

Chapter 3: The Impacts of Problem Gambling

3.1 Overview

As discussed in some detail by the Productivity Commission (1999) and in the AGR, problem gambling can give rise to significant harm to individuals, those around them, and to the community. At an individual level, problem gambling can cause significant psychological distress, give rise to legal and financial problems, and disrupt work and study. At a broader level, it can lead to breakdowns in important relationships, family disruption and neglect, and may contribute to criminal behaviour. All of these potential impacts are a principal concern for policy makers, regulators and service providers whose role is to minimise, prevent, or find suitable service or intervention responses for people who have been adversely affected by problem gambling (Boreham, Dickerson, & Harley, 1995; Dickerson, Boreham, & Harley, 1995; Dickerson, Baxter, Boreham, Harley, & Williams, 1995; Dickerson, Boreham, Harley, Maddern, & Baron, 1995; Productivity Commission, 1999).

Understanding the nature and extent of these problems has been an important objective of Australian gambling research for over a decade. Accordingly, the aim of this chapter is to provide a critical review of what is currently known nationally about the harms caused by problem gambling in Australia, and how this information may inform policy, regulatory and service responses.

3.2 Personal Impacts of Problem Gambling

3.2.1 Psychological Harm

Although many people who gamble frequently do so in order to obtain relaxation and enjoyment, gambling can also be a focal point for people suffering from significant psychopathology, including depression, anxiety, and suicide ideation (Coman, Burrows, & Evans, 1997). Findings relating to the prevalence of depression have emerged from studies of problem gamblers within the community (Productivity Commission, 1999; SA Department of Human Services, 2001; Queensland Government (Treasury), 2002), and also from studies of gamblers in treatment (MacCallum, Blaszczyński, Joukhador, & Beattie 1999). In the Productivity Commission national survey, 22% of problem gamblers reported being 'often' or

'always' depressed on a single item question. In the South Australian study, 59% of problem gamblers scored in the clinical range on the Kessler-10 (a standardised measure of problem gambling). Just over 50% had been depressed in the last 12 months in the Queensland Household survey, whereas in MacCallum's study, the mean score on the Beck Depression Inventory (a well validated international scale) was in the clinical range.

A similar pattern of results has been observed in studies that have examined suicide and suicidal ideation in problem gamblers. In prevalence studies, it has been found that around 15–20% of problem gamblers reported having thought about suicide (Productivity Commission, 1999; SA Department of Human Services, 2001), whereas much higher figures have been obtained in studies of problem gamblers within treatment. The Productivity Commission (1999) found that 58% of problem gamblers who had sought assistance at counselling agencies had seriously contemplated suicide, with 15% having often or always done so. Similar studies conducted by Blaszczynski and MacCallum (1999) and MacCallum et al. (1999) found that around 40% of people in treatment had contemplated suicide. Another source of data relating to suicide are Coroners' reports that detail the cause of death. Blaszczynski and Farrell (1998) conducted an analysis of Coroners' reports in Victoria and found that 1.7% of total suicides for the period 1994–1997 could be attributed to gambling. The Productivity Commission estimated that at least 40 people were committing suicide in Australia each year because of gambling.

Studies have also examined the importance of anxiety-related symptoms in problem gamblers. Battersby and Tolchard (1996) found that 48% of problem gamblers referred for treatment at Flinders Medical Centre in Adelaide had anxiety disorders, while Coman, Burrows and Evans (1997) and Rodda, Brown and Phillips (2004) found a positive relationship between problem gambling scores as measured by the SOGS and anxiety scores. All of these findings confirm the view that many problem gamblers use gambling as a way to regulate their emotions. An escape into the gambling environment (particular EGM venues) provides a way to avoid or regulate negative mood states, but this also becomes the source of their dependency. Attempts to avoid gambling or control mood states without gambling become increasing

difficult, so that people develop an ongoing urge to gamble when they are away from venues.

In summary, all of these results consistently show that problem gambling is linked to poorer psychological functioning. These disruptions to general mood states are likely to intensify problem gambling and lead to greater reliance on gambling as a way to deal with the person's problems. From a public point of view, poorer mood states and depression are important in that they are very likely to be contributing factors in higher rates of suicide in problem gamblers. They may also contribute to broader problems such as poorer work performance, family functioning and decision-making. However, it is important to recognise that such results do not indicate that gambling is entirely the cause of these problems. Depression and anxiety may be as much a cause of problem gambling as a symptom. Indeed, as pointed out previously, many people with very significant difficulties in their life (marital problems, work problems, and broader psychological problems) will often use gambling as a way to deal with these problems. Thus, while excessive gambling may serve to intensify and exacerbate their problems, this behaviour may also be a symptom of underlying pathology. Such a connection is recognised, for example, in Jacobs' (1986) general theory of addictions, which suggests that problem or pathological gambling often arises as a result of trauma, and that people try to 'lose themselves' in gambling by altering their mood and state of awareness to avoid the psychological consequences of their experiences.

The other important public health and research implication of these findings lies in the comparisons between the findings obtained in community prevalence surveys and in studies of gamblers in treatment. The prevalence of significant impacts in community surveys is consistently very much lower than in treatment samples, often by a factor of two or three times. This again suggests that problem gamblers identified in telephone surveys and those in treatment samples probably represent two extremes of the 'problem gambling' distribution. Those in the community samples are likely to be 'softer' cases or significantly less severe cases, whereas those in treatment are likely to be some of the worst cases because it is known that problem gamblers often do not seek help until they have reached 'rock bottom' (Evans & Delfabbro, 2002, 2005). This means that the typical or true figures relating to these impacts may lie somewhere between these two extremes. Further analysis of the prevalence of these

problems within venue samples might be one effective way to obtain a better sense of whether the true prevalence is closer to the figures obtained in treatment samples, or in community prevalence samples.

3.2.2 Problem Gambling and Substance Abuse

Alcohol

Several Australian studies have shown that there is a link between gambling and various forms of substance dependence and misuse. In each of these studies, alcohol abuse was identified in around 20% of problem gamblers (Community prevalence: Dickerson et al., 1996; Queensland Government (Treasury), 2002; Treatment sample: MacCallum and Blaszczynski, 2002). Further studies have shown that people (EGM players) report having stronger urges to gamble while under the influence of alcohol, and that they find it more difficult to terminate sessions once they have begun (Baron & Dickerson, 1999). This finding was demonstrated in a laboratory experiment by Kyngdon and Dickerson (1999) in which people were asked to gamble for as long as they liked with, or without, having consumed several alcoholic drinks. People allocated to the alcohol condition gambled for twice as long as the control sample.

The link between gambling involvement and alcohol consumption was also explored in the Mater Hospital–University of Queensland longitudinal study of 3700 children who had been tracked since 1982–1983 until 21 years of age (see Section 2.9.1 for a more detailed description of this study). In this project, young people were classified as gamblers and non-gamblers and were also administered the CPGI. Those who gambled were less likely to be regular drinkers (1 or more standard drinks per day), but those who reported drinking at less than 14 years of age were more likely to be gamblers at the age of 21 years (47% vs. 15%). Differences also emerged when young people were classified according to the CPGI. Those who abstained from alcohol were more likely to score more than 0 on the CPGI, but CPGI scores were higher in those who reported mild to severe impacts associated with alcohol use. As discussed in Section 2.9.1, the findings from this study are difficult to interpret because no attempt is made to distinguish the frequency or type of gambling involved. Those who reported buying an occasional lottery ticket would be classified in the same group as those who playing EGMS regularly. In addition, there is the questionable practice of classifying everyone who scored more than 0 on the CPGI as an ‘at-risk’ gambler.

These very broad classifications make it very difficult for these findings to be generalised to other jurisdictions or to be compared with other studies that have classified gamblers more carefully using recognised categorisation systems or cut-off scores.

Despite the somewhat confusing findings of the University of Queensland study, it is generally accepted (based on the findings of other prevalence research) that alcohol consumption is often linked with problem gambling, and these findings have many important public health and regulatory implications. The finding that alcohol is more likely to be consumed by problem gamblers and may also influence their gambling has important implications for venue policies relating to the responsible administration of alcohol to patrons during gambling sessions. These policies include those relating to the provision of alcohol in gaming rooms, the proximity of gaming rooms to bar facilities, and the conduct of venue staff. The findings also suggest that some problem gamblers may be vulnerable to cross-addictions, and this may have implications for the design of intervention strategies capable of addressing both problems simultaneously. For example, it may be that a reduction in problem gambling may lead to increases in the untreated addiction and this may, in turn, leave the person more vulnerable to relapse into problem gambling.

These findings suggest a need to strengthen the existing national research base relating to the links between alcohol and problem gambling. Most of the studies described above were based only on EGM players, so it is unclear whether similar relationships also emerge when the research examines other forms of gambling where alcohol might be present (e.g. card-playing, on-course race-betting). It may also be important to consider the value of further in vivo studies of the links between alcohol consumption and gambling. Although the Dickerson studies provided some useful findings, both have limitations. The Baron and Dickerson study was based only on self-report, so it is not clear whether alcohol actually influenced behaviour, whereas the Kyndon and Dickerson study involved only a very short laboratory simulation with a small number of trials, and there was little analysis of the relationship between persistence and problem gambling. Some of these studies (Dickerson et al., 1996; Queensland Government (Treasury), 2002) were also not based on any validated measure of alcohol dependence.

Cigarette Smoking

Similar analyses have been undertaken in relation to the prevalence of cigarette smoking in gambling samples. In both the 2001 South Australian and 2005 Tasmanian prevalence surveys, around 33% of regular gamblers were found to be smokers compared with only around 20% of people in the general population. In South Australia, 60% of problem gamblers were found to be smokers. MacCallum and Blaszczyński (2002), in a study of problem gamblers in treatment, found that 37% had nicotine dependence. A more recent study by Rodda and Cowie (2005) assessed the smoking habits of 418 EGM players in Victorian gaming venues. Half of the EGM players smoked, and 20% were found to score in the high to very high dependence level on the internationally recognised Fagerstrom Dependence Scale. Around a third of smokers reported lighting up a cigarette every 30 minutes, around 9% did so every 15 minutes, and 5% smoked almost continuously. Although there was a positive correlation between scores on the CPGI and smoking status, the correlation was generally only small ($r = 0.20$) suggesting that the intensity of smoking in problem gamblers was reasonably consistent with that observed in other EGM players with lower CPGI scores.

The Mater Hospital–University of Queensland study described above also examined the links between smoking and gambling in their follow-up study of 3700 young people (aged 21 years). The results of this study showed that, of those who smoked 10 or more cigarettes per day, 52.8% were gamblers, compared with a figure of only 35.9% for non-smokers. When the same comparisons were made using CPGI scores, it was found that 37.5% of heavy smokers scored > 0 on the CPGI as compared with only 7.5% of non-smokers. In other words, if a person was a smoker, he or she was around five times more likely to gamble at the age of 21 years.

On the whole, the evidence for the link between smoking and gambling is stronger than for alcohol, and so these findings have important implications for understanding the impact of smoking bans on gaming machine revenue in different Australian jurisdictions. If so many EGM players smoke regularly, then it becomes highly likely that gaming revenue will fall whenever gamblers are required to go outside to smoke.

Objective evidence in support of this view is derived from studies into the effects of smoking bans recently imposed in Victoria and other jurisdictions such as South Australia and Queensland where similar bans have been imposed. For example, in Victoria, EGM revenue decreased 10–20% in the period following the ban, although it is difficult to ascertain the exact extent to which this was due to any changes in the behaviour of problem gamblers as opposed to other EGM players (Marshall, 2003).

A strength of the existing research base is that the relationship between smoking and gambling has been obtained using different research methodologies. Significant relationships have emerged from large-scale community studies, treatment samples, and studies of samples obtained from gaming venues. However, it is important to recognise the differences that are likely to emerge when studies are conducted using different sampling methodologies. Community prevalence studies are likely to provide reasonably accurate estimates of smoking in regular gamblers, but may not capture the full range of problem gamblers within the community because many problem gamblers will not respond to telephone surveys (Productivity Commission, 1999). Such studies may, therefore, understate the full extent of problematic behaviours (including nicotine dependence) within the community. By contrast, studies based on venue samples may over-state the problem in that these studies will typically obtain a greater proportion of regular and problem players because people are more likely to be in the venue at any particular time and are, therefore, more likely to be sampled. Similarly, if one samples from treatment services, there will be danger that the sample will be comprised of a relatively high proportion of very serious cases and people who might share other difficulties that make them more willing to seek help.

The studies have also varied in terms of how cigarette smoking has been measured. Some have used validated scales, while others have relied on frequency measures. Studies have also differed in terms of how data have been analysed. As described above, some studies have compared problem gamblers to other gamblers; others have compared gamblers to non-gamblers, used varying CPGI cut-off scores; and some have only focused on EGM players. Accordingly, to enhance the policy utility of this area of research it would be useful to re-analyse smoking rates obtained in different surveys and break these rates down by the type of gambling, and by venue type.

Future studies that examine smoking should attempt to use a consistent assessment methodology, reference results by CPGI categories, or measure the frequency of smoking and amount smoked to allow easier comparisons between different studies.

Other Substance Use

A number of studies have also attempt to examine the link between problem gambling and the use of heavier drugs. Once again, these have included large-scale community prevalence studies and those conducted using treatment samples. In the 2001 community prevalence survey conducted by the SA Department for Human Services, respondents were asked a series of questions relating to their use of substances. The results were presented in a way that made it difficult to compare the responses of gamblers and non-gamblers, or those with different levels of gambling involvement. However, there was clear evidence that problem gamblers were more likely than others in the sample to use hard drugs and various prescription medications. Similar questions were included in the follow-up study in 2005 (n = 17,140, SA Department for Families and Communities, 2006). The results showed that marijuana and other illegal drug use was no higher in those who were identified as moderately at risk or problem gamblers by the CPGI, but these groups had very high levels of anti-depressant use (21.4% vs. 7.5% for those in the general community). These findings are generally consistent with the research described in Section 3.2.1 that found high levels of depression and anxiety in samples of problem gamblers.

Other studies conducted using treatment samples have yielded similar results. Battersby and Tolchard (1996), for example, found that 15% of problem gamblers seeking help from the treatment clinic at Flinders University in South Australia had some form of substance dependence, and this figure was very similar to that obtained by Dickerson et al. (1996) in a sample of problem gamblers identified through a community telephone survey.

The Mater Hospital–University of Queensland study (Hayatbakhsh et al., 2006) also asked 21-year old respondents a series of questions relating to their use of substances other than alcohol or cigarettes. The study showed that those who reported smoking cannabis were more likely to score > 0 on the CPGI (16.3%) than those who did not engage in this behaviour (only 6.3% of non-users reported gambling at the age of 21

years). These findings were even stronger when gambler status was analysed by the frequency of cannabis use. Of those who smoked cannabis frequently, 25.6% scored > 0 on the CPGI compared with a figure of 6.5% for those who did not use cannabis. These findings suggest that a general involvement with gambling appears to be linked with a broader interest in other risk-taking behaviours.

Although the studies described were conducted predominantly in two jurisdictions (SA and Qld), it is likely that similar findings would be obtained in other parts of Australia if appropriate questions and analyses were included in community prevalence studies and in assessments of help-seekers. Wherever possible, studies should include questions relating to the use of other substances apart from alcohol and cigarettes, and results should be broken down by CPGI status as well as by the frequency of gambling. Moreover, given a broader risk-taking literature that shows higher levels of risk-taking in males, it would be appropriate to examine the relationship between gambling and substance misuse after controlling for the effects of gender.

From a policy perspective, these findings emphasise the importance of utilising broader screening tools in both studies of community prevalence and help-seeking samples. The existence of potentially harmful cross-addictions in problem gambler samples may have implications for the range of professional services required, the nature of intake assessments conducted, and how problem gambling is conceptualised. For some problem gamblers (current figures suggest around 20%), problem gambling may only be one of a number of underlying addictive disorders, so that regulation and treatment of only the gambling-related problem may leave open the possibility of some people still being vulnerable to harm.

3.2.3 Problem Gambling and Social Impacts

A reasonable body of information is currently available in Australia concerning some of the social impacts arising from problem gambling. Most prevalence studies (including the Productivity Commission's national study), have included questions relating to the effects of gambling on relationships. For example, the Commission found that 20% of problem gamblers in its national survey admitted to having insufficient time for their families, 11% said that gambling had led to the break up of an important relationship, and 9% reported a permanent separation due to gambling.

In its study of clients of counselling agencies, the Commission extended its range of questions to include the effects of problem gambling on children, domestic violence, and work colleagues, and found that a similar percentage of people had been affected.

With social impact questions generally included in almost every State and Territory prevalence study, it is now generally well established that problem gambling can have significant effects on social relationships. However, there are some useful ways in which this work might be consolidated to inform the national research framework. One important advance would be to differentiate social impacts in terms of their severity. As indicated in the questions above, the impacts can range from insufficient attention or time or a breakdown in trust, to neglect, conflict, divorce, and domestic violence. Moreover, such impacts could be differentiated according to the person or persons affected: families in general, spouses and partners, children, friends, and work colleagues. Some attempt to measure the range of potential social impacts was, for example, provided in a study conducted by New Focus (2005) of 142 problem gamblers within Victoria.

A particularly neglected topic at a national level is the effect of problem gambling on children. A number of studies have shown that problem gambling often has an inter-generational history, with problem gamblers often having a greater likelihood than others in the population to have close relatives with gambling problems. As indicated in the AGR, these findings have emerged in many community prevalence studies, in studies of prisoners (Marshall, Balfour, & Kennear, 1998), and also studies of youth (Delfabbro & Thrupp, 2003; Delfabbro et al., 2005). Despite these consistent associations, very few studies have specifically examined the effects of problem gambling from a child's perspective. For example, in one of the few studies on this topic (Carrig, Darbyshire, and Oster; 1999) described the very significant distress experienced by children when their parents develop gambling problems, including how they are neglected, are exposed to parental mood changes, and become alienated from their parents. However, this study was conducted using only a very small sample in South Australia (around 10 children) and was based on a qualitative interview methodology. Although there is every reason to expect that similar results would be obtained if other children were interviewed in other jurisdictions, it would be necessary to develop a consistent series of measures and questions that could be used

for different samples. The sample size would also need to be extended to examine the effects of paternal vs. maternal problem gambling on children of different ages, genders, and ethnicities.

This deficit in knowledge concerning the effects of gambling on children is currently being addressed by Gambling Research Australia in a commissioned research project examining the links between adult and child gambling. The aim of this project is to examine how parental problem gambling influence's children's gambling, how it places them at risk of problematic behaviour, and what interventions or strategies might be used to assist young people who may be at risk because of their parents' behaviour.

3.2.4 Problem Gambling and Employment Impacts

Community prevalence studies have also included a series of questions relating to the impact of problem gambling on work and study. As with the social impact questions, these range from the assessment of 'softer' impacts, such as lost time from work or study, to more serious problems including a change of jobs or loss of employment due to gambling. Most studies suggest that around 20% of problem gamblers in the community surveys and 50% in treatment experience disruptions to their work as a result of gambling, but the prevalence or base-rates of some of the more serious vocational impacts are so low within community prevalence studies that it is not possible to draw reliable inferences about the nature of these problems within the general population. Indeed, a difference of a few cases can make a very substantial difference to the number of people estimated to be affected. For this reason, it may be difficult to obtain a clear understanding of the extent to which problem gambling influences productivity, or job turnover, merely based on prevalence studies. Although samples of problem gamblers derived from treatment services might increase the numbers available for analysis, these people are not necessarily representative of other problem gamblers within the community.

In general, the consistency of questions across different prevalence surveys allows some capacity to compare results for questions relating to employment impacts, although productivity effects are probably more reliably compared than job losses because of the relatively small number of cases. To enhance this work, it may be

useful to include a more refined series of questions relating to how gambling influences work activities. For example, do people place bets from work, use the Internet or phone? How many people gamble on their way to and from work? What workplace controls are in place to monitor potential employee gambling? It may also be useful from a public health perspective to include some measures of job stress and job satisfaction in gambler assessments to examine the extent to which work-related anxiety may have contributed to the person's gambling, or vice versa (e.g. as done at Flinders Medical Centre in Adelaide). As well as administering these assessments when people seek help from treatment centres, it may also be useful for gambling workplaces (e.g. casinos) to utilise these measures as part of their responsible gambling programs to identify staff members who may be vulnerable to developing gambling problems themselves.

3.2.5 Problem Gambling and Financial Impacts

According to the current national definition (O'Neal et al., 2005), over-expenditure is a key feature of problem gambling. Items relating to the financial impact of gambling and the process of obtaining money to gamble are contained in all psychometric measures including the CPGI, SOGS, and DSM-IV. It is generally recognised that the relationship between expenditure and problem gambling is complex. Although problem gamblers tend (all things being equal) to spend more than other gamblers, it is the affordability, or expenditure relative to one's income, assets, and financial capacity that is often considered more important (Productivity Commission, 1999). The AGR reviews a number of studies that have documented the financial impacts of problem gambling. These range from spending more than one can afford, being unable to cut back on expenditure, chasing losses, or borrowing money from multiple sources to very serious consequences such as bankruptcy and being unable to afford daily essentials.

Very accurate data concerning the actual amount spent on gambling (net expenditure) is compiled every year in Australia by the Queensland Treasury and formerly by the Tasmanian Gaming Commission. As discussed in Chapter 2, it is easy to determine how much was spent on the different forms of gambling, over what period, and how this differs between jurisdictions. However, such figures do not allow any determination as to how much of this total expenditure was attributable to problem

gambling as opposed to other gamblers. Nor is there any insight into how this money might have been directed away from other activities. As a result, there have been many attempts to estimate the amount spent by problem gamblers using self-reported expenditure data obtained from surveys. In most of these surveys, gamblers are asked to indicate how much they typically spend (out of pocket) on each form of gambling. This amount is then multiplied by the number of estimated sessions per year to estimate how much the person has spent in total.

Several studies have attempted to measure the accuracy of these data and found the estimates to be highly inaccurate. For example, in South Australia's first prevalence study in 1996, Delfabbro and Winefield found that the self-reported estimate of EGM expenditure was only half the actual amount recorded by State Treasury. Similarly, in a recent assessment of the data quality provided by the Household Expenditure Survey 1998–1999, the SA Centre for Economic Studies (2006) found that gambling expenditure estimates based on household diary keeping were so inaccurate as to be almost meaningless. Poker machine expenditure for the entire State was estimated to be around \$40 million as compared with an actual net expenditure of \$418 million. Total gambling expenditure estimates were over five times lower than actual figures.

There are many reasons why self-reported estimates are likely to be inaccurate. One important reason is that people do not interpret questions in the same way.

Blaszczynski, Dumlao, and Lange (1997) presented a series of gambling expenditure scenarios to a group of highly educated students and found substantial variations in how the material was interpreted. Some included only the money that was brought along, some included winnings while others did not, while others included extra money that had been taken out during the course of the session. Although some surveys have tried to overcome this by specifically asking people to ignore the reinvestment of winnings (e.g. McMillen et al., 2003 in Victoria), it is still unlikely that they can overcome all the potential biases and omissions inherent in this methodology. People may not recall all of their gambling sessions. Alternatively, they may provide general rule-based estimates and leave out all the other miscellaneous sessions, so that 'after-thought' gambling undertaken as the person passes through the venue, or 'loose change' gambling, will probably not be included. Further compounding the problem is that people may also have a tendency to recall those

occasions when they won rather than when they lost (SACES, 2006). Thus, no matter how the questions are framed, it is likely that expenditure estimates based on gambling surveys will be of limited value from a public health or regulatory perspective.

Another type of expenditure question that has uncertain validity is that which asks people to describe the source of their gambling expenditure, or the nature of activities or purchases forgone in order to finance the gambling. Questions of this nature have been included in several Victorian surveys, e.g. in McMillen et al. (2003), and in both recent Tasmanian prevalence surveys (Roy Morgan Research, 2001, 2005). Such questions impose unreasonable cognitive demands on telephone respondents and are potentially nonsensical. The questions assume that people are capable of neatly partitioning their expenditure into separate categories for every household or daily purchase, and are then able to recall all of this information on demand.

The only potential value in survey expenditure data is the extent to which it can be used to ascertain relative difference in expenditure. That is, how much do people spend on one form of gambling rather than another, and to what extent does this differ between problem and non-problem gamblers? In its national report, the Productivity Commission (1999) used this information to estimate the relative proportion of total gambling expenditure attributable to problem gamblers (33%). In a second analysis, the total proportion of gambling expenditure accounted for by problem gamblers was multiplied by the actual proportion accounted for by each form of gambling (i.e. based on actual statistics) to estimate the proportion of net expenditure on each form of gambling attributable to problem gamblers. Based on this analysis, the Commission estimated that 42% of net expenditure on EGMs was attributable to problem gamblers.

To date, this remains the principal figure that is quoted when assessing the absolute financial impact of problem gambling. However, this figure is only based on problem gamblers who were willing to take part in a telephone survey, and does not include other gamblers within the community, or take into account the possibility that problem gamblers may understate their expenditure as compared with other gamblers.

3.2.6 Problem Gambling and Legal Impacts

(a) Prevalence of Legal Problems

Problem gambling can also give rise to significant legal implications. In all current prevalence studies, a number of questions are included to determine whether gamblers have experienced legal problems because of their gambling. These questions typically begin by asking whether people have been in trouble with the police because of gambling, if they have been charged with an offence or been to court, and whether they have been convicted. Other surveys have further asked people whether they have engaged in any illegal activities because of gambling (e.g. obtained money illegally, written bad cheques, or stolen goods to raise money to gamble). As with questions relating to significant employment impacts (e.g. job losses), the response rates for these questions tend to be very low in general prevalence surveys (usually around 1% or less), so that the data are usually not very useful. More insightful data have generally been obtained from a number of surveys of counselling agencies. Within these samples, the self-reported prevalence of illegal activity has averaged around 40–50% (Blaszczynski & McConaghy, 1994; Jackson et al., 1997, 1999; Productivity Commission, 1999), with around 20% of clients reporting having been formally subjected to prosecution.

It is highly unlikely that any of these studies provides an accurate estimate of the true prevalence of gambling-related criminal behaviour in the broader community. Individuals who seek assistance from treatment services are likely to have a disproportionately higher prevalence of these problems because they often seek help only when very desperate circumstances (often impending court appearances) impel them to do so. Conversely, those gamblers who respond to telephone surveys are likely to understate their involvement in criminal activities because of fear of detection, embarrassment, and a reluctance to reveal details of their private behaviour.

(b) Types of Offence

Some studies have focused specifically on the types of crimes committed by gamblers. Blaszczynski and McConaghy (1994) conducted a detailed study of 306 problem gamblers from a hospital treatment program and Gamblers Anonymous. Their results showed that 31% had committed some form of theft, 22% had engaged

in embezzlement, and 7% had misappropriated funds. Although relatively few had committed very serious or violent crimes, many had committed a very large number of offences (range 1–600 with a mean of 12). Most worked in white-collar jobs with access to money so that they had opportunities to support their gambling through illegal means. However, few had any previous history of offending. In most cases, gambling predated their offending by three or more years, suggesting that gambling rather than any general propensity for crime had led them to begin offending. These findings were useful in that they provided insights into the likely causal links between gambling and crime and the types of employment situations where organisations would need to remain vigilant to the possibility of employee gambling. Unfortunately, few attempts have been made over the last 12–13 years to replicate these findings in different samples, and in jurisdictions outside of New South Wales.

(c) Prison / Correctional Studies

Since the late 1990s, a number of Australian studies have been conducted to examine the prevalence of problem gambling within correctional populations. Studies have been conducted within Queensland (Boreham, Dickerson, Walsh, Harley, & Hogan, 1996; Powis, 2002), South Australia (Marshall, Balfour, & Kenner, 1998), the ACT (Lahn & Grabosky, 2004), Western Australia (Blazczynski, 1994). Each of these studies involved a very similar methodology. A sample of prisoners was administered a series of questions relating to gambling and problem gambling, as well as other criminal behaviour. All of the studies showed that the prevalence of problem gambling was significantly higher within correctional populations, although the studies cannot be compared without some caution because of variations in the sampling methodology and the measures used. Lahn and Grabosky's ACT study was, for example, conducted using younger offenders, whereas the remainder (Qld, SA, and WA) used the general population. Lahn and Grabosky and Marshall et al. used the SOGS as their problem gambling measure (34% prevalence rate), Powis used the CPGI (17% problem gambling rate), whereas Boreham et al. did not use a validated measure.

As Marshall et al. further pointed out, all of these studies provide only limited insights into the link between gambling and crime because not all the people sampled were necessarily first-time offenders. Many had committed multiple crimes and for

different reasons, so it was not always easy to differentiate gambling-related crimes from those arising from other causes or motivations. Indeed, as Dickerson et al. (1998) cautioned, offenders may sometimes cite gambling as a cause or justification for their behaviour when it was, in fact, just one of a number of high-risk behaviours that they engaged in. To address this issue, some other studies (e.g. Meredith, 2001 in SA; Queensland Department for Corrective Services, 2005) have conducted investigations into the prevalence of problem gambling within community corrections populations where people may have less severe criminal records. The Meredith study (SA) involving 50 people found that 20% of respondents scored in the problem range on the SOGS, whereas the Queensland study of 570 people obtained a 9.4% rate using the CPGI. Both studies therefore confirmed that problem gambling is also much higher in those sentenced to less serious penalties, but neither study was able to determine the extent to which gambling caused, or was a corollary of, broader risk-taking behaviours.

Taken as a whole, the findings suggest that there is a need for a more consistent national approach to studying gambling within correctional populations. Apart from the fact that studies have not been undertaken in all jurisdictions, there is a need to ensure that similar measures are used (e.g. CPGI), that both male and female prisoners are surveyed (most studies so far have been with men), and that consistent sub-populations within prisons are sampled (i.e. similar level of security). Such studies could be supplemented by similar surveys of first and repeat offenders within community corrections populations.

(d) Studies of Archival Data

Another way in which to investigate possible links between gambling and crime has been to examine court records and police reports to determine whether gambling was identified as a factor in the offence committed. Several studies have undertaken this process. For example, Crofts (2002) reviewed 2700 District Court records in NSW and found 105 references to gambling, usually involving white-collar crimes such as embezzlement. When 63 files were subjected to detailed examination, it was found that 47 defendants had admitted to having committed crimes due to gambling. A similar methodology was employed by the Australian Institute of Criminology and PricewaterhouseCoopers in 2003. Over 150 cases involving fraud were identified in

both Australia and New Zealand and attempts were made to examine records to determine whether gambling had influenced the case. The results showed that gambling had been the primary motivation in 21 convicted cases, with the most common criminal offences including obtaining finance or credit by deception (43%), cheque fraud (43%), misappropriation of funds (19%), and obtaining goods and services by deception (19%).

Although such results are promising, this methodology is very likely to significantly understate the prevalence of gambling-related crime. Apart from the fact that not all gambling crimes end up in court, the reasons for specific crimes are not recorded in many cases, either by the courts themselves, or in police records (Centre for Criminology and Criminal Justice, 2000; SA Office of Crime Statistics, 2004). Until recording techniques can be updated by the implementation of consistent protocols that could be filled out by police and court officers, the data will not be a valid or reliable base on which to inform public policy.

(e) Crime Rate and Geographical Areas

Another method that has been used to infer the nature of the relationship between gambling and crime is geographical mapping. In the most elementary form of this analysis, researchers examine the rate of crimes in standard geographical areas with varying degrees of gambling activity or expenditure. A method such as this was used by the SA Centre for Economic Studies (SACES) in 2006 as part of a broader investigation of the social and economic impacts of gambling in South Australia. The Centre obtained data concerning the net EGM revenue as well as the total number of offences in the various Statistical Local Areas of South Australia. Both indices were expressed in terms of EGM revenue or offences per 1000 adults living in those areas. The results revealed a small but significant positive correlation between the two variables, and that relationships could also be detected if one broke down the offences into separate categories (property vs. violent crimes). The SACES concluded that there was some evidence of an association between crime rates and the concentration of EGM gambling.

It is very likely that analyses of this nature could be repeated in other jurisdictions in Australia where similar data are available. However, as is pointed out in the

Australasian Gambling Review (Delfabbro & LeCouteur, 2007), a difficulty with this analysis is that it not possible to draw any causal association between the two variables. Although it would appear logical to assume that the concentration of gambling contributed to higher offence rates, it is also possible that a third variable might be responsible for the association. As shown by the Queensland University study (Haytbakhsch et al., 2006), those people who have a greater likelihood of gambling also tend to have a history of engaging in other high-risk behaviours, including substance misuse. If such people are more likely to be found living in specific areas, then they will contribute to both higher levels of gambling expenditure as well as higher offence rates. The apparent association between offending and crime may therefore be spurious. Another difficulty with this type of analysis is that offence data often do not specify the extent to which the behaviour was due to gambling as opposed to other motivational or circumstantial factors.