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# Work stress and problem gambling among Chinese casino employees in Macau

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## Abstract

The prior literature has suggested that gaming venue employees might be an at-risk group for developing gambling problems. A variety of occupational stressors and workplace factors were uncovered for causing the elevated risk. However, little theory-driven research has been conducted to investigate Asian gaming venue employees' experience of work stress and gambling behavior. Adopting the transactional theories of stress and coping, this exploratory study examined perceived job satisfaction, work stressors, stress strains, coping responses and gambling behavior among Chinese casino employees in Macau. Semi-structured interviews with fifteen casino employees (9 men and 6 women) were conducted. Many interviewees described working at casino as very stressful. Seven types of workplace stressors were identified. Most were aware of the harmful effects of work stress on their health. They experienced physical and psychological strains despite various coping strategies were employed to alleviate job stress. Many gambled after work to 'unwind'. Using the DSM-IV criteria, one male employee could be categorized as a pathological gambler, and five men exhibited symptoms of problem gambling. In addition to job stress and male gender, other risk factors for problem gambling were also found. The study results have implication for workplace stress prevention and responsible gambling practices.

**Keywords:** Work stress, Casino employees, Problem gambling, Responsible gambling

## Background

Occupational stress generates both positive and deleterious effects. While stress can enhance creativity and job motivation, chronic job stress can endanger well-being and may even cause serious damage and illness. Previous studies indicate work stress is associated with physical and psychological strains (Boswell et al. 2004; Calnan et al. 2000; Fenwick and Tausig 2001; Kasl 1998; Siegrist 1998; Shaffer et al. 1999). Physical strains include headaches, strokes, gastrointestinal disorders, peptic ulcers and coronary heart disease. Psychological strains are anxiety, depression, panic attacks and psychosomatic complaints. Longer term health hazards may include self-harm behavior, suicide and death (Gabriel and Liimatainen 2000; Uehata 2005).

Work stress also incurs numerous economic costs such as decreased productivity, absenteeism, prolonged sick leave, compensation and medical claims, and high rates of staff turnover and injuries (Gabriel and Liimatainen 2000; WorkCover 2004). Today,

work stress has been widely recognized as a “global epidemic” that warrants comprehensive intervention (Richardson & Rothstein, 2008).

A brief review of literature shows that gaming employees experienced high levels of work stress (e.g. Hing and Gainsbury 2011; Keith et al. 2001; Wu and Wong 2008), and were susceptible to gambling problems (Hing and Gainsbury 2011; Petry 2004). Shaffer et al. (1999) reported 2.1% of 3,841 casino employees were identified as pathological gamblers. Duquette (2000) found 20.3% of 271 casino employees showed signs of pathological gambling. Wu and Wong (2008) noted 6.7% of 119 Macau casino dealers engaged in disordered gambling. In these studies the South Oaks Gambling Screen (SOGS; Lesieur and Blume 1987) was chosen to assess gambling problems. Using the Canadian Problem Gambling Index (CPGI; Ferris and Wynne 2001), Hing and Gainsbury (2011) discovered 4.5% of 511 gaming venue staff in Queensland involved in problem gambling. In an earlier study in which the CPGI was also used, Hing and Breen (2008a) recorded a higher rate of problem gambling (8.9%) among 56 Queensland gaming employees.

These research results indicate that gaming employees are particularly vulnerable to gambling problems as the past-year estimates of pathological gambling in the general adult population often remain under 2% worldwide (e.g. 0.47% in Queensland (Hing and Gainsbury 2011); 1.14% in USA (Duquette 2000), and 1.78% in Macau (Fong and Ozorio 2005). Work stress is a risk factor for problem gambling among gaming employees (Hing and Breen 2005; Hing and Breen 2008b; Hing and Gainsbury 2011; Wu and Wong 2008). Other workplace factors which may encourage gambling participation and excessive gambling are frequent exposure to gambling and marketing activities, easy access to gambling and cash, close interaction with gamblers, and a drinking and gambling work sub-culture (Hing and Breen 2005; Shaffer and Hall 2002; Shaffer and Korn 2002; Shaffer et al. 1999). Individual factors may also influence employees' gambling behavior. These include personal interest in gambling activities, perceived insider knowledge, and illusions about control (Hing and Gainsbury 2011). Lastly, it is likely that the gaming industry attracts gamblers and even problematic gamblers (Hing and Gainsbury 2011; Shaffer and Korn 2002).

There is a paucity of research on Asian gaming employees' experience of work stress and problem gambling (Wu and Wong 2008; Yu et al. 2006). Using semi-structured interviews, this exploratory study attempted to fill this research gap. The qualitative method was used because its contribution to the discovery of work stressors, job strains and coping behaviors has been recognized (Kidd et al. 1996; Mazzola et al. 2011). Research on work stress has under-utilized qualitative methods (Mazzola et al. 2011; Walker 1997). This paper presents the results derived from the interviews with 15 Chinese casino employees working in Macau. The authors first present the findings on employees' perceived sources of job satisfaction and stress, stress responses and coping behaviors. The second part reports the results on participants' gambling behavior. The relationship between work stress and problem gambling is also explored. Lastly, the paper concludes with a discussion on stress prevention and responsible gambling measures.

### **Theoretical framework**

To date, little theory-driven research has been conducted to examine occupational stress, coping and gambling behavior among Asian gaming employees. This study was

conceptually based on the transactional theories of stress and coping (Lazarus 1991; Siu et al. 2002; Zakowski, et al. 2001), which have been widely used for decades in health and workplace studies, because their usefulness has been well documented (Bond and Bunce 2001; Glanz et al. 2002; Perrewe and Zellars 1999; Siu et al. 2002; Yu, et al. 2006).

According to the transactional theories of stress, work stress is the product of the dynamic interaction between an individual and his/her work environment. The theories also emphasize the role of cognitive appraisal and coping in the job stress process. An individual who perceives himself or herself being unable to cope with a stressful work circumstance (i.e. a stressor) (Spector 1998) will experience strains which are harmful responses. Strain responses can be categorized into physical (e.g. tiredness and physical tension), psychological (e.g. anger, anxiety and frustration) and behavioral (e.g. excessive gambling and drinking). The stressor-strain relationship is moderated by coping resources (e.g. social support and spirituality) and coping strategies (e.g. emotion-focused and problem-focused) (Laubmeier et al. 2004; Siu, et al. 2002).

Utilizing the transactional theories of stress and coping, this qualitative study aimed to discover Chinese casino employees' perceived sources of stress, stress reactions, coping responses and gambling behavior. We expect the interviewees would describe their working experience at Macau casinos as stressful. They would report physical and psychological strains despite various coping methods had been used. We expect many would gamble to dissipate job stress which was a risk factor for developing gambling problems. Lastly, we shall provide an indication of the possible rates of pathological and problem gambling among Chinese casino employees in Macau.

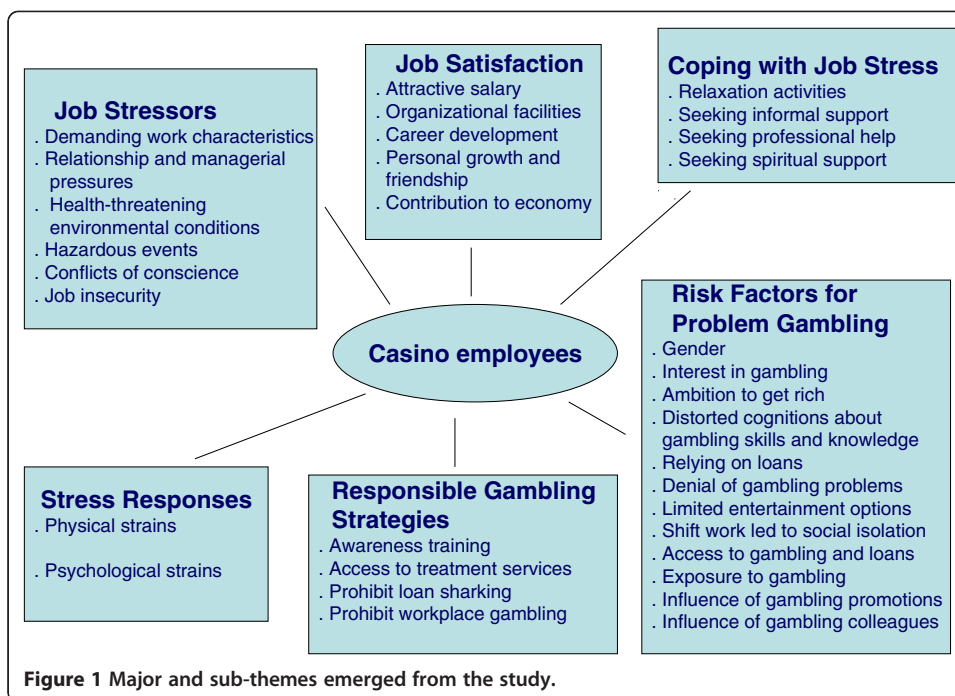
## **Method**

Between May and October 2009, semi-structured interviews with 15 Chinese casino gaming employees were conducted. On average, the interviews lasted for 1.5-2 hours. The participants were recruited by snowball sampling strategy. The first five interviewees were referred by a casino manager. The other ten were introduced by these five participants. Only Chinese casino employees with at least one year working experience in Macau were recruited. Eighteen potential participants were contacted but only fifteen attended the interviews, yielding a response rate of 83.3%.

Researchers sought the participants' written consent for interviews after research aims and procedures had been fully explained. All interviews but two were taped and then transcribed. For the two participants who declined being taped, extensive notes were taken during the interview. Thematic analysis (Patton 2002) was used to analyze the collected qualitative information. The researchers reviewed the transcribed text carefully to identify themes emerged from the data. We also identified examples of each theme, and illustrated it with selected quotations from the original text. Figure 1 summarizes the major and sub-themes emerged in this study.

## **Participants**

Table 1 presents the socio-economic characteristics of the interviewees. Nine interviewees were men (60%) and six were women (40%). Eleven were young adults aged 19–29 years (73.3%), two aged between 30–39 years (13.3%) and the other two were



between 40–49 years (13.3%). The mean age was 27.6 years (SD = 7.49). Eight were graduates of senior high schools (53.3%), four obtained a bachelor degree (26.7%), and three finished junior high school (20%). Ten were single (66.7%), four were married (26.7%) and one was divorced (6.7%). All the married participants had young children below eight years old. Eight were working in Las Vegas style casinos (53.3%), and seven were employees of Macau traditional casinos (46.7%) managed by the Sociedade de Turismo e Diversões de Macau (STDM). Eleven were casino dealers (73.3%), and four

**Table 1 Socio-economic characteristics of the interviewees**

	Sex	Age (years)	Education	Marital status	Position	Monthly salary (Macau dollars)
1	F	44	senior high	married	dealer	\$15,000
2	F	23	senior high	single	dealer	\$14,000
3	M	24	senior high	single	dealer	\$15,000
4	M	35	senior high	divorced	dealer	\$16,000
5	F	43	junior high	married	dealer	\$18,000
6	M	30	junior high	married	supervisor	\$22,000
7	F	22	senior high	single	dealer	\$13,000
8	F	24	senior high	single	dealer	\$14,000
9	M	28	junior high	single	dealer	\$13,000
10	M	23	university	single	dealer	\$14,000
11	F	22	university	single	dealer	\$14,000
12	M	19	senior high	single	dealer	\$13,000
13	M	25	university	married	supervisor	\$21,000
14	M	27	senior high	single	supervisor	\$20,000
15	M	25	university	single	supervisor	\$22,000

were supervisors (26.7%). On average, they worked 45.3 hours each week, spending 90% of their time in direct contact with customers of table games. Six worked for casino for 2 years (40%), four for 3 years (26.7%), three for 5 years (20%), one for six years (6.7%) and one for 11 years (6.7%). Nine received a monthly salary of MPO\$13,000–\$15,000 (60%), two earned MPO\$16,000–\$19,000 (13.3%), and four received MPO\$20,000–\$22,000 (26.7%).

### **Instruments**

Using a semi-structured interview guide, the researchers conducted face-to-face interviews with the participants at a cafeteria outside the workplace. There were four parts in the interview:

- a) the researchers asked the participants why they chose to work in the casino. Information on their socio-demographic characteristics was also collected (e.g., age, gender, marital status, education, religious affiliation, monthly salary, current position and work experience in Macau casinos);
- b) the interviewees were invited to describe the sources of job satisfaction and work stress, stress strains and coping responses;
- c) they were also asked if they had ever gambled to relief work stress? The Diagnostic and Statistical Manual (4<sup>th</sup> Edition) (DSM-IV) criteria (American Psychiatric Association 1994) were used to assess their gambling behaviour in the past year. The assessment was made by the researchers who were trained gambling counsellors. Endorsement of 5 or more diagnostic criteria indicated pathological gambling, identification of 3–4 criteria suggested problem gambling and 1–2 criteria implied at-risk gambling; and
- d) lastly, the participants' views on responsible gambling practices were collected.

## **Results**

### **Reasons for entering the casino industry**

All were allured to work for casino by attractive salary, and the apparently bright prospect of the casino industry in Macau. For those who chose to work in Las Vegas style casinos, they were eager to discover how western gaming management would be different from Asian style. They conceived working at international gaming corporations would open their eyes. Many expected a comfortable working environment because casinos appeared to be glamorous.

### **Perceived sources of job satisfaction**

#### **Attractive salary**

All admitted that attractive salary was the primary source of job satisfaction. A middle-aged dealer explained, "With a junior high education, I could hardly get 60 percent of my salary if I quit my job. I am happy with the incomes." Another dealer said, "I earn a pretty good salary which allows me to have comfortable living conditions. I am paying for a small flat by monthly installments. I plan to buy a larger apartment in the future." Many pointed out that the land had appreciated enormously and the cost of living had

risen considerably since gambling monopoly was abolished in 2002. They would not be able to cope with price rises and inflation without the relatively well-paid job at casino.

#### **Organizational facilities**

Some were satisfied with the organizational facilities and employee welfare (e.g. meals, employees' private lockers and resting corners). The American casino employees praised the meals provided to gaming staff. They were allowed to enjoy the food prepared for the customers (e.g. food provided in a buffet). One dealer said, "A great variety of western and Asian food is available. Eating delicious food is certainly an important part of good living to many Chinese." Some appreciated the employee care programs (e.g. free medical care and psychological counseling) provided at Las Vegas style casinos.

#### **Career development**

Opportunities to advance and to develop a career were also considered important sources of satisfaction. Several considered themselves qualified for gaining promotion because of their outstanding performance. A participant who was recently promoted supervisor exclaimed, "Apart from having an increase in salary, promotion was recognition of my hard work, merit and ability. I am proud of it."

#### **Personal growth and friendship**

Some chose to work for large international gaming corporations because they looked for "eye-opening" experiences which were perceived as beneficial to personal growth. A supervisor explained, "Chinese and western casinos are different. . .free shows, free snacks and bottles of water were first provided in Las Vegas style casinos. I was amazed by many new things when I changed to work at this new American casino." Another young dealer said, "I am mature and patient as a result of serving both friendly and difficult customers who came from all walks of life." Some were grateful for colleagues' friendship and help. One employee said, "I am lucky! My colleagues and supervisor taught me how to deal with hostile gamblers. We are friends now. We often go out for fun after work."

#### **Contribution to economy**

Some interviewees enjoyed providing entertainment (i.e. gambling services) to visitors. They noted that gambling could be fun. They liked seeing customers enjoying the games. Many were proud of Macau's success in the casino industry. They took pride in making contribution to Macau's economic growth. One supervisor remarked that, "Ten years ago Macau was not well known at all. Today, it is famed as Las Vegas of the East. Millions of visitors come here to play and relax. Casino gambling generates huge revenues. I am proud of my contribution to the city's success."

#### **Occupational stressors**

Many interviewees described working in Macau casino as very stressful. Seven types of workplace stressors were identified. These were demanding work characteristics,

relationship and managerial pressures, health-threatening environmental conditions, hazardous events, conflicts of conscience and job insecurity.

#### **Demanding work characteristics**

Most participants regarded demanding work characteristics as significant job stressors. They were expected to remain friendly, nice and polite even when the patrons behaved shamefully. A female dealer said, "I felt disgusted when male gamblers scolded me with obscene and wicked words but I had to tolerate." Another male croupier noted that "I often feel extremely annoyed and insulted when losing gamblers curse me and accuse me of bringing them ill luck." Passive endurance of customers' fiery temper, curses, malice and threats could be very distressing.

Work shifts were also rated as very demanding. Many agreed that night shifts were harmful to health. A dealer claimed that the chance of making mistakes increased during night shifts. Although most participants gradually adapted to shift work, many experienced gradual breakdown of support networks because work shifts had hindered social gatherings and family activities. They regretted their relationship with family and friends was deteriorating. Their social circles gradually shrank. A young dealer said, "My friends have started excluding me from social functions... I am always working when they are off." The interviewees acknowledged the need to make time for family and friends but were frustrated for failing to do so.

Other demanding work characteristics included doing a range of boring, repetitive and fatiguing work tasks (e.g. turning the Lucky Wheel for hours each day). Managing heavy workloads brought by influxes of customers from China, especially on weekends and during the public holidays could be very stressful. Anxiety about making mistakes and receiving complaints lodged by difficult patrons also increased during these busy times. Lastly, a few participants found it hard to cope with a "snobbish" work sub-culture which over-emphasized wealth, materialistic possession, brands and social status. They spared money to buy brand watches, rings, glasses and cell phones to avoid being looked down upon by guests and work colleagues.

#### **Relationship stressors**

Relationship problems created substantial stress. Conflicts with seniors and workmates appeared to be common. A dealer complained of being criticized by competing colleagues after disclosing his ambition for promotion. Some attracted jealous or contemptuous responses from colleagues because they got along with the superiors very well. Two interviewees considered leaving because tension in the team created much annoyance and discomfort. Many agreed that harmonious colleagues would enhance morale and efficiency whereas relationship conflicts could inflict pain.

#### **Managerial pressures**

Substantial stress emanated from inappropriate management and supervision. These managerial pressures included finding fault with minor things, having unrealistic expectations on staff performance, demanding good manners at all times even when employees were insulted or humiliated, giving critical and unfair remarks without sufficient evidence in staff appraisal and lack of praise, recognition and reward for work

effort. Above all, it was most distressing to receive warnings. A dealer said, "Dismissal often follows three warning letters in my workplace. Warnings are given for being late, making mistakes, and applying for sick leave."

Many pointed out that lack of support from management and organization could be quite demoralizing. These included being warned and punished for taking urgent leave and even sick leave. A few were discouraged to submit claims for workplace injuries (e.g., physical injuries resulting from patrons' aggressive behaviors). Independent mechanism for handling staff grievances did not exist in many casinos.

Employees who worked in private gambling rooms designed exclusively for "high rollers" liked the less noisy and crowded working conditions. However, a few were frustrated with the poorly clarified roles and responsibilities. A supervisor noted that "I am obliged to please the rich customers by helping them to buy souvenirs, and to buy tickets for concerts held in another casino . . . I am not supposed to provide these personal services."

#### **Health-threatening environmental conditions**

Unfavorable and health-threatening workplace environmental conditions led to considerable stress. Many commented that casinos were severely polluted with noise, lights and smoking. A few worried about the harmful effects of passive smoking on their health. Some were fed up with the music, the sounds and the noise (e.g. the noisy jingling jackpot promotion, the guests' shouting and swearing), and would at times become annoyed.

#### **Hazardous events**

Hazardous or traumatic events might cause long lasting detrimental consequences. These events included bullying, harassment, assault and battery, and exposure to customers' self-harm behavior and even suicides. A dealer burst into tears when she recalled with fear how a drunken gambler suddenly attacked her. She noted that "drunken guests and desperate losers could be very aggressive and dangerous." Another dealer became enormously agitated after witnessing a gambler jumped to death. She remarked that, "It was very horrible! I was so disturbed and terrified that I could hardly sleep nor eat." The managers referred these two women to receive medical treatment.

#### **Conflicts of conscience**

Two interviewees considered quitting their job partly due to conflicts of conscience. They were reluctant to promote casino gambling activities. Many felt sad and responsible for customers' gambling-related problems (e.g. bankruptcies, divorce, nervous breakdown and suicide). Some were upset by weeping gamblers who lost money and threatened to kill themselves. An experienced dealer pointed out that "exhausted gamblers who have gambled day after day without sleep and eating often end up in a hospital. It is sad! I feel terribly bad for their misfortunes although I have been working in the industry for such a long time."

#### **Job insecurity**

During 2008 and mid 2009, the casino industry in Macau shrank rapidly. The shrinkage was brought partly by global economic recession after the 2008 financial tsunami. Some



interviewees were pessimistic about the prospects of gaming industry in Macau. A dealer recollected that, "We were forced to work part-time. Some only got 50%–60% of the normal salary." A supervisor elaborated that "another heavy blow came from China's restrictive visiting policy which led to a drastic drop in the number of visitors since mid 2008. We felt very insecure because all the casino construction projects had been abruptly suspended. Some colleagues were dismissed."

A few were anxious about the negative effects of competition among casinos in such a small region. One noted that, "Only the big ones can survive in the long run. I worry about developing a career in casino." At least seven planned to leave when they had got enough capital to run a business or to start a new career.

### **Physical strains**

Only one interviewee found work stress had increased his job motivation. Majority only noticed the harmful physical reactions elicited by workplace stressors. Many complained that night shifts and heavy workloads weakened body's immune system. Other physical strains were fatigue, disturbed sleep, musculoskeletal disorders (e.g. back pain and sore feet), appetite and gastro-intestinal problems. One dealer said, "Insufficient sleep has damaged resiliency of my body. I often contract flu from the customers but I am not allowed to wear a mask."

### **Psychological strains**

All were aware of the deleterious effects of work stress on their body and emotions. The commonly experienced emotional strains were boredom, moodiness, irritability, nervousness, tension, anxiety and depression. A young dealer said, "After taking up this job, aggressive patrons often depress me and the supervisor's criticisms annoy me. I am moody and anxious." Two interviewees described themselves as "psychologically ill" after passing through traumatic experiences. One was a victim of violence. Her arm was broken by a drunken gambler in an assault. The other was a witness of a patron's suicide. The doctor diagnosed their illness as post-traumatic stress disorder, and both needed medical and psychological treatment.

### **Coping with work stress**

All agreed that coping with work stress was very important but none were aware of any organization training on generic coping or stress management. Three types of coping behavior were identified, namely engaging with stress alleviating activities, seeking formal and informal support, and relying on spiritual help.

Many tried to "unwind" after work by engaging with a great variety of activities. These included eating, smoking, drinking and gambling with casino colleagues, singing with friends at karaoke, enjoying Chinese tea breakfast with fellow employees after night shifts, holding barbeque parties, having fun in family gatherings, and joining sight-seeing tours during vocational leaves. Some preferred solitary activities like crying, shouting, sleeping, shopping, doing exercise, listening to music, watching movies at home, gambling online and playing computer games.

Other coping strategies aimed essentially at seeking formal or informal support. These included sharing work-related problems with trustworthy colleagues, receiving

emotional support from friends and family, seeking professional help when stressors became overwhelming, and praying to a higher power. Majority agreed that social support was a very valuable coping resource but was hard to develop and maintain. Some were aware of the potential damages associated with smoking, drinking and gambling but they believed that these activities would relieve stress.

### **Reasons for gambling**

All started gambling long before working for casino. Majority began playing mahjong and card games at the age of 7–12 years. Two also bet on soccer matches and slots before 18 years which was the legal age of gambling in Macau.

With the exception of one interviewee, all reported gambling outside working hours in the previous year. Fourteen gambled in casino. Five simultaneously engaged in Internet gambling, while three also played mahjong and card games with colleagues and friends. Many gambled with intent to alleviate job stress (9/14). They convinced themselves that they would not get hooked to gambling because they simply played to relax. Other reasons for gambling participation were to have fun, to try their luck, to win money, to please and socialize with colleagues or the seniors. Lastly, gambling seemed to be a popular entertainment in Macau where alternative recreational opportunities were lacking.

### **Problem gambling**

Many interviewees agreed that casino gaming employees had higher rates of gambling involvement and problem gambling than other occupational groups. One noted that “gambling is part of the workplace culture. . .around 90% of gaming staff gamble after work to relax and to socialize.” Several estimated that around 20% of casino gaming employees might have gambling problems. They heard about colleagues begging for cash to repay gambling debts, and noticed the news of gambling-related crimes, especially among young dealers had increased.

Using the DSM-IV diagnostic criteria (American Psychiatric Association 1994), one male interviewee (6.7%) was identified as a pathological gambler (meeting seven criteria). Five men (33.3%) who met 4 criteria were designated as problem gamblers. Two men and a woman (20%) met only one criterion. They could be classified as at-risk gamblers. Five recreational gamblers (1 man and 4 women) did not meet any criterion. They gambled for fun and relaxation.

These recreational gamblers often played card games and mahjong with friends or family members in a home environment monthly or bi-monthly with a pre-determined time frame and budget (2%–5% of their salary). At-risk gamblers gambled on average every two weeks, and problem gamblers gambled 2–3 times a week at commercial gaming venues (mainly in casinos but also at slot lounges and on the Internet). The pathological and problem gamblers spent at least a quarter of their monthly salary on gambling activities.

The pathological gambler often gambled after work playing casino table games at least four times a week. He would gamble more frequently when he was “stressed or depressed”. The pathological and problem gamblers reported increasing their gambling activities since working at the casino. Eight gamblers found their gambling had remained

the same. One reported giving up gambling outside work hours after the suicide of a patron.

#### **Risk factors for problem gambling**

The interview data uncovered several risk factors which might contribute to pathological and problem gambling among the casino employees. Individual factors were the male gender, having interest in gambling activities, being ambitious to get rich, having distorted cognitions about gambling skills and knowledge, being reliant on loans to solve financial problems, and denying problematic gambling. Workplace factors included shift work, lack of alternative entertainment to alleviate job stress, frequent exposure to gambling activities, easy access to gambling and loans, and influence of gambling promotions and gambling colleagues. Since the sample size was small ( $n = 15$ ), future research using larger samples will be useful to further verify the relationship between these factors and problem gambling among gaming venue employees.

#### **Male gender**

All the problem and pathological gamblers were men. Most female players were social gamblers. Only one woman was at-risk for problem gambling. Early studies repeatedly revealed gender differences in problem and pathological gambling (e.g. Fong and Ozorio 2005; Lee et al. 2008; Volberg 1996; Wong and So 2003). This study confirms that men are more likely to have gambling problems than women.

#### **Interest in gambling activities**

All the problem gamblers were fond of gambling activities which were perceived as challenging and sensation giving. One remarked that “no activities are as interesting as gambling. I feel so excited in both winnings and losses!” Some disclosed their passion for gambling had caused problems (e.g. gambling debts and quarrels with family) before they worked for casino. It is likely that the industry attracts gamblers and even problematic gamblers (Hing and Breen 2005; Shaffer and Hall 2002).

#### **Ambition to get rich**

All were ambitious to get rich to buy a house, a new car, to improve the family living conditions or to start a business. They emphasized satisfaction derived from materialistic possessions. Gambling appeared to provide “a short cut” to wealth. One exclaimed that, “I was not born rich. The only short-cut to riches is to gamble. I want to open a café if I have money.” Another dreamed of starting an investment company.

#### **Distorted cognitions about gambling skills and knowledge**

All problem gamblers were confident of their gambling skills and knowledge about various casino games. They believed they had better chances of winning than their guests and other non-gaming employees. Many insisted that they had insider knowledge about different games, and had developed winning strategies to beat the system. They used a variety of strategies to enhance the chances of winnings (e.g. wearing red underwear and carrying special objects which would bring good fortune). Past studies

indicate perceived insider knowledge and illusion about winnings may lead to problem gambling (e.g. Hing & Breen 2005).

#### **Relying on loans to tide over financial difficulties**

All considered borrowing money to tie over financial difficulties an acceptable option. There was nothing to be ashamed of. Many problem gamblers borrowed money to finance gambling and repay gambling debts. Relying on loans became a life style thing for them. A problem gambler summarized that, "The more I borrowed, the more I lost. When losses and loans snowball, only gambling will provide an opportunity to clear off the debts by big wins."

#### **Denial of having a gambling problem**

Only the pathological gambler admitted that he was hooked to gambling but he rejected treatment. All problem gamblers denied having a gambling problem although they reported many gambling-related difficulties (e.g. depression and gambling debts). None was aware of gambling counseling services in Macau. Reluctance to seek professional help would exacerbate gambling problems (Hing and Breen 2005).

#### **Lack of alternative entertainment to alleviate job stress**

Problem gamblers were more likely to "unwind" after work by gambling and drinking. Only casinos and pokies opened 24 hours a day. They developed the habit of going to another casino to drink and play baccarat after finishing work at mid night. A problem gambler emphasized that life without gambling would be terribly boring due to a lack of alternative recreational activities in Macau. Majority commented that facilities for sports, amusement and cultural activities were inadequate.

#### **Shift work led to social isolation**

Work shifts had interfered opportunities to meet acquaintances and family members causing social isolation and gambling problems (Hing and Breen 2008b; Keith et al. 2001). Many felt lonely. Casino and slots shops became convenient places for meeting colleagues and socializing with people. A young dealer explained that, "It is hard to find someone to hang out with in the mid-night. I love playing baccarat with colleagues in a neighboring casino. . . . I feel less lonely and boring."

#### **Easy access to gambling**

Although casino employees were prohibited to gamble in the venue where they were employed, it was convenient to play somewhere else. There were nearly 30 casinos and many slot lounges in Macau. A problem gambler said, "Anywhere you go, there are casinos around you. . .the gambling atmosphere is so pervasive in Macau. How could gamblers resist playing?" Accessibility to gambling is associated with increased vulnerability to gambling problems (Productivity Commission 1999).

#### **Easy access to loans**

All gamblers revealed that it was very convenient to get cash from the ATMs or the loan sharks who hang around gaming venues. Many agreed that easy access to loans

would encourage chasing losses (Hing and Breen 2005), and raise the risk for having gambling problems. Some desperate losers would resort to stealing and other crimes when loan sharks refused to lend money to them.

#### **Exposure to gambling activities**

A dealer said, "My duty is to gamble with the guests. Gambling becomes a part of my everyday life schedule." Such frequent exposure to gambling activities might normalize gambling for the gaming employees (Hing and Breen 2005). Seeing high-rollers laying huge wagers and winning big, some employees would envy them. They might gradually pick up such an excessive style of gambling without considering its potential negative consequences. Many early studies confirm frequent exposure to gambling, particularly heavy gambling, may increase gaming venue employees' susceptibility to gambling problems (Hing & Breen 2005; Hing and Gainsbury 2011; Shaffer et al. 1999).

#### **Influence of gambling promotions**

All agreed that gambling products were being vigorously promoted in Macau. Their enthusiasm in gambling activities was strongly aroused by the colorful eye-catching promotions on escalating jackpots and the "easy win" advertisements. The atmosphere, the lights, the sound and music also encourage gamblers to play (Griffiths and Parke 2003).

#### **Influence of gambling colleagues**

Many disclosed that casino employees were keen at gambling together after work to "unwind". It appeared to be a part of the work culture. Problem gamblers perceived gambling together would reduce loneliness and boredom but would enhance staff communication and morale. It seemed that gambling and drinking together offered opportunities for social interaction and acceptance into the workgroup (Hing and Breen 2005). Some admitted that it was hard to decline colleagues' invitations to gambling.

#### **Opinions on responsible gambling strategies**

None of the Macau traditional casino employees were aware of any responsible gambling strategies implemented at their workplace. Many had never heard of responsible gaming measures. Only the Las Vegas style casino employees were aware of signage and information leaflets which were designed for customers. Majority agreed that responsible gambling had never been vigorously promoted in Macau. Many supported the industry and the government to develop responsible gambling strategies. They commented that with rapid expansion of casino gambling in Macau, more patrons and gaming employees would have gambling problems.

#### **Venue-based responsible gambling strategies**

The interviewees proposed four types of venue-based measures to prevent problem gambling among staff. First, some suggested staff awareness training should be organized. They agreed that increasing gaming employees' understanding of risks, signs and harms of problem gambling would be useful. Second, many welcomed the provision of information on gambling counseling. A supervisor added that it would be helpful if referrals to professional services could be arranged. Third, several proposed eradicating

loan sharks from gaming facilities because easy access to cash would accelerate gambling addiction. Lastly, all supported the existing policy of prohibiting gaming staff to gamble at their workplace.

#### **Governmental promotion in responsible gambling**

Many expected the government to take a more active role to minimize problem gambling among gaming employees. Some commented that residents of 18 years were too young for entering the industry. They suggested that only adults of 21 years or above should be allowed to work at gaming facilities. A few criticized that there were too many casinos in such a small region, and gambling temptation was everywhere. Government should introduce a halt and undertake a review on social costs before any new casinos were permitted to open.

#### **Opponents to responsible gambling measures**

Only a few emphasized that the individual should be responsible for his/her gambling problems. Problem gamblers should not expect their employers or the government to help them because they were given the free choice to gamble or not. They raised concern about the negative impacts of implementing responsible gambling measures (e.g. undermining the business and increasing costs). They also questioned the effectiveness of these measures.

#### **Discussion and conclusions**

There are a few limitations in this study. First, snowball sampling might create a biased sample, and the sample size was small ( $n = 15$ ). Second, the study solely consisted of Chinese casino employees. Thus, it is not clear if the results would apply to non-Chinese employees working in other gaming venues. Lastly the accuracy of the interviewees' self-reports may be questioned. Nevertheless, this exploratory study increases our understanding of Macau casino employees' experience of work stress, stress strains, coping responses and gambling behavior. The identification of job stressors and risk factors for problem gambling is useful for designing appropriate interventions. The study results also have policy implications for employee stress prevention and responsible gambling.

Replicating previous research results (e.g. Hing and Breen 2005; Wu and Wong 2008), this study confirms that many casino gaming employees experienced high levels of stress. They reported physical and psychological symptoms of impaired health (Hing and Breen 2005; Keith et al. 2001). To enhance employees' health protection, job stressors uncovered in the study could be properly controlled, reduced or even eradicated. For example, installing technologically advanced devices may help reducing air, light and noise pollution. Managerial problems could be eliminated by improving management skills. Staff orientation and training programs may prepare employees for stress management, shift work and dangerous situations (e.g. bullying and violence) (Kogi 1996; Quick et al. 1998).

Consistent with early research findings (Duquette 2000; Hing and Breen 2008b; Hing and Gainsbury 2011; Shaffer et al. 1999; Wu and Wong 2008), the study confirms that casino employees may be an at-risk group for developing gambling problems. The economy of Macau relies heavily on the success of casino industry (Fong and Ozorio 2005).

The well-being of casino employees has significant effects on the quality of gambling services provided. The industry and government may collaborate to prevent and minimize gambling-related harms by improving existing responsible gambling strategies. The study findings confirm the need for staff awareness training, employee assistance programs, and referrals to gambling counseling services.

Although responsible gambling measures in casinos are not mandatory in many Asian jurisdictions (Wong and Poon 2011), and such practices are new to Macau, Macau government recognizes the need to enforce responsible gambling as an integral part of gaming policies (Huang 2011). It seems to be optimistic that there will be improvement in staff awareness training and other responsible gambling strategies in Macau casinos in the near future. Perhaps, one of the future challenges for Macau casinos will be integrating stress prevention and awareness programs to sensitize gaming employees to problems related to stress and gambling.

#### Competing interests

The authors declare that they have no competing interests.

#### Authors' contributions

Both authors made contributions to the manuscript. Dr. ILKW worked out study design, conducted collection and interpretation of data, wrote and revised the paper. PSL contributed to data collection and interpretation. All authors read and approved the final manuscript.

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