems among 3,841 full-time casino employees from four sites of one US casino. These employees had a 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). A separate study that retested 1,176 casino employees on the SOGS at three intervals approximately 12 months apart found that, while gambling problems were generally more extensive among the venue staff compared to the general population, some respondents reduced their gambling problems over time (Shaffer & Hall, 2002). This evidence lends support to adaptation theory which posits that during new exposure to gambling, previously unexposed individuals, population sectors and societies are at high risk of developing gambling problems. However, over time adaptation typically occurs and problem levels reduce, even in the face of increasing exposure (Abbott, 2006). In other words, some people immersed in an environment of addictive behaviours may adapt to that environment and develop some immunity towards it (Zinberg, 1984 in Shaffer et al., 1999). In another US study, Duquette (2000) surveyed 271 employees of one hotel/casino in Las Vegas, also using the SOGS. The rate of pathological gambling was 20.3%, compared to 1.14% for the general adult US population. Finally, in Macau, a study of 119 casino dealers found a pathological gambling rate of 7% (Wu & Wong, 2007). However, no comparisons were drawn with general population statistics.

The present study represents the third Australian study examining gambling among gaming venue staff. The two previous studies were conducted in the state of Queensland (Hing & Breen, 2006; Hing, 2008), but also drew on relatively small and non-random samples. The first was a primarily qualitative project that examined how aspects of the workplace influenced employee gambling behaviour. Personal interviews were conducted with 86 employees and 73 managers of hotels, clubs, and casinos, all with electronic gaming machines (EGMs) and other gambling facilities; 32 gambling counsellors; and six problem gamblers. The analysis revealed more than 80 reasons why working in a gaming venue may encourage staff gambling (Hing & Breen, 2006). Several related to dimensions of accessibility. Workplace location, for example, was a determinate of the number of venues and gambling opportunities accessible to staff before or after work, while staff in gambling-related positions typically had greater knowledge of how different gambling products work, facilitating their ease of use. The study also found that social accessibility to gambling was heightened. The gambling environment is a familiar one and staff often face peer pressure from work colleagues and patrons to gamble. Close interaction with gamblers and exposure to gambling tended to normalise gambling and heavy gambling, increasing its social acceptance. Shiftwork enhanced a "match" between available time off and the opening hours of gaming venues. In addition, a survey completed by 56 employees in that study (Hing & Breen, 2006) revealed more gambling and higher rates of gambling problems than average. Compared to results from the *Queensland Household Gambling Survey 2003–04* (Queensland Government, 2005), which also used the Canadian Problem Gambling Index (CPGI) (Canadian Centre on Substance Abuse, 2001) to measure gambling problems, the rate of problem gambling among the 56 staff (8.9%) was 16 times higher than the Queensland adult population, moderate risk gambling (19.6%) was 10 times higher, and low risk gambling (16.1%) was triple the state average.

The second Queensland project (Hing, 2008) also supported the theory that working in a gaming venue can encourage gambling among some staff. Using the CPGI, this quantitative study of 511 gaming venue staff found that the proportion of problem gamblers was 10 times higher, of moderate risk gamblers was 6 times higher, and of low risk gamblers was 3 times higher than for the state population, as measured in the *Queensland Household Gambling Survey 2006–07* (Queensland Government, 2008). In summary, every published study of problem gambling among gaming venue staff has found higher rates of gambling problems than typically found in the general population. The present study of gaming venue staff in Victoria, Australia, will add to this body of research by comparing their levels of gambling behaviour and gambling problems to the general population of that state.

Method

Ethics Approval

Approval for this research was provided by Southern Cross University's Human Research Ethics Committee.

Sample Selection

The major gaming venues in Victoria comprise the Crown Casino, 243 hotels, and 279 clubs. Hotels are for-profit licensed premises which can be privately owned, while clubs are not-for-profit licensed premises which are owned by their members. In Victoria, hotels and clubs can each operate up to 105 gaming machines, as well as off-course betting outlets (TAB outlets) and keno. Two gaming operators, Tabcorp and Tattersall's, own all 27,279 EGMs in these hotels and clubs and lease them to the venues. The researcher approached Crown Casino, Tabcorp, and Tattersall's to invite casino, hotel, and club employees to participate in the study. While the Crown Casino declined, Tabcorp and Tattersall's agreed to assist with survey distribution and provided a list of hotels and clubs that operate their EGMs, and gave permission to mail them surveys on each company's behalf. They also provided letters of support to accompany the questionnaires.

Measures

A survey instrument was developed based on the literature, industry consultation, and pilot testing. The first section collected data on demographic and employment characteristics. These comprised

- whether the respondent worked in a venue with EGMs operated by Tabcorp or Tattersall's
- employment basis (permanent full-time, permanent part-time, or casual)
- job level (operational, supervisory, or management)
- whether the respondent held a Gaming Industry Employee's Licence (yes or no)
- whether the respondent assisted patrons with gambling activities (yes or no)
- whether the respondent held a front-of-house position, back-of-house position, or a combination of both
- whether the respondent can see gambling activities while working (never, sometimes, most of the time, almost always)
- whether the respondent was employed in a hotel or a club
- the number of gaming machines in their workplace

- years the respondent had worked in gaming venues
- length of responsible gambling training (none, a few hours, about half a day, at least one day)
- age and gender

A second section of the questionnaire examined the extent to which respondents were permitted to gamble on Club Keno, TAB, and EGMs in their workplace. A third section measured the respondents' gambling behaviour in the 12 months preceding the study and included a standard measure to assess gambling problems. Both of these drew on the CPGI (Canadian Centre on Substance Abuse, 2001). Specifically, it included the CPGI questions on frequency of play and expenditure on each of the 11 types of gambling available to Victorian residents, followed by the CPGI questions on duration of gambling for nine types of gambling available to Victorian residents. Duration of playing instant lotto and other lottery-type games was not asked as this was deemed to be of limited usefulness. One question was asked about whether respondents' gambling had "generally decreased, increased, or not changed" since working in a gaming venue.

Finally, the Problem Gambling Severity Index (PGSI) contained within the CPGI was used to measure rates of non-problem, low risk, moderate risk, and problem gambling. The PGSI is a nine-item scale where responses are scored as "never" = 0, "sometimes" = 1, "most of the time" = 2, and "almost always" = 3. Scores for the nine items are then summed and the results interpreted as 0 = non-problem gambler, 1–2 = low risk gambler, 3–7 = moderate risk gambler, and 8–27 = problem gambler. Its reliability and validity have been demonstrated in numerous studies (McCready & Adlaf, 2006), and its psychometric properties were found to be superior to the Victorian Gambling Screen and the South Oaks Gambling Screen when used in a population survey in Victoria Australia (Centre for Gambling Research, 2004). The Cronbach's Alpha when used in the current staff sample was 0. 897.

The draft instrument was peer reviewed by the responsible gambling managers from the Crown Casino, Tabcorp, and Tattersall's. The instrument was further refined at a group meeting of these managers with the researcher. Several minor amendments were made before the instrument was pilot tested with several employees of Tabcorp and Tattersall's who had previously worked in gaming venues. Minor terminology changes were made following this.

Procedure

In November 2007, three surveys were mailed to each of the 243 hotels and 279 clubs, with venue managers requested to ask three staff to complete and return them directly to the researchers in reply-paid envelopes. The venue managers were asked to, ideally, seek responses from one employee working directly in gaming, one other front-of-house employee, and one back-of-house employee, to gather responses from a range of positions. From the 1,566 surveys mailed out, 542 responses were received, yielding a response rate of 34.5%. Nine surveys arrived after data analysis was complete; thus, only 533 responses were included in the results. Thus, the sample was non-random and may not be representative of the population under study. While a random sample would indeed have been desirable, there is no publicly available list of gaming venue employees from which to sample.

Characteristics of Survey Respondents

Respondents ranged from 18 to 70 years, with a mean and median age of 40 years. Respondents were predominantly female (67.5%), higher than the proportion of females employed across all

Australian gambling industries (53%) (Australian Bureau of Statistics, 2006a, 2006b). Respondents were also over-represented by club staff (67%), even though 53% of surveys were mailed to clubs and 47% to hotels. Full-time and part-time/casual staff were nearly equally represented and there was a reasonable spread among operational, supervisory, and management staff. Total time working in gaming venues ranged from less than one month to 27 years, with a mean of 8.5 years and a median of 8.8 years. Almost 90% had undertaken responsible gambling training.

The respondents' workplaces were nearly equally divided between small (40 EGMs or less) and large venues (more than 40 EGMs). As well as EGM facilities, 60% of respondents' workplaces operated Club Keno, 51% operated TABs, 40% operated poker competitions, and 31% provided bingo. The vast majority (89%) of respondents held a Gaming Employee's Licence, with most serving or assisting patrons with some aspect of gambling (89%). Not surprisingly, 97% worked in front-of-house positions at least some of the time, with the majority (87%) being able to see the venue's gambling facilities and activities "most of the time" or "almost always" while at work.

While Victorian legislation prohibits gaming venue employees from gambling while on duty, it is up to venue management to set any restrictions around staff gambling in their workplace during time off. Among the respondents, nearly half were allowed to gamble in their workplace on EGMs (49.4%), Club Keno (48.2%), and the TAB (48.9%), but typically only on days off and before or after work while not in uniform.

Data Analysis

The 533 survey responses were entered into the software program Statistical Package for the Social Sciences (SPSS), Version 16. All variables were analysed using descriptive statistics, with the SPSS default of pairwise deletion applied to missing data. Tests of significance were also applied using chi-square and one-way ANOVA where appropriate, to detect significant differences in gambling behaviour between subgroups of gaming venue employees, as measured by their demographic and employment characteristics. It was hypothesised that (H_1) employees with the most exposure to gambling in their workplace would display higher rates of gambling participation, gambling frequency, and gambling problems than employees with lower exposure. Exposure was measured by holding of a Gaming Industry Employee's Licence, assisting patrons with gambling-related activities, and length of time working in gaming venues. The staff survey results were also compared to relevant statistics for the general Victorian adult population, as reported in the *2003 Victorian Longitudinal Community Attitudes Survey* (Centre for Gambling Research, 2004). It was hypothesised that (H_2) the Victorian gaming venue employees would display higher rates of gambling participation, gambling frequency, and gambling problems than the general population of Victoria.

The Gambling Behaviour of Gaming Venue Staff

Gambling Participation

Overall, 95.9% of the staff respondents reported participating in at least one gambling activity during the preceding 12 months. The most common were lottery-type games (77.9%), EGMs (77.3%), betting on horse or greyhound races through a TAB (59.1%), and purchasing instant scratch tickets for themselves (51.6%). Less common were betting on horses or greyhounds at a racetrack (46.3%), Club Keno (35.5%), and table games at a casino (22.1%). Least common

were gambling privately with friends for money (13.5%), bingo (12.2%), and casino games on the internet (2.3%). The mean number of different gambling activities undertaken was 4.4 (SD = 2.130, SE = 0.088). This was higher among respondents who: held a Gaming Industry Employee's Licence $F(1, 532) = 2.65$, $p < .001$, assisted patrons with gambling-related activities $F(1, 532) = 15.22$, $p < .001$, were aged 18 to 34 years $F(1, 529) = 3.38$, $p < .01$, were male $F(1, 532) = 6.71$, $p < .01$, and had worked for a longer period of time in gaming venues ($r = 0.09$, $p < .05$).

Gambling Frequency

Respondents indicated the number of times per week, per month, or per year that they gambled on each of the 11 types of gambling during the preceding 12 months. All responses were standardised to yearly frequency. Due to some extreme outliers, gambling frequencies were then categorised. Table 1 shows these distributions.

Table 1 Frequency of gambling on different activities (all respondents)

Type of gambling	Never[a] %	< 1/ month[a] %	1–3 times/ month[a] %	1–3 times/ week[a] %	> 3 times/ week[a] %
Bought instant scratch tickets for yourself	48.4	32.1	12.2	6.9	0.4
Played lotto or any other lottery game	22.1	27.8	16.7	32.1	1.3
Bet on horse or greyhound races at a racetrack	53.7	31.3	7.9	5.3	1.9
Played table games at a casino	77.9	19.9	1.9	0.4	0.0
Played casino games on the internet for money	97.7	1.3	0.8	0.2	0.0
Gambled privately with friends for money	86.5	8.1	4.7	0.8	0.0
Played bingo	87.8	6.9	3.6	1.7	0.0
Played Club Keno	64.5	22.5	8.4	3.8	0.8
Bet on horse or greyhound races at a TAB	40.9	33.4	11.4	9.6	4.7
Bet on a sporting event at a TAB	79.9	12.6	4.7	2.4	0.4
Played EGMs	22.7	32.5	26.8	15.4	2.6

[a] based on a valid percentage of $N = 533$

One-third of the staff surveyed (33.4%) played lottery-type games, 18.0% played EGMs, and 14.3% bet on horse or greyhound races at a TAB on at least a weekly basis. Only small proportions gambled at least weekly on instant scratch tickets (7.3%), horses or greyhounds at a racetrack (7.2%), Club Keno (4.6%), sportsbetting (2.8%), and bingo (1.7%). Very small proportions gambled at least weekly on the other types of gambling.

The characteristics of regular gamblers on the two most popular non-lottery types of gambling and those typically most associated with gambling problems were examined (EGMs and betting on horse or greyhound races at a TAB). Regular EGM gambling was positively associated with: holding a Gaming Industry Employee's Licence $\chi^2(2, N = 531) = 17.46$, $p < .001$, assisting patrons

with gambling activities $\chi^2(2, N = 531) = 12.569$, $p < .01$, holding a front-of-house position, or one that combined front- and back-of-house duties $\chi^2(4, N = 529) = 15.63$, $p < .01$, being aged 35 years or older $\chi^2(8, N = 525) = 17.74$, $p < .05$, and having worked for a longer time in gaming venues $F(2, 531) = 5.45$, $p < .01$. In contrast, regular gambling on horse or greyhound races at a TAB was positively associated with: working in venues where the EGMs were owned by Tabcorp which also owns the state's network of TAB outlets $\chi^2(2, N = 531) = 8.91$, $p < .01$, working in hotels rather than clubs $\chi^2(2, N = 531) = 8.13$, $p < .05$, being aged 18 to 24 years or 45 years and over $\chi^2(8, N = 525) = 18.142$, $p < .05$, and being male $\chi^2(2, N = 531) = 28.910$, $p < .001$.

Gambling Expenditure

Respondents were asked how much money, not including winnings, they spent on each type of gambling in a typical month during the preceding 12 months. However, due to the unreliability of self-reported expenditure figures consistently found in previous research (Centre for Gambling Research, 2004), the expenditure figures below should be viewed with caution. The reported total mean spend per month on gambling per respondent was AU$148.29. This was computed by summing the reported monthly expenditures on each type of gambling and then computing the mean expenditure (after one outlier of AU$19,000 per month was removed). Among these 533 respondents: nearly 70% reported some expenditure on EGMs (69.8%) and lottery-type games (69.2%); about one-half (51.8%) reported some expenditure on betting on horse or greyhound races through a TAB; about one-third (32.0%) reported some expenditure on betting on horse or greyhound races at a racetrack; over two-fifths (44.3%) bought instant scratch tickets for themselves; over one-fifth (28.6%) reported some expenditure on Club Keno; fewer than one in five reported some expenditure on sportsbetting through a TAB (18.2%), casino table games (16.1%), gambling privately with friends for money (11.1%), and playing bingo (9.6%); and very few reported any expenditure on internet casino games (1.5%). Table 2 shows the mean expenditure for respondents who participated in each type of gambling.

Regular gamblers were more likely than non-regular gamblers to spend more than $10 per month on racetrack betting $\chi^2(3, N = 530) = 11.54$, $p < .01$, Club Keno $\chi^2(3, N = 530) = 23.59$, $p < .001$, and horse or greyhound racing at a TAB $\chi^2(3, N = 530) = 101.80$, $p < .001$; and more than $60 per month on EGMs $\chi^2(3, N = 530) = 59.69$, $p < .001$. Mean expenditures for each type of gambling were then compared among respondents with the different demographic and employment characteristics identified earlier. However, there were few variations. The only statistically significant relationships were that mean gaming machine expenditure was significantly higher among respondents who held a Gaming Industry Employees' Licence $F(1, 527) = 4.64$, $p < .05$, and who had worked for longer in gaming venues ($r = .09$, $p < .05$). Some gender differences were also apparent. Mean expenditures among males were higher for racetrack betting $F(1, 527) = 5.60$, $p < .05$, casino table games $F(1, 527) = 8.24$, $p < .01$, private gambling $F(1, 527) = 7.27$, $p < .01$, and TAB betting $F(1, 527) = 9.71$, $p < .01$; while mean expenditures among females were higher for buying instant scratch tickets $F(1, 527) = 4.03$, $p < .05$, and bingo $F(1, 527) = 5.64$, $p < .05$.

Gambling Duration

Respondents were asked how many hours and minutes they normally spent each time they gambled on each activity. About one-third (32.4%) reported normally gambling for more than

Table 2 Mean monthly expenditure on different gambling activities (all gamblers)

Type of gambling	*N*	Min	Max	Mean	SD
Instant scratch tickets	236	$1	$40	$5.84	5.788
Lottery-type games	369	$1	$1,000	$34.39	60.504
Racetrack betting	171	$1	$5,000	$70.82	386.086
Casino table games	86	$1	$1,000	$62.69	128.977
Internet casino games	8	$5	$100	$31.25	33.461
Private gambling	59	$1	$1,000	$37.93	131.260
Bingo	51	$1	$250	$36.74	42.552
Club Keno	153	$1	$1,000	$19.65	82.555
Horse/greyhound races at a TAB	276	$1	$5,000	$63.64	311.365
Sportsbetting at a TAB	97	$1	$5,000	$72.33	506.431
EGMs	372	$1	$1,500	$92.90	156.238

one hour on EGMs and 15.1% reported normally gambling for more than one hour on horses or greyhounds at a racetrack. About one-tenth normally spent more than one hour on private games with friends for money (11.7%), casino table games (10.4%), bingo (9.9%), and horse or greyhound races at a TAB (9.8%). Small proportions reported normally gambling for more than one hour on the other types of gambling.

Regular gamblers were more likely than non-regular gamblers to gamble for more than 30 minutes on racetrack betting $\chi^2(4, N = 529) = 10.74$, $p < .05$, Club Keno $\chi^2(4, N = 529) = 12.91$, $p < .05$, and horse or greyhound races at a TAB $\chi^2(4, N = 529) = 54.31$, $p < .001$; and for more than 60 minutes on EGMs $\chi^2(4, N = 529) = 60.68$, $p < .001$.

Mean duration of gambling session for each type of gambling was then compared among respondents with the different demographic and employment characteristics identified earlier. Statistically significant relationships were that duration of gaming machine play was significantly longer among respondents who held a Gaming Industry Employees' Licence $F(1, 527) = 8.09$, $p < .01$, who assisted patrons with gambling activities while at work $F(1, 529) = 5.10$, $p < .05$, who worked in a position involving front-of-house duties $F(2, 526) = 4.32$, $p < .05$, and who had worked for longer in gaming venues ($r = .11$, $p < .05$). Those who assisted patrons with gambling activities while at work also reported significantly longer duration of gambling sessions on keno $F(1, 529) = 5.20$, $p < .05$, and bingo $F(1, 529) = 5.99$, $p < .05$.

Some gender differences were also apparent. Males reported significantly longer duration of gambling sessions on racetrack betting $F(1, 527) = 11.10$, $p < .001$, casino table games $F(1, 527) = 45.82$, $p < .001$, private gambling $F(1, 527) = 40.75$, $p < .001$, and sportsbetting $F(1, 527) = 18.00$, $p < .001$; while females reported significantly longer duration of gambling sessions on bingo $F(1, 529) = 10.52$, $p < .001$ and gaming machines $F(1, 527) = 4.35$, $p < .05$. Some age differences were also found. Age was positively correlated with usual duration of gaming machine play ($r = .12$, $p < .01$), and negatively correlated with usual duration of gambling on casino table games ($r = -.16$, $p < .001$), and private gambling ($r = -.20$, $p < .001$).

Reported Changes in Gambling Participation

The perceived effect of working in a gaming venue on gambling activity was broadly assessed by asking respondents: "Since working in a gaming venue, has your gambling generally decreased, increased or stayed about the same?". One-third reportedly had decreased their gambling since working in a venue (33.3%), while nearly one-half reported experiencing no change (46.9%). One in five reported an increase in their gambling (19.8%). Further, when the demographic and employment characteristics of the respondents were examined, those who held a Gaming Industry Employees' Licence $\chi^2(4, N = 516) = 15.91$, $p < .01$, and who assisted patrons with gambling activities while at work $\chi^2(4, N = 518) = 13.69$, $p < .01$, were significantly more likely to report increased gambling since working in a gaming venue, as were younger respondents $F(4, 505) = 5.48$, $p < .001$.

Problem Gambling

A very small proportion (4.1%) of the 533 staff respondents were non-gamblers, defined as not having gambled at all on any of the surveyed activities in the preceding 12 months. A little over half (54.1%) were categorised as non-problem gamblers, leaving about two-fifths (41.8%) in one of the at-risk categories for problem gambling. Nearly one-quarter of the sample (22.4%) scored as low risk gamblers, about 1 in 7 (13.7%) scored as moderate risk gamblers, and about 1 in 18 (5.6%) were classified as problem gamblers.

A closer look at the gambling behaviour of the problem and moderate risk gamblers revealed some distinct contrasts. The problem gambler group had gambled on an average of 4.4 different activities in the preceding 12 months. Higher proportions of problem gamblers than of the other CPGI groups had gambled at least weekly on Club Keno and EGMs; spent more than $20 per month on lottery-type games, Club Keno and EGMs; and spent more than two hours each time they gambled on EGMs, TAB races, and Club Keno. The moderate risk gambler groups had gambled on an average of 5.2 different activities in the preceding 12 months. Higher proportions of the moderate risk gamblers than of the other CPGI groups had gambled at least weekly at a racetrack and on TAB races, and spent more than $20 per month betting on TAB races. Thus, the problem gamblers were more attracted to EGMs and Club Keno, while the moderate risk gamblers were more attracted to betting on horse and greyhound races. Combined, these are the three forms of gambling provided in the respondents' workplaces. Also of note is that staff who assisted patrons with at least one type of gambling-related activity and who had received less responsible gambling training were more likely to be moderate risk or problem gamblers $\chi^2(6, N = 527) = 17.53$, $p < .01$. When associations were examined between CPGI score and the demographic and employment characteristics of respondents, it was apparent that higher CPGI scores were associated only with holding a Gaming Employees' Licence $F(1, 527) = 4.74$, $p < .05$, and being male $F(1, 526) = 4.80$, $p < .05$.

Results for Hypothesis 1

The first hypothesis proposed that employees with greater exposure to gambling in their workplace would have higher rates of gambling participation, gambling frequency, and gambling problems than employees with lower exposure. The results presented above largely support this. Employees who held a Gaming Industry Employee's Licence, assisted patrons with gambling-related activities, and had worked for a longer period of time in gaming venues were more likely to participate

in a larger number of gambling activities and engage in EGM gambling at least weekly. Those with a Gaming Industry Employees' Licence and who had worked for longer in gaming venues also had higher mean expenditures on gaming machines. Average duration of EGM play was also significantly longer for respondents who held a Gaming Industry Employees' Licence, who assisted patrons with gambling activities, and who had worked for longer in gaming venues. Further, employees who assisted patrons with at least one type of gambling-related activity and who had received less responsible gambling training were more likely to be moderate risk or problem gamblers. Overall, higher CPGI scores were also associated with those who held a Gaming Industry Employees' Licence.

Comparison of Gambling and Problem Gambling Between Gaming Venue Staff and the Victorian Population

The most recent population survey of gambling and problem gambling in Victoria is the *2003 Victorian Longitudinal Community Attitudes Survey* (VLCAS) (Centre for Gambling Research, 2004). Using a random sample of 8,479 Victorian residents, the survey collected data on gambling behaviour and problem gambling. The survey included, on a random basis, one-in-three non-gamblers, one-in-six non-regular gamblers and one-in-one regular gamblers. To achieve representativeness the survey results were weighted to the total population (Centre for Gambling Research, 2004). Comparisons between the VLCAS and the present study were made on the basis of gambling participation, frequency, and the prevalence of problem gambling. Gambling expenditure could not be compared as these data were not collected by the VLCAS. Additionally, gambling duration could not be compared, as the VCLAS collected duration data only from respondents who nominated an activity as the one they had spent the most money on during the preceding 12 months, whereas the present study collected these data from all respondents.

Comparison of Gambling Participation

As noted earlier, the gambling participation rate was 95.9% for the gaming venue employees surveyed. This was substantially higher than the participation rate of 77.4% found in the VCLAS and in any Victorian population survey since the first was conducted in 1992. In fact, the highest participation rate found among the Victorian population to date was 87% in 1996 (Centre for Gambling Research, 2004, p. 48). The staff participation rate was also higher than that for any "high participation" sociodemographic groups in the VCLAS: single parents (86.0%), separated or divorced people (84.3%), people on medium incomes (83.4%), and full-time workers (80.1%).

Among the staff respondents who gambled on at least one activity during the previous 12 months (N = 511), the average number of different gambling activities undertaken was 4.4, substantially higher than the VCLAS figure of 2.3 activities. Further, the mean number of gambling activities undertaken by staff (4.4) was higher than for any of the high activity groups reported in the VCLAS: regular gamblers (3.4), people aged 18 to 24 years (2.6), those in group households (2.5), and students (2.8).

However, it should be noted that the present study examined 11 different gambling activities, whereas the VCLAS examined 10. The VCLAS combined participation rates for betting on horse or greyhound races at a TAB and at a racetrack, recorded separate participation rates for gambling on Club Keno at the Crown Casino and in hotels and clubs, and included an "other" category, rather than asking specifically about bingo and private gambling, as the present study did. Thus,

comparison of the number of gambling activities between the surveys should be viewed with these differences in mind.

Table 3 shows frequency distributions for gambling participation as reported by the staff and the VCLAS. Notably, staff participation rates were higher than for the general Victorian population for all types of gambling for which comparisons could be made. They were substantially higher for playing EGMs (+43.8%), betting on horse or greyhound races at a TAB (+36.8%), betting on horse or greyhound races at a racetrack (+32.7%), and playing Club Keno (+30.4%).

Table 3 Comparison of participation in gambling activities between gaming venue staff and the Victorian population

Type of gambling	**Gaming Venue Staff [a] %**	**Victorian Population 2003 [b] %**	**Difference**
Bought instant scratch tickets for yourself	51.6	33.9	+17.7
Played lotto or any other lottery game	77.9	60.5	+17.4
Bet on horse or greyhound races at a racetrack	46.3	13.6	+32.7
Played table games at a casino	22.1	7.3	+14.8
Played casino games on the internet for money	2.3	0.2	+2.1
Gambled privately with friends for money	13.5	n/a[c]	n/a[c]
Played bingo	12.2	n/a[c]	n/a[c]
Played Club Keno	35.5	5.1	+30.4
Bet on horse or greyhound races at a TAB	59.1	22.3	+36.8
Bet on a sporting event at a TAB	20.1	5.6	+14.5
Played EGMs	77.3	33.5	+43.8

[a] based on a percentage of $N = 533$

[b] based on a percentage of weighted $N = 8479$

[c] no comparison possible as these forms of gambling were not included in the VCLAS

Comparison of Gambling Frequency

Table 4 compares the frequency of gambling on each activity among the staff who engaged in that type of gambling in the preceding 12 months to comparable data from the VCLAS. It indicates that higher proportions of the staff than of the Victorian population had gambled at least weekly on EGMs, Club Keno, instant scratch tickets for themselves, horse or greyhound races, and sportsbetting. The largest differences were for betting on horse or greyhound races (+16.0%), EGMs (+14.8%), and Club Keno (+9.0%), which are the three types of gambling typically available in the staff respondents' workplaces. Lesser differences were apparent for gambling on instant scratch tickets (+2.7%), and sportsbetting (+2.1%). The same proportion of gaming venue staff as those reported in the VCLAS had gambled at least weekly on casino table games (1.8%), while lower proportions of staff had gambled at least weekly on internet casino games and lottery-type games.

Table 4 Comparison of frequency of gambling between gaming venue staff and the Victorian population

Type of gambling	> 1/ month[a] %		1–3 times/ month[a] %		1–3 times/ week[a] %		> 3 times/ week[a] %	
	Staff 2007	Vic 2003	Staff 2007	Vic 2003	Staff 2007	Vic 2003	Staff 2007	Vic 2003
Bought instant scratch tickets for yourself	62.2	65.6	23.6	22.9	13.4	11.3	0.8	0.2
Played lotto or any other lottery game	35.7	35.0	21.4	19.8	41.2	43.5	1.7	1.7
Bet on horse or greyhound races	56.1	77.9	17.6	11.8	16.5	8.3	9.8	2.0
Bet on horse/greyhound races at racetrack	67.6	n/a	17.1	n/a	11.4	n/a	4.1	n/a
Played table games at a casino[b]	90.0	85.6	8.6	12.6	1.8	1.5	0.0	0.3
Played internet casino games for money	56.5	64.4	34.8	22.7	8.7	6.0	0.0	6.8
Gambled privately with friends for money	60.0	n/a	34.8	n/a	5.9	n/a	0.0	n/a
Played bingo	56.6	n/a	29.5	n/a	13.9	n/a	0.0	n/a
Played Club Keno	63.4	83.1	23.7	12.8	10.7	4.0	2.3	0.0
Bet on horse or greyhound races at a TAB	56.5	n/a	19.3	n/a	16.2	n/a	8.0	n/a
Bet on a sporting event at a TAB	62.7	67.7	23.4	20.5	11.9	11.4	2.0	0.4
Played EGMs	42.0	69.5	34.7	22.1	19.9	7.6	3.4	0.9

[a] Represents the proportion of gamblers who engaged in that form of gambling (*N* = various)
[b] The VCLAS asked only about playing table games at the Crown Casino, whereas the present study asked about playing table games at "a casino"

Comparison of Problem Gambling Prevalence

The present study used the CPGI to measure problem gambling among the 533 staff respondents. In contrast, the VCLAS survey used three different screens, each administered to approximately equal numbers of regular gamblers: the SOGS (*N* = 150), CPGI (*N* = 141), and the Victorian Gambling Screen (*N* = 155). However, only Victorian figures based on the CPGI are presented here to allow direct comparison with the staff survey.

Table 5 shows the prevalence rates for the four CPGI categories for the present study and the VCLAS. Substantial differences are apparent. The problem gambling rate of 5.6% among staff was nearly 6 times higher than for the Victorian population. The moderate risk rate of 13.7% among staff was around 15 times higher than for the Victorian population. No separate comparisons for low risk and non-problem gamblers could be made, as the VCLAS did not report these data. The proportionate differences between the two samples were significant $\chi^2(2) = 215.23$, $p < .001$. The proportion of problem gamblers in the sample was significantly greater than in the general Victorian community, chi-square test as given.

Table 5 Distribution of CPGI categories (gaming venue staff and VCLAS surveys)

CPGI category	Staff 2007[a] %	Vic 2003[b] %
Non-Gambler	4.1	98.13
Non-Problem Gambler	54.1	
Low Risk Gambler	22.4	
Moderate Risk Gambler	13.7	0.91
Problem Gambler	5.6	0.97
Total	100.0	

[a] *N* = 533

[b] Weighted *N* = 141, being those who were administered the CPGI

Comparison of Distance Travelled to Gamble on EGMs

A final comparison relevant to accessibility to gambling is the distance people usually travel to gamble. In the VCLAS, this was addressed only in relation to EGMs, where respondents were asked: "Think about the last time you played poker machines at a club or pub (not including Crown Casino). How far did you travel to get there?". In the staff survey, respondents were asked: "If you gamble on the following activities, how far do you usually travel to bet on each one?", with each activity listed. The staff respondents generally travelled less distance to play EGMs. Double the proportion of the staff respondents (64.3%) compared to the VCLAS respondents (32.3%) travelled less than 2.5km, with the proportion of staff (2.3%) travelling more than 20km being about one-quarter of the VCLAS (10.1%) figure. These figures suggest that EGMs are physically more accessible for staff, as would be expected.

Results for Hypothesis 2

The second hypothesis proposed that the Victorian gaming venue employees would have higher rates of gambling participation, gambling frequency, and gambling problems than the general population of Victoria. The results largely support this hypothesis. The gaming venue staff had a 95.9% participation rate compared to 77.4% found in the VCLAS. Further, the gaming venue staff participated in an average of 4.4 different gambling activities, substantially higher than the VCLAS figure of 2.3 activities. Additionally, higher proportions of the staff than of the Victorian population had gambled at least weekly on EGMs, Club Keno, instant scratch tickets for themselves, horse or greyhound races, and sportsbetting. Finally, the prevalence of problem gambling was 5.6% among staff, nearly 6 times higher than for the Victorian population, and prevalence of the moderate risk gambling was 13.7% among staff, around 15 times higher than for the Victorian population. All these differences were statistically significant.

Discussion

In Victoria, Australia, legislation prohibits hotel and club employees from gambling in their workplace while on duty, unless as a necessary part of their official duties. However, it is left to the discretion of individual venues to implement any restrictions around employees gambling in

their workplaces when not on duty. The staff survey conducted for this study provided a current assessment of venue restrictions around staff gambling, finding that nearly half of the 533 survey respondents were allowed to gamble in their workplace on EGMs, Club Keno, and the TAB, but typically only on days off and before or after work while not in uniform.

Clearly, people employed in gaming venues who are also allowed to gamble in their workplace have heightened physical accessibility to gambling, due to its proximity and convenience in their place of work. Further, if it is accepted that accessibility to gambling goes beyond just physical access, then all gaming venue staff, even those who cannot gamble in their workplace, have greater access to gambling than the general population. Some reasons for this include their heightened knowledge and familiarity with gambling by virtue of their occupation; the normalisation of gambling from working around gambling and gamblers; the social encouragement to gamble that may emanate from fellow employees, patrons, and the workplace culture; and the limits on other recreational opportunities due to hours of work. Aligned with this increased accessibility to gambling, previous research has indicated that gaming venue employees face higher risks of developing gambling problems than does the general population.

Given the unusual access to gambling that staff of gaming venues experience, the survey reported in this paper collected data on the gambling behaviour of 533 venue staff respondents and compared it, where possible, to the Victorian population. On every comparison possible, the staff must be considered, as a group, very active gamblers. For the 12 month period examined in each study, the staff respondents exceeded the Victorian population on the average number of gambling activities they participated in, their overall participation rates in gambling, and their participation rates for every type of gambling, particularly for EGMs, betting on horse or greyhound races at a TAB and racetrack, and Club Keno. The staff respondents were also more likely to be regular (at least weekly) gamblers on most gambling activities for which comparisons could be made – EGMs, Club Keno, instant scratch tickets, horse and greyhound races, and sportsbetting. Reflecting easier physical access, the staff respondents also usually travelled less distance to play EGMs than did the general population, with most travelling less than 2.5km. In fact, the majority of staff who gambled on the other gambling products which can be offered in hotels and clubs – Club Keno, horse/greyhound races at a TAB, and sporting events at a TAB – usually travelled less than 2.5km to do so.

Further, staff that held a Gaming Industry Employee's Licence, worked in a gaming-related position, and had worked for a longer time in gaming venues, were over-represented among regular EGM and Club Keno gamblers. Thus, active and lengthy involvement in workplace gambling operations, such as assisting patrons with gaming machines, gaming promotions, and cashier or change booth functions, appears to increase the likelihood of regular gambling on EGMs and Club Keno, again suggesting that exposure to gambling and gamblers is linked to gambling activity.

Staff who worked in a venue where the gaming machines were operated by the company which also owns the state's network of TAB agencies, who worked in a hotel rather than a club, and who were male, were over-represented among regular TAB gamblers. Thus, effects from the workplace environment also seem to influence TAB gamblers. A culture of punting on horse and greyhound races may be more likely to prevail in those venues which, along with a more relaxed environment in some hotels, might tacitly encourage such gambling among some staff, particularly males.

Most concerning was the much higher prevalence of problem gambling among the staff respondents, as measured by the CPGI. This rate of 5.6% was nearly 6 times higher than that of the

Victorian population, and the moderate risk gambling rate of 13.7% was around 15 times higher. Most staff problem gamblers were regular gamblers on the activities most often provided in their workplaces, a finding which supports an exposure effect. Most were regular EGM gamblers, while regular betting on horse and greyhound races at a TAB was also common, but more so among the moderate risk gamblers.

When workplace and employment characteristics were examined, staff who assisted patrons with gambling-related activities and who had received less responsible gambling training were more likely to be moderate risk/problem gamblers than those who had received more training. In fact, among the staff who assisted patrons with gambling-related activities, 85.3% of those who had received only a few hours or less of responsible gambling training were moderate risk or problem gamblers, compared with 32.9% of those who had undergone at least half a day of this training. This finding suggests that extending the duration of responsible gambling training to at least half a day for staff who assist patrons with gambling-related activities might lower the risk of them becoming moderate risk or problem gamblers.

While an exposure effect at least partly explains the higher rates of gambling problems found among the employees than among the general population, an alternative hypothesis is that gaming venues may attract employees who have greater interest in gambling than the general population, such that gambling problems may be imported into a venue, rather than being a consequence of employment. However, the cross-sectional design of this study did not allow this hypothesis to be tested.

Conclusion

Clearly, this research is subject to limitations. First, the non-random sampling for the staff survey means that results cannot be generalised to the broader population of gaming venue staff. Second, the cross-sectional design did not allow analysis of cause and effect or of the temporal relationship between employment in gaming venues and the development of gambling problems. Third, the data were self-reported, so may be susceptible to social desirability bias. However, the VCLAS also collected self-reported data, so in this sense, direct comparisons can be made. Fourth, the survey achieved only a 34.5% response rate and it is not known whether respondents differed from non-respondents. It may be that responses were overly representative of people who gambled and who therefore took an interest in the study. Despite these limitations, the research results paint a concerning picture of gambling by gaming venue staff, especially considering that their more active gambling and higher rates of gambling problems generally align with those reported in previous studies. There seems little doubt that venue staff are an at-risk group for gambling problems.

In recent years, governments and gambling industries have introduced numerous policies and practices aimed at encouraging responsible gambling among venue patrons. These have included restrictions on who can gamble (e.g., no gambling by minors, self-exclusion), EGM design (e.g., note acceptor limits, maximum bets), access to cash (e.g., location of ATMs, no cash advances), player information (e.g., odds of winning), advertising and promotions (e.g., no external advertising of EGMs in some states), the gambling environment (e.g., visible clocks), and opening hours (Australasian Gaming Council, 2008). While some of these measures are equally applicable to gaming venue staff, the higher problem gambling prevalence found in this and previous studies suggests an opportunity for more targeted responsible gambling strategies for

venue staff. While not the direct focus of the present study, the findings do suggest that enhanced responsible gambling training would yield benefits and help to counter the heightened accessibility and exposure to gambling which staff experience. This would constitute a positive step towards protecting employees from gambling-related harm. It would also help to protect their employers, as staff with gambling problems pose potential risks relating to duty of care, occupational health and safety, and cash control. It is also an opportunity for industry to further demonstrate its social responsibility in gambling.

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Professor Nerilee Hing *is Head of the Centre for Gambling Education and Research at Southern Cross University, Australia. Her research has focused on responsible gambling policy and practice and gambling problems in subpopulations, including venue staff, Indigenous Australians, and women. Her research has been funded by many government agencies and published widely in academic journals.*