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*Sex Differences in Pathological Gambling Using Gaming Machines.*

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Running head: SEX DIFFERENCES IN GAMING MACHINE GAMBLING

Sex differences in pathological gambling using gaming machines<sup>1</sup>

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Summary. With recent introduction of poker machines in Australia, there have been claims of increases in the number of women with gambling-related problems. Research in the United States indicates however, that men have a higher incidence of pathological gambling. The aims of this study were to ascertain among game machine users in a major city in Australia whether (a) more women than men exhibited symptoms of pathological gambling, (b) women reported higher guilt associated with their gambling, and (c) gamblers' self-assessment on several mood states was predictive of pathological gambling. A modified version of the South Oaks Gambling Screen was administered to 104 users of game machines (44 men, 60 women) sampled from patrons at gaming venues in Melbourne, Australia. Data indicated no significant sex difference in the proportion of pathological gamblers, or in gambling-related guilt. Self-assessment of Happiness, Propensity for Boredom, and Loneliness, significantly predicted scores on the South Oaks Gambling Screen, with Unhappiness a significant independent predictor of pathological gambling. This may suggest that gambling acts to fill a need in the lives of unhappy people or that individuals who lack control over their gambling report higher unhappiness. Further research is needed to discover this relationship.

Gambling is entrenched in the Australian culture, from the traditional gambling game (two-up) on national holidays to betting on the Melbourne Cup which “stops” the nation on the first Tuesday in November. Although fascination with gambling activities is not unique to Australia, Australians have been described as a nation of “punters” (gamblers who bet on horse racing). Perhaps in no other nation but Australia could a race horse (the New Zealand-bred Phar Lap) become a cultural icon symbolising hope and courage in the Depression era.

Traditionally in Australia gambling has been seen as a male pursuit; however, this male domination may have changed in recent years. Following the introduction of gaming facilities nationwide, with electronic gaming machines (similar to slot machines in the USA and fruit machines in the UK) installed in hotels and clubs, and gambling casinos in all state capitals, the gambling culture in Australia may have significantly altered. For example, Buchanan (1994) reports that a market research survey conducted in June 1994 indicated that 64% of all gaming machine players in Victoria were women. This trend partially reflects a preference between men and women among various types of gambling activities. Lesieur and Blume (1991) report that American women prefer gaming machines, card games, and lotteries over stereotypical masculine gambling pursuits such as betting on sports and horse racing.

With the increase of female patrons in gaming facilities, the media also claim an increase in the number of women with gambling-associated problems basing their claim on a market research survey (Buchanan, 1994). An increase in the number of people experiencing gambling-related hardship has also been reported based on case materials from the Salvation Army (Silvester, 1994). In contrast, statistics from the United States indicate that gambling has traditionally been dominated by men, and the proportion of problem gamblers also reflects this with only one third of pathological gamblers estimated to be women (Allcock, 1986; Volberg & Steadman, 1988, 1989; Volberg, 1994).

Another factor that may direct the media's focus on women with gambling problems, in particular, is that gambling activities are regarded as male pursuits and not part of the image of the traditional women. Perhaps because gambling is not seen as a "feminine" leisure activity in which women should be involved, any indication of problems associated with gambling in women may be over-emphasised and stigmatised. In relation to this, previous studies indicate that female pathological gamblers felt significantly more guilty about gambling than their male peers (Allcock, 1986; Lesieur & Blume, 1991). Such guilt may well be associated with greater social disapproval attached to women's gambling.

Potential gender differences in gambling patterns may be mediated by prevailing mood states. While studies on personality and pathological gambling are relatively abundant (e.g., McCormick, Taber, Kruedelbach, & Russo, 1987; Ciarrocchi, Kirschner, & Fallik, 1991; Raviv, 1993), research on the self-assessment of gambler's mood states seems scarce. Measures of mood states of gamblers have predicted persistent gambling behaviour when losing (Dickerson, Cunningham, England, & Hinchy, 1991). Further, adolescent gaming machine addicts report a change of mood state prior to and after persistent gambling behaviour (Griffiths, 1993).

The aims of the present study were (1) to assess whether there are sex differences in pathological gambling among users of gaming machines, (2) to investigate whether there is a difference in guilt over gambling experienced by male and female users of gaming machines, and (3) to ascertain if the gaming patrons' self-assessment of several mood states predicts pathological gambling as measured by the South Oaks Gambling Screen. The mood states chosen--Unhappiness, Propensity for Boredom, and Loneliness--have been suggested following discussions with gambling counsellors as potentially related to problem gambling, although the research literature on this topic is relatively sparse.

## Method

### Participants

A total of 104 respondents (44 men, 60 women) over the age of 18 years were included in this survey. The respondents were selected using a convenience sampling technique from patrons at 10 hotels and other gaming venues in the western suburbs of Melbourne, Australia. Numbers of men and women as respondents were approximately in proportion to the numbers of men and women in the gaming venues. The modal age group of participants was 30--39 years old for men and 20--29 years old for women.

### Materials

The South Oaks Gambling Screen (Lesieur & Blume, 1987), used to identify possible pathological gamblers, is a 20-item questionnaire based on Diagnostic and Statistical Manual of Mental Disorders criteria for pathological gambling (American Psychiatric Association, 1980). It may be self-administered or administered by nonprofessional or professional interviewers. A total of 1,616 subjects were used in its development, including 213 members of Gamblers Anonymous and 867 patients with diagnoses of substance abuse and pathological gambling. Internal consistency and test-retest reliability were established and the South Oaks Gambling Screen is known to correlate highly ( $r_{747} = .94$ ,  $p < .00$ ) with the criteria of DSM-III--R (1987) (Lesieur & Blume, 1987).

### Procedure

Four interviewers (1 man, 3 women) individually visited gaming venues and obtained the approval from management to conduct a survey. Participants were recruited from gaming machine patrons waiting for their turn near gaming machines or ones finished playing poker machines. Approximately 90% of gamblers being approached consented to participate in the survey. The survey was conducted over a period of several days at different times of the day. Using a 7-point scale, participants were also asked to rate themselves on three mood states, Happiness (In general, I am a happy person), Propensity for Boredom (I get easily bored.), and Loneliness (In general, I feel lonely.). The score of 1 indicates the strongest

agreement to each statement, whereas the score of 7 indicates the strongest disagreement.

A pathological gambling score was calculated for each respondent. Following guidelines provided by Lesieur and Blume (1987), respondents who answered yes to five or more questions were identified as possible pathological gamblers.

### Results

An alpha level of .05 was used for all statistical tests. Table 1 presents means and standard deviations of the scores of the three predictor variables on mood states and the South Oaks Gambling Screen. Between men and women who used gaming machines, there were no statistically significant differences on the mean scores on Happiness ( $F_{1, 102} = 0.61$ ,  $MSe = 2.54$ , ns) and those on Loneliness ( $F_{1, 102} = 0.11$ ,  $MSe = 3.14$ , ns). However, women scored significantly higher on Propensity for Boredom than men ( $F_{1, 102} = 6.96$ ,  $MSe = 2.28$ ,  $p < .01$ ).

Out of 104 respondents (44 men and 60 women), 21 men (47.7% of men) and 22 women (36.7% of women) answered yes to five or more questions on the South Oaks Gambling Screen and therefore they were identified as possible pathological gamblers. Chi-squared tests were used to assess the relationships among gender, scores on guilt, and classification as possible pathological gamblers. There was no statistically significant association of sex of gaming machine users and the number of users identified as possible pathological gamblers [ $\chi^2$  ( $N = 104$ ) = 1.28, ns].<sup>2</sup>

Further, the sex of gamblers was not statistically related to the South Oaks Gambling Screen scores ( $F_{1, 102} = 0.41$ ,  $MSe = 14.04$ , ns). In this sample, there was no statistically significant relationship between sex of gaming machine users and the numbers of men and women who were classified as possible pathological gamblers.

Guilt regarding gambling activities was indicated by 16 men (36.4% ) and 28 women (46.7%). Thus, more women reported guilt, however, this was not statistically significant [ $\chi^2$  ( $N = 104$ ) = 1.10, ns]. Among 43 respondents identified as possible pathological gamblers, 13 men (61.9% of males) and 19 women (86.4% of

<sup>2</sup> The power of chi-square test with  $N=104$  to detect a medium effect size of  $\phi = .3$  is .85 (Cohen, 1988).

females) reported gambling-related guilt. There appeared to be greater likelihood of guilt among females, but a chi-squared test was not statistically significant [ $\chi^2$  ( $N = 43$ ) = 3.38, ns].

To identify mood states that may predict gambling scores on the South Oaks Gambling Screen, a standard multiple regression analysis was carried out using scores on the three mood self-assessments as predictor variables. Table 2 presents the summary of the standard multiple regression analysis. These three variables together significantly predicted scores on the South Oaks Gambling Screen ( $F_{3,100} = 13.2$ ,  $MSE = 10.3$ ,  $p < .0005$ ). The lower the scores on Happiness and the higher the scores on Propensity for Boredom and Loneliness, the higher the scores on the South Oaks Gambling Screen. These three mood states variables accounted for 28.4% of the total variance in the scores on the South Oaks Gambling Screen ( $R^2 = .284$ ).

Unhappiness was a statistically significant independent predictor of the scores on the South Oaks Gambling Screen, ( $t_{100} = 4.07$ ,  $p < .0005$ ). Propensity to Boredom and Loneliness were not independent statistically significant predictors of the scores (Boredom:  $t_{100} = -1.92$ , ns; Loneliness,  $t_{100} = -1.86$ , ns).

#### Discussion

Contrary to the media reports and commonly subscribed beliefs that women are more susceptible to compulsive gambling than men as a result of recent introduction of gaming machines in Victoria, this study did not indicate strong evidence which supports this sex difference for this sample of users. One may note that the ratio of men to women was 2:3 and the men were older. Although in the United States more women patrons use gaming machines than men (Lesieur & Blume, 1991), the percentage of women identified as possible pathological gamblers was not significantly different from the percentage of men among this group. The fact that a sex difference in pathological gambling was not shown might be a sign of the recent changes in gambling behaviour. Since previous literature indicates that there are more male pathological gamblers than females, the emerging parity between men and women in pathological gambling might indicate that women have



in fact increased their gambling activities (Lesieur & Blume, 1991). If so, the results from our study lend support to claims from welfare groups, crisis agencies and the media that there is a shift in the traditional gambling trends with more women becoming addicted to gambling.

Contrary to previous studies (Allcock, 1986; Lesieur & Blume, 1987) which reported higher ratings of guilt in women in contrast to men, the current study gave no evidence in support of such a difference. One possible explanation offered for excessive guilt in women reported in the previous literature was that gambling was not perceived as part of the traditional image of women. The current data may reflect a growing acceptance of women's gambling in society. However, these data need to be replicated using larger samples and more standardised measures of guilt before clear conclusions can be drawn.

Finally, the results of multiple regression analysis using scores of three items reflecting mood states indicated that such measures are useful predictors of possible pathological gambling. This finding is consistent with previous research. For example, Griffiths (1993) suggested that a temporary alleviation of unhappiness during gambling may contribute to adolescents' addiction to gaming machines. Further, Blaszczynski, Wilson, and McConaghy (1986) found that pathological gamblers are not necessarily sensation-seekers, so the finding of low scores on Propensity for Boredom in this sample is not necessarily anomalous. Blaszczynski, McConaghy, and Frankova (1990) reported pathological gamblers are significantly more boredom prone (measured by the Boredom Proneness Scale). While the study could have been improved by the use of longer and more standard measures of boredom such as the Boredom Proneness Scale or the Zuckerman Boredom Susceptibility Subscale (see Blaszczynski, McConaghy, & Frankova, 1990), the need to keep the questionnaire as brief as possible to encourage compliance was an important consideration in this study.

There are limitations to this study based on its small sample, technique of convenience sampling, and focus on gaming machine users rather than other forms

of gambling; however, the findings may be useful in encouraging a greater concentration on the counselling needs of women who are pathological gamblers. While in our data a somewhat higher proportion of men (47.7%) than women (36.7%) classified as possible pathological gamblers was noted, the difference was not statistically significant and the samples were disproportionate. Nevertheless, women seemed at least equally susceptible to pathological gambling as men in this sample. Further, as the stigma associated with women's gambling decreases, the incidence of their pathological gambling may, ironically, increase. Previous studies indicate that women tend to under-utilise gambling counselling services and crisis agencies (Volberg & Steadman, 1988, 1989; Lesieur & Blume, 1991; Volberg, 1994), yet it is important to tailor interventions to their needs, and to encourage this group to seek assistance.

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Table 1

Mean Scores of three Mood Traits and the South Oaks Gambling Screen by Gender

	Male		Female	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Happiness	2.86	1.68	2.62	1.53
Propensity to Boredom	3.84	1.51	3.05	1.51*
Loneliness	4.75	1.77	4.63	1.78
South Oaks Gambling Screen	4.41	3.85	3.93	3.67

\*  $p < .01$

Table 2

Summary of Standard Multiple Regression Analysis for Variables Predicting the South Oaks Gambling Screen Score (N=104)

Variable	<u>B</u>	<u>SE B</u>	$\beta$
Happiness	0.895	0.220	0.381*
Propensity to Boredom	-0.397	0.207	-0.165
Loneliness	-0.367	0.197	-0.173

Note.  $R^2 = .284$ , \*  $p < .0005$ .