

## **Chapter 2: The Prevalence of Gambling and Problem Gambling within Australia**

### 2.1 Overview

The purpose of this chapter is to summarise the findings from a variety of national and State-based studies that have examined the prevalence of gambling and problem gambling within the broader community. The second part of the chapter examines these issues in relation to specific groups within the community, including young people, the elderly, Indigenous people, and other culturally and linguistically diverse communities.

### 2.2 Prevalence Studies in Australia: Methodology

Almost everything that is known about the prevalence of gambling in Australia is derived from community prevalence studies. In the early 1990s, these studies used either one of two techniques; namely, randomised door knock sampling or telephone surveys, whereas almost all surveys since 1995 have been telephone-based. The methodology used in these surveys has been very consistent. Large samples of residents aged 18 or more years who have *White Pages* listings have been contacted and asked to respond to a series of questions relating to 'leisure activities', 'health-related behaviours' or gambling. Sampling within households has usually been truly random (based on a random number generator to identify the *n*th oldest adult) or based on pseudo-random methods such as the last-birthday sampling technique. All respondents are asked a series of general questions about gambling. Those who gamble are asked a more specific series of questions about their gambling, whereas regular gamblers (defined as those who gamble sufficiently frequently on a designated range of activities) are administered a series of questions relating to their gambling habits.

A summary of the major studies is provided in Table 2.1. Table 2.1 shows that prevalence studies have been conducted in all Australian jurisdictions at some point in time. All States and Territories were included in the national telephone survey conducted by the Productivity Commission in 1999, whereas individual jurisdictions have differed in terms of the frequency, scale and timing of their own individual surveys. A careful scrutiny of Table 2.1 gives rise to several important observations

about Australian prevalence research and the extent to which it can be used to conduct inter-jurisdictional or longitudinal comparisons.

- Since the early and mid-1990s, there has been a transition from a combination of door-knock and telephone surveys to an exclusive use of telephone surveys.
- The general scale or quality of surveys has gradually improved over time. In the 1990s, most surveys had sample sizes of only 1000–2000, whereas most recent surveys have obtained very large samples (e.g. 30,000 in Queensland in 2003–2004). This means that one can probably be much more confident about the accuracy of the estimates of prevalence and gambling participation provided by more recent surveys. In samples of over 10,000 adults, the standard errors around prevalence estimates will be relatively small compared to those obtained in earlier surveys.
- A lot more is known about prevalence in some jurisdictions than others. Surveys have been conducted in Tasmania for around 15 years, whereas there is relatively little recent prevalence information for Western Australia. No survey has been conducted in WA since the Productivity Commission's in 1999.
- Queensland and South Australia have conducted the largest surveys with the lowest standard errors, but only Queensland and Tasmania (because of the repeated use of the CPGI) have the capacity to compare prevalence estimates at different points in time.

**Table 2.1** Summary of Australian inter-jurisdictional prevalence research

Jurisdiction	Year	Sample Size	Method	Measure of Problem Gambling	Author/ Organisation
NSW	1995	1390	Door-knock	SOGS	AIGR
	1997	1209	Door-knock	SOGS	AIGR
	1999	n.a.	Telephone	SOGS	PC
	2006	5029	Telephone	CPGI	AC Nielsen
VIC	1997	2000	Telephone	SOGS	Market Solutions & Dickerson
	1999	n.a.	Telephone	SOGS	PC
	2003	8479	Telephone	SOGS CPGI	McMillen et al. (2004)
QLD	1999	n.a.	Telephone	SOGS	PC
	2001	13,082	Telephone	SOGS	Queensland Treasury
	2003	30,000	Telephone	SOGS	Queensland Treasury
SA	1996	1206	Telephone	SOGS	Delfabbro & Winefield (1996)
	1999	n.a.	Telephone	SOGS	PC
	2001	6045	Telephone	SOGS	DHS (SA)
	2005	17,140	Telephone	CPGI	Dept Health
TAS	1994	1220	Door-knock	SOGS	AIGR
	1996	1211	Telephone	SOGS	AIGR
	1999	n.a.	Telephone	SOGS	PC
	2001	1223	Telephone	SOGS	Roy Morgan
	2005	6048	Telephone	SOGS CPGI	Roy Morgan
WA	1994	1253	Door Knock	SOGS	AIGR
	1999	n.a.	Telephone	SOGS	PC

NT	1999	n.a.	Telephone	SOGS	PC
	2005	1873	Telephone	SOGS CPGI	Young et al.

Notes: AIGR = Australian Institute for Gambling Research (Dickerson et al.), PC = Productivity Commission, SOGS rate = Scores 5+, CPGI = Scores 3–7 (moderate risk); 8+ (problem gambling)

#### Summary of Data Sources [Publication dates]:

1. *National*: Productivity Commission (1999)
2. *New South Wales*: Dickerson, Allcock; Baron; Blaszczyński *et al.* (1996), Dickerson, Blaszczyński, Nicholls, Williams, Maddern (1998), ACNielson (2007).
3. *Victoria*: Market Solutions & Dickerson (1999); McMillen, Marshall, Ahmed, & Wenzel (2003)
4. *Queensland*: Queensland Government (Treasury) (2002, 2007)
5. *South Australia*: Delfabbro & Winefield (1996), S.A. Department of Human Services (2001), S.A. Department for Families and Communities (2005)
6. *Tasmania*: Dickerson, Walker & Baron (1994), Dickerson & Maddern (1997), Roy Morgan Research (2001, 2005)
7. *Western Australia*: Dickerson, Baron & O'Connor (1994)
8. *ACT*: McMillen, Tremayne, & Masterman-Smith (2001)

All survey data are usually post-weighted by a variety of factors including the gender, age and area composition of the sample, as well as the probability of selection within the household. Any segments of the population that are harder to recruit (e.g. males, or people aged 18–24 years) are, in effect, treated as more important in final analyses by counting them as more than one person or ‘case’. For example, a male aged 18–24 years might be treated as 3–4 ‘cases’, whereas older females (easy to recruit) might be treated as only .3 cases. Some surveys also weight the data according to the probability of completing the survey after the initial screening questions have been conducted to reduce potential biases caused by the selective loss of regular gamblers

from the latter parts of the survey (McMillen et al., 2003); however, such more complex weighting methods are used rarely.

Table 2.2 summarises the results from a number of recent prevalence studies. These studies have shown that around 70–90% of Australian adults gamble at least once per year, although more recent studies appear to be obtaining figures closer to 70% rather than over 80% as indicated by the Productivity Commission. Participation rates for individual activities vary significantly depending on the type of activity and the jurisdiction. Around two-thirds of people in Queensland gamble on lotteries, as compared with just over a half in SA and in the NT. EGM participation rates appear to be generally similar across the country, but appear to be lower than in the Productivity Commission survey (closer to 30% rather than 40%). The rates of horse-racing and casino game participation also tend to be similar across jurisdictions, although figures again appear to be somewhat lower than in the Productivity Commission survey. The NT has the highest rate of casino participation (10%) and this may be due to the fact that a very high proportion of the population lives in proximity to two urban centres (Darwin and Alice Springs) that both have their own casinos.

**Table 2.2.** Comparative participation rates in different jurisdictions (Source: Delfabbro, 2007)

	PC (1999)	QLD (2003)	NSW (2006)	SA (2005)	NT (2006)
Overall	82	80	69	70	73
Lotteries*	60	67	56	52	53
EGMs	39	32	31	30	27
Scratchies*	46	26	n.a.	24	29
Horse racing	24	16	20	19	19
Keno	16	17	11	8	23
Sports	6	4	8	4	5

Casino games	10	6	5	6	10
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\*Art Union tickets in Queensland; NSW grouped all lottery products in one category. The figures refer to the proportion of the community who gambled at least once on each activity in the previous 12 months.

In terms of regular gambling (usually defined as weekly or more often), studies show that around a quarter of the population buys lottery tickets, around 4–5% gamble on EGMs, but that relatively few gamble (1–3%) on any other single activity at this frequency. Only around 10% of people gamble at least once per week on anything other than lotteries or scratch tickets. The findings therefore suggest that the vast majority of regular gambling is being undertaken by only a relatively small proportion of the population.

Although some obvious variations exist across jurisdictions (e.g. no EGM gambling is available outside the Burswood Casino in Perth), the consistency of these estimates across the country suggests that State-based prevalence studies of gambling behaviour are quite comparable at a national level. As discussed above, an important reason for this is that all recent surveys have been of a sufficient magnitude as to provide only a limited margin of error (standard error) around the estimated proportions. All major prevalence surveys conducted since 2000 have involved samples of over 6000 cases with many having more than 15,000. Even if the sample were only 5000, the margin of error around proportion estimates would usually only be slightly more than 1%, so that users of this research can be reasonably confident that the vast majority of these figures provide valid and reliable estimates of the number of people gambling in Australia.

The only area in which one must express caution is in relation to gambling on very uncommon activities (e.g. the Internet, mahjong), or estimates of very regular gambling (e.g. how many people are gambling more than once per week) on less 'popular' activities. Such figures are likely to be reliable when they apply to lotteries or EGM gambling, but less reliable when applied to activities such as sports-betting, casino games, or other activities with overall participation rates that are 10% or lower. If only 2–3% of the population gambles this frequently, a 1% margin of error can lead

to a 33–50% change in the estimated numbers of gamblers, and this is may not be sufficiently accurate to allow decision-making, or comparisons across time. For example, if a casino added additional tables, or expanded its operations, one would find it difficult to determine to what extent this would influence regular casino gambling. One should not therefore place too much emphasis on very refined participation figures in relation to activities of this nature. A more effective strategy might be to undertake a pre- and post-survey of a substantial and established sample of regular casino patrons to determine whether changes in casino operation had led to any changes in their behaviour.

A similar caveat applies to attempts to compare or break down frequency data across very refined demographic categories (e.g. age groups, marital status, employment type, ethnicity), geographical areas, or other similar variables. Such analyses should be undertaken with great caution because of the lack of statistical power, and the potential influence of only a few cases on comparative percentages. For example, if the base sample size for comparisons is around 10 cases, a difference of three cases will yield a 30% difference in percentages.

### 2.3 Variations in Sub-sampling

In Australian prevalence surveys it is rare for all respondents to complete the entire survey. Instead, only those who are identified as regular gamblers (usually non-lottery) will complete specific questions about problems related to gambling. The justification for this methodology arose from studies in the early and mid 1990s which showed that the prevalence of problem gambling is quite low in non-regular gamblers, and especially in those whose only gambling might involve the purchase of a lottery ticket on a weekly basis (see Productivity Commission, 1999 for a review).

Accordingly, to reduce costs and enhance the efficiency of surveys, it was seen as necessary to focus attention on that subset of the total sample who were *most likely* to be problem gamblers.

In most surveys conducted during the 1990s, the term ‘regular gambler’ referred to anyone who gambled at least once per week on any single activity other than lottery products and bingo. In 1999, the Productivity Commission in its national survey extended this methodology to include within the sample of ‘regular gamblers’ anyone

whose total non-lottery gambling added up to 52 or more times per year. Such methods have been used in studies conducted within the ACT (McMillen, Tremayne, & Masterman-Smith, 2001), Victoria (McMillen et al., 2003), and Tasmania (Roy Morgan Research, 2001, 2005). By contrast, studies undertaken in South Australia and Queensland have followed a different methodology (Queensland Government (Treasury), 2002, 2007; SA Department of Human Services, 2001; SA Department for Families and Communities, 2006). In South Australia, all fortnightly gamblers were treated as regular gamblers on the grounds that many problem gamblers are likely to spend their money on a fortnightly basis because this usually corresponds with pay-days for pensions, salaries, and other Government allowances (SA Department of Human Services, 2001). In Queensland, all gamblers (irrespective of the type of gambling) were administered the CPGI, whereas impact questions were only administered to 'high risk' gamblers, defined as those with a CPGI score of five or greater (Queensland Government (Treasury), 2002). This cut-off score did not correspond with the recognised cut-offs on the CPGI (3-7 for moderate risk, and 8+ for problem or high risk).

It is unclear to what extent this variation in sampling influenced problem gambling rates in the two surveys. In the 2001 South Australian study, for example, there is no breakdown of problem gambling rates by gambler status (weekly vs. fortnightly gambler), but it would be likely that at least some fortnightly gamblers would be problem gamblers and this would increase South Australian prevalence estimates. At the same time, the lack of inclusion of any 'regular gamblers' classified on the basis of having gambled 52 or more times per year (i.e. those who were not at least fortnightly on non-lottery products) may have reduced the prevalence rate if any of these people had problems with their gambling. Similar issues apply to the Queensland survey.

Accordingly, further analysis or inspection of the South Australian and 2001 Queensland survey data needs to be undertaken to determine the extent to which these competing factors may have influenced the prevalence rate as compared with other States. One would need to examine: (a) the prevalence rate only among weekly gamblers, and (b) determine how many 52+ times per year non-lottery gamblers were not included in the regular sample based on fortnightly selection. Such analyses

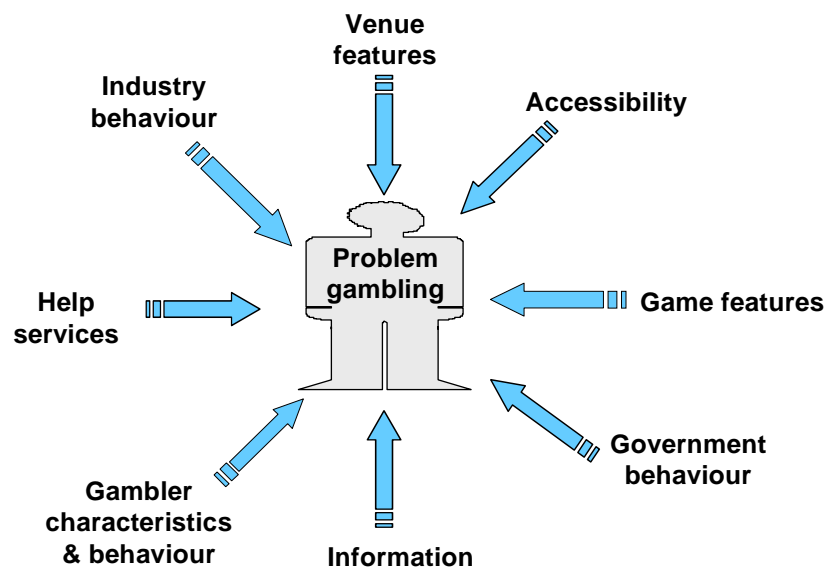
would need to be undertaken before comparing South Australian and Queensland results with recent surveys conducted in other jurisdictions. Although other surveys are generally comparable, caution nonetheless needs to be applied in comparing studies conducted at different points in time, or which use different measures (see below).

#### 2.4 Conceptualisation of Problem Gambling

In the late 1990s, several attempts were made to define problem gambling for the purposes of research and policy within Australia. One of these was provided in a review by Dickerson, McMillen, Hallebone, Volberg, and Wooley (1997), and the other by the Productivity Commission (1999). Both of these research teams defined problem gambling in terms of the degree of harm caused by gambling. In other words, a person could only be described as a problem gambler when the gambling gave rise to significant harm to the person, those around them, or the broader community. The appropriateness of this definition was examined in a review by Neal, Delfabbro and O'Neil (2005) for Gambling Research Australia. In this review, different theoretical and operational conceptualisations of problem gambling were examined along with the current measures available to assess problem gambling within the community. The authors concluded that harm was an essential element of problem gambling, but pointed out that a purely harm-based definition was not entirely satisfactory in that it did not necessarily capture all problem gamblers. If harm was the sole criterion, then any person who was gambling in a way that might be harmful to them in the near future would not be classified as a problem gambler, even though the person's behaviour might indicate otherwise. A person could have a pathological desire to gamble, be unable to control their expenditure, be consistently preoccupied with gambling and spending all their time gambling, but not be classified as a problem gambler until their behaviour came to cause harm. For this reason, Neal et al. (2005) proposed a broader definition that incorporated the broad antecedents to problem gambling as well as harm:

“Problem gambling is characterised by difficulties in limiting money and/or time spent on gambling which leads to adverse consequences for the gambler, others, or for the community”  
(Neal, Delfabbro, & O'Neil, 2005).

The focus of this definition is on problem gambling as an activity that arises from the actions of individuals, but it is important to recognise that this does not necessarily imply that the causes of problem gambling lie with the individual. Problem gambling can just as easily be conceptualised as a phenomenon that arises from the interaction between people and communities and a range of products that create opportunities for excessive expenditure and the development of various forms of harm. However, it is recognised that industry products do not of themselves cause problem gambling because most people who gamble do not experience any difficulties with gambling. Instead, problem gambling arises because certain people come to spend an excessive amount of time and money gambling. The extent to which this occurs can be influenced by a variety of industry factors including the accessibility of gambling, characteristics of gambling products and venues, cultural acceptability, affordability, and the prevailing nature of government policy and regulatory provisions, as shown in the diagram below (Figure 2.1).



**Figure 2.1** Factors that influence problem gambling (Productivity Commission, 1999)

From an inter-jurisdictional point of view, this definition encourages a focus on both the causes and effects of problem gambling. These causes include the factors listed above (policy, regulatory provisions, the nature of gambling products and venues), but also the actions of the gambler as well: how often the person gambles, how they

gamble, in what context, what types of gambling, and using what strategies. In this sense, this definition accords with the needs of different users identified in Chapter 1:

- researchers who attempt to understand the causes and effects of problem gambling;
- regulators who attempt to minimise harm by addressing the factors that contribute to patterns of gambling activity that are, in turn, linked to harm (e.g. easy access to cash facilities, credit at venues, playing two machines at once, bill acceptors);
- policy makers who try to draw links between changes in the accessibility of gambling, gambling behaviour and the prevalence of problem gambling;
- service providers who try to address the harms caused by gambling and also alter the sorts of behaviours, circumstances or dispositional states that lead to harm (e.g. strong urges to gamble, anxiety, depression).

### 2.5 Measurement of Problem Gambling

The Australasian gambling review provides a comprehensive review of a range of psychometric measures that have been developed both nationally and internationally to screen or diagnose people as problem or pathological gamblers. These measures include the DSM-IV diagnostic criteria for pathological gambling, the South Oaks Gambling Screen (SOGS) (Lesieur & Blume, 1987), Victorian Gambling Screen (VGS) (Ben-Tovim, Esterman, Tolchard, & Battersby, 2001), Canadian Problem Gambling Index (CPGI) (Ferris & Wynne, 2001) and other shorter screening methods. The review also makes reference to the comprehensive critical appraisal of psychometric measures undertaken by Neal, Delfabbro and O'Neil (2005), which examines the validity and reliability of measures as well as their utility from the perspective of different potential users.

As emphasised in the Neal et al. report, the choice and use of psychometric instruments has very important implications for the validity and comparability of research conducted using different samples, in different contexts, and in different

jurisdictions. If some measures have questionable psychometric properties when used in specific contexts, it is difficult to rely on those figures as estimates of the population or sample with gambling-related problems. Similarly, if measures differ from one study to another, it is unclear whether prevalence rates can be compared, even if one is confident about the psychometric properties of the instruments.

The Neal et al. report reviewed a range of Australian articles and studies that have examined the validity and reliability of the most commonly available instruments (e.g. Battersby, Thomas, Tolchard, & Esterman, 2002; Jackson, Thomas, Blaszczynski, & McMillen, 2003; Wenzel, McMillen, Marshall, & Ahmed, 2004). It concluded that only the SOGS, CPGI, VGS and DSM-IV have been sufficiently validated for use in research studies within Australia, but that each should be used in a manner consistent with the purpose for which it was developed. The CPGI (see Table 2.2), for example, was developed in Canada for use in community prevalence surveys and provides a continuum of risk scores ranging from problem gambler (scores of 8 out of 27 and higher), moderate risk (scores of 3–7), low risk (scores of 1–2) and no risk (a score of 0). Wenzel et al. (2004) compared the performance of the CPGI against the SOGS, which had been used in almost all previous prevalence studies in Australia since the early 1990s. They also included the VGS, the only Australian-based measure, developed in the late 1990s by a team of South Australian researchers (Ben Tovim et al., 2001). Each scale was separately administered to separate samples of regular gamblers and then subjected to psychometric analysis.

All scales were found to have good internal reliability, but the SOGS was rated lower on most other criteria: items were less variable, it was multi-factorial, did not provide a clear distributional cut-off point, and appeared to over-state the prevalence of problem gambling when used with a five point cut-off score. Both the CPGI and VGS performed well on most psychometric testing, although the researchers were of the opinion that the VGS cut-off score was too high and needed to be revised. The CPGI was eventually favoured because it shared all of the positive psychometric features of the VGS, but had clearly defined cut-off scores, provided a grade series of risk levels, and was very efficient (only 9 items) (Wenzel et al., 2004). Based on these findings and other general assessments of the two scales (Neal et al., 2005), CPGI is now recognised as the measure of choice for all Australian prevalence research. Consistent

use of this measure will strengthen the capacity to conduct longitudinal as well as inter-jurisdictional comparisons of problem gambling prevalence rates.

Several studies have now used this measure in prevalence studies (Queensland Government (Treasury), 2002, 2007; Roy Morgan Research, 2005 in Tasmania; and Wenzel et al., 2004 in Victoria). All of these studies are comparable in that the scale was administered with ‘a last 12 months’ time frame, did not modify the question wording or formats, and administered it to sub-samples of gamblers selected using the same criterion (i.e. weekly or more often gambling on non-lottery forms of gambling and/or a total participation rate that is equivalent to 52 or more times per year). For these reasons, current prevalence research provides policy-makers and regulators with some guide as to how problem gambling varies across the country and how this might be influenced by broader variations in the availability and nature of gambling products in each jurisdiction.

Table 2.2

The Canadian Problem Gambling Index (Ferris & Wynne, 2001)

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In the last 12 months how often have you [or have, for item 7]:

1. Bet more than you could really afford to lose?
2. Needed to gamble with larger amounts of money to get the same feeling of excitement?
3. Gone back another day to try and win back the money you lost?
4. Borrowed money or sold anything to get money to gamble?
5. Felt that you might have a problem with gambling?
6. Felt that gambling has caused you health problems, including stress and anxiety?
7. People criticised your betting or told you that you have a gambling problem, whether or not you thought it was true?
8. Felt your gambling has caused financial problems for you or your household?
9. Felt guilty about the way you gamble or what happens when you gamble?

*Scoring:* 0 = Never, 1 = Sometimes, 2 = Most of the time, 3 = Almost always.  
 Cut-off scores: 1–2 = Low risk, 3–7 = Moderate risk, 8–27 = Problem gambler.

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Now that the CPGI has been recognised as the best available measure for population surveys in Australia, it is important to recognise that caution needs to be applied when drawing comparisons with previous studies undertaken using the SOGS. On the whole, the SOGS yields estimates of problem gambling that are lower than the CPGI. This conclusion has been borne out in studies that have administered both measures in the same survey. Wenzel et al. (2004) in Victoria administered the scales to samples of regular gamblers. The prevalence of problem gambling obtained using the SOGS was 1.22% (cut-off of 5+ out of 20) as compared with 0.88% obtained for the CPGI (scores of 8+ for problem gambler). Similar results have been obtained in other studies that have employed both the CPGI and the SOGS in the same survey (Roy Morgan Research, 2005 in Tasmania, and Young et al., 2005 in the Northern Territory). In Tasmania, 0.73% of regular gamblers were classified as having a gambling problem by the CPGI vs. 1.06% for the SOGS, whereas in the Northern Territory the CPGI rate was 0.64% compared with 1.06% for the SOGS. In other words, it is important when interpreting gambling research findings across time to understand that differences in problem gambling prevalence rates can be influenced by the measures used as well as variations in the sample. The CPGI generally yields lower estimates of problem gambling than the previously used SOGS. Different surveys may also, just due to change, happen to sample a greater proportion of problem gamblers in some years than in others. Thus, while prevalence surveys have proved useful ways to examine broad changes in gambling availability, expenditure and regulations over time, there is recognition of the need to supplement these studies by conducting longitudinal analyses. Such studies would involve tracking the same people over time using identical measures so as to obtain a clear sense of the relationship between changes in gambling in the community and self-reported behaviour.

As pointed out in the Neal et al. report, prevalence studies are not the only context in which measures might be applied. In some contexts, for example, it is possible that all four measures (SOGS, CPGI, VGS, DSM-IV) could potentially be used. Both the SOGS and VGS, for example, can be usefully employed in research studies to

differentiate between people with gambling problems and those without these problems, or as full-scale scores to examine the correlation between problem gambling and other constructs. Both were designed as screening tools and are easily completed by respondents in a pencil and paper form. By the same token, if there is interest in determining the extent to which a sample is representative of the general population, the CPGI can also be used for the same purpose, and would have the additional advantage of allowing greater differentiation between varying degrees of risk. By contrast, the DSM-IV differs from other measures in that it is a formal diagnostic tool that should usually be administered by a trained clinician in a treatment setting. Such information may be required for court processes, psychiatric treatment or medical treatments, and in situations involving disruptions from work or study where formal evidence of the pathology may be requested. Although the DSM-IV assessment can be undertaken using several different structural interviews (e.g. one is currently available from the Centre of Gambling Research at the University of Sydney), the same items and principles should apply across all Australian jurisdictions (Walker, Anjoul, Milton, & Shannon, 2006).

## 2.6 Prevalence of Problem Gambling

The Australasian Gambling Review provides a detailed summary of the major prevalence studies conducted since the 1990s in Australia. Results are further categorised according to whether they were undertaken using the SOGS, VGS or CPGI. As shown in Table 2.4 (reproduced from the review), recent research has adopted the CPGI as the principal screening tool for prevalence studies. Scores in the problem, or 8+ range, on the CPGI are generally lower than 5+ scores on the SOGS, although exact comparisons are difficult to make because of the different years and jurisdictions. On the whole, the findings show that:

- There is no evidence that using telephone surveys yields any lower estimates than more expensive door-knock methodologies. The AIGR conducted both types of survey in Tasmania in the 1990s and found higher estimates of prevalence using a telephone survey methodology. The reverse had been predicted when the survey had been conducted (personal communication).

- Prevalence estimates have tended to be very unstable, particularly in the earlier surveys with the smaller sample sizes. For example, it is difficult to draw any conclusions about trends in problem gambling within Tasmania because the figures differ significantly from one year to the next (even after taking into account the differences in measures).
- Current prevalence studies do not indicate strong differences in prevalence rates between jurisdictions. The results suggest that rates are lower in WA (being mindful of the age of these data), but recent studies do not show any clear differentiation between the other jurisdictions, apart from a suggestion that problem gambling rates might be lower in SA than in NSW, QLD and VIC. However, the quality, timing and consistency of recent studies mean that the studies are reasonably comparable and could be used to inform inter-jurisdictional comparisons.
- There is also little evidence of a clear linear growth in problem gambling rates in line with increases in gambling expenditure, or that States with the highest per capita expenditures (currently the NT and NSW) have clearly the highest problem gambling rates.
- Comparison of prevalence rates is difficult because of the different measures that have been used. The CPGI 8+ scoring typically yields lower estimates than SOGS 5+. In addition, not all surveys have been conducted in the same years. The Productivity Commission's WA prevalence estimate is now almost 9 years old. It also must be recognised that prevalence surveys are only cross-sectional or point in time estimates. The same participants do not complete the survey in different years. Queensland is the only jurisdiction where some attempt has been made by the State Government to assess the prevalence of problem gambling using the same participants at different points in time (see below).

Table 2.4 (adapted from Delfabbro &amp; LeCouteur, 2007)

Summary of selected State-level prevalence figures across time

	<b>Time 1</b>	<b>Time 2</b>	<b>Time 3</b>
<b>Using SOGS 5+</b>	<b>%?</b>	<b>%?</b>	<b>%?</b>
NSW	2.59 (1995)	2.89 (1997)	2.55 (PC, 1999)
VIC	0.75 (1997)	2.14 (PC, 1999)	1.22 (2003)
ACT	2.06 (PC, 1999)	1.90 (2001)	-
QLD	1.88 (PC, 1999)	-	-
SA	1.24 (1996)	2.00 (2001)	-
TAS	0.90 (1994)	0.44 (PC, 1999)	0.90 (2000)
WA	0.56 (1994)	0.70 (PC, 1999)	-
NT	1.89 (PC, 1999)		
<b>CPGI Score 3–7/8+</b>			
QLD	2.7/0.83 (2001)	2.0/0.55 (2003)	
VIC	0.91/0.88 (2003)		
NSW	1.60/0.80 (2006)		
SA	1.20/0.40 (2005)		
TAS	1.02/0.73 (2005)		
NT	n.a./0.64 (2005)		

1. On the CPGI (Canadian Problem Gambling Index), scores of 3–7 indicate moderate risk gamblers and 8+ problem gamblers.

2. Two results are not shown. A 1996 study for TAS and also the Productivity Commission's (1999) findings for SA appear to have been unduly affected by

sampling error. Both studies yielded prevalence estimates that seemed inconsistent with other results obtained at the same time (2.97% in Tasmania and 2.45% for SA).

All prevalence research by its very nature provides only a point in time estimate of the estimated number of problem gamblers within the community. Such surveys do not provide any information concerning the incidence of problem gambling; that is, how many develop problems with gambling, or stop being problem gamblers, over a designated period of time. For this reason, some recent findings from the Queensland Household surveys are of particular interest because they provide some unique insights into the changing status of gamblers over time. In 2005, the Queensland Treasury successfully re-contacted 1748 people who had originally been surveyed as part of the 2003–2004 Queensland Household Gambling survey (56% response rate). All of these people had previously been administered the CPGI, so it was possible by administering this instrument again either 12 or 18 months later to determine how stable their ‘status’ had remained over time. The results showed that 72.6% of people remained in the same CPGI category as in the previous survey, 14.3% had moved into a higher risk group, and 13.1% had moved into a lower risk group. Only 52% of people who had previously been classified as problem gamblers were still problem gamblers at the follow-up point, whereas 14% of the moderate risk group had moved into the problem gambling group (Haworth, 2005).

These results have many important policy implications. First, they suggest that prevalence estimates probably do not provide a strong guide to the likely increase in problem gamblers within the community over time and, therefore, the likely number who might seek assistance (assuming this is a fixed proportion of the total number of PGs in the community). Second, it casts doubt on the stability of problem gambling estimates based on using methodologies. Third, it suggests that a substantial proportion of people are either inconsistent in their responding over time, or find ways to overcome their gambling problems, very likely without assistance. These findings may have implications for the importance of natural recovery as a mechanism that explains why so few problem gamblers seek assistance. It also emphasises the potential importance of studying natural recovery processes in their own right to learn how problem gamblers deal with their problems over time without formal interventions (assuming this is the case for many who changed status).

## 2.7 Assessment of Current Prevalence Research

Almost all current prevalence studies undertaken in Australia are of the highest standard. Sample sizes are generally large (some as high as 30,000, as in Queensland), appropriate statistical and weighting procedures are used, and consistent measurement tools such as the Canadian Problem Gambling Index are used in each study. This means that many of the findings (e.g. relating to gambling prevalence, community attitudes towards gambling, or awareness of services) is likely to be quite accurate and could be generalised to the vast majority of the Australian population. However, despite these many positive features, it is important to be mindful of several challenges that are faced by researchers undertaking these studies.

First, prevalence studies conducted using telephone surveys are very expensive and may not be the most efficient way to recruit large numbers of problem gamblers. To obtain significant samples of problem gamblers for more detailed examination or for tracking over time, one needs to obtain very large samples. For example, if less than 1% of the population are problem gamblers, one would need a sample of 20,000 people to obtain 200 problem gamblers. Second, there is some evidence to suggest that problem gamblers may be less likely than other people to respond to telephone surveys. Surveys conducted by service providers have shown that problem gamblers are more likely to have silent numbers, or are more likely to have their phones disconnected due to unpaid bills. Although random-digit dialling methods can be used (i.e. one rings random phone numbers rather than only those listed in the *White Pages*) to circumvent the silent number problem, it is possible that those with silent numbers will resent the intrusion and may not be amenable to responding to the survey even if they were contacted. A third challenge is that problem gamblers may not be willing to respond truthfully to surveys. Evidence in support of this view was obtained by the Productivity Commission in 1999 as part of a survey of clients of counselling agencies. Problem gamblers in counselling were asked to indicate how they would have responded to a telephone survey. Only 29% said they would have answered honestly, 24% would have refused, and 33% would have concealed the problem to varying degrees.

Some marketing firms and researchers have used several ‘best-practice’ strategies to increase the response rate of surveys. These methods include making a greater number of call-backs to each household, using translators, or writing letters to respondents prior to the phone-calls (e.g. SA Department of Human Services, 2001; Wenzel et al., 2004 in Victoria). However, even if reasonably good response rates are obtained (60–70% of eligible samples), this overall figure does not indicate how good the response rates were for participants in different age ranges. For example, the rate might be over 80% for elderly people and only 40% for very young people (those who are more likely to gamble). Moreover, if problem gamblers represent only a very small proportion of the total population, even a quite acceptable overall response rate will not necessarily translate into a high response rate for this group. For all of these reasons, it is likely that all current prevalence studies probably understate the true prevalence of problem gambling across all Australian jurisdictions. Nevertheless, despite these limitations, random telephone surveys remain one of the best methods for establishing the likely prevalence of problem gambling within the community, and the CPGI remains the best evaluated screen for identifying varying levels of risk within the population.

### 2.8 Gender Differences in Gambling and Problem Gambling

Almost every gambling prevalence survey conducted within Australia has found significant gender differences in relation to gambling participation. In general, men have been found to gamble on a wider range of activities than women and to have a stronger preference for casino table games, sports-betting, keno, and racing, whereas women are often found to prefer bingo or scratch tickets. Participation rates for lotteries and poker machines tend to be quite similar for men and women. In terms of problem gambling, most studies continue to show that men are more likely to experience problems than women, although the gap between the two genders has significantly narrowed since the introduction of gaming machines in Australia. As pointed out in the Productivity Commission (1999) report, prior to the introduction of gaming machines it was rare for any more than 1 in 10 problem gamblers at counselling services to be women, but this figure has now increased to 4 to 6 out of 10 depending, on the survey. Prevalence surveys typically indicate that the ratio of male to female problem gamblers is around 60 to 40, whereas much more similar proportions tend to be observed in studies of treatment samples, very likely because a

greater proportion of female problem gamblers seek help for their problems. In 9 out of 10 cases, EGMs are identified as the cause of the problems for women, whereas this figure is usually only 60–70% for men, depending on the study.

As outlined in the Australasian Gambling Review, various explanations have been advanced to explain these differences in gambling preferences. One argument is that some forms of gambling are conducted in venues or environments that are not appealing to many women (e.g. off-course racing venues, sports clubs, hotel bars) (Delfabbro, 2000; Walker, 1992a). Another view is that adult gambling preferences reflect activity preferences or ‘gender-typing’ of activities during adolescence. Thus, if young males traditionally spend time learning how to play card games, how to bet on sports or races during their early years, they grow up with greater interest in, and knowledge of, these activities (Delfabbro, 1998). Other studies have focused on gender differences in gambling motivation. Several studies (e.g. Crisp et al, 1998; Delfabbro, 1998; Quirke, 1996; Hallebone, 1999; Scannel et al., 2000; Thomas & Moore, 2000; Trevorrow & Moore, 1998) have shown that male gamblers are more likely to be motivated to gamble to ‘test their skills’ and so they choose more competitive, interactive games. By contrast, women prefer luck-based games that allow them to relax or escape from depression and anxiety and other problems. In effect, gambling is used as a form of avoidant or emotion-based coping (Thomas, 1998).

Very few similar studies of this nature has been undertaken in Australia in 2003–2007 (the period covered by the latest edition of the AGR), so that further insight into the nature of gender differences has not been obtained. However, the existing research literature relating to the prevalence of gambling provides a sufficient research base from which to draw several reasonable conclusions:

- (1) Men and women differ in their preferences for specific gambling activities.
- (2) Men prefer games of skill and competition more than women because of differences in socialisation experiences and adolescent activities.
- (3) Men and women may differ in some of their motivations for gambling, with women more likely to gamble to escape from other problems.
- (4) The prevalence of problem gambling in men is significantly higher than in women.

(5) Women tend to experience problems almost exclusively with EGMs (90%+).

These findings have several implications for public policy and intervention. First, the results suggest that any regulations or legislation relating to the accessibility of EGMs may have a significant influence on female problem gambling, whereas changes in the racing industry, sports betting and casino industry may have a greater impact on male problem gambling. Second, if women often gamble to escape depression and anxiety, this increases the need for psychological services when they seek help from counselling agencies to address their gambling problems. Third, if treatment services provide interventions specifically to address problems caused by EGMs, they need to be aware that around 20–30% of men will also need assistance with other forms of gambling (e.g. racing, sports-betting) that could be available to the gambler at all occasions (e.g. via the phone and Internet). Assistance with exclusion orders and other liaison strategies may not be relevant if problems with these other forms of gambling are present.

Despite the consistency of findings relating to gender and gambling, there are several issues of comparability and validity that need to be considered (Delfabbro, 2000). In some of the studies described above (e.g. Scannell et al., 2000; Thomas & Moore, 2000), only women were included in the sample, and the study focused exclusively on poker machines. Although this would appear to make intuitive sense to focus on women only and the type of gambling that they typically prefer, this choice of methodology has some conceptual limitations. If men are excluded from the sample, it is not possible to determine whether the findings obtained for women are due to gender differences or problem gambling. Until the same analyses are conducted with men, it is not possible to determine whether the findings are unique to women. Similarly, if one only conducts analyses using EGMs, it is not clear whether the results obtained are due to the type of gambling or to the characteristics of the players. For example, in the two studies described above, the focus of the investigation was on the relationship between negative mood states, coping style and problem gambling in EGMs. Women who gambled on EGMs and had gambling-related problems were more likely to score higher on measures of avoidant-based coping and negative mood. It was concluded that such mood states appear to underlie women's problem gambling on EGMs. However, it may be that all problem gamblers who gamble on EGMs do so

because it is cathartic. One needs to determine whether this trend is a unique characteristic of EGM gambling as opposed to a particular characteristic of female problem gambling. Studies therefore need to compare the motivations of male and female players on EGMs and other forms of gambling to obtain a clear understanding of how gender influences gambling behaviour.

## 2.9 Age Differences

### *2.9.1 Adolescent Gambling*

Since the late 1990s, a number of studies have been carried out to examine the prevalence of under-aged gambling and gambling-related problems in adolescents (O'Neil, Whetton, & Duerrwald, 2003). As discussed in the Australasian Gambling Review (AGR), interest in adolescent gambling in Australia arose as a result of a combination of factors. One of these was the finding from a number of overseas studies that adolescents tended to experience gambling-related problems at a significantly higher rate than adults. A further factor was the finding from Australian studies that the highest rates of problem gambling were observed in the 18–24 age group, and that many adult problem gamblers reported having developed gambling problems during their teenage years.

The earliest studies into youth gambling commenced in Victoria in 1997 with the work of Moore and Ohtsuka, who surveyed over 1000 young people aged 14–25 years. The study included both students drawn from secondary schools and university students, and included a modified version of the SOGS to assess problem gambling. The results showed how parental and peer gambling and attitudes influenced gambling in young people, and that many young people had gambled on a wide range of activities. Around 3.1% had gambling-related problems, and there were many significant gender differences in gambling preferences that mirrored many of the differences reported earlier in this review. A similar study conducted by Moore and Ohtsuka (2001) in Victorian schools four years later obtained very similar results, although the prevalence of problem gambling was higher (3.8%). A further study by Burnett, Ong and Fuller (1999) interviewed 778 final year high school students and found that regular or weekly gambling was associated with poorer social adjustment and involvement in other risk taking behaviours. Similarly, Jackson (1999), in a study

of 2700 year 8 students, found that young people who gambled on a wider range of activities were more likely to be performing less well at school.

Similar South Australian and ACT school studies were undertaken by Delfabbro and Thrupp (2003) and Delfabbro, Lahn and Grabosky (2005). These studies showed that 60–70% of young people had gambled at least once per year, and that between 10% and 15% gambled on a weekly basis. Private card games, scratch tickets and lotteries were usually the most popular activities, although the prevalence of lottery gambling was higher in South Australia. Around 3.5% of young people were found to have gambling problems in both studies. Peer and parental factors were found to have a strong influence on young people's gambling. Young problem gamblers were found to hold more optimistic views about the nature of gambling outcomes (SA and ACT), to have poorer psychological adjustment (ACT), and to engage in other high-risk behaviours such as substance taking (ACT only). Young problem gamblers were also more likely to have close relatives with gambling problems and to have experienced a big win when they first started gambling.

Almost all of these studies have been conducted in schools so it is unclear whether young people who do not attend school at the age of 16–17 years have a similar level of involvement, or whether similar patterns might be observed in the regional areas of Australia. To address this issue, the SA Department of Health conducted a telephone survey of 605 16–17 year olds as part of its 2005 prevalence survey. The results of this study were quite different from the previous schools studies and those conducted internationally. Just over 44% were found to have gambled at least once during the previous 12 months and only 5.6% of students were found to gamble on a weekly basis. Only 1% were classified as having experienced problems with gambling. These figures were considerably lower than those obtained in school-based surveys. It is possible that samples obtained using a randomised telephone survey may have been biased towards young people who spend more time at home, and it possible that such young people may be less likely to gamble. However, these results suggest that caution needs to be applied to prevalence rates obtained through school samples because it may be that students who gamble are more likely to participate in these surveys. That is, students take part because they consider the survey to be personally relevant, whereas those with little interest in gambling do not participate. These issues

require further investigation through more comprehensive analyses of the response rates associated with each type of survey.

A summary of the different studies completed up to June 2007 is displayed in Table 2.5. As indicated, it is not easy to compare all of the studies across jurisdictions because the studies used different age ranges, and only the SA and ACT studies used a valid measure of adolescent problem gambling. Not all studies included just adolescents (Moore & Ohtsuka, 1997), and some included only one year level (Burnett et al., 1999; Jackson, 1999), or used measures with a lifetime time-frame rather than the ‘last 12 months’ (Moore & Ohtsuka, 1997). All of the studies (except the South Australian telephone survey) were confined to the metropolitan areas of Adelaide, Canberra or Melbourne and all used school-based sampling. For these reasons, the value of current national research into adolescent gambling remains limited from an inter-jurisdictional policy perspective. Data are only available for three jurisdictions and these findings can only be generalised (with caution) to metropolitan school populations, or to 16–17 year olds in the South Australian community.

To enhance this area of research at a national level, it would be necessary to conduct inter-jurisdictional research at the same point in time and include both regional and metropolitan schools. The study should include a validated measure of problem gambling such as the DSM-IV-J or Multiple response version with a ‘last 12 months’ time-frame, include validated measures of psychological well-being and risk-taking and the same activity categories. Years 8 to 12 should be included and all 18 year olds should be removed from the analyses to ensure that one has a genuine under-aged sample. To this end, Gambling Research Australia has currently funded a national study of youth gambling to be conducted in schools across all of Australia. This study will focus specifically on the factors that contribute to the development of youth gambling, young people’s understanding of gambling, and youth people’s level of involvement in gambling.

**Table 2.5** Summary of Australian Youth Gambling Studies

Authors	Jurisdiction	Sample Size	Age Range	Measure of Problem Gambling	Problem Gambling Prevalence

Moore & Ohsuka (1997)	Victoria	1000	14–25 years	Modified SOGS	3.1%
Moore & Ohtsuka (2001)	Victoria	769	15–18 years	Modified SOGS	3.8%
Burnett, Ong, & Fuller (1999)	Victoria	778	16–18 years	None	n.a.
Jackson (1999)	Victoria	2700	12–13 years	None	n.a.
Delfabbro & Thrupp (2003)	South Australia	505	15–17 years	DSM-IV-J	3.8%
Delfabbro, Lahn, & Grabosky (2005)	ACT	926	13–18 years	DSM-IV-J	3.4%
SA Department for Families and Communities	South Australia	605	16–17 years	DSM-IV-J	1.0%

A further important issue of interest in adolescent gambling research is the extent to which adolescent gambling is related to subsequent gambling during adulthood. To date, no study has been published in Australia to investigate this subject. However, there are two ongoing studies in South Australia that may soon provide relevant findings. One is a longitudinal study of school leavers being conducted by the University of South Australia and University of Adelaide. The other study is a series of telephone interviews conducted with young people who originally participated in the 2005 Department for Families and Communities prevalence study. This ongoing South Australian project is being conducted through the SA Department for Families and Communities and is being supported by the Independent Gambling Authority of South Australia.

A recently conducted study that provides some insights into the nature of longitudinal patterns of at-risk behaviour was undertaken by the University of Queensland (Haytbakhsch, et al., 2006) in conjunction with the Mater Hospital in Brisbane. The project involved long-term follow-ups of 3700 mothers and their children who had been born at the hospital in 1982–1983. In 2002, all of the children were at least 21 years old, so it was possible to compare their responses to interviews during adulthood with previous responses obtained at 5 and 14 years of age. All 3700 young people were asked questions about their gambling habits and 1023 were also administered the CPGI. The survey of the 21-year-olds showed that 41% had gambled in the previous 12 months (a figure very much lower than the figure of 80% obtained

in the Queensland household prevalence study conducted at a similar time), and that 1.2% were problem gamblers (a figure similar to the broader Queensland survey).

The principal focus of the analyses described in this report was to determine what factors predicted an involvement in gambling at the age of 21 years and which predicted at-risk gambling (defined as any CPGI score  $> 0$ ). Predictor variables included demographics, previous and current substance use by both the young person and the mother, as well as psychosocial adjustment scores at the age of 14 years. The results found few links between the mother's health status and demographics and gambling at the age of 21 years. However, if mothers smoked or drank, or if the young people had behavioural problems at the age of 14 years, they were more likely to gamble at the age of 21 and to score  $> 0$  on the CPGI. Similarly, if young people smoked more than 10 cigarettes per day, they were more likely to gamble (53% vs. 36% for non-smokers). All of these results therefore suggested that gambling is more likely to be observed in people who engage in other 'at-risk' behaviours and that there is an inter-generational link between parental behaviour and their children's behaviour. These findings were generally consistent with the previously described studies conducted by Delfabbro and Thrupp (2003) and Delfabbro et al. (2005), who found that adolescent problem gamblers were more likely to report gambling problems amongst close family members.

Although the University of Queensland study yielded a number of useful findings, it is important to draw attention to several methodological issues that limit how strongly the findings can be generalised to other jurisdictions. The first issue is that the sample for this study was not randomly drawn from the population, as was the case with data obtained in community prevalence studies, so it is not clear that the gambling patterns observed are representative of the broader Queensland population. An overall gambling participation rate of only 41% would suggest that this sample differs from the general community. The measures of gambling participation and 'at-risk' gambling also differed from other prevalence studies. Only a binary response category was used to assess gambling participation (yes/no) and so neither frequency nor the types of gambling were differentiated. Regular gamblers as well as those who gambled only on lotteries would have been placed into the same group as regular EGM players. Moreover, the researchers did not use the established cut-off scores for

classifying varying levels of risk on the CPGI. In effect, by choosing scores greater than 0 to classify people as being 'at risk', the researchers grouped low risk gamblers together with moderate and problem gamblers, and this limits the degree to which one can generalise to other jurisdictions that have used the established 1–2, 3–7, and 8+ classification system.

### *2.9.2 Gambling in Older Samples*

From the many prevalence studies conducted around the country, it has been consistently found that older people are less likely to gamble than younger people, and tend to have a reduced risk of experiencing gambling-related problems. Older people also tend to gamble on a narrower range of activities. Lottery products, EGMs, bingo and other chance-based activities are usually preferred over racing, sports betting and casino table games (Delfabbro & LeCouteur, 2007).

Only two major studies of older people and gambling have been undertaken. The first of these was a series of focus groups and a telephone survey conducted with people aged 55+ years (Roy Morgan Research, 1997). This survey confirmed many of the findings obtained in previous adult studies; namely, that older people tend to have a lower involvement in gambling than other groups, a lower level of expenditure, and tend to prefer bingo type games and EGMs as opposed to more skilled forms of gambling. In contrast to the findings of other studies, most older people were found to gamble during the day rather than at night. On the whole, their motivations were similar to what has been found in other studies (enjoyment, excitement, to win money, socialisation). As pointed out in the AGR, a weakness of this study is that it does not include a comparison sample of people under the age of 55 years, so that it is not possible to draw comparisons between younger and older people.

A comparison of this nature is, however, available in a study by McCormack, Jackson and Thomas (2002). In this study, involving data from Victoria's gambling helpline, comparisons were drawn between the characteristics of those aged over 60 years and young people. The results confirmed that older people gambled less intensely, and were less likely to experience gambling-related problems, but showed that women were more likely to be problem gamblers within the older sample. Older people also differed in terms of their source of money for gambling and in their motivations for

gambling. In the older group, money was more likely to be drawn from household savings, whereas younger people were more likely to borrow from other people, or to have conducted illegal acts. Older people were more likely to gamble to escape loneliness and isolation. Although these findings were taken from a Victorian sample only, it is reasonable to suppose that similar findings may well emerge in other jurisdictions, and that such findings may be useful to problem gambling service providers across Australia. The findings suggest that interventions involving older people may require less legal support, but require a greater need to establish social networks and support because many older people may not have others to help them overcome their gambling problems. Such services would need to be particularly attuned to older women, and be aware that older people may have more limited alternative sources of finance to meet debts arising from excessive expenditure on gambling.

Very similar conclusions were reached in a recent study conducted by Boreham et al. (2006) and funded by the Queensland Government. In this project, the researchers were commissioned to research the motivations and experiences of people aged 60 years or older who played EGMs. Another component of the project was to examine the effectiveness of responsible gambling provisions for older populations. The study involved surveys of 414 EGM gamblers within clubs, semi-structured interviews with providers of help services and some secondary analysis of help-seeking data. Around 65% of the sample were women and 2% were classified as problem gamblers based on their CPGI scores. The results of the gambler survey were generally consistent with the previous study conducted by Roy Morgan Research in Victoria. Older people's principal motivations for gambling on EGMs were to socialise with others, to escape isolation, to win money, to deal with depression and stress, and to support their local club (over 50% endorsed this motivation). However, the need to escape and to win money was stronger in this study than in the previous Victorian survey. As in the Jackson and Thomas (2002) study in Victoria, service providers also endorsed the view that older people might experience difficulties accessing help services because of social isolation and a reluctance to seek help from younger people.

In summary, when examining these findings from an inter-jurisdictional perspective, it is quite likely that many of these findings can be generalised to other parts of

Australia as long as one is mindful of the differences in the methodologies used. The Roy Morgan study in Victoria can be generalised to the broader community, but focuses on all types of gambling rather than exclusively on EGMs. It also does not include a comparison sample of younger gamblers to show how gambling motivations and experiences vary by age. The Boreham et al. (2006) study conducted in Queensland provides useful insights, but focuses specifically on regular EGM gamblers in clubs. Regular players may have a stronger desire to escape from problems, or to win money, than other players who visit clubs more frequently. As club players, they may have a particular loyalty to specific venues that is not shared by gamblers who visit hotels, so that these findings might generalise more easily to NSW and the ACT rather than to South Australia, where hotel-based gambling tends to predominate. Jackson and Thomas' (2002) study is laudable in that it includes a comparison sample, but the findings can only be generalised to help-seeking populations, rather than players in venues or in the community. For this reason, it may be that further studies similar to that undertaken by Roy Morgan Research in 1997 could be usefully undertaken, but strengthened by the inclusion of a formal problem gambling measure, a comparison sample of younger people, or at least the ability to refer to data collected from younger samples (e.g. by including questions from other surveys in a specific larger-scale study of older people).

### 2.10 Gambling in Indigenous Communities

Knowledge about Indigenous gambling in Australia is generally sparse. With only around 2% of the population of Australia of Indigenous descent in most jurisdictions outside the Northern Territory, it has been rare for prevalence surveys to obtain a sufficiently large sample of Indigenous people to make meaningful statements about Indigenous gambling, let alone problem gambling. For this reason, much of what is known about gambling in this community is derived from studies based on specific Indigenous populations, often in remote locations, or Indigenous people identified in venues (Brady, 1998; Busutil, 2002; Hunter & Spargo, 1998). For example, Foote (1996) conducted an observational study in Darwin Casino to identify the ethnicity of players. A total of 695 Indigenous people were observed over a two week period. The result showed that three quarters played EGMs, 9% gambled on roulette, 7% on keno and 8% of blackjack. Two-thirds of the Indigenous players observed were women. Another venue study was undertaken by the Australian Institute for Gambling

Research and LIRU (1995) in Queensland clubs. It was found that Indigenous patrons spent significantly more on gambling than non-Indigenous patrons (around 20% of their weekly incomes). A further study conducted in the regional community of Yarrabah in Queensland found that 50% of Indigenous people gambled on a weekly basis compared with only 4–6% of the general population. In other words, there is some evidence from studies in both Queensland and the Northern Territory to suggest that Indigenous people appear to have actively embraced modern forms of gambling and that their level of involvement (both in terms of time and money) may be higher than for non-Indigenous people.

Other studies have largely relied on focus group interviews with Indigenous people or those who have contact with them through treatment services, policy work, or other agencies (e.g. Cultural Perspectives, 2005a in Victoria; Scull, Butler, & Mutzelburg, 2003 in far-north Queensland). Most of these studies have yielded very similar findings:

- (1) Indigenous people are often reluctant to seek help because of the lack of services for Indigenous people
- (2) stigma and shame associated with admitting that one has a gambling problem (Australian Institute for Gambling Research, 1999)
- (3) the nature of services is not culturally appropriate for Indigenous people because the communication styles, staffing and operational procedures are intimidating or unfamiliar.

Indigenous people are traditionally accustomed to games where wins and losses are redistributed throughout the community, rather than lost to external parties.

In response to the relatively limited volume of material available concerning Indigenous gambling at the present time, there has been an active attempt to develop this area of research more extensively both through specific research projects and wider research programs. One of the principal focal points for growth in this area is the research program established by the School for Social and Policy Research at Charles Darwin University. This research centre has received funding to conduct research relevant to Indigenous populations by the Northern Territory Government, has several PhD students under supervision, and has recently obtained funds from

Gambling Research Australia to conduct a detailed study into the nature of Indigenous gambling (see Chapter 7).

In 2006, the Charles Darwin team commenced this work with a detailed scoping study as well as a broader review of Indigenous gambling within the Territory (Morris, et al., 2006; McDonald & Wombo, 2006; Young, et al., 2006). The study involved a series of qualitative interviews with 64 Indigenous and non-Indigenous people who worked in community-support services in major metropolitan areas or regional towns. The focus of this work was to obtain people's views concerning the nature and extent of gambling and gambling-related problems within the Indigenous population and appropriate service responses. Although the information obtained was limited in that the sample was not randomly drawn and was based largely on impressions and first-hand experience rather than actual interviews with gamblers, the results indicated strong support for the need to pay greater attention to Indigenous gambling. Respondents highlighted the significant personal and social cost of gambling to Indigenous communities, and how it had disrupted traditional community games and other forms of social interaction. A number of respondents drew attention to the irony of economic development in some parts of the Territory. They pointed out that, while economic growth, particularly in the mining sector, has contributed to greater wealth in many areas where Indigenous people live, this also has contributed to the growth of gambling. The stake sizes, the style of gambling, and the location of gambling have shifted away from its traditional form. Moreover, Young et al. (2007) felt that there have been active attempts by the existing industry to make venues more inclusive and attractive to Indigenous gamblers.

At the present time, the Charles Sturt research team is undertaking projects that examine the regional distribution of gambling more carefully using geo-mapping technology, more detailed surveys of Indigenous gamblers within specific communities, and participant observation research. It is likely that these studies will yield considerable insights into the nature of Indigenous gambling within the Northern Territory. However, the extent to which these findings will be generalisable to other parts of Australia that have smaller Indigenous populations or a less evident history of traditional games remains unclear. On the whole, the current literature on Indigenous gambling would appear to provide only a general guide as to appropriate

directions in national or inter-jurisdictional policy and research development. Existing studies have been innovative and informative, but the validity of the findings has been limited. For example, while previous observational studies are useful, they need to be supplemented by other sources of data to make them meaningful. Such studies are subject to errors in observation (are all people easily identifiable as Indigenous?), and provide no data on participation rates. All studies conducted in venues are not true prevalence studies in that those who are interviewed may be more likely to be regular gamblers and therefore different from those who are less likely to be encountered at venues. Similarly, although qualitative studies provide insights into the issues affecting Indigenous people, these studies are not, by their very nature, intended to be representative. The data collected or opinions expressed may only reflect the views of particularly vocal or articulate members of the Indigenous community or the relevant organisations involved.

To obtain more comprehensive information on the Indigenous community at a national level would require some attempt to triangulate different research methodologies in different jurisdictions. Observational work could be combined with self-report data collected from venues, while surveys could be used in specific community areas to obtain estimates of the number of Indigenous people involved with, or negatively affected by, gambling. Focus groups could then be conducted with those survey participants who were willing to give greater detail concerning their experiences with gambling and how it is affecting the Indigenous community. Whether these separate components could be included in all studies remains unclear because of difficulties associated with obtaining industry permission to conduct surveys at venues, as well as sufficient participation from the Indigenous community. Each of these challenges will need to be addressed by current Northern Territory research and research currently funded by Gambling Research Australia, but there may be a need for future additional jurisdiction-specific research that examines how the Territory experiences generalise to other parts of Australia. For example, the links between economic growth and gambling could also be investigated in mining intensive States such as South Australia and Western Australia (taking into account the absence of EGMs in regional areas of WA). It is very reasonable to assume that previous qualitative findings obtained in Queensland, Victoria and the Territory concerning the need to enhance Indigenous people's access to help services could also

be generalised to other jurisdictions where Indigenous people have been affected by gambling.

### 2.11 Gambling in Culturally and Linguistically Diverse (CALD) Communities

Almost identical issues apply to Australian research involving CALD communities. Since the mid 1990s, a number of studies have been conducted around Australia to investigate the effects of gambling on specific ethnic communities. Some of these studies have focused on specific ethnic groups such as the Vietnamese (Duong & Ohtsuka, 1999; Tran, 1999; Zysk, 2002) or Chinese (Blaszczynski, Huynh, Dumlao, & Farrell, 1998), whereas others have considered broader ethnic groups including people from the Greek and Arabic community (Cultural Perspectives, 2005a; McMillen et al. 2004; Victorian Casino and Gaming Authority (VCGA), 1997a). The findings from these studies mirror those involving Indigenous people. Many people in CALD communities are thought to be negatively affected by gambling (Ethnic Communities Council of NSW, 1999; VCGA, 2000). The motivations for gambling are generally similar to what is observed in the mainstream community, and similar problems occur. However, people from CALD communities find it particularly difficult to seek help because of a fear of 'losing face' in their community, a lack of culturally appropriate or linguistically capable services, or because they are not comfortable seeking help for problems of this nature. Cultural Perspectives (2005a) provides a detailed analysis of the challenges of service delivery for CALD populations in the Victorian community and provides many useful suggestions about how services might be improved. These include:

- providing CALD populations with greater access to services by forging stronger links with the relevant community
- the provision of culturally and linguistically trained staff, and having culturally appropriate protocols to deal with CALD people when they visit the service. Staff should, for example, be aware of important social, economic and cultural sensitivities (e.g. the roles of men and women) within the particular culture concerned.

- making attempts to forge stronger links with existing services for CALD populations and to encourage referrals. A considerable amount can be learned from existing and operational services for CALD populations.
- making attempts to raise the profile of the service within the local community to make counselling less stigmatised, e.g. by conducting forums, using local radio and TV.

Many of these principles are readily translatable to different Australian jurisdictions, although there is, so far, little empirical evidence available to support particular service models or intervention strategies.