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GAMING MACHINE PLAYERS IN SYDNEY CLUBS

A Profile of Gaming Machine Players in Clubs in Sydney, Australia

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Abstract

New South Wales, Australia, is one of the major markets in the world for machine gaming, with its 1,441 registered clubs holding the dominant share of the state's machines. This study examined machine gambling behavior amongst a random sample of 3,000 club members from six of the largest clubs in Sydney, the capital city of New South Wales. The findings identify their machine gambling preferences and participation levels, isolate significant socio-demographic and other differences between gaming machine and non-gaming machine players, measure the prevalence of probable pathological gambling associated with machine gambling, and identify certain characteristics which differ significantly between probable pathological and non-pathological machine gamblers amongst the respondents.

Keywords

Machine gaming – gambling behavior – clubs – pathological gambling

Introduction

The Australian state of New South Wales (NSW) has the highest number of gaming machines per head of adult population of any jurisdiction in the world (Kelly, 1996). With 76,474 gaming machines operating in the 1995-96 financial year (NSW Department of Gaming and Racing, 1997), NSW contributes disproportionately to the global status of Australia as ‘the second largest national market for gaming machines’ after the United States (Kelly, 1996). Nearly one half of the 130,000 gaming machines in Australia (Kelly, 1996) are located in NSW registered clubs, which operate about 84 percent of the state’s gaming machines and attract some 90 percent of its gaming machine turnover and gross profit (NSW Department of Gaming and Racing, 1997). Indeed, NSW registered clubs hold a 10.4 percent share of the estimated 600,000 gaming machines worldwide (Kelly, 1996).

Despite the long history and large scale of gambling in NSW clubs, little published research has been conducted into the gambling behavior of their members. Two studies (Caldwell, 1972; Dickerson et al., 1984) each developed limited socio-demographic profiles of club poker machine players amongst members of a single club, both of which then drew much of their patronage from the Australian Capital Territory (ACT) which shares borders with NSW. In addition, Lynch (1985) conducted a qualitative sociological study of 21 regular poker machine players at one Sydney club, primarily to investigate player motivations (Lynch, 1985). However, no related studies have been published since 1985, and none have sampled membership from more than one club. To address this deficiency, this study examined gambling behavior, particularly machine gambling behavior, amongst a sample of members of six of the largest clubs in Sydney, the capital of NSW.

Background

Gaming machines were first legalized in Australia in 1956 when NSW registered clubs were granted exclusive rights to their operation. Since then, there has been phenomenal growth in both the number of machines and clubs licensed to operate them. While 5,596 gaming machines were initially legalized in 952 NSW registered clubs in 1956 (NSW Department of Gaming and Racing, 1996a), 64,171 machines in 1,441 clubs currently generate an annual turnover of \$21 billion, contribute about \$450 million per year in state taxes and provide club profits of around \$2 billion (Kelly, 1997).

As the Registered Clubs Association of NSW notes, registered clubs are collectively a major social outlet for people of NSW and their rapid development has been clearly linked with gaming machine revenue (1994). Contemporary NSW clubs range in size from those with over 50,000 members, 800 gaming machines, and a vast array of food, beverage, entertainment and sporting facilities, to the many smaller clubs with only a few hundred members and more modest and restricted facilities. Despite their diversity, all NSW clubs share the common characteristics that they are voluntary, non-profit organizations established by people to pursue or promote a common interest (Registered Clubs Association of NSW, 1994). For most clubs, this interest encompasses sport, returned services affiliation, social and community interests, workers' or professional interests, or ethnic or religious affiliations. Each of the club's members buys a share or membership in the club, thereby contributing a certain amount to a common fund for the benefit of members (McDonald, 1980).

After 1956, NSW clubs retained their national monopoly on gaming machines until 1976, and their state monopoly on the most profitable types of gaming machines, poker machines, until the opening of the temporary Sydney Harbor Casino in late 1995, the introduction of limited numbers of poker machines in NSW hotels in April 1997, and the opening of Sydney's permanent casino, Star City, in November 1997. Prior to 1995, the only direct competition for machine gambling in NSW was from hotels which, since 1984, have

been allowed to operate limited numbers of a particular type of gaming machine, known as approved amusement devices. However, the ceiling on the numbers of approved amusement devices in hotels and their lower average profitability have meant they have never been a serious threat to club machine gambling where the numbers of machines, both overall and in individual clubs, have remained unrestricted. Even with increased competition from the 1,500 machines in Star City Casino and up to thirty poker machines which can now be operated in each NSW hotel, NSW clubs retain the dominant share of gaming machines in the state. In addition, NSW clubs are able to operate off-course betting facilities, keno and some types of minor gaming, including bingo and raffles. However, it is poker machines that provide about 70 percent of the average NSW club's total income (NSW Department of Gaming and Racing, 1995).

Purpose of the Study

The specific aims of this study were to:

- identify the poker machine gambling preferences and participation levels of the club members;
- determine whether there are significant differences in selected socio-demographic characteristics and leisure activities of poker machine players and non-poker machine players amongst the club members;
- determine whether there are significant differences between selected socio-demographic characteristics, leisure activities and poker machine playing behaviors of probable pathological poker machine players and non-pathological poker machine players amongst the club members.

Study Sample

Of the top thirty clubs in NSW by poker machine profits (NSW Department of Gaming & Racing, 1996a), twenty-five are located in Sydney. The researchers gained authority from six of these clubs to survey a sample of their members. 3,000 members participated in the survey, selected randomly from a total of about 190,000 members of the participating clubs. However, the sample was restricted to those members who resided in Sydney.

Data Collection

A Sydney-based marketing research company, Reark Research, was commissioned to conduct the survey by telephone during November and December 1996. While this method had some limitations, such as excluding people with no telephones and non-English speakers, on a sensitive topic like gaming habits it was pragmatic and less intrusive than a household interview.

A total of 16,642 households in the sample were contacted to achieve 3,000 interviews. The non-respondents comprised: 4,955 refusals; 4,206 who said they were not club members; 469 business numbers with the individual respondent not located; 610 who were not suitable for reasons such as hearing impairments, language difficulties and the like; 233 who were not available for the duration of the survey; 134 who terminated the interview before completion; and 3,035 answering machines.

Telephone interviews with each respondent lasted about 20 minutes and addressed six main areas:

- patronage of registered clubs, participation in various club-based activities and preferred leisure activities;

- gambling preferences and frequency of participation in 13 major types of gambling;
- poker machine playing behaviors, including usual venue, usual company, reasons for play, preferred types of machines, time and money spent playing, likely expenditure of jackpots, and belief in luck/skill;
- the South Oaks Gambling Screen (Lesieur & Blume, 1987) to measure probable pathological gambling related specifically to poker machine gambling (see below);
- socio-demographic characteristics of the respondent based on categories used in the Australian Bureau of Statistics (ABS) Census, including age, gender, marital status, dependent children, housing status, education, employment status, occupation, personal and household income, main source of income, country of birth, father's and mother's country of birth, and main language spoken at home other than English.

The South Oaks Gambling Screen (SOGs)

The SOGS (Lesieur & Blume, 1987) is the only internationally established measure of pathological gambling validated against the Diagnostic and Statistical Manual (edition III-R) (American Psychiatric Association, 1987). It is a 20 item questionnaire requiring yes/no responses to a series of questions, with total scores determined by summing the number of yes responses. According to Lesieur and Blume (1987), a score of 5 or more on the SOGS indicates 'probable pathological gambling', although scores of 3-4 have been used to designate 'problem gamblers' whose problems are not as severe as those scoring 5 or more (Abbott, & Volberg, 1992; Becona & Feuntes, 1994; Ladouceur, 1991; Legarda et al., 1992; Volberg, 1993a; Volberg & Steadman, 1988). However, some Australian studies (Australian

Institute for Gambling Research, 1995; Australian Institute for Gambling Research, 1996; Delfabbro & Winefield, 1996) have used a cut-off score of 10 on the SOGS to designate 'probable problem gamblers', arguing that this identifies gamblers whose weekly gambling expenditure is similar to that reported in published work for pathological gamblers in Australia, as well as guarding against false positive responses to questionnaire items. That is, it is argued that respondents scoring 10 or more on the SOGS are very unlikely not to be problem gamblers' (Australian Institute for Gambling Research, 1996).

For clarification, the researchers contacted Dr Henry Lesieur who recommended the use of 5 as the cut-off for 'probable pathological gamblers', based on his research of 1,616 individuals from gambling-specific treatment services, Gamblers Anonymous, alcohol and drug treatment services, hospital employees, and university students. He also noted that a study then in progress at Harvard Medical School has verified the epidemiological accuracy of the use of 5 or more. Thus, the cut-off score of 5 or more was retained for this study to identify 'probable pathological gamblers' as originally described by Lesieur and Blume (1987). (While the term 'problem gambler' is increasingly favored over 'pathological gambler' in Australia as the latter assumes a medical condition [Australian Institute for Gambling Research, 1997], the authors adhered to Lesieur's term 'probable pathological gambler' in this paper to avoid confusion.)

Another issue of contention with the SOGS has been whether to use a lifetime or current prevalence measure. The former aims to measure probable pathological gambling at any time during a person's lifetime, with questions typically starting with 'at any time in the past...', whereas the latter aims to measure probable pathological gambling during the last six months, with questions typically starting with 'in the past 6 months...' It was decided to use the current prevalence measure in this study, to allow meaningful comparisons with prevalence rates identified in prior Australian studies.

This study was concerned specifically with pathological gambling relating to gambling on poker machines, with the SOGS questions adapted accordingly. For example, the SOGS question ‘Did you ever gamble more than you intended to in the last 6 months?’ was changed to ‘Did you ever gamble on poker machines more than you intended to in the last 6 months?’ The remaining items in the SOGS were adapted accordingly.

Analytical Techniques

The data were analyzed using non-parametric tests, predominantly cross-tabulation and chi-square. This was necessary as most variables were categorical, including the main dependent variable – a score of less than 5 or more than 5 on the poker machine SOGS. Cross-tabulation is a combination of two or more frequency tables arranged such that each cell in the resulting table represents a unique combination of specific values of the cross-tabulated variables. It is a simple method used to examine frequencies of observations which belong to specific categories on more than one variable. However, although simple cross-tabulation is a first step in studying relationships between two or more variables, it does not allow for quantifying or testing of that relationship. Therefore, the Pearson chi-square is used to test the hypothesis that the row and column variables in the cross-tabulated table are independent. If the observed significance level of the test is ≤ 0.05 , then the hypothesis that the two variables are independent is rejected. This implies there is a statistically significant association between the two variables.

While more complex multivariate techniques such as loglinear modeling can be used to test for interactional effects of variables used in cross-tabulation, its use is limited by the small number of variables which can be analyzed simultaneously (up to 10) and the need to collapse categories within variables with subsequent loss of meaningful detail in the results.

In the few instances where variables were metric, such as time and money spent on poker machine playing, T-tests were used to test for differences between mean duration and expenditure between non-pathological (SOGS score < 5) and probable pathological machine gamblers (SOGS score 5+).

Only statistically significant relationships at the $p \leq 0.05$ level are reported in this paper.

Machine Gambling Participation and Preferences

As shown in Figure 1, more than four-fifths of the 3,000 club members gamble in some way (2,430 respondents), with the majority of these (1,879 respondents) gambling on poker machines. Only 570 respondents do not gamble at all, representing less than one-fifth of the sample. Relatively few club members gamble only on Lotto-type games (256 respondents), while a similar proportion gamble on other forms of gambling except poker machines and solely Lotto-type games (295 respondents). The percentage of the 3,000 club members who gamble (81%) is consistent with that found for the NSW population, where 80% of people gamble (Australian Institute for Gambling Research, 1996).

Figure 1

Amongst the 2,430 respondents who gamble in some way, the highest proportion (50.9%) prefer Lotto-type games, with the next highest preference being club poker machines (19.9%). Of the 2,430 gamblers, 23.3% play club poker machines at least weekly.

Amongst the 1,879 poker machine players in the sample:

- 98.0% mainly play them at a club;
- 33.3% usually play machines with their spouse, 29.1% play with friends and 26.2% play alone;

- 68.4% play poker machines mainly for entertainment/social-related reasons, 21.4% play for money-related reasons, 8% play for reasons related to risk, while only 0.4% admitted playing due to compulsion;
- 35.9% usually play 5 cent machines, 33.5% play 10 cent machines, less than 10% each played 2 cent and 20 cent machines and very small proportions play \$1 and \$2 machines;
- 57.5% usually wager multiple coins per poker machine play;
- 62.1% usually bet on more than one line per poker machine play;
- 48.6% generally spent up to 45 minutes playing the machines, with 73.4% playing for up to an hour;
- mean poker machine expenditure per session is \$25.79;
- mean weekly poker machine expenditure is \$19.71;
- 53% use their entertainment/recreation budget for poker machine money, 19.9% use general bank savings, while 16.1% use money from their housekeeping and living budget;
- The most likely use of \$50, \$100, \$500 and \$1,000 jackpot prizes is to take it home and save it, with the second most likely expenditure being to buy something special away from the club;
- 85.4% recognize that poker machine playing is a game of pure chance;
- 50.8% think that the way people play poker machines has no influence on their chances of winning, 23.8% consider that this had some influence, while 18.8% think it has a strong influence.

Characteristics of Gaming Machine Players and Non Gaming Machine Players

A major focus of this study was on the 1,879 club members in the sample who play poker machines. The analysis firstly identified socio-demographic characteristics which differed between these players and those in the sample who do not play poker machines

In terms of socio-demographic characteristics, the 1,879 poker machine players were more likely than non-poker machine players to:

- be aged between 18 and 34 years;
- be educated to School Certificate or Higher School Certificate level;
- be never married or in de facto relationships;
- have no dependent children aged 6 years and over;
- be purchasing their own home, living with parents or renting their home from private landlords or the Department of Housing;
- be working full-time, engaged in home duties, students or unemployed;
- be tradespersons, clerks, salespersons/personal service workers, or laborers or similar;
- earn a gross personal annual income of less than \$8,001 or between \$12,001 and \$40,000;
- earn a gross household annual income of between \$8,001 and \$12,000, between \$20,001 and \$50,000, between \$60,001 and \$80,000 or between \$100,001 and \$150,000
- have their main source of income as wages/salary or other government benefit;
- be first or second generation migrants from the United Kingdom, New Zealand and the Pacific Islands, South-East Asia, Eastern Europe and Western Europe.

However, no significant differences were found between poker machine players and non-poker machine players on the basis of sex, the presence of dependent children, personal annual income, and language other than English spoken at home.

The study also identified differences in certain leisure activities between the poker machine players and non-players. Respondents who gamble on poker machines were found to be more likely than non-poker machine gamblers to belong to more than one club and patronize a club at least once a month. They also have meals and drinks, attend entertainment and participate in raffles and indoor sport at a club more frequently. In terms of general leisure activities, higher proportions of poker machine gamblers than non-poker machine gamblers were found to prefer socializing, going to watch sporting events, drinking, shopping and gambling. Conversely, lower proportions prefer outdoor or indoor sport or exercise, hobbies/arts/crafts, holiday travel/pleasure driving, relaxing at home, visiting entertainment and dining out.

Incidence of Probable Pathological Gambling

The measure of probable pathological gambling was restricted to those scoring 5 or more on the SOGS when asked specifically in the context of their poker machine gambling. Of the 3,000 club members, 72 or 2.4% scored in the probable pathological gambling category for poker machines, (probable pathological machine gamblers) representing 3.0% of the 2,430 gamblers, and 3.8% of the 1,879 poker machine players.

Characteristics of Probable Pathological Machine Players and Non-Pathological Machine Players

The 72 probable pathological machine gamblers were compared to the 1,807 non-pathological machine gamblers on the basis of various characteristics.

In terms of socio-demographic characteristics, it was found that higher proportions of probable pathological machine gamblers than non-pathological machine gamblers:

- are never married, divorced, separated or in de facto relationships;

- are purchasing their own home, renting it from a private landlord or the Department of Housing, or living with parents;
- work full or part-time or are unemployed;
- were born in Asia or Europe;
- have fathers or mothers born in Asia, Europe, New Zealand or the Pacific Islands;
- speak Asian or European languages instead, or as well as English, at home.

However, there were no significant differences between the two groups on the basis of sex, age, education, number of dependent children below 13 years of age, occupation, personal annual income or household annual income.

In terms of leisure activities, higher proportions of probable pathological machine gamblers than non-pathological machine gamblers patronize a club more frequently, usually attend a club alone, and have drinks, participate in raffles and attend meetings at a club more frequently. In addition, gambling was the most frequently cited leisure activity favored by probable pathological machine gamblers, with indoor sport or exercise, going to watch sporting events and dining out also favored. However, lower proportions of these people prefer outdoor sport or exercise, holiday/travel/pleasure driving, relaxing at home or socializing, when compared to non-pathological machine gamblers.

Regarding certain aspects of gambling behavior, higher proportions of the probable pathological machine gamblers than non-pathological machine gamblers gamble more frequently on poker machines, the TAB, casino table games, hotel gaming machines, club keno and private gambling. In addition, higher proportions of the former group:

- play poker machines at both clubs and casinos;
- usually play poker machines alone or with other family members;
- play poker machines to win money and for reasons related to risk and challenge;
- always bet more than one coin or credit at a time when playing poker machines;

- always bet on more than one line on poker machines at a time;
- play poker machines for 45 minutes or longer per session;
- generally use money from housekeeping/living costs, general bank savings or a specific gambling budget;
- are likely to reinvest a \$50, \$100 or \$1,000 jackpot on poker machines.

The probable pathological machine players in the sample:

- have a mean poker machine expenditure per session of \$90.56, compared to \$23.21 for non-pathological machine players;
- have a mean poker machine expenditure per week of \$123.21, compared to \$17.76 for non-pathological machine players;
- represent 3.8% of all poker machine players in the sample, but contribute to 21.7% of all poker machine expenditure, which is 7 times the total expenditure of non-pathological poker machine gamblers and nearly 12 times the total expenditure of all club members.

Discussion

This discussion summarizes the preceding results and, where applicable, compares these to findings for other Australian jurisdictions. Some international comparisons are also made, where available and appropriate.

Of all 3,000 club members surveyed, 62.6% play poker machines. This represents nearly three-quarters of all respondents who gamble. Not surprisingly, nearly all the poker machine players in the sample play the machines mainly at clubs, with about three-quarters usually playing with family, friends or work colleagues and about one-quarter playing alone. About two-thirds play for entertainment/social-related reasons, about one-fifth for money-related reasons and less than one-tenth for reasons relating to risk and challenge. The

proportions of poker machine players who gamble for these three types of reasons vary from the main reasons given for gambling in general in NSW (Australian Institute for Gambling Research, 1996), where over 70% of regular gamblers cited entertainment/social-related reasons for gambling. In Victoria (DBM Consultants, 1995), over 80% of players nominated entertainment/social-related reasons for playing electronic gaming machines, while 30% cited money-related reasons and 8% cited reasons relating to risk and challenge (multiple responses allowed).

Amongst the poker machine players in the sample, five and ten cent machines are clearly the most popular, and over half the players usually wager multiple coins and bet on more than one line per poker machine play. Most players gamble for up to an hour per session, spend less than \$20 per session and \$10 per week and use their entertainment/recreation budget for poker machine money. The mean reported weekly expenditure on poker machines amongst all players is \$19.71, compared to \$15 per week on non-casino electronic gaming machines in Victoria (Market Solutions, 1997) and \$13.18 in South Australia (Delfabbro & Winefield, 1997). Self-reported mean poker machine expenditure amongst the general population in NSW is not available, although with an adult per capita expenditure totaling \$521.52 in the 1995/96 fiscal year (Tasmanian Gaming Commission, 1997), it appears to be around \$10. In terms of expenditure per session, mean expenditure by the poker machine players in the present study is \$25.79, compared to \$14 in South Australia (Delfabbro & Winefield, 1997). In Queensland, about half of all gaming machine players spend \$10 or less per session, with over 80% spending less than \$20 (Australian Institute for Gambling Research, 1995). While direct comparisons of poker machine expenditure between jurisdictions are difficult due to the different methodologies employed, and the timing of some state-based surveys before gaming machines were

introduced or became widely available, it appears that expenditure by poker machine players amongst the club members surveyed is comparatively high.

Of the club members surveyed, about one-fifth nominated club poker machines as their preferred form of gambling, with about one-quarter playing them at least weekly. While the popularity of poker machines amongst the club members is similar to results found for the NSW population generally (Australian Institute for Gambling Research, 1996), where 18% nominated gaming machines as their favorite form of gambling, the proportion of club members who are regular poker machine players (18.8%) is over three times higher than the 5.9% of the general NSW population who play poker machines weekly (Australian Institute for Gambling Research, 1996).

The research results presented in the preceding sections indicate that certain features can be identified which distinguish Sydney club members who play poker machines from those who do not. The socio-demographic profile of poker machine gamblers amongst the club members identified earlier contains both similarities and differences to those found in prior research into poker machine players in the general population, although direct comparisons across these studies are difficult due to the different methodologies employed.

In terms of similarities, the State Government of Victoria (1994), which reported on poker machine playing in NSW and the ACT to assess the likely impacts of electronic gaming machines in Victoria, found that 20-24 year old people play poker machines more often, that wage earners and public renters have a higher incidence of playing, that the proportion of poker machine players increases with income to about \$50,000 and thereafter declines, and that Asian and European born people spend considerably more on poker machines. The findings of a study into community gambling patterns in Victoria (DBM Consultants, 1995) revealed that electronic gaming machines have their greatest appeal amongst the young (under 30), lower white collar workers and those on low incomes.

Similarly, the Australian Institute for Gambling Research (1995) found that those Brisbane residents under 25 years of age were more likely to have played poker machines than those who are older, and, in a study of gambling patterns in NSW (1996), that larger proportions of single respondents than partnered respondents nominated poker machines as their favorite form of gambling. Thus, these studies support the findings of the current study that poker machine gamblers amongst the club members are more likely to be younger, single, earning low-medium incomes, and from certain ethnic backgrounds than the non-players.

In contrast to the results for the present study, the State Government of Victoria (1994) found that, along with the 20-24 year old age group, the 65-69 year old age group (particularly couples) play poker machines more often than others, that divorced and married people play the most, and that those with no dependent children or children over 14 years play more. Also in contrast to the present findings, the Australian Institute for Gambling Research (1995) found that employed people were more likely to have played machines than the unemployed, pensioners or those engaged in home duties.

The present study is the first to compare club patronage, participation in club-based activities and leisure preferences between poker machine players and non-players. As well as providing poker machine revenue to the clubs, poker machine players would seem to have higher involvement and expenditure levels on a range of other club activities and to favor passive forms of leisure, including gambling.

This study also investigated pathological gambling on poker machines amongst the respondents. It found the prevalence of probable pathological gambling amongst the club members to be relatively high when compared to most previous studies of current prevalence rates in the general population, as shown in Table 1.

Table 1

Certain socio-demographic features characterize Sydney club members who are probable pathological poker machine gamblers. While this is the first known study to use the SOGS instrument (Lesieur & Blume, 1987) specifically for poker machine gambling, there are certain similarities between the socio-demographic profile of probable pathological poker machine gamblers presented here and that of probable pathological gamblers in general, as found in previous studies, as shown in Table 2.

Table 2

The present study is also the first to compare club patronage and poker machine playing behaviors between probable pathological machine players and non-pathological players, with numerous differences reported earlier in this paper. In general, the probable pathological machine players engage in various club activities more often than the non-pathological players, gamble more frequently on continuous forms of gambling including poker machines, and exhibit some distinctive poker machine playing behaviors. Prior studies comparing pathological and non-pathological gamblers have tended to focus only on socio-demographic characteristics and the more limited gambling behaviors of gambling frequency and expenditure. While these have revealed certain characteristics associated with pathological gamblers, this study has advanced this line of inquiry by investigating a broader range of playing behaviors. This could be a fruitful area for further research. While developing a socio-demographic profile of pathological gamblers assists in targeting community-based education on gambling problems and in locating treatment services appropriately, developing a behavioral profile could assist in informing the behavior modification approaches used by treatment services.

Conclusions

In conclusion, this study is important for being the first known to provide some descriptive data on the gambling and club-based activities of members of large Sydney clubs. An important finding is that the prevalence of current probable pathological machine gambling amongst club members appears to represent a substantial number of people. According to the Registered Clubs Association of NSW (1994), there are about 2 million club members in NSW. If the percentage of probable pathological machine gamblers amongst club members statewide is similar to the 2.4% found for members of the six clubs surveyed, this would equate to around 48,000 probable pathological gamblers. Given that each case of pathological gambling has been estimated to have an adverse effect on up to ten significant others (Dickerson et al., 1994), about 480,000 additional people in NSW would be adversely affected by pathological machine gambling amongst club members. Other important findings relate to the identification of certain features that distinguish those who lose control of their poker machine playing from those who play poker machines in a controlled fashion. This profile should assist in targeting welfare, counseling, advisory and support services to people most at risk of developing gambling-related problems.

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Table 1Current SOGS Scores of 5 or More Across Various Study Populations

Study population	Year	Current prevalence %
Australia:		
Sydney (current study)	1996	2.4
NSW	1997	2.9
Tasmania	1996	2.9
South Australia	1996	1.2
Victoria	1998	1.5
Western Australia	1994	0.6
National survey	1999	2.1
United States:		
New York	1996	1.4
Washington	1992	0.9
Texas	1996	0.8
Louisiana	1995	1.4
Mississippi	1995	2.1
Georgia	1995	0.8
Montana	1991	0.7
Minnesota	1996	1.2
North Dakota	1992	0.7
South Dakota	1994	0.4
Canada:		
New Brunswick	1992	1.4

Nova Scotia	1996	1.1
Alberta	1993	1.4
Saskatchewan	1994	0.8

table continues

Study population	Year	Current prevalence %
British Columbia	1993	1.1
Manitoba	1995	1.9
United States & Canadian meta-analysis	1999	1.1
Sweden	1999	0.6
Spain	1996	1.7
New Zealand	1991	1.2

Source: Abbott & Volberg, 1996; Australian Institute for Gambling Research, 1997; Becona, 1996; Dickerson et al., 1998; Ladouceur, 1996; Productivity Commission, 1999; Prosser et al., 1997; Ronnberg, Volberg & Abbott, 1999; Roy Morgan, 1999; Shaffer, Hall & Bilt, 1999; Volberg, 1996.

Table 2Comparison of Socio-Demographic Characteristics Distinguishing Probable Pathological from Non-Pathological Gamblers Between Studies

	Volberg	Ladouceu r	Abbott & Volberg	Becona	AIGR	AIGR	Current study
Year	reviewed prior research 1996	reviewed prior research 1996	1991	1991, 1993	1995	1996	1996
Jurisdiction	15 US states	Canada	New Zealand	Spain	Adelaide, Brisbane, Sydney & Melbourn e	NSW	Poker machine players amongst Sydney club members
Sex	male	male	male	male	male	males	
Age	< 30	< 30	< 30	< 30	< 30	"younger"	
Marital status	unmarried	unmarried	unmarried		unmarried	unmarried	unmarried (except widowed)

table continues

	Volberg	Ladouceur	Abbott & Volberg	Becona	AIGR	AIGR	Current study
Housing status							purchasing, renting, living with parents
Work status			unemployed	students, housewives, unemployed		retired, unemployed	full or part-time employed, unemployed
Income p.a.	< \$25,000	< \$30,000		"low"		< \$20,000	
Education	< high school graduation	high school only		"low"			

Table continues

	Volberg	Ladouceur	Abbott & Volberg	Becona	AIGR	AIGR	Current study
Ethnicity	non-Caucasian		Maori & Pacific Is. descent				born in Asia or Europe, 2nd generation from Asia, Europe, NZ/ Pacific Is., speak Asian or European languages

Table continues

	Volberg	Ladouceur	Abbott & Volberg	Becona	AIGR	AIGR	Current study
Preferred/ most frequent gambling	card games, dice games, games of personal skill, sports betting, parimutuel events, bingo, keno	lotteries, slot machines, video poker	track betting, gaming machines	slot machines, lottery, Lotto, bingo	gaming machines, off-course betting	gaming machines, racing	poker machines, TAB, casino table games, hotel gaming machines, private gambling, keno
Weekly expenditure	US\$ 75.50				A\$124.58		A\$123.21

Figure Captions

Figure 1. Distribution of non-gamblers, lotto only, poker machine gamblers and other gamblers N=3,000

