GAMBLING HARM MINIMISATION REPORT

Commissioned by
NSW Government Department of Trade & Investment
Office of Liquor, Gambling and Racing

Prepared by

Alexander Blaszczynski
Fadi Anjoul
Kirsten Shannon
Brittany Keen
Dylan Pickering
Martin Wieczorek

The University of Sydney Gambling Treatment Clinic,
School of Psychology, The University of Sydney, Sydney

Final Report

The Department of Trade and Investment, Regional Infrastructure and Services funded this study through the NSW Office of Liquor, Gambling and Racing's Responsible Gambling Fund

(Reference Number: DTIRIS 13/23)

2015

ACKNOWLEDGMENTS

The research team would like to gratefully acknowledge and sincerely thank Jabez Allies, Principal Research Officer, NSW Office of Liquor, Gambling and Racing's Responsible Gambling Fund for her assistance and guidance with this literature review.

Financial assistance for this project was provided by the New South Wales Government from the Responsible Gambling Fund.

Table of Contents

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

In 2013, the New South Wales Government (NSW) through the Responsible Gambling Fund provided research funds to the University of Sydney Gambling Treatment Clinic to determine the:

a) types of harm and demographics likely to be attributed to each gambling product
b) level of risk for harm for each gambling product
c) range of potentially effective strategies to help prevent the harm that may be associated with each gambling product.

In determining the type of harm attributed to each gambling product, it was deemed necessary to review the literature to obtain a clear operational definition of *'harm'* and the types and severity of harms typically reported among recreational, problem, and pathological gamblers (now referred to as 'gamblers with a gambling disorder'). Similarly, a clear operational definition of '*risk*' was sought.

LITERATURE REVIEW

Gambling-related problems occur when losses cause some form of harm to the individual, family, or society in general. To cause harm, losses must exceed the individual's personal threshold of affordability, either in respect to money or time.

In summary, the findings of the literature review revealed the following:

Gambling and harm

1. The types of harm typically manifested by gamblers fall within, but are not limited to:
    - Health
    - Fewer Leisure activities
    - Critical incidents
    - Education and Employment
    - Social
    - Financial
    - Psychological
2. Evidence suggests that harms are not limited to problem gamblers but extend to recreational gamblers.
3. Harms are distributed across a number of categories, predominantly severity, chronicity, type, and recipient.
    - *Severity*: Losses from gambling may range across a dimension from minor to quite substantial within a session.
    - *Chronicity*: Losses may be incurred as isolated or sporadic instances (occasional), or as frequently repeated over a time frame (chronic).
    - *Type:* There are range of harms that can be categorised into various types or domains. Examples of domains of harm include health, leisure, critical incidents, vocational, social, financial, and psychological.
    - *Indicators*: Within each harm category, there are specific indicators that signal or exemplify a facet of that type of harm.
    - *Recipient*: Harms must be borne or absorbed by an individual, significant others, or the community.

4. Few studies, if any, have attempted to investigate if there is any harm uniquely associated with specific forms of gambling. This issue is difficult to determine given the majority of individuals engaged in multiple forms of gambling.

Risk factors related to gambling

1. An operational definition of a *'risk factor'* for gambling disorders is lacking.
2. Very few established risk factors, that is, empirical evidence from well-designed studies, have been conclusively identified.
3. For the purposes of this Report we define '*risk factor*' as: '*Any identifiable factor that increases the probability of excessive gambling and thereby substantially increases the occurrence of harmful effects'.*
4. The range of risk factors described in the literature that can be accepted as increasing the likelihood for excessive gambling, can be classified into three broad categories.
    a. Risk factors not amenable to direct change ***(non-modifiable).***
    b. Risk factors related to increasing ***supply*** (opportunities and amount) of gambling products: number of outlets, accessibility and product configuration. Supply reduction strategies control the amount of gambling available, mainly through legislation and regulation.
    c. Risk factors related to increasing ***demand*** for gambling products: marketing and promotion. Reduction strategies discourage harmful patterns of use through information, education, and public awareness of inherent risks.
5. Few policies and practices have been effectively evaluated over the medium or long term to demonstrate any changes in objective measures of gambling-related harm.

EMPIRICAL STUDIES

In addition to reviewing the literature, a number of empirical studies were completed that aimed to:

a. Investigate the relationships between harm and other variables within the RGF client data set (CDS).
b. Measure the range of potential harms in a treatment and community population.
c. Gather the perspectives of harms and risks from various stakeholders.

Client Data set (CDS) Analysis

An analysis of the raw data obtained from clients of Gambling Help Services.

1. Gaming machine players are over-represented among treatment-seeking clients and were also most likely to have suffered a mental health issue at some point in their lives.
2. Gaming machines were also one of the better predictors of gambling losses. This is consistent with claims that higher losses are associated with rapid continuous forms of gambling, and the proportion of market share in terms of gambling revenue.
3. Race wagering was the second most nominated product and similar to gaming machine products, a large minority of race wagerers experienced mental health issues. Race wagering was also highly predictive of gambling losses.
4. The next most nominated product reported was sports betting, despite its small market share. This indicates the potential for this product to be associated with an increase in the number of clients experiencing problems.
5. A similar proportion as sports betting reported casino table games as their primary gambling product. Casino table games were also significantly predictive of gambling losses and maintained a middle ground on mental health issues comparative to other products.

6. Lotteries and Keno did not predict gambling losses but yet featured among the higher rankings for anxiety and depression with Keno ranking highest for suicidal ideation and highly for suicide attempts.

MEASURING HARMS IN TREATMENT AND COMMUNITY POPULATIONS

Harms prevalent in combined community and clinical populations

1. Overall, electronic gaming machines, wagering on racing events, sports betting and casino table games represent the gambling products most associated with harm.
2. Compared to other gambling products, EGMs appear to have the highest participation rate. EGM players have elevated Problem Gambling Severity Index scores compared to other products, and report higher frequencies of health-related harms. However, there are no differences in reported frequencies of harm across gambling products for other harms.
3. Soft forms of gambling such as lotteries, Keno and bingo appear to be associated with low levels of harm.
4. Regular gamblers in the community report harms related to health, leisure (disengagement from activities), and psychological wellbeing.
5. The frequency of reported critical incidences, for example, suicidal behaviour, divorce and bankruptcy, is relatively low for all gambling products compared to other harms. These findings suggest that the majority of gamblers in the community and in treatment-seeking populations experience financial stresses, relationship problems, and health-related difficulties with those reporting serious harms (suicide, divorce, bankruptcy, serious criminal acts) being in the minority. This has implications for harm reduction education campaigns. Media campaigns and media reports typically focus on the very serious negative outcomes of excessive gambling. The majority of gamblers do not identify with the nature and severity of harms reported or depicted in the media, as these do not resonate with their personal experience. Excessive gambling impacts on the quality of life and wellbeing of recreational and problem gamblers. Campaigns ought to focus on the more global impacts affecting a gambler's quality of life rather than the more stigmatising, low frequency, serious critical incidents.

PERSPECTIVES OF HARMS AND RISKS FROM STAKEHOLDERS

Focus groups and Social Research Group Online Discussion Board Findings

A series of interviews and focus groups, and an online discussion board were set up eliciting information from family members of problem gamblers, community welfare service workers, financial counsellors, researchers, gambling operators, and industry representatives.

1. Participants expressed most concern with harms from electronic gaming machines, online gambling, and online and real-time sports betting. In particular, they recommended either a ban or limit on the advertising of sports betting, particularly during general viewing hours and during live sports action.
2. Many noted the difficulty in implementing changes because of the internet and the risk of problem gamblers switching to offshore sites.
3. Participants were generally less concerned about harms from lottery tickets, instant scratchies, Keno, bingo and Housie, and table games at the casinos.
4. Common potential harms from new technologies discussed included:
    - 24/7 access/continuous play
    - Social isolation/no interaction with venue staff who might intervene/no one to turn to for help
    - Gambling without others knowing

- Loss of time tracking
- Higher speed; more frequent betting
- Virtual spending if tied directly to online account/credit card with often high limits

5. Participants discussed a range of strategies for preventing the development of harms from gambling, including specific recommendations by gambling product:
    - A shift in focus with harm minimisation from problem gamblers to all gamblers
    - An overarching and integrated harm minimisation strategy
    - A harm minimisation strategy than includes/involves the gambling industry
    - A sustained program of research around harm minimisation with a broader range of enquiry
    - Education as a preventative measure
    - Consideration of measures that target known risk factors for problem gambling such as social isolation and boredom.

DISCUSSION AND RECOMMENDATIONS

Harm by gambling product

1. EGMs, sports, track, and casino gambling products are riskier than Keno, bingo, lotteries and scratchies. The CDS data indicated that more harms were associated with lottery and Keno (but are likely to be due to these clients engaging in more forms of gambling).
2. Higher levels of harm are associated with electronic gambling machines. However, that tendency is not statistically reliable across domains of harm compared to other risky forms of gambling.
3. Except for leisure, harm scores for total, psychological, financial, social and health were not statistically different across products. EGM playing is associated with reduced leisure activities, but only for middle-income earners. This may suggest a strong moderating effect of income level on harm scores; the higher the income the lower the harm score.

Harm by demographic

4. Like other studies, we found high income groups, regardless of the preferred product, are less likely to experience gambling-related harm, suggesting that socio-economic status has a moderating effect on harm.
5. No other demographic variable included in this study was associated with elevated risk for harm.

Harm by types

6. Psychological and financial harms are the most commonly reported and are the best indicators of the adverse effects of gambling. Harms reported in moderate frequency include disengagement with leisure activities, social and health.
7. Contrary to the literature, the empirical studies found regular gamblers do not report more acute and severe harms (such as bankruptcy, divorce and suicide) and that the harms are more frequently borne by the individual rather than impacting significant others or the community.

Emerging harm-related trends

8. Sports betting is an emerging concern in light of trends and the tendency to access this product through online platforms. The literature reports expenditure on sports betting is

rising at a faster rate than all other products. The analysis of the CDS database suggests that sport betting is over-represented (3.8%) in a clinical population relative to its market share (1.4%).

9. The literature, as well as stakeholder perceptions, suggests that online platforms and portable devices such as smartphones are increasingly being used to access gambling products. They pose considerable challenges for harm reduction strategies, as the borderless jurisdiction of the internet makes imposing regulations difficult.
10. The NSW government will need to increasingly rely on reducing excessive levels of individual demand to reduce harm. Policies aimed at minimising the harmful effects of sports betting and internet-based gambling products have lagged in development and scope compared to traditional forms and will need to be updated accordingly.

Shift the Conceptualisation of Risk

11. The current framework has traditionally conceptualised risk factors in terms of **non-modifiable** demographic characteristics, **structural characteristics** of the product, and **supply of gambling products**. It is perhaps more fruitful to conceptualise risk factors in terms of psychosocial variables that increase **individual differences in level of demand for gambling** (i.e., bet size), given that bet size appears to be a robust predictor of gambling-related harm relative to their personal supply of money.
12. Researchers have identified a range of risk factors that may explain individual differences in the level of demand for gambling, including erroneous cognitions about gambling and misperceptions of risk. Focusing future harm minimisation on gambling-related cognitions is identified as a promising area because risk factors of this type are modifiable through prevention, education and persuasion strategies.

Main conclusion- prioritise the reduction of excessive demand

The main conclusion of our findings was that new directions in harm minimisation are required. The harm reduction framework for the future is one that prioritises **excessive demand reduction at the individual level** in light of new and emerging technologies that will make it increasingly difficult to impose regulations on gambling products. The view is held that strategies that aim to reduce or control the supply of gambling may become even less effective in a future world where technology and the internet provide boundless opportunities for gambling.

SUMMARY RECOMMENDATIONS

1. Shift focus from prevalence to measuring harms and individual level of excessive demand for gambling.
2. Support the development of long-term prevention strategies that seek to mitigate individual levels of excessive demand for gambling without recourse to stigma or highlighting acute harms, in order to promote better engagement with the harm minimisation message.
3. Legislate a whole-of-industry responsible code of practice, which, amongst other measures, extends restrictions on advertising to all risky gambling products, and prohibits all licensed gambling operators, including online bookmakers, from offering all types of inducements to new or existing customers in NSW.
4. Mandatory reporting of the actual proportion of annual profitable gamblers.
5. Positive alerts to players, in reference to 'losses disguised as wins', where the return is less than the amount wagered, be added to the Gaming Machine Prohibited Features Register on all future gaming machines.

6. Prioritise the identification of psychosocial factors associated with an increased risk for harm, including individual barriers to a more realistic understanding of the mathematical principles that underlie the misperception of risk and the excessive demand for gambling products.
7. Supporting research that seeks to define personal financial thresholds at which harms are likely to emerge. This may include defining a new construct called a 'relative unit of gambling', similar in principle to a 'standard unit of alcohol', which may be used for the purpose of mass dissemination and harm minimisation.

SECTION 1: BACKGROUND AND LITERATURE REVIEW

1.1 BACKGROUND TO THE RESEARCH STUDY

1.1.1 Objectives

In 2013, the New South Wales Government (NSW) through the Responsible Gambling Fund provided research funds to the University of Sydney Gambling Treatment Clinic to determine the:

d) types of harm and demographics likely to be attributed to each gambling product
e) level of risk for harm for each gambling product
f) a range of potentially effective strategies to help prevent the harm that may be associated with each gambling product.

1.1.2 Gambling Products

The types of gambling products included in the terms of reference were:

a) Gaming machines
b) Horse and greyhound races
c) Lottery tickets and instant scratchies
d) Keno
e) Bingo and Housie
f) Table games at the casino
g) Sports betting and betting on non-sporting events
h) Casino or pokies-style games on the internet

The research was also required to focus on any new and emerging technologies associated with the above gambling products.

1.1.3 Overall Methodology

The terms of reference for the tender suggested that the project could include the following methodologies:

1. A review of the gambling literature on harms, risks, and harm minimisation strategies.
2. An analysis of raw data such as gambling survey data and data from clients of Gambling Help services.
3. Consultation, focus groups and surveys of stakeholders such as researchers, gamblers, gaming venue staff and manufacturers, and gambling counsellors.

1.2 LITERATURE REVIEW: GAMBLING-RELATED HARMS

The socioeconomic impacts of gambling are widespread, multifaceted and can either be positive or negative, and direct or indirect. As a result, it is inherently difficult to measure the range of impacts and costs related to gambling. For example, the Victorian Competition and Efficiency Commission (VCEC, 2012) noted that problem gambling can indirectly impact emotional wellbeing and quality of life in a negative manner but that many of these impacts can be considered subjective and their costs difficult to estimate. The absence of reliable data on problem gambling and an appropriate level of consensus on how to define, measure and categorise harms impedes the accurate measurement of the impacts of gambling. Moreover, the causal connections between gambling, comorbid conditions and harms, are often unclear.

This state of affairs is partly explained by researchers and policy makers approaching the topic from different perspectives. Three possible perspectives are the i) socioeconomic, ii) cost-of-illness, and (iii) public health models (Wynne & Shaffer, 2003). Each perspective has a different

emphasis (e.g., harms versus impacts) and methodology to calculate costs and benefits. In addition, although these approaches take into account problem gambling, they vary in their focus on the full spectrum of gambling impacts (socioeconomic model), as opposed to assessing problem gambling-related harms and impacts (cost-of-illness and public health).

1.2.1 Socioeconomic model

The socioeconomic model is concerned with the costs and benefits at the aggregate level and the redistribution of wealth and resources. Williams, Rehms and Stevens (2011) provide a comprehensive list of the range of impacts associated with the introduction of gambling in a jurisdiction. The broad economic impacts of gambling are readily apparent when considering the varied effects on government revenue, regulatory compliance costs, infrastructure costs (road maintenance, utilities, fire services, police services), impact on surrounding business revenue, and property value changes. In addition, various social costs are associated with problem gambling including, criminal activities (money laundering, prostitution, loan shark and extortion, graft and corruption), changing patterns of leisure pursuits, quality of life, and socio-economic inequities. However, aggregating the general social and economic costs of problem gambling is achievable in theory but complex in practice. Compounding the calculation of harms and its cost is the difficulty in determining which categories to allocate a cost; for example, personal distress, family conflicts, borrowing from loan sharks, embezzlement to cover gambling losses, and prostitution (to cover gambling losses).

1.2.2 Cost-of-Illness Model

In contrast, the cost-of-illness, applied in alcohol and drug studies, is founded on the premise that *"…an illness or social problem imposes 'costs' when resources are redirected as a result of that illness or problem from purposes to which they otherwise would have been devoted, including goods and services and productive time*" (Harwood, Fountain, & Livermore, 1999, p. 631). This approach examines economic and social harms and sets aside questions of benefits. The harms examined include the cost of treatment, prevention, research, law enforcement, lost productivity, and quality of life (Single et al., 2003).

1.2.3 Public Health Model

Similarly, the public health approach, based on the Ottawa Charter (World Health Organization [WHO], 1986), also has its focus on prevention, treatment, harm reduction and quality of life but is less focused on the measurement of economic costs and benefits (Walker, 2007). With respect to gambling, the primary concern is with the distribution and impact of gambling and its harms on individuals, families and communities (Korn & Shaffer, 1999).

Given the parallels with alcohol and drugs, the public health and cost-of-illness approaches are well suited to assess gambling-related harms. Accordingly, these perspectives will guide a review of the literature with regard to the nature of gambling-related harms experienced by individuals, families and communities. The broader economic and financial cost-benefit effects of gambling will not be addressed as these are outside the scope of the present literature review**.**

1.3 GLOSSARY OF TERMS

Gambling: The voluntary staking of something of value (usually money) by a party, on an outcome determined wholly or partially by chance that can result in monetary loss or gain for the party.

Harm: Any negative consequence associated with gambling that can be considered as having a significant detrimental interference on the functioning of an individual or societal domain.

Risk: Any identifiable factor that substantially increases, facilitates, or induces the occurrence of the harmful effects of gambling.

Harm reduction: Any policy, program, or practice that reduces the likelihood or lessens the impact of harm associated with gambling.

Problem Gambling: Excessive expenditure of money and/or time on gambling that leads to adverse consequences for the gambler, others, or for the community.

Gambling Disorder: This is the term used in the latest edition of the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders- fifth edition (APA, 2013) in classifying individuals meeting criteria for a diagnosis of a gambling disorder within the *Non-Substance-Related Behaviour* subcategory of the group of *Substance Related and Addictive Disorders*.

Pathological Gambling: This is the term used in earlier editions of the Diagnostic and Statistical Manual of Mental Disorders (APA DSM III, 1980; APA DSM III-R, 1987; APA DSM IV, 1994; APA DSM IV-TR, 2000), in classifying individuals meeting criteria for a diagnosis of pathological gambling under the category of *Impulse Control Disorders Not Elsewhere Classified*.

1.4. HARMFUL EFFECTS AND IMPACTS

Commercial gambling is purposely structured such that, despite the possibility of occasional wins, in the longer term, losses will inevitably be incurred. Harms, therefore, occur only when excessive amounts of money and time (more so money) are lost, either in a single session or accumulated over multiple sessions. This is reflected in the standard definition of problem gambling used in Australia.

> *Problem gambling is characterized 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, p. 125)

The integrative framework proposed below asserts that harmful effects of gambling are ultimately caused by excessive loss of time and money. This negatively impacts the individual, significant others and/or communities. The framework presupposes that there are risk factors that facilitate the propensity for losses to accumulate.

This framework is schematically represented in the following diagram:

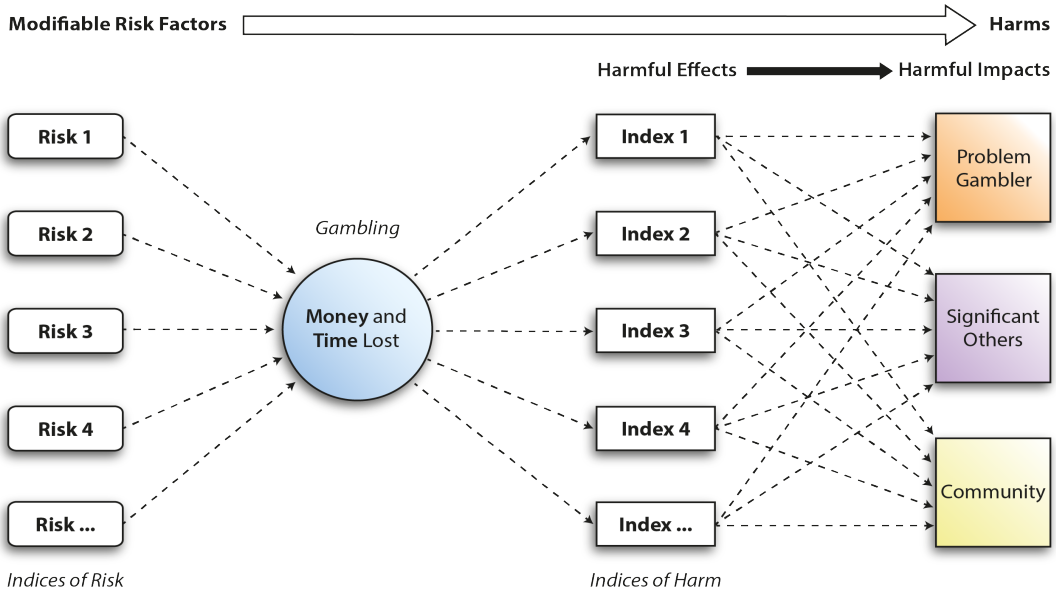


Figure 1: Integrated framework for risk factor

1.5. GAMBLING AND PROBLEM GAMBLING IN NSW

A substantial amount of gambling occurs in Australia. Epidemiological surveys indicate that 60-70% of Australian adults participate in some form of gambling annually (Hing et al., 2014; Productivity Commission [PC], 1999, 2010).

There are numerous opportunities to gamble in NSW, including The Star casino, which has 314 table games, 504 multi-terminal gaming machines, and 1,500 electronic gaming machines. According to data collected by the Australasian Gaming Council (AGC)(2013/2014) for the period 2012-13, NSW has 97,500 electronic gaming machines, distributed across 1,169 clubs and 1,576 hotels. There are 70,481 machines in clubs, and 23,337 in hotels, under a statewide cap of 99,000.

In respect to wagering in NSW, there are 127 horse race clubs offering 759 meetings (approximately 5,420 individual races) across 120 racetracks, 32 harness racetracks with 525 meetings (4,201 individual races), and 35 greyhound clubs hosting 1,380 meetings (14,209 individual races), annually. The number of off-course bookmakers has declined from 213 in 2008-09 to 169 in 2012-13. There is an estimated 2,130 TAB retail outlets. Lotteries, lotto and pools are available through multiple newsagent outlets, as are instant scratch lotteries (AGC, 2013/2014).

Internet and telephone betting are also available. These channels extend gambling access to approximately 5.85 million adults (15 years and over – no data available on breakdown by 18 years and over (legal age for commercial gambling) residing in NSW (Australian Bureau of Statistics [ABS], 2011). With the exception of authorised internet wagering and lottery providers, Australian operators are not permitted to offer casino-type internet games to Australian residents. It is not illegal, however, for residents to access such games offered by other jurisdictions internationally. For example, Betfair is a betting exchange currently licensed

exclusively in Tasmania, but the exchange operates nationally, giving punters from every state and territory, including NSW, the opportunity to legally gamble on overseas products. Some of these products are unregulated. This conceals the level of inherent risk and potential harm they pose to players, and raises questions about their impact on problem gambling.

1.5.1 Prevalence Rates

Gambling is a part of Australian culture. Australians are regarded as among the top gambling consumers with an average annual per capita expenditure of approximately $1,300. In New South Wales, a recent computer assisted telephone survey (CATI) study conducted by Sproston, Hing and Palankay (2012) reported that approximately 65% of a sample of 10,000 adult residents gambled at least once in the previous twelve-month period. In this study, participation rates across forms of gambling were consistent with the Productivity Commission's (1999) findings.

Lotteries remain the most popular gambling product in NSW with 41% of residents purchasing a ticket within the past 12 months. Participation rates for other gambling products were distributed as follows: instant scratchies (28%), gaming machines (27%), horse wagering (24%), Keno (14%), sports betting (8%), casino table games (7%), and internet gaming (2%).

In New South Wales, a recent study reported the prevalence of problem gambling was 0.8% of the adult population (Sproston et al., 2012). Moreover, the same study reported the gambling of a further 2.9% of the adult population was of moderate-risk, and 8.4% were gambling at low-risk levels. In absolute terms, this translates to approximately 39, 840 adults in New South Wales suffering a problem gambling condition, and a further 143,264 at moderate risk.

Sproston et al. (2012) compared their estimates with those from a similar study by ACNielsen in 2006 (ACNielsen, 2007). The data suggests the prevalence rate for problem gambling in NSW remained relatively stable from 2006 to 2012.

1.5.2 Capacity for Gambling Losses

Commercial gambling products are constructed in a manner that ensures the operator will profit in the long run. This 'edge' for the operator derives from the *mathematical structure* of the gambling product; the mathematical prediction of future gains or losses based on inherent probabilities and payoffs. The capacity for loss differs between gambling products.

1.5.3 Skill and Chance

A proportion of gambling products can be regarded as games of pure chance. These include, roulette, electronic gaming machines, Keno, and lotteries/pools/scratch cards. Other gambling products, such as card games, sports and wagering contain an inherent component of skill ranging from marginal to substantial. Irrespective of the degree of chance involved, the configuration and structure of commercial gambling is such that players are more than likely to experience losses over the long term.

As a consequence, although it is possible to win in the short term, that is, a session of play, in the long term this outcome occurs only in the most extraordinary of cases (Australian Gaming Machine Manufacturers Association, n.d., p. 4). In reality, individuals are guaranteed to lose the longer they play.

1.5.4 Structural Characteristics of Gambling

The extent to which a player can lose money is functionally related to the rate and frequency of play, and the bet size limit associated with each form of gambling. *Rate of play* refers to the speed (brevity) with which games can be played. These vary from several seconds (electronic gaming machines), to several minutes or hours (horse race or sports-related bets). The period between bet placement and notification of outcome/results influences the rate at which wins can be collected and re-invested, and hence increases the capacity for greater losses to be incurred. *Frequency of play* refers to how often bets can be placed; for example, high frequency (continuous) as in electronic gaming machines, or infrequent as in lotteries and pools. The third determinant, *bet size limit,* governs the amount of money that can be risked on any one bet.

On electronic gaming machines, the maximum bet size might be limited to $10 per bet, while for sport and horse racing substantially greater amounts can be placed on one bet. Accordingly, substantial losses can be incurred on gaming machines and roulette (rapid and continuous), and cards, horse and sports wagering (slower, relatively frequent, but with theoretically unlimited bet size).

In contrast, lotteries, pools and scratch cards are relatively infrequent with low costs per ticket (technically large amounts are possible but rarely exercised) and do not typically attract large losses.

1.5.5 Market Share

Using the market share of a gambling product as a proxy, it is possible to surmise the products' capacity for loss, and by extension, the capacity for consequential harm. Accordingly, expenditure data were collated for gambling products. Secondary sources of data for different financial years, including the Select Committee on the Impact of Gambling (SCIG)(2014), Australian Gambling Statistics (2014b) and Productivity Commission (2010) were used to estimate market share (see

Table 1: Capacity for loss for various forms of gambling in New South Wales).

Table 1: Capacity for loss for various forms of gambling in New South Wales

NSW	Aggregate expenditure ($million)[6]	Per capita expenditure ($)[6]	Per hour expenditure ($)	Estimated Market Share (%)[6]	Average return to player percentage[7]
Gaming machines[1]	5250.4	922.28	599,360.70	66.02	85% minimum (both clubs, hotels, and casinos (NSW) (91% average)
Horse and greyhound racing	862.258	151.46	98,431.20	10.84	84% on course Tote (AUS) 84% TAB (AUS)
Lotteries[2]	536.3 [2]	94.26	61,221.40	6.74	60% (AUS)
Keno	134.713	23.66	15,378.10	1.69	75.9% (AUS)
Bingo	-			-	90% (AUS)
Casino[3]	1057.5	185.76	120,719.10	13.30	91.14% (AUS)
Casino table games[9]	401.85 [4]		45,873.20		92.3% - 98.8% (AUS)
Sports betting	111.151 [5]	19.52	12,688.40	1.4	91.9% - 96.8% Betting agency[8] 84% TAB (AUS)
Casino or pokies-style games on the internet	-	-		-	-
TOTAL	**$7952.322m**	**$1396.94**	**$907,798.90**	**100.00%**	

[1]Excludes casinos gaming machines.
[2]Lotteries includes instant lottery, lottery, Lotto, and pools.
[3]Includes wagers on table games, gaming machines and Keno systems. There is no available data on casino table games alone.
[4]Casino table game expenditure data is unavailable. This figure is an estimate based on gaming revenue data from all Australian casinos in 2009-10. In 2009-2010, table games in casinos accounted for 38% of total gaming revenue in Australian casinos. Accordingly, it is estimated that table games in the NSW casino accounts for 38% of its gambling revenue in 2012-13 ($401.85m).

[5] Sports betting expenditure includes: bookmaker (and other) fixed odds, bookmaker (and other) pool betting, TAB fixed odds, and TAB tote odds.
[6] Australian Gambling Statistics, 1987-88 to 2012-13, 30th edition. Queensland Government Statistician's Office, Queensland Treasury and Trade. Retrieved from: http://www.qgso.qld.gov.au/products/reports/aus-gambling-stats/index.php
[7] Australasian Gaming Council. (2008). *Australasian Gaming Council Fact Sheet: Gambling Expenditure.* Melbourne: Australasian Gaming Council. Retrieved from: http://devtest.austgamingcouncil.org.au/system/files/FactSheets/AGC%20FS%2004%202012%20-%20Gambling%20Expenditure%20in%20Australia.pdf
[8] Australia Sports Betting. (2013). 2013 Bookmaker Margin Survey. URL: http://www.aussportsbetting.com/2013/07/17/2013-bookmaker-margin-survey/
[9] Allen Consulting Group. (2011*). Casino Industry survey 2009-10.* Prepared for the Australasian Casino Association. Retrieved from: http://www.auscasinos.com/our-contribution/economic-survey.html

As can be seen, gaming machines have the highest share of gambling expenditure (60.02%). This is consistent with the structural characteristics of rapid, continuous play with outcomes of spin immediately known to players.

Wagering provides the second largest per capita expenditure. Although a large percentage of the population purchase lottery tickets, expenditure is relatively low; few purchase large numbers of tickets.

Casino games are limited to one venue (currently) in New South Wales and therefore are of limited availability to the majority of the NSW population (predominantly accessed by Sydney metropolitan residents and tourists/visitors).

1.6 Capacity for Loss and Harm

1.6.1 Percentage Expenditure/Discretionary Income

The extent to which losses impact on the financial and personal situation of a player is dependent in part on that individual's income levels and financial commitments (daily living expenses and mortgage/rental costs). Some losses may be easily absorbed by high-income earning individuals with minimal financial obligations, but may cause substantial financial pressures for low-income individuals or those with high levels of financial commitments. Given the variability of income and financial commitments characteristic across players, the calculation of a 'standard unit of gambling' as compared to a 'standard unit of alcohol' (10 grams of alcohol) for example, is not possible.

For alcohol, a standard unit can be calculated irrespective of the type of drink consumed, i.e., volume in litres multiplied by the percentage of alcohol volume multiplied by 0.789 (specific gravity of ethyl alcohol). In the absence of data allowing similar estimates for gambling, it is not possible to identify the thresholds at which harms are likely to emerge. For alcohol consumption, two standard drinks daily for healthy males and females are accepted as representing the upper limit of safe drinking. Beyond this consumption, risks of harm emerge. At the aggregate population level, higher consumption levels are associated with higher levels of risk for manifesting harms (Currie et al., 2006).

Discretionary disposable income refers to the amount of income an individual retains after all financial daily living costs are met. Discretionary income can be spent on leisure and/or recreational goods and services. Once an individual reaches the discretionary income level, any further expenditure on leisure/recreation is drawn from non-discretionary income or savings. This effectively means that some form/degree of 'harm' is generated. Income that is allocated to costs of living/savings is re-allocated to leisure/recreation. This effectively means a shortfall in living expenses or an opportunity cost where less expensive goods and services are purchased as

substitutes, for example, cheaper food, beverages, household products and clothing. Some would argue, on ideological, philosophical or moral grounds, that gambling is an inherently unproductive activity and therefore any expenditure is by definition, harmful. Others adopt a more libertarian attitude and argue that currently gambling is a legal recreational activity and that harm occurs only when expenditure is excessive, that is, more than affordable.

Similarly, discretionary leisure time is defined as the time an individual can allocate to recreational activities once marital/family/social/work commitments are fulfilled. Any additional time spent gambling, therefore, represents an opportunity cost with time being re-allocated at the expense of other commitments.

1.6.2 Trends Across Time

There is also evidence that gambling prevalence rates, and by implication harms, are not stable across time or within individuals. There are two lines of argument supporting this claim. Firstly, an analysis of prevalence data reveals an increase in rates in the 1980s and 1990s, reaching a peak in the early to mid-2000s, followed by a revision to approximately 1980/1990 levels by 2010 (Williams, Volberg, & Stevens, 2012). The early rise in rates coincided with a rapid expansion in gambling during this period, with the fall reflecting subsequent social adaptation and possible effects of responsible gambling campaigns (LaPlante & Shaffer, 2007; Williams et al., 2012). With the exception of Victoria, significant decreases have been found in all other Australian States and Territories (including NSW) where prevalence rates have been assessed over multiple timeframes (Williams et al., 2012). This trend has emerged despite continued rises in gambling opportunities such as interactive card and casino gambling, and internet sports betting and wagering within Australian and international jurisdictions.

Secondly, studies are emerging that cast doubt on the adage promulgated by Gamblers Anonymous and addiction research, that 'compulsive' gambling is progressive, and cannot be cured but merely arrested. In a number of longitudinal studies it has been found that individuals meeting criteria when assessed at one point in time, no longer meet criteria at subsequent assessment timeframes (Abbott & Volberg, 1991; LaPlante, Nelson, LaBrie, & Shaffer, 2008; Slutske, Jackson, & Sher, 2003; Stinchfield, 2011; Winters, Stinchfield, Botzet, & Anderson, 2002). Winters et al. (2002) found that among a longitudinal sample (1990/98), 60% of gamblers remained problem free, and 13% showed a trend to move away from at-risk or problem gambling status to non-problem by the second and third assessment waves. Additionally, 4% of participants' status remained at the at-risk or problem level throughout the waves, and 21% were classified as new cases (incidence).

The instability in the pool of at-risk and problem gambling found in longitudinal studies suggests a dynamic process whereby at each cross-sectional assessment, different individuals are identified as meeting criteria. Those exiting the domain offset new cases of problem gamblers entering the arena. Consequently, the overall point prevalence rate remains relatively stable, if not falling in response to the implementation of responsible gambling strategies and/or adaptation (Stinchfield, 2011; LaPlante & Shaffer, 2007). Recent reviews indicate that overall, the rates of problem gambling increased in the 1990s and have subsequently shown either a reduction (Williams et al., 2012) or remained steady during the 2000s (Welte, Barnes, Tidwell, Hoffman, & Wieczorek, 2015).

1.6.3 Harmful (indicators) Effects of Gambling

Currently, the focus of epidemiological surveys and public health studies has been on determining the prevalence rates of individuals meeting diagnostic criteria for pathological gambling or a gambling disorder. This methodology provides important information on which to gauge the

extent of 'cases' within the community, inform government policies, and evaluate the effectiveness of responsible gambling strategies.

Prevalence rates do not provide any insights into the nature or extent of harms experienced. Neal et al. (2005), in their review of instruments used in many prevalence studies, concluded that these did not adequately assess or measure constructs of gambling-related harm. Although these instruments have satisfactory validity and reliability in differentiating pathological and problem from non-pathological and problem gamblers, they cannot be used as proxies for harm. Despite this, many researchers use scores derived from instruments as indicative of harm. For example, Markham, Young and Doran (2014) define gambling-related harm as the endorsement of two or more Problem Gambling Severity Index criterion items (Ferris & Wynne, 2001). Although research does indicate that per capita expenditure is correlated with, and a predictor of, gambling-related harm (Currie et al., 2006) (although inconsistent findings have been reported (Abbott, 2006)), it is invalid to use such scores as a measure of harm per se. This is because an individual can obtain a score within the problem gambling range by endorsing only behavioural criteria, without reference to those items purporting to measure harm.

This is a pertinent and important fact that is often overlooked by researchers and clinicians. Although high scores on these diagnostic instruments may accurately reflect the severity of the condition and/or the likelihood that the individual has a gambling disorder, they provide no information on the nature or extent of harm present beyond general categories. For example, the Problem Gambling Severity Index (Ferris & Wynne, 2001) contains items eliciting the frequency of health problems including stress and anxiety, financial problems, and guilt feelings or lying to others about gambling. In none of these instances are more details sought regarding the type of financial or health difficulties being experienced, or the impact of lying or guilt feelings on the gambler or on others.

In addition, as pointed out by Lane and Sher (2014), with reference to the Alcohol Use Disorder but applicable to the situation for Gambling Disorders, DSM-5 (APA, 2013), there contains an implicit assumption of equal criterion severity and strict additivity of criteria combination. That is, each criterion is accorded equal weightings; being preoccupied with gambling is held to have equal weight to gambling with increasing amounts, and failure to cease despite repeated attempts, and so on. Further, that four out of nine items need to be endorsed to reach diagnostic threshold means that there are effectively 126 combinations of four criteria sets to reach diagnosis, with all combinations implicitly assumed to be of equal severity. Based on these assumptions, simply adding scores implies a linear gradient increase in severity.

However, Lane and Sher (2014) examined the association between all DSM 5 combinations of alcohol use disorder criteria endorsed and a range of other multiple validity measures of severity in a cohort of 22,177 past year drinkers extracted from the National Epidemiological Survey on Alcoholism and Related Conditions. These authors found that some combinations of the required number of criteria (three in this case) endorsed were associated with much higher severity compared to other combinations: *"…we observe, for example, that satisfaction of exactly three criteria (i.e., mild AUD) is, in many cases, as severe as satisfaction of a combination of four other criteria. And in many cases the satisfaction of exactly four criteria (i.e., moderate AUD severity) is less severe than satisfaction of exactly three or event two criteria (i.e., mild AUD severity)"* (p. 8).

Lane and Sher's (2014) findings raise serious questions as to whether or not this issue can be extended to gambling disorders. Given that the predominant gambling screens, for example the South Oaks Gambling Screen (Lesieur & Blume, 1987) and Problem Gambling Severity Index (Ferris & Wynne, 2001), are based on DSM criteria, the possibility remains that the use of criterion counts are at best imprecise estimates of severity and in some cases may be misleading.

If so, then there is a need to shift attention away from the simple use of criterion counts as an estimate of 'cases' and reflective of the severity, and focus on the nature of harms experienced using more refined measures of severity.

1.6.4 Why Measuring Harm Matters (as Opposed to Prevalence)

It is further argued that one of the most important benefits of mapping out the precise nature and extent of gambling-related harms is that it can provide a better platform by which to evaluate the effectiveness of responsible gambling initiatives and campaigns.

Currently, the outcome of responsible gambling strategies are assessed in the aggregate by measuring shifts in the number of identified cases within the population under study. Under these circumstances it becomes difficult to disentangle the effects of one strategy in the context of multiple concurrent strategies. A more strategic approach would be to identify objective measures of harm, introduce strategies or campaigns designed to address those harms, and then assess their effectiveness by measuring changes in the prevalence or severity of those harms. By way of example, approximately 13% of pathological gamblers report the presence of domestic violence (Productivity Commission, 1999). To reduce this harm, initiatives should be designed to target domestic violence and the effectiveness of this measured by a reduction in reported domestic violence cases, use of domestic violence services, or reports to the police. Simply measuring a change in the number of cases meeting pathological gambling criteria would fail to provide any useful information on the success of such a strategy targeting domestic violence.

By analogy, the effectiveness of public health campaigns for alcohol abuse is not assessed by measuring the number of individuals meeting criteria for alcohol abuse or dependence. Rather, specific harms are targeted by directed campaigns: late night violence, drink driving, industrial accidents, physical assaults, and alcohol-related diseases. The outcomes of these campaigns are measured by changes in drink driving offences, accident and assault rates, and hospital admissions. A similar approach, it is argued, is crucial for public health approaches designed to reduce or minimise gambling-related harm. It attests to the necessity of carefully determining the threshold and types of harms that ought to be targeted by public health initiatives.

1.6.5 Domains of Harm

The research team used the broad categories of harms contained in the Productivity Commission (1999) report as a starting point for the literature review. These harm categories were generally consistent with those described in other major publications (Dickerson, McMillen, Hallebone, Volberg & Woolley, 1997; New Zealand Department of Internal Affairs [NZDIA], 1995; Neal et al., 2005). Harm is generally categorised under the following domains: personal, familial, social, vocational and legal. These domains of harm are described in the DSM-IV-TR (American Psychiatric Association, 2000), as follows:

- Personal harms encompassing psychological symptoms of stress and anxiety, depression and suicidal ideation/attempts, substance abuse, and homelessness.
- Financial difficulties ranging from debts incurred to failure to meet daily living obligations, loss of assets and bankruptcy.
- Family and marital friction/conflicts including domestic arguments and violence, separation and divorce, and attendant impacts of family dysfunction and divorce on children.
- Failure to meet social obligations resulting in interpersonal conflicts and/or loss of friends, and increased social isolation and withdrawal.

- Employment problems such as work-related conflicts arising from impaired capacity to work effectively due to stresses and poor concentration, absenteeism, and termination of employment.
- Legal proceedings for criminal offences related to gambling.
- Impaired academic performance due to stresses and distractions with gambling.

These domains were used to guide the library and internet literature searches. The search terms '*gambling'*, '*problem gambling'*, '*pathological gambling'*, and '*gambling disorder'* were cross-referenced with the material terms describing each domain of harm. The following electronic databases were searched: PsycINFO, MEDLINE, Web of Science, and Google Scholar. The bibliographical list of published articles was scanned to identify further references that were not captured in the initial process. Studies were included for review if they referred to negative or harmful consequences of gambling, risk factors related to gambling, and responsible gambling strategies. Studies were excluded if they were not published in English, or were not accessible. In addition, government websites were accessed to obtain relevant non-peer-reviewed reports.

Gambling-related harms experienced by individuals can be classified within several categories and domains as listed in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (2013) and elsewhere (Currie, Miller, Hodgins, & Wang, 2009; Productivity Commission, 2010; Neal et al., 2005):

- *Individual mental health:* Affective disorders, substance abuse, stress-related symptoms
- *Marital/family relationships:* conflict, separation/divorce, domestic violence
- *Financial:* Debts, failure to meet and defaulting on financial obligations, bankruptcy
- *Employment and productivity:* Absenteeism, loss of employment, impaired productivity due to poor concentration or distractions/preoccupations
- *Legal:* Legal proceedings (debt recovery), and commission of criminal offences.

It is important to highlight that harms are not confined to individuals meeting formal psychiatric criteria for pathological or disordered gambling, or threshold scores on psychometric screening instruments such as the South Oaks Gambling Screen (Lesieur & Blume, 1987) or the Problem Gambling Severity Index (Ferris & Wynne, 2001). This point is noted by the Productivity Commission (2010) where it is recognised that, *"harms include particular instances of gambling-related adverse impacts on people's health, jobs, finances, emotional states and relationships, even if some of these problems are experienced by people not categorised as 'problem gamblers'"*. Individuals across the full spectrum of social gamblers from occasional to high frequency may sustain harms despite not meeting criteria for a disorder.

These harms can be construed as being distributed across a number of axes, predominantly severity, chronicity, nature, and impact.

- *Severity*: Losses from gambling may range across a dimension from minor to quite substantial within a session.
- *Chronicity*: Losses may be incurred as isolated or sporadic instances (occasional), or as frequently repeated over a time frame (chronic).
- *Type:* There are a range of harms that can be categorised into various types or domains. Examples of domains of harm include health, leisure, critical incidents, vocational, social, financial, and psychological.
- *Indicators*: Within each harm category, there are specific indicators that signal or exemplify a facet of that type of harm.

- *Recipient*: Harms must be borne or absorbed by an individual, significant others, or the community.

Although descriptions of gambling harms abound in the literature, and are referred to in the diagnostic criteria for 'pathological gambling' (APA, 1980, 1987, 1994, 2000) and 'gambling disorder' (APA, 2013), there appear to be very few that contain clear operational definitions or criteria (Neal et al., 2005). These authors noted that most if not all definitions made reference to harm in the generic sense, listing gross areas of functional impairment without regard to thresholds, criteria or specific harm (social, personal, familial, marital, employment and legal). They also pointed to the subjective nature of defining harm. This is typical of most that are currently widely adopted within the Australian context as seen in the following examples:

> *Problem gambling refers to the situation in which a person's gambling gives rise to harm to the individual player, and/or to his or her family, and may extend into the community.* (Dickerson et al., 1997, p. 2)

> *Range of adverse consequences where:*
> - *The safety and wellbeing of gambling consumers or their family or friends are placed at risk, and/or*
> - *Negative impacts extend to the broader community.* (Queensland Government Treasury, 2002)

> *... typically any combination of financial, legal, emotional, physical and psychological distress, etc. experienced by the gambler and/or his/her close associates as a result of gambling.* (NSW Department of Gaming and Racing, cited in Neal et al., 2005, p. 107)

The New Zealand Gambling Act 2003 (NZDIA, 2003) is similar but adds some diffuse reference to distress:

> Harm:
> *a) Means harm or distress of any kind arising from or caused or exacerbated by, a person's gambling; and*
> *b) Includes personal, social, or economic harm suffered*
> - *By the person, or*
> - *The person's spouse, partner, family, friends, or wider community, or*
> - *By society at large.*

In 2005, Neal, Delfabbro and O'Neil (2005) were commissioned by Gambling Research Australia to conduct a comprehensive review of the literature with the aim of establishing a national definition of problem gambling. The literature review involved definitions of problem gambling, gambling-harm and gambling screens and measurement instruments. In addition, these authors elicited the views of experts in the field. Neal et al. (2005) acknowledged that any definition would not satisfy all stakeholders. They therefore elected to achieve a compromise by providing one that was "…*acceptable to most*" (p. 126). By integrating recommendations that the definition of problem gambling include both gambling behaviours and harm, the following national definition was advanced, *"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" (p. 125).*

It is informative that the above authors describe gambling-related harm as a useful and practical concept, despite the limitations, and subjective and variable nature of the measurements and

impacts. In accordance with identifying 'cases' of problem gambling within the field, Neal et al. (2005) suggested that stakeholders generally adopt a somewhat pragmatic perspective to gambling-related harm. The tendency, correctly, is to accept that any individual or family member seeking treatment warrants some form of intervention irrespective of the nature or severity of harm experienced. Although this approach is clinically defensible, it falls short of allowing policy decision makers to prioritise limited funding for responsible gambling strategies. This is a significant limitation, given that these decisions represent an opportunity to address the more severe harms, characteristic of a true economic and health care cost burden on society, as opposed to those affecting transient states of personal unhappiness, guilt and regret for losing money and time gambling.

However, as argued, the reliance on prevalence rates is to some extent limited and misguided in part. The reliance on a head count of 'cases' fails to provide any information on the indicative harms experienced by individuals and the changes in the nature, pattern or extent of harms in response to responsible gambling strategies (Blaszczynski, 2009). Blaszczynski (2009) advanced the view that delineating social, personal, health and economic harms associated with gambling across all levels of participation will result in a deeper understanding of the problem. This understanding spans not only to the impacts of gambling on individuals but also provides options to evaluate changes in harms in response to harm minimisation strategies. This approach will:

(a) Allow for the *"…deeper insights not only into the impact of gambling but also the public health resources and rehabilitation programmes required to minimize harm and its specific types"* (Blaszczynski, 2009, p. 1073).
(b) Provide domains of harm that can be targeted more directly in responsible gambling campaigns, for example, domestic violence, marital separation, depression, and quality of life.

It is axiomatic that the concept of problem, pathological or disordered gambling is predicated on the presence of some form of harm associated with the activity. However, there is some debate surrounding questions of comorbidity and directions of causality, and the nature and severity of harm that requires societal attention. For example, comorbid psychiatric conditions are commonly found among pathological gamblers (Haw, Holdsworth, & Nisbet, 2013; Petry et al., 2005). Thus, comorbid conditions may act to precipitate impaired control over gambling, represent the outcome of stresses associated with gambling-related losses, or act as a mediating factor determining the likelihood of impaired control or faulty decision making. Nevertheless, whatever the causal inference that arises, it remains undeniable that gambling to excess results in harm.

Such harms may be limited to that experienced personally by the individual or contained within the boundaries of the family. Examples would include feelings of guilt, stress, marital discord, or forgoing opportunities for the consumption of products as a consequence of insufficient funds. Alternatively, the harm may be of such severity that it results in a cost to the broader community/society, for example, consultations with physicians or mental health services for anxiety and depression, accessing domestic violence support agencies, legal representation costs, and emergency admission for suicidality.

In this context, gambling-related harms can be argued to originate from one or both of two sources:

(1) An individual spending more money than affordable relative to their income and financial obligations, and
(2) Spending excessive amounts of time that interfere with meeting marital/familial/social/work obligations (Blaszczynski, Ladouceur, & Moodie, 2008).

In the following sections, an attempt will be made to summarise the key findings regarding the nature and extent of harms experienced by gamblers and society, and if any unique patterns emerge relative to some forms of gambling. These sections will be structured according to the broad domains of harms typically identified in the literature:

- Individual mental health (substance use, affective disorders)
- Marital/family
- Financial
- Employment/productivity
- Legal

1.7 Substance Use

Large-scale surveys such as the National Epidemiological Survey on Alcohol and Related Conditions (NESARC) from the U.S. have provided insight into national prevalence rates of disordered gambling and comorbid substance use. Petry et al. (2005) analysed 2001-02 NESARC data from 43,093 respondents and concluded that while only a small minority of people met the criteria for lifetime pathological gambling (0.42%) there was high comorbid substance use. Nearly three quarters (73.2%) of pathological gamblers met criteria for an alcohol use disorder, 60.4% for nicotine dependence, and 38.1% for a drug use disorder. A Victorian review of the literature also produced elevated rates of comorbid substance use amongst problem and pathological gamblers, reporting an average of 57.5% meeting criteria for a substance use disorder (Lorain, Cowlishaw, & Thomas, 2011).

Further to this, Cowlishaw, Merkouris, Chapman and Radermacher (2013) provided a meta-analysis of the available literature on gambling prevalence among treatment-seeking substance users. Based on weighted mean estimates of 26 studies, they found that 13.7% of substance users undergoing treatment met a comorbid diagnosis for pathological gambling (SOGS 5+) and 22.8% met a diagnosis for problem gambling (SOGS 3+).

In adolescents, engaging in gambling at the recreational or problem level has shown to correlate with other risky behaviours. Splevins, Mireskandari, Clayton and Blaszczynski (2010) reported that young problem gamblers were significantly more likely to have engaged in drug and alcohol use, and self-harm compared to non-problem gamblers. Furthermore, Hayatbakhsh et al. (2006) surveyed 3,700 participants from a longitudinal birth cohort and found that early use of alcohol, tobacco or cannabis was positively correlated with gambling in adulthood. Furthermore, the earlier participants engaged in any of these behaviours, the more likely they were to be gamblers at age 21.

1.7.1 Alcohol

Within substance use among gamblers, alcohol use appears to be the most prevalent. Chou and Afifi (2011) analysed 2000-01 and 2004-05 NESARC data to examine the role of disordered gambling as a risk factor for DSM-IV Axis 1 disorders. (Previous versions of DSM utilised a multi-axial diagnostic assessment where axis 1 listed clinical disorders such as anxiety and depression, axis 2 cited the presence of a co-morbid personality disorder.) After controlling for socio-demographic variables, medical conditions, physical and mental health, and stressful life events, alcohol use disorders and alcohol dependence were significantly correlated with disordered gambling, but other substance use disorders were not. Similarly, French, Maclean and Ettner (2008) examined 2001-02 NESARC data and found that alcohol use was positively associated with an increase in gambling-related harms. Respondents who reported drinking alcohol weekly or more frequently were significantly more likely to report suffering from gambling-related harms, and to report a higher number of gambling-related harms. This effect increased as a function of

the level of alcohol consumed (i.e., higher levels of alcohol consumption were associated with higher probability and number of harms experienced). Similarly, hazardous/harmful alcohol consumption has shown to increase in a linear fashion as a function of gambling severity (Davidson & Rodgers, 2010).

Other national studies have suggested that the correlation between alcohol use and disordered gambling is generalisable across cultures. Nearly 3,000 Finnish citizens took part in a national health survey on the harms associated with various types of gambling. Results indicated that risky alcohol consumption (at least six units of alcohol at least six times a week) was significantly associated with low and moderate gambling problems. Risky alcohol consumption was also associated with problem gambling, although interestingly, the relationship was not statistically significant (Castren et al., 2013). A New Zealand study surveying 12,529 people over the age of 15 examined the rates of problem gambling and associated harms among the nation's population. The study found that of the 1.2% of problem gamblers surveyed, approximately half had potentially hazardous drinking behaviour compared to only one in six non-problem gamblers (Mason & Arnold, 2007). Further, after controlling for sex, age, ethnicity, household size, education, socioeconomic deprivation, and employment status, problem gamblers were found to be four times more likely to have potentially hazardous drinking behaviour than non-problem gamblers.

Comparable results have been found in treatment-seeking pathological gamblers, with 16-19% meeting criteria for alcohol abuse (MacCallum & Blaszczynski, 2002; Bergh & Kuhlhorn, 1994). Sullivan (1997) reported substantially higher results, with 58% of treatment-seeking pathological gamblers scoring highly on the AUDIT alcohol screen, indicating hazardous or dependent drinking. Further to this, nearly one-third (32.5%) of the 40 older pathological gamblers (aged 55 or over) assessed by Kerber, Black and Buckwalter (2008) met criteria for alcohol dependence.

Similarly, compared to non/infrequent and recreational gamblers, older disordered gamblers (60+) are also more likely to binge drink (Levens, Dyer, Zubritsky, Knott, & Oslin, 2005), report alcohol problems at some point in their lives, drink on more occasions, spend more money on alcohol (Pietrzak, Molina, Ladd, Kerrins, & Petry, 2005), and meet criteria for an alcohol disorder (Desai, Desai, & Potenza, 2007; Pietrzak, Morasco, Blanco, Grant, & Petry, 2007). Interestingly, when compared to non-gamblers, recreational gambling has also been significantly associated with alcohol abuse and dependence, with older (65 years+) recreational gamblers being 3.4 times more likely to meet criteria for abuse or dependence compared to 1.71 times in younger (40 years+) recreational gamblers (Desai et al., 2007).

Another large-scale study analysed data from over 1 million veterans in the U.S. accessing Veterans Affairs mental health services. Those diagnosed with alcohol use disorders were 2.8 times more likely to also meet a diagnosis for pathological gambling as defined by ICD scores (Edens & Rosenheck, 2011). Importantly, the presence of an alcohol use disorder was the biggest predictor of a pathological gambling diagnosis in this study.

One rather obvious issue regarding harmful alcohol use among gamblers is the effect that it can have on decision making when gambling. To test this effect, Australian researchers Kyngdon and Dickerson (1999) randomly allocated 40 young men to consume either 3 alcoholic beverages, or 3 non-alcoholic drinks. Participants were then given $10 and asked to play a card-betting game. Results showed that players who had consumed alcohol played twice the number of rounds the control players did, and significantly more had lost all of their original cash stakes (50% compared to 15%) (Kyngdon & Dickerson, 1999). This research further highlights the need to screen for alcohol disorders in gambling treatment populations, and vice versa, as alcohol and gambling can potentially have exacerbating effects on one another.

1.7.2 Smoking

Compared to the general population, smoking rates are far greater among disordered gamblers. In Mason and Arnold's (2007) survey of problem gambling in New Zealand, 58.3% of problem gamblers reported they were daily smokers, compared to 22.5% of non-problem gamblers. In New South Wales, up to 65% of pathological gamblers reported smoking in the last 12 months (MacCallum & Blaszczynski, 2002) compared to national averages of 19.5% (daily smokers) and 3.6% (weekly and less than weekly) for the same time (Australian Institute of Health and Welfare [AIHW], 2002). Studies in South Australia and Victoria also found considerably high rates of smoking among gamblers with 42.7-60.1% of problem and pathological gamblers smoking, compared to 27% for moderate risk gamblers (Lorain et al., 2011; The Social Research Centre, 2013). Furthermore, problem and pathological gamblers are also more likely to increase the amount they smoke while gambling (MacCallum & Blaszczynski, 2002; Mason & Arnold, 2007).

Other longitudinal and national surveys support this link. Slutske, Caspi, Moffit and Poulton (2005) followed a cohort of 939 Dunedin residents from birth. After controlling for personality traits, they found that nicotine dependence was the only substance that remained significantly correlated with problem gambling at age 21. Similarly, in a Finnish national survey, smoking was strongly and significantly associated with all categories of problem gambling; low, moderate and high (Castren et al., 2013). Furthermore, the longitudinal study by Hayatbakhsh et al. (2006) mentioned above, reported that amongst respondents who stated they were 'heavy smokers', 37.7% were at-risk/problem gamblers, compared to only 7.5% of non-smokers.

It seems that this association is also dependent on gambling frequency and severity. The Australian Capital Territory's (ACT) gambling prevalence survey found that smoking prevalence increased as a function of gambling frequency (Davidson & Rogers, 2010). Excluding lottery and scratch tickets, over a quarter (26.1%) of respondents who gambled regularly ($\geq$48 in the last year) also smoked, compared to just 6.5% of non-gamblers, and 12.5% of infrequent gamblers (1-11 times in the last year). They also reported a linear correlation between smoking rates and gambling severity, with 40.1% of moderate risk/problem gamblers smoking, compared to 18.6% of low-risk gamblers, and just 12% of non-problem gamblers. These findings were replicated in the Victorian Department of Justice's (VDJ)(2011) longitudinal survey where 57.8% of problem gamblers and 35.3% of moderate risk gamblers had smoked in the last 12 months, compared to only 22.2% in non-problem gamblers. Older adults with a lifetime history of disordered gambling are also significantly more likely to meet criteria for nicotine dependence than those who do not gamble regularly (Desai et al., 2007; Pietrzak et al., 2007). Recreational gambling has also been associated with nicotine dependence in adults over the age of 40 (Desai et al., 2007).

1.7.3 Illicit Drugs

While there is substantially more abundant and rigorous research regarding alcohol and tobacco use in disordered gambling, there is reasonable data to suggest that high comorbid drug use also exists (Hayatbakhsh et al., 2006). National prevalence surveys have suggested that nearly 40% of disordered gamblers meet criteria for a comorbid drug disorder (Petry et al., 2005). Further to this, longitudinal studies have suggested that early cannabis use leads to gambling in adulthood (Hayatbakhsh et al., 2006). Congruously, Splevins et al. (2010) reported that young problem gamblers were significantly more likely to have used marijuana and other inhalants compared to non-problem gamblers.

Winters and Anderson (2000) analysed data taken from the 1995 Minnesota student survey and found that students were 3.1 times more likely to have never gambled if they had never used drugs compared to those who had. Additionally, students were 3.8 times more likely to engage in

weekly or daily gambling if they also engaged in drug use on a weekly or daily basis compared to students who used drugs less, or not at all.

Interestingly, adults over the age of 60 with a lifetime history of disordered gambling are also far more likely to have a drug use disorder when compared to those without a lifetime history of regular gambling (Pietrzak et al., 2007). This is in contrast to a large Veterans Affairs study in the U.S. that found no significant association between drug use and pathological gambling amongst its one million plus veterans (Edens & Rosenheck, 2011). It is important to note, however, that the Veterans study comprised a median age group of 50-64, which is not directly comparable to Pietrzak et al.'s (2007) sample.

1.7.4 Issues of causality

Of the available literature suggesting a correlation between substance use and gambling, there is a significant lack of longitudinal studies that evaluate causality. Some studies that have reviewed lifetime and current substance use, and onset of gambling diagnoses have inferred that substance use onset is far more likely to predate gambling problems than the opposite (Hodgins & El-Guebaly, 2009; Hodgins & Peden, 2005; Kessler et al., 2008). Kessler et al. (2008), however, used retrospective data, and the results from other longitudinal studies are not sufficiently strong to imply causality. Therefore, the question remains, do problem gamblers engage in substance use because of their gambling, or are substance users attracted to gambling and do so excessively because of their substance use?

Further questions are raised regarding the mechanisms by which each of these behaviours increase as a function of the other and the causal pathways that occur. For example, if problem gambling leads to substance use problems; how? Is it due to a mediating factor such as mental illness, in that problem gamblers become depressed or anxious and therefore self-medicate with drugs and/or alcohol? On the other hand, if substance use leads to problem gambling; in what way? Do substance users engage in reckless gambling behaviour in an attempt to 'win big' and break the addiction cycle and/or provide a better life for themself? Or perhaps they cannot financially afford to maintain their substance use and perceive gambling to be a potentially legitimate career where large sums of money can be made from investing very little in stakes. It is these questions that need to be the focus of future research, and it is imperative that studies employ longitudinal methodologies to evaluate these questions adequately.

1.7.5 Treatment Utilisation for Substance Use

It appears that there are numerous studies reporting on the prevalence of comorbid substance-use among disordered gamblers, as well as rates of disordered gambling among treatment-seeking substance users. However, there is little research indicating how many disordered gamblers actually seek treatment for their substance use.

Because of this, it is difficult to estimate the relative social costs and service utilisation associated with gambling-related substance use. Furthermore, while it can be assumed that there are invariably further social and personal costs associated with substance use among gamblers (e.g., treatment costs, lost productivity at work, poor performance at work/study, relationship breakdowns, crime, mental illness, divorce, abuse and neglect, homelessness, etc.), these costs are near impossible to estimate accurately (see Walker, 2007 for a comprehensive review of the methodological issues that arise when attempting to calculate the costs and benefits of gambling).

There is some data to suggest that a relatively small number (6%) of disordered gamblers seek treatment for problematic alcohol use (Bergh & Kullhorn, 1994). More broadly, about a third of treatment-seeking pathological gamblers in Petry's (2002) study had a history of substance-abuse treatment. However, this was measured on a lifetime basis, and therefore does not indicate an accurate estimate of substance use treatment within pathological gambling at any one time.

A recent thesis dissertation published in Canada reviewed treatment admissions to addiction treatment centres and investigated the difference between primary (gambling as the primary reason for treatment) and secondary (gambling as secondary reason for treatment) gambler admissions. The study found significantly less admissions among primary gamblers compared to secondary gamblers (Craig, 2010). This implies that more gamblers seek treatment for associated substance use than do for gambling problems in general. However, again it is not possible to know whether the substance use problems they are seeking treatment for are related to, or a result of their gambling, or if the two simply happened to co-occur. Because of a similar lack of rigorous methodological research available, more research needs to focus on evaluating substance use service utilisation by problem and disordered gamblers. More specifically, methodologies should attempt to gauge the extent to which the substance use problems are associated with the persons' gambling.

1.7.6 Summary – Substance Use

There is increasing evidence that a correlation exists between disordered gambling and substance use; however, the direction of this association remains unknown. Additionally, much of the available literature is inconsistent in its definition of disordered gambling (or *problem* or *pathological* gambling), and utilises differing scales and measures. It also provides varied and ambiguous definitions of substance use, with some articles employing binary 'never/ever used' definitions of drug use and others analysing data from treatment-seeking or dependent populations. Nevertheless, cross-sectional and national prevalence studies provide a sound argument for a strong correlation between the two behaviours.

Among substance use, alcohol use appears to be more prevalent in gamblers than other substances, followed closely by cigarette smoking. However, more gamblers appear to meet criteria for nicotine dependence than for alcohol dependence (Chou & Afifi, 2011; Levens et al., 2005; MacCallum & Blaszczynski, 2002; Mason & Arnold, 2007; Petry et al., 2005). High rates of alcohol use among gamblers is particularly concerning as it poses a unique risk to gamblers by potentially increasing gambling duration and bet size if consumed while betting (Kyngdon & Dickerson, 1999). Older gamblers also appear to be at an increased risk of harm given the disproportionately high rates of alcohol use, abuse and dependence among that population. With regards to illicit drug use, while most studies neglected to review other substance use disorders in their analyses, of those that did, far smaller associations were found when compared to alcohol and nicotine disorders (Chou & Afifi, 2011; MacCallum & Blaszczynski, 2002; Petry et al., 2005; Slutske et al., 2005).

Additionally, a considerable portion of the research reporting high illicit drug use among gamblers appears to be limited to younger gamblers (Hayatbakhsh et al., 2006; Splevins et al., 2010; Winters & Anderson, 2000). In contrast, national prevalence studies have suggested that this association is generalisable across age groups (Petry et al., 2005). As such, higher rates in younger samples may be explained by normal youth experimentation, which inevitably coincides with the onset of adolescence. For example, a gambling teenager may experiment with illicit drug use when they are young, and 'grow-out' of the behaviour as they age into adulthood. Taken together, these findings indicate that while rates of illicit drug use are higher in disordered

gamblers (compared to the general population), they may not be as prevalent as studies using younger gamblers suggest.

Importantly, a considerable amount of the data indicating extensive substance use within disordered gambling is often from treatment-seeking samples (e.g., Bergh & Kuhlhorn, 1994; Edens & Rosenheck, 2011; Kerber et al., 2008; MacCallum & Blaszczynski, 2002; Petry 2002; Sullivan, 1997). As this population also exhibits high comorbid psychiatric disorders, this could contribute to higher rates of substance use. Further research needs to investigate the rate at which disordered gamblers access services and treatment for their related substance use problems and the extent to which those problems are related to their gambling.

1.8 Mental Health

In addition to substance use, disordered gamblers often suffer from comorbid psychiatric disorders. More specifically, a dose-response correlation exists between the number of gambling problems and the odds of having a comorbid psychiatric disorder (Desai & Potenza, 2008). The rates of psychiatric disorders have also been shown to increase as gambling severity increases (Desai & Potenza, 2008). This is consistent with research into people's motivations to gamble; where, compared to non-problem gamblers, problem gamblers are significantly more likely to engage in gambling behaviour as a result of their psychological state, such as when they are feeling down or depressed (Social Research Centre, 2013).

Soberay, Faragher, Barbash, Brookover and Grimsley (2014) analysed psychometric data from 53 pathological gamblers attending outpatient treatment and found that over 86% of their sample screened positive for a psychological disorder. Their data also showed that gambling problem severity increased as a function of the number of co-existing mental disorders. Further to this, nearly half (45.3%) screened positive for three or more disorders and only 13.2% screened negative for a psychological disorder. Mental health scores have also been shown to decrease as gambling problems increase, indicating that the more severe a gambler's problems, the poorer their mental health (Morasco et al., 2006a).

In support of these findings, a gambling prevalence survey carried out in the ACT found that while poor self-reported mental health was not significantly associated with gambling frequency, it was associated with gambling severity. A disproportionate amount of problem gamblers (61.5%) scored more than 8 on the Mental Health Inventory-5 (Berwick et al., 1991) indicating poor mental health. Rates were comparatively high when the same scores were compared to non-problem (10.5%), low risk (6.0%), and moderate risk (4.8%) gamblers (Davidson & Rogers, 2010). Similarly, the Victorian Gambling Study (VDJ, 2011) reported that far more problem gamblers (31.1%) produced high scores on the Kessler-10 (Kessler et al., 2003), indicating the likelihood of a severe mental disorder, than did moderate (10.1%), low risk (4.7%) and non-problem gamblers (1.7%). More specifically, substantially more problem gamblers reported having depression and anxiety (51% and 48.9% respectively) than non-problem gamblers (10.4% and 7.6% respectively).

These findings are echoed in samples of older adults. A study surveying disordered gamblers over the age of 60 reported that they were more likely to have experienced depression and anxiety than non/infrequent gamblers. They were also more likely to receive outpatient treatment and a prescription for a psychiatric condition, and report significantly more psychological distress (Pietrzak et al., 2005).

In addition, it has been demonstrated that older (60 years+) pathological gamblers also experience poorer psychosocial functioning when compared to problem gamblers. In Pietrzak and Petry's (2006) study of gambling in older adults, pathological gamblers scored worse on measures

of depression, psychological distress, loneliness, and perceived social support. Indicating that older adults meeting criteria for disordered gambling may require additional intervention to improve their psychosocial functioning.

1.8.1 Anxiety Disorders

Disordered gambling has shown to be significantly associated with a range of anxiety disorders (Edens & Roseheck, 2011; Lorains et al., 2011). In a U.S. national survey, more than 2 in 5 (41.3%) respondents who met criteria for pathological gambling also met criteria for an anxiety disorder (Petry et al., 2005). Chou and Afifi (2011) analysed the same 2001-02 NESARC data and found that disordered gambling significantly correlated with both generalised anxiety disorder (GAD) and PTSD. Similarly, a Victorian review stated that more than a third (37.4%) of problem and pathological gamblers experienced comorbid anxiety disorders (Lorains et al., 2011). A study of 81 Electronic Gaming Machine (EGM) players in Victoria also reported that respondent anxiety scores were positively correlated with indices of gambling problems (SOGS scores) (Rodda, Brown, & Phillips, 2004), indicating that anxiety and gambling problem severity are directly correlated with one another.

Rates of GAD appear to vary considerably between studies. For example, prevalence ranges from 22.5% in older disordered gamblers (Kerber et al., 2008) up to 60.4% in treatment-seekers (Soberay et al., 2014). Other anxiety disorders are found to be just as prevalent. For example, more than half (50.9%) of pathological gamblers seeking treatment in Denver met criteria for PTSD (Soberay et al., 2014) and over one quarter (27.5%) of disordered gamblers over the age of 40 were found to meet criteria for a panic disorder (Kerber et al., 2008).

Interestingly, Pietrzak et al.'s (2007) analysis of NESARC data from older respondents (>60 years) revealed that, compared to non-gamblers, recreational gamblers had significantly higher rates of specific phobia and obsessive-compulsive disorder. The scope of anxiety disorders was even greater among disordered gamblers. Those diagnosed with disordered gambling were significantly more likely to have a diagnosis of GAD, panic disorder with and without agoraphobia, and specific phobia. These findings remained significant after controlling for psychiatric, behavioural and demographic risk factors. This research, among the rest, suggests that anxiety disorders are pervasive within disordered gambling.

1.8.2 Mood Disorders

Among disordered gamblers, anywhere from under a third, to nearly half (30.2% 37.9%, 49%) have been found to meet criteria for a mood disorder (Soberay et al., 2014; Lorains et al., 2011; Petry et al., 2005, respectively). Similar rates have been found for depression alone (37.7%)(Soberay et al., 2014). In the 2001-02 NESARC survey, disordered gambling was significantly correlated with any type of mood disorder (Chou & Afifi, 2011). Edens and Roseheck (2011) found similar associations among veterans, where pathological gambling was significantly associated with bipolar disorder and major depression.

More specifically, problem and pathological gamblers generally have higher rates of depressive symptoms than non-problem gamblers. For example, Poirer-Arbour, Trudal, Boyer, Harvey and Goldfarb (2014) reported that problem and pathological gamblers experienced significantly greater depressive symptom severity than non-problem gamblers. Correspondingly, MacCallum, Blaszczynski, Joukhador and Beattie (1999) reported a mean score of 18.3 on the Beck depression Inventory (BDI) for 50 problem gamblers in treatment in NSW, well above a clinical cut-off score of 15. Thomsen et al. (2009) also demonstrated a correlation between high levels of depressive

symptoms and gambling in EGM players, finding that the symptoms were associated with gambling urge, excitement, duration and number of games played.

Far higher rates have been found among middle aged and older adults with more than 4 in 5 (82.5%) pathological gamblers over the age of 55 meeting criteria for a mood disorder (Kerber et al., 2008). Of these, all 40 were diagnosed with major depression, and a further 20% suffered from manic or depressive episodes. Pietrzak et al. (2007) provide further evidence of this disparity in mental health between older disordered, recreational, and non-gamblers. After controlling for psychiatric, behavioural and demographic risk factors, disordered gamblers over the age of 60 were found to be significantly more likely to have a diagnosis of major depressive disorder, dysthymic disorder, hypomania and mania when compared to non-gamblers. Interestingly, mania was also significantly associated with recreational gambling.

1.8.3 Personality Disorders

Studies have produced significantly high rates of comorbid personality disorders in disordered gambling. Studies show that around two thirds of pathological gamblers have a comorbid personality disorder (60.8%, 60%, 64%)(Petry et al., 2005; Kerber et al., 2008; Pelletier, Ladouceur, & Rheaume, 2008, respectively).
While there is general consensus that personality disorders are common amongst disordered gambling, there is large variability between studies on the prevalence of specific diagnoses. Obsessive-compulsive personality disorder appears to be most common among disordered gamblers (16-64%), followed by borderline (10-62%), narcissistic (8-53%), antisocial (8-35%), paranoid (8-30%), avoidant (10-27.5%), histrionic (1-26%), depressive (25%), schizotypal (3-20%) schizoid (4-15%) and dependent (3-3.19%) personality disorders (Bagby, Vachon, Bulmash, & Quilty, 2008; Fernandez-Montalvo & Echeburua, 2004; Kerber et al., 2008; Pelletier et al., 2008; Petry et al., 2005).

Comparable results have been reported in older disordered gamblers, who experience significantly higher rates of paranoid ideation and psychoticism compared to non/infrequent gamblers (Pietrzak et al., 2005). Edens and Roseheck (2011) also found that schizophrenia and personality disorders were significantly associated with pathological gambling among veterans (median age range 50-64).

Controversially, high rates of personality disorders have also been recorded in recreational gamblers. Results from an American survey indicate that both recreational and disordered gambling is significantly associated with a diagnosis of antisocial personality disorder. While compared to non-gamblers, disordered gamblers also had significantly higher rates of paranoid, dependent, obsessive-compulsive and schizoid personality disorder (Pietrzak et al., 2007).

Another study investigating rates of personality disorders in gamblers demonstrated significantly higher rates of borderline personality disorder among pathological compared to non-pathological gamblers. These rates remained consistently significant even after controlling for both DSM-IV Axis I and Axis II disorders (Bagby et al., 2008).

A Spanish study found smaller, yet significant results. Nearly one third (32%) of male pathological gamblers met criteria for a personality disorder compared to only 8% in a matched normative sample (Fernandez-Montalvo & Echeburua, 2004). Pelletier et al. (2008) extended on this work and reported that 64% of treatment-seeking pathological gamblers had at least one personality disorder and one quarter had two or more. Nearly a third of this sample met criteria for Antisocial Personality Disorder (APD). While these are impressive figures, this study did not exclude participants with comorbid Axis 1 disorders, which may indeed inflate the rates of personality

disorders among their sample. Additionally, some research has suggested that antisocial behaviour and disordered gambling are strongly associated because they both share underlying impulsive traits (Mishra, Lalumiere, Morgan, & Williams, 2011).

1.8.4 Treatment Utilisation for Mental Health Services

It appears that while there is vast literature suggesting high rates of comorbid mental illness and disordered (and in some cases recreational) gambling, there are few studies that investigate the extent to which treatment services are utilised among disordered gamblers with comorbid psychiatric illnesses.

A household survey of over 9,000 adults indicated that not one pathological gambler in their study had ever been treated for gambling problems, although almost half (49%) had been treated for other mental disorders (Kessler et al., 2008). This study would appear to suggest that around half of pathological gamblers seek treatment for co-existing mental disorders; however because the study measured lifetime mental health treatment and lifetime pathological gambling diagnosis, it cannot be assumed that these two events happened concurrently. For example, someone with a pathological gambling diagnosis may have been treated for depression when they were 20 years old, but did not start gambling until they were 28. Additionally, treatment-seeking is often delayed among disordered gamblers, where assistance is sought on average 4 to 11 years after developing gambling problems (for women and men, respectively) (Petry, 2002). This creates a further time lag in treatment-seeking and therefore service utilisation, which needs to be taken into account when estimating the associated social costs of mental illness among gamblers.

The Productivity Commission report (1999) estimated that in Australia, gambling accounts for approximately 8.9% of reported cases of depression (lasting two or more weeks). However, the approximate number of these cases that result in external intervention is not known.

Some data has indicated that treatment-seeking for psychiatric emergency services may be considerably lower among pathological gamblers. In Chaput, Lebel, Labonte, Beaulieu and Paradis's (2007) report, pathological gamblers were significantly less likely to make multiple visits to psychiatric emergency services compared to typical psychiatric emergency services users. Similarly, another study reported that over half of pathological gamblers with a diagnosis of PTSD were currently in some form of treatment, compared to only one third of those with a diagnosis of pathological gambling alone. Overall, those with a diagnosis of pathological gambling alone accessed treatment significantly less over their lifetime compared to those with a diagnosis of PTSD alone or both PTSD and pathological gambling (Najavits, 2010). However, the sample size for this study was only 106, which should be taken into account when interpreting results and attempting to generalise them across populations.

The New Zealand Ministry of Health (2009) found more stable results, where in the 12 months leading up to the survey, 17% of problem gamblers reported seeing a psychologist, counsellor or social worker. This figure was statistically significant when compared to low-risk gamblers, and those without gambling problems. However, these results do not indicate the primary motive for treatment, that is, the gambler seeing a psychologist for a non-gambling-related, pre-existing mental health problem, or due to wanting to change their gambling behaviour in the absence of any mental health problems.

1.8.5 Summary – Mental Health

Generally, there is substantial evidence to suggest a correlation between disordered gambling and comorbid psychiatric disorders, but there is little data to suggest a causal link between the two. There is some age of onset data that suggests gambling problems result after psychiatric diagnoses for depression and phobias (Cunningham-Williams, Cottler, Compton, & Spitznagel, 1998). However, without detailed, rigorous, longitudinal studies to provide further evidence, causality cannot be implied.

Essentially, what is needed is data that indicates how many disordered (or recreational or problem) gamblers seek treatment for their associated mental health problems. This would provide valuable insight into the extent that external psychological services are utilised as a result of gambling-related mental illnesses and its associated costs. This could be carried out in three ways; 1) by collating therapist case file data and/or interviews with therapists providing data on the primary motivator for disordered gamblers to present to treatment (excluding gambling problems), 2) self-reports from treatment-seeking, disordered gamblers indicating their use of external psychological services as a result of their gambling, or 3) self-reports from a large cohort of gamblers on their experience of mental health problems and whether or not they sought help for those problems.

The first approach has a few methodological issues, the largest being that by interviewing mental health therapists only, this excludes a large range of mental health professionals and services which may also be used by gamblers to alleviate mental health problems. Another is that the therapist data would be subjective, and would rely heavily upon the therapists' (potentially fallible) memory and variable case notes. The second option would provide valuable data on treatment-seeking, disordered gamblers' service utilisation, and would capture a broad range of services. However, it would be limited in its range of users, given that the data is taken from a treatment-seeking sample. This sample may also over-represent service utilisation, given that the gamblers have already sought treatment. The third provides the most logical and efficient method of capturing service utilisation among all gamblers, not simply those in treatment. It does still rely on self-reported data, however, the alternative would be to obtain data from third party organisations and services, which are highly unlikely to have the necessary data for this kind of assessment.

1.8.6 Suicide

The Australian Productivity Commission's Inquiry Report into gambling industries (1999) estimated gambling-related suicide rates based on national suicide data and reported that between 35 and 60 people take their lives every year as a result of gambling. While there has been a lack of large-scale studies to provide more predictive and generalisable data on suicide and gambling, fairly consistent yet alarming rates have been reported from clinical treatment-seeking samples. For example, among 50 treatment-seeking problem gamblers, 38% reported suicidal ideation that was associated with gambling, 8% were rated at a severe level and 4% reported a past suicide attempt (MacCallum et al., 1999). A subsequent study by Blaszczynski and MacCallum (2003) reported that 31 of the 85 (36%) treatment-seeking pathological gamblers in their study reported a history of gambling-related suicidal ideation. Gambling-related suicide attempts were lower (7%) among the sample; however, it remains a highly concerning figure. Curiously, there was no significant association found between gambling behaviour and suicidality. Instead, depression appeared to be the biggest risk factor and may indeed play a mediating role in gambling-related suicidality.

Far higher rates have been reported in other treatment-seeking samples, with 81.4% of Battersby, Tolchard, Scurrah and Thomas' (2006) sample reporting suicidal ideation and a further 30.2% reporting one or more attempt in the last year. Inconsistent with Blaszczynski and

MacCallum's (2003) study, both respondents' severity of gambling problems and gambling-related debt was significantly associated with greater suicidal ideation and behaviour.

While these rates of suicidal ideation and behaviour are worrying, they should be interpreted with caution as they are drawn from clinical treatment-seeking samples in which respondents often possess other comorbid psychiatric illnesses that may contribute to suicidality. For example, Newman and Thompson (2003) found that past suicide attempts and pathological gambling were significantly associated, but only when major depression was the only psychiatric illness taken into account. As other mental illnesses were factored into their analysis, the association was no longer significant. This further suggests that mental illness likely acts as a mediating factor in suicidality within disordered gambling.

That being said, a statewide survey conducted in South Australia revealed that more than 1 in 4 (25.5%) problem gamblers said they had suicidal thoughts because of their gambling (Taylor et al., 2001). Furthermore, a New Zealand study followed 70 patients admitted to hospital following a suicide attempt or self-harm incident. Patients were administered the Early Intervention Gambling Health Test (EIGHT). Results indicated that 12 patients (17.1%) met the criteria for problem gambling (Penfold, Hatcher, Sullivan, & Collins, 2006). Additionally, a national Canadian study stated that pathological gamblers were 3.4 times more likely to attempt suicide than the general population (Newman & Thompson, 2007). Again, while these studies do not indicate a causative effect, it further supports the available evidence suggesting a strong association between disordered gambling and suicidality.

Other contentious methods have been employed to measure this association. Phillips, Welty and Smith (1997) suggested a link between suicide and disordered gambling exists after analysing death rates in cities following the introduction of casinos. Unfortunately, this method focused on the settings in which the suicides occurred, and failed to give attention to the victims themselves (there is no evidence that those who suicided were even gamblers). Further to this, two subsequent studies employing similar, yet more rigorous methodologies, found no significant difference in suicide rates between gaming areas compared to non-gaming areas (Nichols, Stitt, & Giacopassi, 2004; McCleary et al., 1998).

There is some evidence to suggest that help-seeking amongst suicidal disordered gamblers is different from the general gambling population. Non-pathological gamblers have been found to access front-line suicide services up to 13 times more often than pathological gamblers in the year before their suicide. This difference in help-seeking behaviour was significant, independent of comorbid mental illness (Seguin et al., 2010). This implies that disordered gamblers are not receiving adequate psychiatric support, which is potentially contributing to the high rates of suicide and that more needs to be done to reach this target group.

1.8.7 Summary - Suicide

Suicide is clearly an important target area for policy makers, given that it affects such a large proportion of the gambling and wider community. As it stands, there is inadequate emotional and psychiatric support for gamblers contemplating suicide, and efforts should be focused on increasing help-seeking behaviour among gamblers. Again, despite high rates of suicide being reported among disordered gamblers, there is too little valid research indicating that gambling was the direct cause of suicide. Future research should focus on analyses that control for confounding variables such as depression and other psychiatric disorders. However, this is difficult, given that operationalising 'gambling-related suicide' is precarious in itself.

1.9 HOMELESSNESS

A small number of studies suggest a link exists between problem gambling and homelessness. For example, a Victorian study revealed that nearly one third (31%) of gambling counselling clients reported that gambling led to a housing crisis, and 12% actually lost their house because of their gambling (Antonetti & Horn, 2001). Similarly, rates of problem gambling were found to be significantly higher among 400 homeless men in St Louis, Missouri, where 12% met criteria for problem gambling (Nower, Eyrich-Garg, Pollio, & North, 2014). This sample is however, not representative of all homeless people, as it consisted solely of men, who were predominantly African-American (76%).

Besides the study in Victoria, there is a general lack of evidence-based research in Australia to support or disconfirm a link between gambling and homelessness. Data presented is predominantly anecdotal, subjective, or speculative. For example, the U.S. National Gambling Impact Study Commission Report (National Gambling Impact and Policy Commission [NGIPC], 1999) cites accounts and estimates of homelessness from counselling and homeless shelter staff, but provides no thorough analyses to substantiate its claims. Similarly, the Australian Productivity Commission incorporates quotes from case studies in their (1999) inquiry report, but no quantifiable data. As such, there is a distinct shortage of larger-scale prevalence studies that focus on homelessness in problem gambling.
That being said, it is reasonable to conclude that an association exists, given that problem gamblers often spend around one fifth of their income on gambling (Productivity Commission, 1999). Subsequently, this could potentially lead to reductions in spending on other household items, increased debt, and eventually the surrendering of personal assets such as the home. National and state survey data support this, and indicate that disordered gamblers are often unable to pay for important living costs such as mortgage payments, utility bills and credit card repayments because of their gambling (ACNielsen, 2007; Productivity Commission, 1999; South Australian Centre for Economic Studies [SACES], 2006; South Australian Department for Families and Communities [SADFC], 2006)(see sections on economic and financial harms for a more comprehensive review on the financial harms associated with problem gambling). For example, nearly 9% of gamblers accessing counselling agencies said that they often or always went without power, a phone, or accommodation so they could gamble (PC, 1999). The Commission further reports on data from the National Gambling Survey and indicates that 18.3% of gamblers with a SOGS score of more than five forfeited payments on rent or mortgage in order to gamble.

1.9.1 Summary - Homelessness

Given the apparent scarcity of more comprehensive research on homelessness and disordered gambling, and the logical assertion that a link may indeed exist, it is clear that further research needs to be carried out to establish a stance on the matter. Delfabbro (2003) suggests that methodological approaches for future research should focus on both the prevalence of gambling within homelessness, but more importantly, the extent to which gambling contributes to homelessness. Delfabbro (2003) has also suggested that some types of gambling may be more appealing to people experiencing homelessness than to others (e.g., EGMs over horse racing), and that this may be key in the implementation of appropriate policy recommendations. As a third suggestion, it is also essential to distinguish between problem gambling severity within homelessness, as the inclusion of recreational or infrequent gambling may inflate prevalence rates while not necessarily contributing to homelessness in all cases. Data on service utilisation would also aid policy makers with intervention strategies. Consequently, interview data from a large cohort of gamblers on their use of homelessness services would be beneficial. There is also no data indicating a mono-directional link between homelessness and gambling, although studies indicating severe financial stress resulting from gambling may allude to a directional association

wherein gambling problems lead to homelessness (ACNielsen, 2007; PC, 1999; SACES, 2006; SADFC, 2006). However, as there is little research to support this, it cannot be known for sure. There may indeed be a portion of homeless people who become disordered gamblers in an attempt to attain a large amount of money to spend on accommodation, however, given their already dire financial stress, one would assume this number would be small.

1.10 HEALTH

A great deal of research has also focused on the health of gamblers. In a gambling prevalence study conducted by the South Australian Department of Human Services, significantly more problem gamblers rated their health as either fair or poor (as compared to good, very good or excellent) than frequent and non-problem gamblers (Taylor et al., 2001). Additionally, in the Productivity Commission's (2010) report into gambling, significantly more (71.6%-88.3%) problem gamblers indicated that gambling had affected their health compared to low risk gamblers (2.4%-7.9%). Similar results were reported in New Zealand, with problem gamblers 2.1 times more likely to have worse self-reported general health than non-problem gamblers (Mason & Arnold, 2007). An ACT gambling prevalence survey found non-significant results for frequency of gambling behaviour and health, but did find that more moderate risk and problem gamblers (13.4%) reported fair or poor physical health compared to low-risk (9.6%) or non-problem gamblers (9.3%). Even less non-gamblers (8.1%) reported fair or poor health (Davidson & Rogers, 2010). The same relationship was found in the New Zealand Ministry of Health (2009) prevalence survey where the prevalence of people indicating fair or poor general health increased with increasing severity of gambling problems.

Interestingly, not all of the research on gamblers' health is in agreement. Abbott (2001) analysed similar self-reported health data and found that problem gamblers rated their health as good (89%) more often than regular (78%) or infrequent gamblers (73%). Additionally, regular gamblers reported to be 'very happy' in the last 6 months (75.3%) more often than infrequent gamblers (63.9%), while 9.5% of infrequent gamblers rated themselves 'very unhappy' compared to only 4.5% of problem gamblers, and 3.5% of regular gamblers. These results are inconsistent with other relevant health data, and given that the high rates of substance use among gamblers in this study was similar to previous research (indicating an increased risk for poorer health), the self-reported health status' in this study may not be reliable.

A survey of over 1,300 university students in Connecticut indicated that both students who gambled on the internet at least once a week and those with SOGS scores of more than five had significantly poorer health (as indicated by the General Health Questionnaire) when compared to infrequent internet gamblers and non-pathological gamblers, respectively (Petry & Weinstock, 2007). Morasco et al. (2006b) analysed 2001-02 NESARC data and found that overall, gambling severity significantly correlated with both physical and mental health scores. Gambling severity was also associated with increased medical utilisation. After controlling for demographic variables, and behavioural risk factors (body mass index, alcohol abuse and dependence, nicotine dependence, and mood and anxiety disorders), they found that pathological gamblers were significantly more likely than low-risk gamblers to have been treated in an ER in the 12 months before the survey. At-risk and problem gamblers also showed an increased likelihood of being treated in the ER and experiencing a severe injury. This study also found that pathological gamblers were significantly more likely to have been diagnosed with tachycardia, angina, cirrhosis, and other liver diseases compared to low-risk gamblers. When compared to low risk gamblers, problem gamblers were also more likely to have been diagnosed with angina and cirrhosis. Morasco, Vom Eigen and Petry's (2006a) study supports these findings, demonstrating that both physical and emotional health tends to decline as a function of gambling severity.

Pietrzak et al.'s (2005) analysis of older adults has shown comparable results. Older disordered gamblers scored significantly lower on five of eight subscales on the Short Form-36 Health Survey compared to non/infrequent gamblers. Specifically, disordered gamblers rated poorer vitality, physical functioning, role-physical, general health, and social functioning. Additionally, a far greater number of disordered gamblers reported having a chronic medical problem that interfered with their life compared to non/infrequent gamblers.

Pietrzak et al. (2007) built on their previous work with older gamblers. After adjusting for demographic variables as well as behavioural risk factors, older adults with a lifetime history of disordered gambling were significantly more likely to have received a diagnosis of angina and arthritis when compared to those without a history of disordered gambling. Recreational gamblers were also more likely to be obese, but less likely to have a past-year diagnosis of cirrhosis when compared to non-gamblers. These results were based on lifetime gambling diagnoses and therefore a possible time lag between diagnosis and onset of illness should be taken into account.

Desai et al. (2007) investigated the relative health of non-gamblers, recreational gamblers, and problem and pathological gamblers, stratified by age. Gambling was significantly correlated with poor subjective health in younger adults (aged 40-65) and obesity, chronic medical conditions, and physical and mental health in both younger and older (aged 65 and over) participants. When compared to no gambling, recreational gambling was also associated with obesity in both age groups. A noteworthy find from this study, and from previous work by Desai and her colleagues, was that when compared to non-gambling, recreational gambling was associated with significantly poorer subjective health in younger respondents, but significantly better subjective health in older adults (Desai et al., 2007; Desai, Maciejewski, Dausey, Caldarone, & Potenza, 2004). This is not necessarily anomalous with other health data, given that recreational (and not problem) gambling may provide adequate entertainment for minimal physical exertion in older adults. It should also be noted, that in both studies, health ratings were self-reported, and older recreational gamblers were still at a high risk for various disorders such as nicotine and alcohol dependence, obesity, and other chronic conditions.

1.10.1 Treatment Utilisation for Health Services

Although it appears that a considerable dearth of research suggests that problem gambling is associated with poorer physical health, there is less research on the extent to which unhealthy gamblers access health services as a result. As mentioned, Morasco et al. (2006b) reported that pathological and at-risk gamblers were significantly more likely to have been treated in an emergency room in the last year compared to low-risk gamblers. This study argues that a lifetime diagnosis of pathological gambling is associated with higher medical utilisation and therefore may place a greater burden on national healthcare costs in the US. The New Zealand Ministry of Health (2009) gambling prevalence survey indicated similar strains on health services. It reported that on average, problem gamblers visited a GP significantly more times in the last 12 months than people with no gambling problems (91.6% vs. 81.2% respectively). Additionally, when compared to people without gambling problems, low-risk, moderate-risk, and problem gamblers were all significantly more likely to have experienced an unmet need for a GP in the last year because of cost. This data implies that there is a greater need for problem and pathological gamblers to utilise medical and healthcare services, and that rates are probably underestimated due to financial barriers created by excessive gambling.

1.10.2 Summary - Health

Problem gambling has been found to correlate with poorer subjective health scores, some chronic medical conditions, and increased medical utilisation. While it is clear that there are strong associations between problem gambling and a range of health issues, caution should be taken when interpreting these correlations, as they are just that. As disordered gambling has been associated with higher rates of substance use, nicotine and alcohol in particular (see *substance use* for a review), it is not clear what role substance use may play in contributing to these co-occurring health issues, i.e. the role of alcohol dependence in cirrhosis of the liver. Disordered gamblers may also live more sedentary lives (most gambling activities do not require much physical activity) and this may therefore contribute to their physical ill health. That being said, various studies have adjusted for these types of behavioural risk factors, as well as demographic variables, and results have remained significant (Pietrzak et al., 2007; Morasco et al., 2006a). This provides strong evidence that people who meet a diagnosis for disordered gambling may be at a higher risk for developing other health-related diagnoses, particularly adults over the age of 60 (Pietrzak et al., 2007). With this in mind, future research should attempt to answer questions surrounding the causal link between gambling and health and provide further knowledge on whether gambling is responsible for a decrease (or increase) in health. There is also a general trend that gambling frequency has not been significantly correlated with various health-related harms (Davidson & Rogers, 2010). This is not surprising, given that gambling frequency does not necessarily equate to gambling harm or severity. What is more apparent from the available data is that gambling-related harms associated with health, tend to increase as a function of gambling severity.

1.11 RECREATION

In spite of high participation rates (Productivity Commission, 2010) and widespread reported enjoyment of gambling (Centre for Gambling Research, 2004; McDonnell-Phillips, 2006; Sproston et al., 2012; SACES, 2008), numerous studies suggest that gambling holds an *important* entertainment value for only a minority of gamblers (Williams, 2011b; PC, 2010). For instance, in the 2007 Tasmanian prevalence survey, only 2.5% of gamblers reported that gambling had made their lives "a lot more enjoyable" in the previous 12 months, compared to 20 percent who said that it had made their lives a "little more enjoyable" and 74 per cent of gamblers who reported that it had made no difference to their lives in the past year (SACES, 2008). What is more concerning is that a number of studies illustrate that problem and at-risk gamblers are more likely to experience both recreational benefits, as well as harms associated with gambling (ACNielsen, 2007; Sproston et al., 2012), which suggests that excessive reliance on the recreational benefits of gambling may confer a greater risk of experiencing gambling harms. For instance, the NSW 2012 prevalence survey reported that problem/moderate-risk gamblers were more likely to report that gambling had made their life both more *and* less enjoyable over the last 12 months than non-problem gamblers. The study reported that 36% of problem/moderate-risk gamblers stated that gambling had made their lives *more* enjoyable (c.f. 17% of non-problem gamblers), and 31% of problem gamblers reported that gambling had made their lives less enjoyable (cf. 2% of non-problem gamblers). Interestingly, low-risk gamblers were even more likely to report that gambling had made their lives more enjoyable than problem gamblers and non-problem-gamblers (39% vs. 36% of problem and 17% of non-problem)(Sproston et al., 2012). These findings align with those reported in the 2005 NSW OLGR report, and strongly suggest that over-reliance on gambling as a source of entertainment may actually be associated with increased risk of developing a gambling problem (ACNielsen, 2007).

In light of the above findings, it seems that, as with other benefits, any potential recreational benefits of gambling ought to be weighed against the opportunity costs of potentially greater recreational benefits foregone. Unfortunately, there have been few attempts at measuring such opportunity costs. One recent study compared the socio-economic impacts of gaming machines by comparing five Victorian regions (where EGMs were available) and five WA regions (where

EGMs were only available in the capital city) matched for similarity. It was found that West Australians were much more likely to participate in outdoor leisure activities (e.g., fishing, going to the beach) whereas Victorians were much more likely to report going to hotels or clubs to have meals. The confounding effect of climate notwithstanding, the results may suggest that recreational benefits of gambling overshadowed the greater recreational benefits attainable through participation in outdoor activities (e.g., health benefits)(SACES, 2005). Given that in one study, 43% of individuals commencing with Gamblers Help services in Victoria reported "leisure use issues" (Dickerson, 2004), it seems plausible that gambling may push out other forms of leisure activities for problem gamblers at least.

1.11.1 Summary - Recreation

While there is good evidence that gambling is a source of entertainment for many people, it does not seem to be a particularly important leisure activity for most. Indeed there is reason to believe that relying too much on gambling as a form of recreation may actually lead to harmful outcomes. There is evidence that gambling may push out other forms of recreation, among at-risk gamblers, and even the community at large.

1.12 FAMILY RELATIONSHIPS

This section reviews the range of commonly reported social harms associated with problem gambling including relationship breakdowns, social isolation, and domestic violence, as well as those experienced by family members. Given the strain on finances as a result of excessive gambling, it is not surprising that the consequences of problem gambling are likely to impact significant others, namely the gambler's marital partner, family members and relatives. A number of studies have attempted to map out the number of individuals affected by a problem gambler's behaviour, with the Productivity Commission estimating 7.3 others affected per problem gambler (PC, 1999). Furthermore, a survey of counselling agencies by the Productivity Commission (1999) found that the consequences of problem gambling were most likely to fall on partners of problem gamblers, with 47% reporting having been subject to very adverse effects, as compared to 22% of parents, 21% of children, 15% of friends and 9% of work colleagues.

While it is clear that problem gambling is associated with a host of social harms, it is important to point out that it is not always clear whether gambling is the cause or consequence of the social harms involved. Indeed the causal relationship is often complex. For instance, gambling may be a cause of arguments in many families, but similarly, many gamblers may use gambling as a means of escaping dysfunctional home environments, and in many cases, the relationship may be bidirectional. Such complex causal pathways are difficult to disentangle without the help of longitudinal data; which is rather scarce in the literature, with few exceptions (e.g., VDJ, 2011).

1.12.1 Poorer relationship and family functioning

There is evidence that problem gamblers and their families are prone to high rates of domestic arguments. The Productivity Commission (1999) found that 42% of problem gamblers reported having arguments with their families about money. These figures are similar to those reported in more recent prevalence surveys where 37-50% of problem gamblers reported increases in arguments over the last 12 months, compared to 6-9% of non/recreational gamblers (Queensland Government Treasury, 2012; VDJ, 2011). The Productivity Commission (2010), reporting on Australian state and territory surveys, found that 28-45% of problem gamblers were often or always criticised about their gambling, respectively; as compared to 2-7% of moderate risk gamblers and 0-0.4% of low risk gamblers.

Recent studies utilising assessment devices such as the Dyadic Adjustment Scale (DAS), the Family Environment Scale (FES) or the Family Assessment Device (FAD) consistently finds problem gambler's families performing worse than normative samples (Black, Shaw, McCormick, & Allen, 2012; Dowling, Smith, & Thomas, 2009; Pietrzak et al., 2005). One study reported problem gambling families to be 2.17 times more likely to be rated as "unhealthy" on the general functioning subscale of the FAD (Black et al., 2012). Pietrzak et al. (2005) studied a sample of older U.S. gamblers (60 years+) and reported that disordered gamblers were more likely to have been troubled by family problems in the past month than non/infrequent gamblers (31.3% vs. 6.3%, respectively). Disordered gamblers were also more likely than non/infrequent gamblers to have reported serious family conflict in the last month (14.6% vs. 0%, respectively). These findings suggest that problem gambler's families are prone to poor relationship functioning marked by conflict and disorganisation. Furthermore, there is evidence that problem gamblers find it difficult to get people to trust them. For instance, in one Tasmanian study, 16% of problem and moderate risk gamblers reported "people always finding it difficult to trust them" compared to 0% of non- and low risk gamblers (SACES, 2008). Similarly, Ben-Tovim, Esterman, Tolchard and Battersby (2001) found that 11% of Victorian problem gamblers reported that people close to them could not trust them.

1.12.2 Family neglect

More recent prevalence surveys have found that 14-32% of problem gamblers report having insufficient time for their families, compared to 1-5% of moderate risk gamblers and under 0.5% of the general population (Queensland Government Treasury, 2008; ACT Gambling and Racing Commission [GRC], 2010; South Australian Office for Problem Gambling [SAOPG], 2012). The 2012 South Australian gambling survey found that problem gamblers were more likely than moderate risk gamblers to report having insufficient time for their children (17% vs. 5%) and family interests (20% vs. 5%). Additionally, Ben-Tovim et al. (2001) reported that 23% of problem gamblers 'sometimes' or 'often' put off doing things with their partners because of gambling, and the 2010 ACT prevalence survey found that 18.4% of moderate and problem gamblers reported family neglect or relationship breakdowns, compared to just 0.4% of the adult population (ACTGRC, 2010). The consequences of gambling-related neglect may be particularly severe in Indigenous communities, with one study reporting that household gambling problems were significantly associated with child ear infections and scabies, even after significant predictors were adjusted for, amongst a sample of Indigenous communities in the remote Northern Territory (Stevens & Bailie, 2012).

1.12.3 Impacts on Significant Others

Gambling-related social impacts are widespread. Data from the 2011-12 population-based Queensland Household Gambling survey indicated that 8% of individuals experienced financial problems and 7% experienced relationship problems as a result of someone else's gambling (Queensland Government Treasury, 2012). In New Zealand, approximately one-sixth of adults reported arguments centered on gambling with the impact greatest for low-income groups, Māori, and Pacific peoples (Walker, Abbott, & Gray, 2012). These widely felt impacts are not surprising, given that 49.4% of problem gamblers live with their families (Productivity Commission, 1999). Additionally, numerous studies with diverse samples show that social problems including relationship problems and arguments are amongst the most pervasive harms reported by problem gamblers (Raisamo, Halme, Murto, & Lintonen, 2013; Sproston et al., 2012; Queensland Government Treasury, 2012; Splevins et al., 2010; PC, 1999, 2010; Bergh & Kuhlhorn, 1994).

Unfortunately, a dearth of research to date has evaluated the extent to which those who are affected by another's gambling seek intervention, with only a small number of New Zealand studies exploring this issue. In one study, Salvation Amy services in Auckland and Christchurch reported that one in three people seeking assistance had been affected by their own or another person's gambling (Hutson & Sullivan, 2004). Also from New Zealand, Sullivan et al. (1994) found that 35% of helpline callers were partners of gamblers, though more recently Jackson et al. (1997) reported a figure of 10% in Victoria.

1.12.4 Specific Impacts on Minority Groups

There is ample evidence demonstrating that the social impacts of gambling are particularly strongly felt by minority groups and Indigenous populations in particular (Dyall & Hand, 2003; Raylu & Oei, 2004b; Stevens & Baille, 2012; Stevens & Young, 2010; Wong & Tse, 2003). In Raylu and Oei's (2004b) comprehensive review, prevalence studies indicated higher rates of problem gambling among cultural groups (Jews and Chinese), and indigenous minorities (Maoris, American Indians, Canadian First Nation, Australian aboriginal) compared to mainstream populations. In NZ, people working with Maori families who completed a qualitative survey expressed that gambling took away time and money from families, and deteriorated social capital, and Maori cultural and family values (Dyall & Hand, 2003).

In Australia, one recent study found that 52% of NT Indigenous Australians who had experienced community family violence problems had also reported gambling problems (Stevens & Young, 2010). In that survey, gambling problems were also associated with household crowding, personal violence victimisation, and community-violence problems. Other studies have reported rates of a magnitude of five to seven times higher than that of the general community in Victoria among Arabic, Chinese, Greek and Vietnamese subpopulations and two to three times higher for Chinese subpopulations (Blaszczynski, Huynh, Dumlao, & Farrell, 1998, cited in Raylu & Oei, 2004b). Zheng, Walker and Blaszczynski (2008) found a rate of 2.9% for Mahjong-related problem gambling in a sample of Chinese international students, and 3.8% in a convenience sample of Sydney Chinese community members (Zheng, Walker, & Blaszczynski, 2010).

According to Raylu and Oei (2004b), little is known about the specific cultural factors contributing to these higher prevalence rates of problem gambling. However, factors such as mental health problems, acculturation and migration stresses, cultural values and beliefs, and attitudes to help-seeking have been identified as relevant factors operating in a complex interactive manner (Raylu & Oei, 2004b). Existing beliefs, attitudes, cohesive ethnic community and social network and support groups, and available occupational opportunities influence acculturation; the degree migrants assimilate into a new culture. Successful acculturation might result in the adoption of community attitudes normalising gambling as a leisure activity thereby increasing exposure to risk. Alternatively, unsuccessful acculturation processes may lead to increased gambling as a consequence of isolation, boredom, loneliness, stress and depression. As noted by Raylu and Oei (2004b), there is limited, if any, understanding of the role of acculturation, religiosity and cultural factors in influencing gambling behaviours among migrants and ethnic minority groups.

1.13 Domestic Violence

1.13.1 Child Abuse

The Australian Bureau of Statistics (ABS) defines domestic violence as "abusive behaviours committed in the context of intimate relationships such as those involving family members, children, partners, ex-partners, or caregivers" including "physical violence, sexual abuse, emotional abuse, verbal abuse and intimidation, economic and social deprivation, damage of personal property and abuse of power" (ABS, 2011). The current review adopts the ABS's definition of violence, as it takes into account the various aggressive acts that may be construed as domestic violence, though it should be noted that the majority of the following reviewed studies have operationalised domestic violence as physical violence.

A number of studies suggest a putative link between child abuse and problem gambling (Afifi, Brownridge, MacMillan, & Sareen, 2010; Lesieur & Rothschild, 1989) with reported associations between problem gambling and child abuse perpetration ranging from 10% (Lorenz & Shuttleworth, 1983) to 16.7 % (Bland, Newman, Orn, & Stebelsky, 1993). More recently, studies have found that problem gamblers were 3-4 times more likely to report being victims of childhood abuse than non-gamblers (Afifi et al., 2010; Black et al., 2012). Conversely, one study reported that pathological gamblers were 13 times more likely to perpetrate severe child abuse, though it should be noted that this finding was based on a small sample size (Afifi et al., 2010).

There is a dearth of studies on the harms experienced by children as a result of gambling-related marital conflicts or the impact of gambling on the family. It is reasonable to argue that such harms would be similar to those experienced in general by children in dysfunctional families or from separated/divorced parents.

1.13.2 Intimate Partner Violence

Numerous empirical studies demonstrate the link between Intimate Partner Violence (IPV) and problem gambling (Afifi et al., 2010; Bland et al., 1993; Liao, 2008; Lorenz, & Shuttleworth, 1983) and multiple lines of evidence suggest that the relationship holds in a number of non-western cultural groupings including amongst Indigenous Australians (Breen, Hing, & Gordon, 2013), Phillipinos (Fehringer & Hindin, 2014), Pacific Islanders (Bellringer, Abbott, Williams, & Gao, 2008), and Chinese-Americans (Liao, 2008). Generally, reported rates of IPV perpetration among problem gamblers range from 16% (Afifi et al., 2010) to 56% (Korman et al., 2008), whereas estimates of IPV victimisation among problem gamblers range from 22% (Afifi et al., 2010) to 68.6% (Echeburua, Gonzalez-Otega, De Corral, & Polo-Lopez, 2011). However, studies have also found that pathological gamblers were between 6 to 28 times more likely to perpetrate IPV compared to non-gamblers (Afifi et al., 2010; Liao, 2008). Unfortunately, very few studies distinguish between IPV of varying intensities (for exceptions, see Afifi et al., 2010; Bellringer et al., 2008). Furthermore, there appears to be a dearth of research regarding what proportion of the IPV recorded is severe enough as to warrant external intervention, which would be valuable information for policy makers.

Broadly speaking, there seems to be conflicting evidence as to whether IPV is more likely to be perpetrated by males or females (Cantos, Neidig, & O'Leary, 1994; Straus, 2008; Taft, Hegarty, & Flood, 2001). In terms of gambling-related IPV, a number of studies have reported high rates of physical IPV perpetration among male problem gamblers, with reported rates ranging from 25-33% (Bellringer et al., 2008; Brasfield et al., 2012), and female partners of problem gamblers being 10 times more likely to be victims of IPV (Muelleman, DenOtter, Wadman, Tran, & Anderson, 2002). Conversely, at least one study reported no differences in rates of IPV aggression among male and female problem gamblers (Afifi et al., 2010); and another study even found that problem gambling females were more likely to perpetrate IPV which resulted in injury (Korman et al., 2008). Such discrepant findings highlight important methodological and conceptual incongruities in many IPV studies to date. Firstly, the dichotomous categorisation of responses in some studies (e.g., Muelleman et al., 2002; Suomi et al., 2013) can result in a failure to detect differences in the frequency of violent episodes (e.g., 'no violent episodes in the last 12 months' vs. 'any violent episodes in the last 12 months'). Secondly, many studies fail to disaggregate mono-directional and reciprocal violence (Taft et al., 2001). This may be necessary for the purposes of detecting differences in IPV perpetration as demonstrated by Suomi et al. (2013) who reported that females were more likely to be victims-only of (physical or verbal) family violence, though there were no gender differences for reciprocal violence. Finally, such discrepancies likely highlight important cultural differences among the samples studied.

1.13.3 Bi-directional causal relationship in the gambling-violence link

The findings that problem gambling is closely associated with both the perpetration and victimisation of both IPV and child abuse, suggest that the causal relationship between gambling and violence is indeed a complex one. It seems plausible that gamblers may perpetrate domestic violence partially as a result of stress induced by gambling problems, or alternatively may use gambling as a means to escape turbulent family environments (Afifi et al., 2010; Echeburua et al., 2011; Korman et al., 2008). Similarly, for problem gambler IPV victimisation, it is unclear whether the gambling provides a means to escape the domestic violence or whether the family targets the gambler as a means to control and punish them for their gambling (Afifi et al., 2010; Echeburua, 2011; Fehringer & Hindin, 2014). Longitudinal studies may elucidate under what circumstances problem gambling is likely to lead to domestic violence, and conversely, the mechanisms by which exposure to domestic violence increases the risk for problem gambling.

Furthermore, the relationship between problem gambling and domestic violence likely involves a number of other important factors (Suomi et al., 2013). Several studies suggest that the link between problem gambling and domestic violence is stronger when concomitant substance abuse disorders or other emotional disturbances are present (Cunningham-Williams, Abdallah, Callahan, & Cottler, 2007; Korman et al., 2008; Muelleman et al., 2002). Furthermore, a number of studies report that the association between problem gambling and violence attenuates significantly when variables such as trait impulsivity, alcohol use and lifetime mental disorders are taken into account (Afifi et al., 2010; Brasfield et al., 2012; Poirier-Arbour et al., 2014), which suggests that other factors are critical in accounting for the gambling-violence link.

1.13.4 Relationship Breakdown and Divorce

Ample evidence demonstrates that gambling problems are a contributing factor to relationship breakdowns. In 1999 the Productivity Commission estimated that there were approximately 1,600 gambling-related divorces in Australia each year (PC, 1999). More recently, the Commission found that 15.5% of problem gamblers reported the break-up of an important relationship, compared to 2.2% of moderate and 2.4% of low risk gamblers (PC, 2010). Correspondingly, in a recent survey, 9% of problem gamblers in NSW reported experiencing a gambling-related relationship breakdown at some point in their life (Sproston et al., 2012) and in a Tasmanian study, twice as many moderate risk and problem gamblers reported relationship breakdowns due to their own, or someone else's gambling compared to non- or low-risk gamblers (20% vs. 10%)(SACES, 2008). These results broadly align with those of other recent prevalence studies in Queensland, and South Australia (Queensland Government Treasury, 2012; SAOPG, 2012) as well as international studies (Black et al., 2012). For instance, in the US, divorce and separation rates of 18% and 10% respectively were reported amongst a sample of 400 Gamblers Anonymous members (Lesieur in NGIPC, 1999, p. 27). A number of domestic studies have reported even higher rates of relationship breakdown among samples of problem gamblers in treatment, with estimates ranging from 33-55% (Dickerson et al., 1996; Jackson et al., 1997; Productivity Commission, 1999). Apart from the obvious psychosocial costs, these divorces also have a sizable economic cost, with one NSW study estimating that each gambling-generated divorce had a public cost of $2,000 (Dickerson et al., 1996).

1.13.5 Social Isolation

Multiple lines of evidence suggest that problem gamblers are more likely to experience social isolation than non-problem gamblers. For instance, in the 2010 Victorian prevalence survey, a smaller proportion of problem gamblers reported that they could obtain help from family, friends or neighbours if needed (45%) than the general population (80%)(VDJ, 2011). Relatedly, only 32% of problem gamblers felt valued by society compared to 70% of all gamblers. These findings are consistent with those of Pietrzak and Petry (2006), who reported that among a sample of 60+ year olds, those with a diagnosis of pathological gambling had significantly higher levels of loneliness, and significantly lower levels of perceived social support than those with a diagnosis of problem gambling. Problem gamblers' difficulty in maintaining social connectedness has also been highlighted by the Productivity Commission's (1999) finding that 11% of problem gamblers in treatment reported losing touch with their children. A number of overseas studies provide convergent evidence, with 78% of Swedish problem gamblers reporting isolation from friends and family in one study (Bergh & Kuhlhorn, 1994) while Black et al. (2012) report that U.S. problem gamblers were 4.5 times more likely to live alone than non-problem gamblers.

1.13.6 Summary – Family and Relationships

A strong evidence base illustrates the association between problem gambling and an array of social harms such as poorer relationship/family functioning, domestic violence, and family members developing gambling problems, relationship breakdowns, and social isolation. Unfortunately, the extent to which these outcomes are direct consequences of gambling is difficult to ascertain, and in many cases the causal relationships may indeed be bidirectional. Furthermore, the operationalisation of harms measured in Australian prevalence surveys is rather limited and vague. Questions used commonly target frequency of arguments, whether relationship breakdowns have occurred, or ask about the presence of general emotional or financial harms, with few questions pertaining to specific harms. Similarly, there seems to be little attention directed to evaluating the extent to which these harms result in external intervention, which is important information for policy makers, in order to help monetise the extent of the social costs, and employ appropriate harm reduction strategies.

1.14 FINANCIAL

1.14.1 'Excess' Gambling Losses

Table 1 above details gambling expenditure figures in aggregated or averaged terms based on a population that have gambled 'at least once in the past year'; the literature, however, does not support an evenly spread distribution of spending among gamblers. A robust finding is that problem gamblers (individuals with SOGS 5+ scores) account for around 30% of total gambling revenue (PC, 2010; SACES, 2008; VCEC, 2012). Estimates for gaming machine revenue are even higher at 40% (PC, 2010). This imbalance of expenditure share has spurred several attempts to formulate estimates of losses exceeding the recreational thresholds of spending (see PC, 2010; Allen Consulting Group, Problem Gambling Research and Treatment Centre & The Social Research Centre, 2011; VCEC, 2012). These losses are proposed to represent a lack of value-for-money and therefore have greater potential to do harm to the consumer. To calculate such a figure the standard method has been to deduct the expenditure share of non-problem gamblers from total gambling expenditure. Note that there has been some contention around applying this formula to the gambling industry, given that it incorporates the concept of consumer surplus, which assumes rational decision making and knowledge of price and quality of services offered. Nevertheless, using this approach it was estimated that the money spent on gambling, attributable to problem gamblers, totalled $6.15 billion in Australia in 2011/12. In NSW, this figure equals $2.33 billion of gambling expenditure by problem gamblers. The select committee approximate that at 0.8% prevalence, there were roughly 46,800 problem gamblers in NSW during 2011. Therefore, calculations show that the average problem gambler in NSW gambled just under $50,000 for this year.

1.14.2 Income Relative to Gambling Losses

The occurrence of harms, especially those of a financial nature, largely depends on the individual's income and financial resources measured against their gambling losses. Surprisingly, few studies have explicitly examined this important relationship. In the Productivity Commission report (1999), it was revealed that Australian gamblers with a SOGS score of 5+ (indicating problem gambling) spend around 20% of their household's net income on gambling, compared to 1% for recreational gamblers. In addition, 40% of help-seeking problem gamblers had gambled more than half of their income. The results of a Finnish gambling study (Aho & Turja, 2007) showed 30-35% of personal income spent on gambling by respondents with SOGS scores of 3-4 and 5+, respectively. Another study assessing the impacts of gambling in New Zealand (Lin, Chiu, Cheng, & Hsieh, 2008) revealed that greater financial loss relative to income was positively

associated with other gambling-related problems such as poorer physical and mental health, and relationship difficulties.

Given these findings, it is a logical assumption that lower income households are particularly vulnerable to experiencing financial hardship as a result of gambling. The literature supports this notion. Several studies have demonstrated a strong link between lower socio-economic status and problem gambling (e.g., Rankine & Haigh, 2003; Reith, 2006; Social Research Centre, 2013; Stevens & Young, 2009; Walker, Abbott, & Gray, 2012; Welte, Barnes, Wieczorek, & Tidwell, 2004a). Furthermore, while previous surveys have found positive correlations between income, gambling frequency and expenditure, high income groups are less likely to experience gambling problems (Marshall, 1999; Layton & Worthington, 1999; Harrah's Entertainment, 2006; National Centre for Social Research [NatCen], 2007).

1.14.3 Indicators of Financial Hardship

Gambling losses that substantially outweigh the financial means of the player give rise to various indicators of financial harm that are well documented in the literature. For example, it has been reported that over a 12-month period most problem gamblers had bet more than they can afford to lose and around one quarter had either borrowed money or sold something to support their gambling (Queensland Government Treasury, 2012). Similarly, compared to low risk categories, problem gamblers were more likely to report difficulties with making their money last (SACES, 2006) and living from one payday to the next (Taylor et al., 2001). The practical effects of this deficit are demonstrated by studies that show problem gamblers are more likely than recreational or non-gamblers to forego mortgage, utility and credit card payments (ACNielsen, 2007; SACES, 2006; SADFC, 2006), sacrifice household necessities (e.g., groceries; Walker et al., 2012), personal items (e.g., clothing and footwear; ACNielsen, 2007), and spend household savings (Jackson et al., 1997; Productivity Commission, 1999).

1.14.4 Effects on Household Savings

The Productivity Commission (1999) previously reported that increased gambling expenditure had significantly contributed to a national decline in household wealth. Furthering this notion, a Canadian study by MacDonald, McMullan and Perrier (2004) found that household net worth and savings were shown to decrease as gambling expenditure increased, in absolute and relative (to income) terms. Accordingly, it has be proposed that gambling is financed largely through unused savings, in which case, from a community perspective, there would be little consequence to other consumer retail markets. In support, MacDonald et al. (2004) found that households that gamble actually spend more money on food and accommodation. However, the Productivity Commission (1999) cautions that the long-term impacts of increased gambling on retailing may be far more severe than this theory implies. It should also be noted that this *'savings hypothesis'* has been criticised (Delfabbro, 2011; Pinge, 2001) due to the lack of consideration of other important factors that can influence household savings (e.g., economic recession), and the observation that people who gamble large amounts of money often have little, or no, savings.

1.14.5 Debt and Bankruptcy

Typically, problem gamblers incur considerable debts, which can in severe cases lead to bankruptcy. Comparing problem gambler's debts to their income, the National Opinion Research Centre (1999) concluded that problem gamblers owed approximately $1.20 to every $1 earned. This was compared to recreational gamblers who owed an average of $0.80 for each $1 of income, and $0.60 per dollar for non-gamblers. In analyses of gamblers in treatment, Ladouceur, Boisvert, Pepin, Loranger and Sylvain (1994) found that 28% had filed for bankruptcy and 30%

reported debts of between $75,000 and $150,000. Similarly, Thompson, Gazel and Rickman (2000) revealed that 23% of problem gamblers had filed for bankruptcy with median debts of $20,000 to $30,000 at the onset of treatment. In Victoria in 2001-02, the average gambling debts of clients attending for treatment with Gamblers Help counselling was $35,000 and $15,000 for men and women, respectively (Dickerson, 2004). Recently, Grant, Schreiber, Odlaug and Kim (2010) identified several clinical characteristics of problem gamblers who had declared bankruptcy. Bankrupt problem gamblers were more likely to be single, have an earlier onset age of problem gambling, suffer from depression or a substance use disorder, have a first degree relative with a history of addiction, and experience greater financial, occupational, marital, and legal problems. Moreover, Downs and Woolrych (2009) found that gambling-related debts were associated with increased relationship difficulties, higher divorce rates, and family breakdown; all of which were due to a violation of trust, and feelings of bitterness and resentment (*see section on relationships*). A number of studies have also highlighted significant links between gambling-related debts and suicidal ideation and behaviour in problem gamblers (e.g., Battersby et al., 2006; Nower & Blaszczynski, 2008)(*see section on suicide*).

On a broader scale, there appears to be a paucity of Australian research investigating the statistical relationship between gambling availability and personal bankruptcy at a community level. The majority of studies on this subject originate from Canada and the U.S. In a comprehensive review, Williams et al. (2011b) concluded that bankruptcy rates generally appear to increase following the introduction of casinos or other legalised gambling venues (e.g., horse racetrack)(Boardman & Perry, 2007). Additionally, in a recent study, Grote and Matheson (2014) analysed state-level data of bankruptcy filings throughout the U.S. between 1983 and 2010. Their keynote finding was that the presence of both lottery and casino gambling significantly predicted annual percentage changes in personal bankruptcy filings prior to 1995; after this point however, the effect was not present. This pattern reflects the findings of other studies (e.g., Jacques & Ladouceur, 2006) that have observed higher instances of problem gambling and related harms at the initial stages of introduction, though with a general stabilisation occurring afterwards. It also coincides with the 'adaption hypothesis' forwarded by Shaffer et al. (2004), whereby the novelty of gambling encourages high rates of participation that eventually wear off as familiarity increases. Grote and Matheson (2014) also offer an interesting view to their findings by highlighting that the impacts of gambling are likely to be mitigated over time by increased awareness of problem gambling, which leads to better prevention and treatment initiatives.

Several critical issues have previously been raised regarding the methodology of studies that analyse relationships between bankruptcy rates and gambling availability. Shaffer and Korn (2002) emphasise that most of these studies are cross-sectional in design, therefore making it impossible to determine whether problem gambling caused bankruptcy, vice versa, or whether they were independent events. Findings are also confounded by multiple potential causes, such as cases where gambling debts are merged with credit card debt (Duns, 2007). Furthermore, official records of bankruptcy due to gambling in Australia are criticised as being unrealistically low (Duns, 2007; Brading, 2003; PC, 1999; VCEC, 2012) with under-reporting of gambling-related bankruptcies likely to occur as the social stigma attached to problem gambling leads people to not identify it as a cause. More importantly, bankruptcy is deemed a criminal offence with imprisonment of up to 12 months, where legal 'rash and hazardous' pre-bankruptcy gambling has ultimately led to the individual's insolvency (Insolvency & Trustee Service Australia, 2012). Referring to these issues, Nower and Blaszczynski (2014) raised questions concerning the dismissal of gambling debt in bankruptcy. Their review of several court cases reveals mixed findings that depend on a variety of issues. For instance, the nature of the gambler's spending history, the liability of the creditor, and the intent of the debtor are endorsed as important factors (Nower & Blaszczynski, 2014).

In most cases, the Commonwealth Government incurs the fees associated with the processing of a bankruptcy, due to the gambler's inability to pay. Such costs, therefore, occur at a social level. Despite the obvious limitations, there have been attempts to estimate total social cost figures for bankruptcies caused by gambling. Such figures are calculated by multiplying the administration costs of bankruptcies by either official gambling-related bankruptcy statistics or self-reported prevalence data. However, figures derived from the first method are affected by under-reporting and the second method is subject to statistical unreliability. Consequently, estimate ranges are excessively large. For example, the Victorian Competition and Efficiency Commission (2012) used the above formulae to calculate lower and upper estimates of $0.5 million and $5.8 million for gambling-related bankruptcy costs in Victoria, during the period of 2010-11, respectively. Importantly, these formulations fail to account for reduced future earning capacity resulting from bankruptcy or any bad debts at the time of declaration (PC, 1999). The Victorian Commission (VCEC, 2012) approximated that unsecured debts related to gambling bankruptcies in Victoria, 2010-11, ranged from $3.3 million to $37.0 million. Individualised, this equates to $20,419 per bankrupt gambler. Conversely, bad debts are often owed to family and friends, or financial service businesses, and are considered private or internal costs as they are borne by those who were party to an informed decision (PC, 1999).

1.14.6 Summary – Financial

Of particular interest to policy-makers, a significantly large proportion of gambling revenue derives from individuals who are classified as problem gamblers. In NSW, this approximated to $2.33 billion ($50,000 per capita) over 2011/12. Moreover, those who gamble to excess are likely to belong to the particular subgroup of people who can least afford it. Colloquially speaking, this situation appears to be a case of taking from the poor and giving to the wealthy. Such disproportionate monetary incomings and outgoings inevitably cause various financial hardships. The literature reveals the occurrence of financial harms that roughly appear to increase in severity on a somewhat linear scale. For example, beginning with delayed or missed payments to indebtedness to bankruptcy. Longitudinal research is needed to indicate the temporal progression of these harms and their causal relation to one another.

Studies also showed that several other non-financial harms were more likely to be present in problem gamblers who were in debt (Downs & Woolrych, 2009) or had declared bankruptcy (Grant et al., 2010). While causal direction must first be established, this indicates that financial hardship may be the common underlying factor across all other harms associated with problem gambling.

Although contention surrounds the link between gambling availability and bankruptcy at a community level, it is undeniable that in some cases problem or disordered gambling can lead to that individual declaring bankruptcy. The literature suggests that up until this point the financial consequences of gambling are kept within the family or are borne by financial institutions or businesses. At bankruptcy however, the financial costs appear to exist more at the wider community level. Future research needs to separate the respective shares of the impact experienced by various stakeholders (i.e., problem gambler, significant others, businesses/institutions, government, etc.) due to the occurrence of different financial harms.

1.15 CRIME

Typically as a last resort, and once legal sources of funds have been expended, many problem gamblers will resort to illegal behaviours in order to obtain money to gamble with. Consequently, harms may accrue to the individual through criminal charges, incarceration, and termination of employment. Such harms extend to affect immediate family members and significant others.

To investigate this relationship, prevalence studies have analysed the rates of self-reported offending and legal problems among problem gamblers in the general public and in counselling. A review of this literature reveals findings that are both conflicting and ambiguous. For example, the Productivity Commission's National Survey (1999) revealed 26.5% of problem gamblers admitted to involvement in illegal gambling-related activities. Further, 13.2% had obtained money illegally to gamble, 13.8% had been in trouble with the police due to their gambling, and 13.4 % had faced gambling-related charges in court (PC, 1999). Conversely, a survey conducted in South Australia (Taylor et al., 2001) found little evidence of any link in that only 0.8% of problem gamblers reported legal problems as a result of gambling. Discrepancies between study findings may be explained by methodological variations, specifically, different response timeframes (i.e., lifetime versus 12 months), gambling screens (i.e., SOGS versus CPGSI), and cut-off thresholds for problem gambling (i.e., SOGS 5+ versus 10+). In line with previous sections, the findings drawn from treatment samples appear to amplify those of the general population. To illustrate, the Productivity Commission's (1999) survey of counselling services showed that 44% of clients reported committing a gambling-related crime which was mostly related to obtaining money 'improperly'. Moreover, 18% had problems with the police, 16% appeared in court charged with criminal offences, and 6% served a prison sentence.

1.15.1 Types of Crime and Perpetrators

Problem gamblers have been found to commit several types of income-earning crimes, an area that has been thoroughly investigated by Blaszczynski and McConaghy (1994b). Their study involved 306 participants from both a hospital treatment centre and Gamblers Anonymous. Of this sample, 59% admitted to committing gambling-related offences, the most common being larceny or theft (31% of sample), followed by embezzlement (22%), and misappropriation of funds (7%). Importantly, white-collar professionals with direct access to finances (i.e., payroll, banking, and financial planning professions) often committed these crimes. Similar results have been found in studies examining court records. For example, in a review of over 2,700 district court proceedings in NSW, Crofts (2003) identified 105 cases with references to gambling and 47 offences that were directly related to gambling. The majority of gambling-related charges were either fraud or employee theft and committed mostly by male (90%), middle-aged offenders with reasonable education (school certificate or above).

Another study conducted by the Australian Institute of Criminology (AIC) and PricewaterhouseCoopers (2003) involved a detailed review of 155 fraud cases across New Zealand and Australia. Gambling was considered to be the primary motive for 21 convicted cases with finance/credit by deception (43%) being the most common charge, followed by cheque fraud (43%), misappropriation of funds (19%) and acquiring goods or services by deception (19%). Similar to the previous study, three quarters of the defendants were male, had a mean age of 37 years, and close to half had committed offences against their employers (AIC & PricewaterhouseCoopers, 2003). More recently, Warfield (2008) examined Australian court convictions over a 10-year period (1997 to 2007) and extricated 528 gambling-related fraud offences. Contrary to the above findings, the proportion of female and male offenders was split relatively even (42% to 58%, respectively) and the age of offenders was evenly spread (range = 15 to 84 years-old). However, two-thirds of the fraud victims were employers, which is consistent with the aforementioned studies. Warfield (2008) also reported that poker machines were by far the most nominated mode of gambling by offenders, the average defrauded amount of those who solely played poker machines was a staggering $350,148. Warfield's (2008) study is specific in focus, dealing exclusively with deception-related gambling crimes, and therefore should not be considered representative of the overall issue of crime and gambling.

1.15.2 Problem Gambling and Crime in Correctional Populations

A number of studies have sought to explore the link between gambling and crime by investigating correctional populations. For example, Marshall, Balfour and Kenner (1998) interviewed 103 newly incarcerated inmates from the low-security section of Yatala Labour Prison, South Australia. Their findings revealed that 34% of respondents met criteria for problem gambling (SOGS 5+) and 26% admitted to gambling-related offences. However, high rates of substance abuse, alcoholism, and antisocial personality disorder were found among the sample. These variables make it difficult to isolate the extent to which gambling had caused the criminal behaviour. More recently, Paterson and Garrett (2010) examined a community (non-secure) sample of 100 clients referred by the Offenders Aid and Rehabilitation Services (OARS), revealing that 43.5% scored in the problematic range of the PGSI and a further 17.4% were moderately at risk. Again, drug use was found to be high among moderate risk and problem gamblers (74%) reinforcing the earlier findings of Marshall et al. (1998). In New Zealand, Abbott, McKenna and Giles (2000) found that among 357 male prison inmates, 96% reported gambling prior to their incarceration and 31% met criteria for lifetime problem gambling. Additionally, 15% had been charged for gambling-related crimes, though only 6% were in prison exclusively for these offences, highlighting that prison inmates can generally be described as "criminals first and problem gamblers second" (Abbott & McKenna, 2005, p. 579).

1.15.3 Links between other types of crime and gambling

In addition to the crimes described above, gambling has been linked to a host of other illegal activities. For example, Pinto and Wilson (1990) established a strong connection between gambling and various organised crime activities, including tax evasion, money laundering, loan sharking, illegal bookmaking, race-fixing, and the illicit drug trade. Loan sharking, in particular, was identified as a serious issue by the Productivity Commission (1999); it signals desperation on the part of the borrower, entails repayments at an exorbitantly high interest rate, can lead to intimidation and violence, and is likely to magnify the problem gambler's debt problems. Results from the Productivity Commission (1999) surveys showed that 5.8% of problem gamblers from the general public and 8.4% of gamblers seeking treatment had borrowed from a loan shark in the past year. It is also suggested that these figures are especially prone to under-reporting due to the problem gambler's fear of reprisal; consequently, much of the evidence that supports the prevalence of loan sharking is anecdotal (PC, 1999). Given that large amounts of cash are often held on premises, gaming venues have also become popular targets for opportunistic crimes such as armed robbery and internal theft (SACES, 2005). Finally, the advent of internet gambling has generated further criminal opportunities that relate to the authenticity and legality of gambling sites, accessibility of gambling sites to underage gamblers, and the privacy of credit card and bank account details (Doley, 2000).

1.15.4 Gambling availability and crime rates

Although some controversy surrounds the impact of legalised gambling opportunities on community crime rates (*see* Williams et al., 2011b), the general finding is that crime rates rise with the introduction and availability of gambling venues. To reach such conclusions, studies have examined the influence of gambling expenditures on various crime statistics for a local area. Employing this methodology, a recent South Australian study found that gaming expenditure per capita was significantly and positively related to both income-generating and non-income-generating crimes. Importantly, the strongest effect was observed for the former, reinforcing the above literature suggesting that gamblers are more likely to commit crimes to fund further gambling or to pay off their gambling debts (Wheeler, Round, & Wilson, 2010). Although this study was able to overcome a number of methodological and data issues of previous studies

(SACES, 2008; Wheeler, Round, Sarre, & O'Neil, 2008), the findings are limited as other variables like police presence, alcohol licences, drug offences, and urbanisation, play a greater role in increased crime rates than gambling expenditure does (SACES, 2008; Wheeler et al., 2008, 2010). Though small by comparison, the link between gambling and crime is certainly not trivial and should be treated as cause for deeper enquiry.

In the US, several studies have been conducted to assess the impact of casino openings on crime in that jurisdiction. These have generally found that crime rates do increase with the introduction of legal gambling opportunities. For example, Gazel, Rickman and Thompson (2001) investigated the relationship between the opening of 17 Native American casinos and crime rates across the state of Wisconsin. Using panel data from the period of 1981 to 1994, both index crimes (violent and property crimes) and non-index crimes (fraud, embezzlement, forgery, and possession of stolen property) were statistically linked to casino openings in the casino-county and also in adjacent counties, indicating a spillover effect. Grinols and Mustard (2006) conducted a similar study, carrying out a comprehensive and controlled analysis of FBI crime data from every US County between 1977 and 1996. Conversely, their results showed that casinos have only a minimal impact on crime after opening but this effect did increase over time, ultimately accounting for approximately 8% of crime and costing the average adult $75 each year. The authors concluded that the crime-mitigating effects of casinos, such as employment opportunities and infrastructure development, are eventually subjugated by crime-inducing factors, including the depletion of community resources, increased crime pay-offs, and higher prevalence of problem gambling and resulting offences. Given that criticisms of the above studies have been raised regarding issues of data quality, self-selection biases, and skewed interpretations of results (see Walker, 2008), their conclusions should be taken with caution.

1.15.5 Limitations of Gambling-Crime Literature

A key issue to be aware of when investigating links between gambling and crime, particularly on a community level, is what MacDonald (2002) refers to as the 'dark figure' of crime, or in other words, crimes that are committed but not included in the official records. Problem gamblers are prone to acts of concealment such as stealing from friends, family members, and employers; thus increasing the probability that these crimes will not be reported (PC, 1999). A South Australian study (SACES, 2005) also highlighted that the common legal advice given to defendants is to deliberately omit problem gambling from their admission as it may expose them to further liability.

The ambiguous causal direction of gambling and crime is also important to consider. Do criminal types demonstrate a greater propensity to gamble and therefore by exposure, are more likely to develop gambling problems? Are problem gamblers led into criminal acts to finance further gambling and pay off debts? Perhaps, another yet unobserved mediating or moderating factor connects both crime and gambling together, thus causing significant correlations between them. From the literature reviewed above, it seems that the first two possibilities are likely to be the true, to imply the third is merely conjecture. Future studies of longitudinal design are required to evidence these causal directions and to target the specific sub-types of gambler that are likely to follow each identified path.

1.15.6 Summary - Crime

Although subject to methodological limitations, prevalence data typically shows a link between problem gambling and illegal activities, a link that is amplified in treatment-seeking groups. The general assumption conveyed in these studies (e.g., Productivity Commission, 1999) is that criminal behaviour is carried out because the problem gambler has depleted their own financial

resources. Supporting this notion, other studies, particularly those examining court records (e.g., Crofts, 2003), have found high percentages of income-generating crimes related to gambling committed by white-collar professionals, middle-aged, and male, against their employers.

To further unravel the link between gambling and crime, researchers have also studied correctional populations, finding high rates of problem gambling in these samples. However, of these groups, only a small percentage were incarcerated for gambling-related offences and many showed a host of other comorbid problems including alcoholism, drug addiction, and anti-social personality disorder.

Community crime rates, in most instances, have been found to increase following the introduction of gambling venues. Likely, this is due not only to the illegal activities associated with problem gamblers but also to a variety of other organised and opportunistic crimes tied to gambling availability.

1.17 Employment (and Business)

Theoretically, there are two ways in which gambling could be harmful to employment. The first, business sectors unrelated to the gambling industry may experience declines in activity due to transfers in consumer spending resulting in decreased revenue and therefore fewer job roles (Hayward & Colman, 2004; Productivity Commission, 1999; VCEC, 2012; Williams et al., 2011b). The second, problem gambling can lead to frequent absenteeism and productivity decline at work, which may cause various harms to the individual and the employer (e.g., Delfabbro, 2011; Grinols & Mustard, 2001; PC, 1999; VCEC, 2012).

1.17.1 The Impact of Gambling Availability on Employment

Before drawing attention to the presence of harms, it is noted that a large number of studies, particularly in the U.S., have found increased employment (e.g., Evans & Topoleski, 2002; Garrett, 2004; McLain & Maheshwari, 2006; Kim, 2006; Conner & Taggart, 2009) and average earnings (Cotti, 2008; Humphreys & Marchand, 2013) with the introduction of new gambling venues. Similarly, several Australian state and jurisdiction prevalence surveys have reported new job creation with the introduction of EGMs into clubs and hotels (SACES, 2006; Australian Institute for Gambling Research [AIGR], 1995; ACIL Tasman, 2006). An important caveat is that these studies often fail to consider the impact of gambling availability on employment in other industry sectors and in regions outside the local gambling venue community. Interestingly, most studies that account for these factors have found no significant net employment gains (Productivity Commission, 1999; Baxandall & Sacerdote, 2005; Blue Thorn Research, Population Health Promotion Associates, PFIA Corporation, & Williams, 2007; SACES, 2008; VCEC, 2012). Further, gambling industry positions are typically low paid and low skill (Marshall & Baker, 2002), therefore the expansion of gambling availability could potentially displace higher paid jobs (Williams et al., 2011b).

1.17.2 Displacement of Consumer Spending

Gambling industry advocates often highlight the multiplier effects of gambling availability on other industry sectors, particularly in hospitality and tourism. Granted, numerous studies have found positive impacts of casino openings in terms of drawing patronage from outside areas, short-stay accommodation, and entertainment/sight-seeing opportunities (Moufakkir, 2002; California Economic Forecast, 2008; Lahr, Hincken, Chao, & Azhar, 2010). This effect, however, is most profound in areas that have a low level of economic activity to begin with (Williams et al., 2011b). There is also the argument that increased gambling expenditure is largely funded by

household savings and therefore does not impact significantly on consumer spending and the subsequent business revenues of other industries (PC, 1999). Though, several authors claim that gambling 'cannibalises' existing industries (e.g., Grinols & Mustard, 2001; Grinols, 2004; Pinge, 2008). Accordingly, a slight majority of studies comprising greater geographical scope have demonstrated that the introduction of gambling venues either changes the patterns of business output (i.e., no net effect) (Gardner, 2005; Walker & Jackson, 2007; Williams, Belanger, & Arthur, 2011) or has a negative impact due to the displacement of revenue (e.g., Productivity Commission, 1999; Pinge, 2001, 2008; Doughney, 2005; Beckert & Lutter, 2009). Importantly, decreased business revenues are mostly reported in studies where gambling patronage is derived from the local population and with the introduction of EGMs over other forms (see Williams et al., 2011b).

1.17.3 Problem Gamblers and Employment

Community population studies have reported unemployment rates of 30-35% in respondents who meet criteria for problem gambling (Productivity Commission, 1999; Taylor et al., 2001, SADFC, 2006), compared to just 5.9% in the general population (ABS, 2014a). While causal direction is not established in the above figures, the literature strongly suggests that problem gambling leads to significant occupational difficulties. Findings from the National Gambling Study (Productivity Commission, 1999) revealed that over a 12-month period, 19% of problem gamblers missed time at work or study to gamble and 25% experienced adverse impacts to their work, the nature of which however, was undetermined. An even higher figure of 38.5% was found in a Queensland population study (Queensland Government Treasury, 2008). Fourteen per cent of problem gamblers in the Queensland study also reported a change of job and 9.1% reported dismissal. Similarly, a South Australian study (SADFC, 2006) revealed that in the last 12 months as a result of gambling, 16% of problem gamblers had experienced a job change and 15% had lost their job. In the Victorian Gambling study (VDJ, 2009) respondents who exhibited problem gambling were significantly more likely to report trouble or arguments with their work superiors than non-gambling or low-risk gamblers. In the U.S., Gerstein et al. (1999) found that problem and pathological gamblers experienced significantly higher rates of job loss (10.8% and 13.8% respectively) when compared to low-risk or non-gambling groups (5.8% and 5.5% respectively). Further, the study noted that employers incur search and training costs roughly equal to 10% of the annual salary for each employee replaced. Importantly, the Australasian Gaming Review (Delfabbro, 2009) reported that businesses considered a lack of confidence and trust, losses in concentration while at work, and poor work quality, to be the most significant harms of problem gambling to employment.

Evidence from treatment-seeking samples of problem gamblers has shown a much higher rate of unemployment (50%)(Jackson et al., 1997). With this figure in mind, it is reasonable to suggest that treatment groups represent problem gamblers with greater functional impairment. Several studies support this notion. For example, Dickerson, Baron, Hong and Cottrell (1996) reported that 55% of gamblers in counselling had missed time at work or study due to gambling, 32% had changed jobs, and 23% had lost their job. Ladouceur et al. (1994) surveyed 60 Gamblers Anonymous clients to find that 66% had previously missed work or left early to gamble, more than half doing so in excess of five times each month. Additionally, 61% of respondents had arrived to work late because they had been gambling, this also occurring at least five times per month in over half the sample. Nearly 60% of employees in this study also reported feeling irritable and distracted at work due to frequent and pervasive thoughts about debts, losses, or future gambling.

1.17.4 Employment Costs Associated With Problem Gambling.

The costs associated with absenteeism and poor work performance are typically borne by employers. Accordingly, several studies have attempted to estimate the dollar value of productivity losses that is specific to problem gambling. The first attempt by the Productivity Commission (1999) factored the prevalence of gamblers experiencing work difficulties, the extent of productivity loss, and the value of that productivity into their calculations. The total figure was estimated at $21 million at the low end and $150 million at the high end in Australia. Applying this methodology, the Allen Consulting Group, Problem Gambling Research and Treatment Centre & the Social Research Centre (2011) estimated productivity losses in the range of $1.1 million to $7.7 million in Tasmania, and the Victorian Commission (VCEC, 2012) valued losses between $6 million and $39 million in Victoria. Several U.S. studies have also quantified the costs of productivity decline due to problem gambling. In a cost-benefit analysis of gambling in Iowa, Chhabra (2007) found that for each problem gambler, businesses suffered a $734 deficit in productivity in 2004. Similarly, Thompson et al. (2000) reported that the average problem gambler missed two months of work over a three-year period, represented by an individualised cost of $1,666. Additionally, in an extensive review of six U.S. state studies and national data from the *Gambling Impact and Behaviour* study (Gerstein et al., 1999), Grinols and Mustard (2001) concluded that the average yearly cost for time lost at work and decreased productivity, per pathological gambler was $2,913, and $1,082, respectively.

As noted above, a large portion of problem gamblers will be dismissed from work or have to change jobs as a result of their gambling. Previously, the Productivity Commission (1999) identified three key areas of associated costs. These include: loss of income borne by the problem gambler and the government ($24 million), expenses related to job search ($13 million), and employer costs to find and train new staff ($22 million). In a more recent study, the VCEC (2012) estimated the social costs of job change in Victoria based on various available data sources. The total amounts were divided into categories of lost income ($6.4 million), costs of job search ($2 million), employer costs ($3.9 million), and unemployment benefits ($0.6 million). As a word of caution, the costs addressed in this section are based on estimates associated with numerous statistical and methodological problems (Productivity Commission, 1999). To illustrate this point, consider that gamblers may compensate for time lost by working more efficiently or after hours; colleagues could cover for the gambler's reduced work output; or, the business replaces the gambler with a ready-skilled worker. In such cases, productivity declines do not necessarily lead to tangible monetary costs and are consistent with reports that gambling problems are often concealed or kept within the business (Delfabbro, 2011).

1.17.5 Employees of the gambling Industry

A less considered, though important population in terms of gambling-related harms is employees of gambling venues. Shaffer and Korn (2002) comment that casino employees represent a unique and conceptually important group as they have full access and exposure to gambling, and may represent the potential effects of gambling if it were to become more widely accessible. There have been a number of studies conducted to investigate the potential effects of gambling activities and environments on the wellbeing of venue employees. For example, Hing and Gainsbury (2011) surveyed 511 employees from hotels, clubs, and casinos throughout Queensland. They found that 95% of respondents had gambled in the last 12 months. The highest rates were found in lottery (85%), followed by EGMs (67.6%), Keno (48.9%), and TAB (36.8%). More to the point, significantly higher scores were observed in the CPGI, with 4.5% falling within a problem gambling range (+8) and 11.5% in the moderate risk category (3-7). These figures were 9.6 and 4.5 times higher than the general Queensland population, respectively. Similarly, high problem gambling rates have been found among venue employees in Victoria (Hing & Nisbett,

2009), Alberta and Ontario, Canada (Dangerfield, 2004; Guttentag, Harrigan, & Smith, 2012), and Las Vegas, U.S. (Duquette, 1999; Shaffer, Bilt, & Hall, 1999). However, the previously noted issues of causality also apply here; that is, does working in the gambling industry create problem gamblers? Or, do problem gamblers seek employment in the industry due to pre-existing gambling interests? There is evidence in the literature to suggest that in reality, both situations may occur (e.g., Hing & Gainsbury, 2011; Guttentag et al., 2012).

The information drawn from qualitative studies has been invaluable to develop an understanding of the mechanisms that underlie higher levels of gambling activity in venue staff (e.g., Hing & Breen, 2006; Guttentag et al., 2012). Based on their findings, the authors have advanced several reasons as to why venue employees are particularly vulnerable to problem gambling. The most commonly cited explanation is that frequent exposure to gambling activities and promotions encourages gambling behaviour (Korn & Shaffer, 1999). However, others suggest that interactions with gamblers, colleagues, and managers, can cultivate a common interest in gambling and an active gambling culture (Hing & Breen, 2007). Moreover, various other workplace factors have been implicated, including shift work and long hours, job-related stresses (e.g., difficult patrons), the availability of cash and alcohol, and low wages (Hing & Breen, 2006). Hing and Breen (2008) highlight a two-way function of the aforementioned risk factors as they can also serve to discourage employees from gambling. For example, a number of interviewees indicated that constant exposure to gambling while at work actually deterred them from gambling in their free time (Hing & Breen, 2008). Additionally, employees are well positioned to observe patron losses versus venue takings; they are exposed to responsible gambling messages, and can rely on the guidance of trained colleagues and managers (Delfabbro, 2011).

Finally, there is some evidence to suggest that employees in specific gambling modes are more susceptible to gambling problems. Guttentag et al. (2012) found that table game staff scored higher on the PGSI than any other casino department (including EGMs). They theorised that table games require the employee to possess greater knowledge of and familiarity with the rules and mechanisms, which encourages them to gamble in this mode (Guttentag et al., 2012). This explanation suggests that employees may gamble under the false belief that they possess unique insider knowledge and therefore have an increased chance of winning. Overall, the results of these studies have significant implications regarding the current scope of responsible gambling initiatives and the development of employee protection strategies. Future research should aim to differentiate modes of gambling with respect to how they impact employee gambling activity.

1.17.6 Summary – Employment

Research has evidenced both positive and negative impacts of gambling availability on employment and income levels. It is suggested that there is a higher probability of harmful effects with the introduction of EGM gambling venues into high-income earnings areas, where businesses do not offer tourism or hospitality services, and when patronage is sourced from within area.

Based on the literature reviewed, it is quite clear that problem gamblers experience significant functional impairments in regards to employment. Survey data shows a high rate of occupational difficulties associated with problem gambling such as low focus and distractibility, productivity and work quality decline, missed time at work, disputes with co-workers and superiors, job loss, and unemployment. It is important for future research to investigate potential causal links and pathways for these harmful effects and impacts.

In terms of costs, the employer is the stakeholder who is most impacted by the aforementioned declines in vocational functioning associated with problem gambling. Substantial costs to

businesses are incurred not only through the employee's poor productivity and absenteeism but also in the replacing of the problem gambler if necessary. It appears that this is a last option however, as employers typically demonstrate preference to keep problems concealed by compensating for the problem gambler.

Finally, the research around employees of the gambling industry has particularly important implications for responsible gambling initiatives. Greater exposure to gambling availability has been implicated as reason for the excessively high problem gambling rates found in this population subgroup, which may well represent the effects of gambling if it were to become more accessible to the general population. Future longitudinal research is required to confirm the causal direction of this relationship.

1.18 Harm Attributable to Each Gambling Product

It is reasonable to postulate that harms associated with gambling are related to higher frequencies of betting and level of expenditure (Productivity Commission, 2010). However, the Productivity Commission (2010) acknowledged that some forms of gambling posed few notable harms or negative consequences. These included the majority of the population whose gambling was limited to the purchase of lotteries, scratch cards, bingo, or any combination of these forms. Harms were more prevalent and serious among those individuals playing high-risk games such as electronic gaming machines, wagering, and casino table games.

What appears to be assumed by key stakeholders is that the nature of harms generated by gambling is similar across any and all forms of high-risk gambling or their combination. This assumption has merit at face value with no conceptual or theoretical reason to argue to the contrary. Currently, no type of harm can be claimed to be unique to, or found to be more prevalent in, one gambling product compared to another (Blaszczynski, Parke, Parke, & Rigbye, 2014). Accordingly, few studies estimating the social and economic costs of gambling typically have attempted to disentangle the types and severity of harms associated with, let alone differentiating those unique to, specific forms of gambling.

Methodologically, this is difficult to investigate given that most recreational and problem gamblers participate in multiple forms of gambling with one or more preferred forms reported (Davidson & Rodgers, 2010). For example, Davidson and Rodgers (2010) found that 87% of electronic gaming machine players gambled on at least one other activity other than lotteries; only 5.2% reported exclusive play on gaming machines. For high frequency players across all forms, 31% gambled on four or more activities. This follows from a growing body of literature that suggests a positive relationship between intensity of involvement (participation in multiple forms) in gambling and gambling-related harms (Gainsbury, Russell, Hing, Wood, & Blaszczynski, 2013a; McCready, Mann, Zhao, & Eves, 2009; Wardle et al., 2011). In other words, it is possible that although one form of gambling is reported as problematic, the accumulated losses from engagement in multiple forms may result in overall higher levels of expenditure and contribute to harm.

Nevertheless, there is some emerging evidence of differences in the profile of harms experienced by interactive (online, internet) compared to non-interactive gamblers (Hing, Gainsbury et al., 2014). In a national online prevalence study of 4,594 respondents, individuals engaging in interactive forms of gambling at least once in the preceding twelve months were compared to land-based only gamblers. Demographic differences were found with interactive gamblers being significantly more likely to be male, full-time or self-employed, and self-categorised as semi- or full professional gamblers compared to their land-based counterparts. Of importance, interactive gamblers were more likely to participate in sports betting, horse wagering and casino table

games, and more likely to have sought help for their gambling. In respect to harm, non-interactive gamblers obtained higher average Kessler-6 scores reflecting psychological distress, but there were no differences in the proportion of either subgroup classified as having high psychological distress.

However, an analysis of the types of problems experienced by interactive and non-interactive gamblers revealed some differences. Interactive gamblers reported more interpersonal problems, loss of time at work, and more financial problems than land-based gamblers but the latter reported experiencing more severe issues as reflected in the loss or need to change jobs, applying for bankruptcy, and/or eviction or loss of assets and savings (Hing et al., 2014).

Given these differences in profiles of harm between interactive and land-based gamblers, it is perhaps relevant to explore the potential for some forms of high-risk gambling to be associated with either unique or more severe levels of harm compared to others.

1.18.1 Conclusion

In respect to the development of responsible gambling strategies to reduce harms, a blue print for short- and longer-term interventions should focus on those products clearly associated with excessive expenditure. These include electronic gaming machines, sport and horse and greyhound wagering, and casino games. In addition, consideration needs to be directed to emerging technologies that represent a medium by which individuals can remotely access these forms online.

Less attention should be focused on those forms of gambling within the Australian context that do not create serious harms including lotteries, instant scratchies, Keno and bingo. Few individuals present to treatment programs to obtain assistance to control their behaviour associated with their exclusive involvement in such products. These forms are relevant in so far as they contribute to the aggregate level of excessive expenditure among individuals engaged in multiple forms of gambling.

1.19 Literature Review: Risk and Gambling

In the following section we describe some important considerations in identifying risk variables, and discuss risks that singly or collectively increase the probability of harmful gambling.

A number of putative risk factors for problem gambling have been described in the literature. Johansson, Grant, Kim, Odlaug and Gotestam (2009) published a critical review of 35 risk factors or dimensions for problematic gambling incorporating the findings of seven earlier empirically based reviews on the topic. These authors concluded that there were approximately nine well-established risk factors, (findings supported by three or more studies) and 22 other categories constituting probable risk factors (one or two supporting studies). Factors falling within the well-established category included demographic variables of age (age <30) and gender (male), cognitive distortions (illusions of control), sensory characteristics (speed of play and noise), schedules of reinforcement (random ratio delivery of rewards, immediate reward), comorbid disorders, and delinquency/illegal acts.

Based on their review, Johansson et al. (2009) concluded that no clear statement could be made about the nature, strength, importance or mechanism of action of reputed risk factors in the development of problem gambling. Despite being comprehensive in coverage, Johansson et al.'s (2009) review fails to include a clear operational definition of 'risk factor', or to differentiate correlational from causal relationships.

1.19.1 Operational definitions of 'risk factors'

Risk factors refer to a broad range of variables that either alone or in combination causally contributes to a particular negative outcome. These factors may:

- Directly lead to the development of gambling-related harms
- Exacerbate the severity of existing harms, or
- Act as triggers to relapse episodes.

From a policy perspective, strategies targeting variables that are correlated but not causally related to gambling-harms may not achieve their stated objective. Accordingly, it is important to distinguish which factors are correlated with but not necessarily causally related to the onset of gambling-related harms. For example, comorbid conditions, cognitive distortions, and personality traits and behaviours (antisocial traits) can be construed as either risk or outcome variables. In contrast, schedules of reinforcement, configuration of games, and structural characteristics such as features and near misses, can be considered to increase the risk of problem gambling in a causative fashion, or act as a mediator or moderator of impaired control leading to problem gambling (Blaszczynski, Sharpe, & Walker, 2001; Clark, Lawrence, Astley-Jones, & Gray, 2009; Cote, Caron, Aubert, Desrochers, & Ladouceur, 2003; Dixon, Harrigan, Sandhu, Collins, & Fugelsang, 2010; Dixon & Schreiber, 2004; Kassinove & Schare, 2001; Parke & Griffiths, 2004).

1.19.2 Conditions for Inferring Cause

Haynes, O'Brien, Kaewe'aimoku and Witteman (2012) suggested that the presence of a causal relation between a 'risk factor' and excessive gambling specified four necessary conditions for inferring cause in relation to human psychopathology:

1. *Covariation*: Two variables are more likely to be causally related when they occur frequently together. When these two factors vary in relation to one another, they have what is called 'shared variance'. The greater the shared variance the more probable or likely it is that one variable causes the other. If there is no observed covariation present, it cannot be claimed that two variables are causally related in any way. If an increase in depression does not covary with an increase in gambling, then depression cannot be considered a risk factor for gambling. Conversely, if an increase in gambling increases the severity of depression, gambling can be considered a causal/contributory risk factor).
2. *Temporality*: A hypothesised cause must always precede the effected variable. However, comorbid disorders (depression, attention deficit hyperactivity disorder, impulsivity) and gambling often occur concurrently in adolescence. This makes it difficult to tease out the causal relationship between these variables. Risk taking is a developmental feature of adolescence and peer-group interactions. It becomes difficult to establish whether or not the risk taking is an inherent personality trait (risk factor), symptomatic of an attention deficit disorder (risk factor), or part of the normal maturational process of adolescent individuation and identity formation (non-risk factor).
3. *Exclusion of alternative explanations for the functional relationship:* It is important to exclude confounding variables that may cause or contribute to an apparent association between two variables. Whenever there are associations between two variables, it is possible that a third extraneous variable mediates that association. The possibility of a mediating variable can be explored theoretically and statistically. For example, while harms might be reported for a particular type of gambling, it is not necessarily true that form of gambling causes more harm. In this case, it is possible that a third variable such as personal income mediates the association. Suppose more harm is reported for EGM gambling products and individuals of lower income tend to prefer EGM gambling products. It might be the case that lower income mediates the association between EGM

products and harm, which means that EGM products of themselves due not cause more harm.

4. *Identifying plausible and coherent causal mechanisms of processes:* The process by which one variable affects another to infer cause must be identified. If there is no theoretical or conceptual basis for postulating a causal relationship between two variables, then any association could be considered as spurious. For example, there is no reason to suggest that having a debt will cause a person to develop a gambling problem since the majority of the population have some level of debt and do not gamble to excess.

1.20 Risk Factors as Direct and Indirect Causes

There are many possible definitions and usages of the word 'risk'. The etymology of the word derives from the Greek navigation term, '*rhizikon'*, '*rhiza'* meaning, '*root, stone, cut of the firm land*'. The word was used as a metaphor for '*difficulty to avoid in the sea*'. In the mid-17th century the French '*risque'* (noun), '*risquer'* (verb) and the Italian '*risco'* danger and '*rischiare'*, were used to denote the concept of running into danger (Risk, 2015). Thus, risk can be taken to refer to the possible, probable or likelihood of exposure to a situation of danger, threat, menace, loss or that something unpleasant will occur.

The concept is complex in that it incorporates elements of chance, uncertainty, unpredictability, riskiness, or negative consequence. Subsequently, the terms, *'risk aversion'* were first recorded in 1942, '*risk factor*' in 1906, '*risk management'* in 1963, and '*risk taker*' in 1892 (www.etymonline.com).

The word '*risk*' is used in situations where one wants to highlight the possibility of an *unwanted* consequence; for example, *'To gamble is to risk losing money'*. Here, the term refers to the probability that a negative outcome will emerge; in gambling, the probability of losing is considered to be high.

In addition to probabilities, '*risk'* includes an assessment of the severity of any potential negative outcome. Thus, the risk of an airplane crash is low but the chance of survival is low (serious consequences), compared to the risk of a motor vehicle accident where the probability is relatively high but the consequences typically less life-threatening (non-life threatening injuries).

'*Risk'* can also be used to signify a *predictor* or *hypothesised cause* of an unwanted consequence; for example, dopamine dysregulation places an individual at risk for becoming a problem gambler. In this case a chemical imbalance is the inferred underlying cause. When such is the intended meaning, the term '*risk factor',* is used to focus attention on the *variable* that precedes and potentially acts to contribute to and/or cause the negative outcome.

Through the remainder of this document, we will refer to potential direct causes of excessive gambling as *'risk factors'*.

1.20.1 Defining Risk for this study

Accepting a probabilistic notion of causation, we define a '*risk factor'* as:

> *Any identifiable factor that increases the probability of excessive gambling thereby substantially increasing the occurrence of harmful effects.*

This review is limited to addressing risk factors that:

1. Discernibly cause excessive gambling
2. Are modifiable through policy for the purpose of harm minimisation, and
3. Are associated with a particular gambling product.

1.20.2 A Proposed Classification Framework of Risk Factors

The existing literature identifies a range of risk factors for problem gambling. The purpose for identifying risk factors is to inform multilayered measures and policies that aim to prevent or limit the harmful effects of gambling. Some risk factors cannot be manipulated or modified directly (non-modifiable), but inform harm minimisation in so far as they identify individual characteristics or groups than can be targeted for intervention. For example, gender and ethnicity are risk variables that cannot be modified, influenced or directly reshaped by policy. They nonetheless inform how a group of individuals might be recognised and affirmed, and what strengths can be used to leverage a sense of hope in that group.

Other risk factors can be broadly classified in terms of increasing either supply (opportunities and amount) of or demands for gambling products and subsequently the likelihood for excessive gambling.

In the following section, we present a summary of a proposed classification framework for non-modifiable risk factors related to the individual, risk factors that increase the supply of gambling, and risk factors that increase the demand for gambling products.

1.21 UNMODIFIABLE RISK FACTORS

There are a number of risk factors that are not amenable to direct change but may none the less fall within the scope of responsible gambling policies as far as they identify characteristics or individual experiences than can be targeted for intervention. Although not exhaustive, Table 2 below lists ones that are considered important.

Table 2: Biological, personality, experiential and demographic risk factors considered unmodifiable

Unmodifiable risk factors	Biological	Neurotransmitter dysregulation
		Genetic predisposition (addictive potential)
		Arousability
	Personality	Impulsivity/risk-taking
		Coping styles
		Neuroticism
		Comorbid conditions
	Experiential	Familial/parental gambling
		Early age involvement in gambling
		Early wins
		Employment in gambling industry
		Peer group interactions
	Demographics	Age
		Gender
		Marital status
		Ethnicity/cultural background
		Income/socio-economic status

Unmodifiable individual risk factors include intrapersonal biological determinants such as genetics, neurotransmitter activity, arousal, and familial and parental gambling (Anderson & Brown, 1984; Bergh, Eklund, Sodersten, & Nordin, 1997; Blanco, Orensanz-Munor, Blanco-Jerez, & Saiz-Ruiz, 1996; Comings et al. 1996; Ibanez et al., 2001; Leary & Dickerson, 1985; Roy et al., 1988; Vachon, Vitaro, Wanner, & Tremblay, 2004). Neurotransmitter dysregulation modified through psychopharmacological treatment regimens may represent an exception.

Intrapsychic factors such as personality traits of high impulsivity, sensation-seeking and risk taking, poor coping styles, negative emotionality (e.g., neuroticism), and some comorbid psychiatric conditions (Blanco et al., 1996; Bonnaire, Bungener, & Varescon, 2006; Getty, Watson, & Frisch, 2000; Myrseth, Pallesen, Molde, Johnsen, & Lorvik, 2009; Slutske et al., 2005; Vitaro, Arsenault, & Tremblay, 1997) are often regarded as risk factors but remain essentially unmodifiable by responsible gambling policies. The literature identifies the following comorbid risk factors; depression, anxiety, obsessive compulsive disorder, personality disorders, suicidality, dissociation, and substance use (Barrault & Varesson, 2013; Fiegelman et al., 1995; Frost, Meagher, & Riskind, 2001; Getty et al., 2000; Ibanez et al., 2001; Kyngdon & Dickerson, 1999; Ladouceur et al., 1999; Potenza et al., 2001; Productivity Commission, 2010; Slutske et al., 2000, 2001; Welte, Barnes, Wieczorek, Tidwell, & Parker, 2004b; Winters et al., 1993).

In one sense, comorbid conditions can be categorised as semi-modifiable risk factors, given that they may be transient in nature and are treatable. However, they are not likely targets for gambling policy beyond determining options for funded gambling specialist services and legislating that industry partners provide information and links to such services. At best, psycho-educational policies and campaigns may be designed to increase community awareness of the relationship between comorbid conditions and gambling disorders for preventative purposes. Care needs to be applied in making sure that the recognition of comorbid risk factors does not exacerbate the stigma attached with problem gambling as a mental disorder.

Past gambling experiences, namely exposure to family/parental gambling in childhood, commencement at a young age, significant early or past wins, being an employee of the gambling industry, and peer group interactions and having friends and family that approve of gambling (Abbott, 2001; Besednjak, 2008; Bondolfi et al., 2000; Dangerfield, 2004; Duquette, 1999; Guttentag et al., 2012; Hing & Gainsbury, 2011; Hing & Nisbet, 2009; Volberg et al., 2001; Welte, Barnes, Wieczorek, Tidwell, & Hoffman, 2007) are not variables and/or influences that harm minimisation policies or can be reversed or modified.

Unmodifiable demographic risk factors include variables such as age, gender, marital status, ethnicity/cultural background and acculturation, and income, employment and socio-economic status (Bondolfi et al., 2000; Fiegelman et al., 1995; Hall et al., 2000; Ladouceur et al., 1999; Potenza et al., 2001; Volberg et al., 2001).

Even though risk factors are not directly modifiable, they must be used to inform policies. Policies should appeal to the target demographic, capture attention, and increase motivation for behavioural change. For example, youth are more likely to engage in sports and online betting compared to older populations participating in gaming machines and land-based venues. Gender is non-modifiable but does contribute to selection of preferred gambling product (electronic gaming machines versus horse wagering) and propensity to seek treatment. Unmodifiable risk factors may guide policies determining location of service provision, distribution and density of gambling opportunities, marketing/advertising, educational and public health campaigns selectively targeting products attractive to youth, older subpopulation and ethnic sub-populations, and initiatives designed to encourage males to seek treatment.

1.22 GAMBLING PRODUCT SUPPLY/CONTROL

Participation in gambling is dependent in large measure by its availability and accessibility within the community, and the attractiveness of the product supplied. Governments shape the nature of the gambling environment (supply) through the approval of specific commercial gambling products. The attractiveness of products (demand) is related to industry marketing and the popularity of certain products generated by advertising, promotions/inducements or features of the product. Table 3 lists risk factors considered likely to increase exposure to, and participation in, gambling behaviour thereby setting the foundation for the potential development of gambling-related harms and problem gambling.

Table 3: Availability, accessibility and product control variables: Supply increase risk factors

Gambling Product Supply/Control	Available Product Density	Number of outlets (land-based & remote platforms)
		Geospatial distribution
	Accessibility to Product	Operating hours
		Proximity & 24/7 access (remote gambling)
	Accessibility to Funds	Access to cash (ATM in-venue location, number & withdrawal limits)
		Credit
	Configuration Rates and Amounts	High denomination note acceptors
		Continuity of play/Event frequency
		Reinforcement rates

1.22.1 Availability and Accessibility

It is reasonable to assume that availability of, and accessibility to gambling opportunities represents factors that increase the likelihood of exposure and subsequent involvement in gambling. Availability and accessibility overlap largely as accessibility is dependent in part on the availability of products. Availability refers to the number and geospatial distribution of gambling product outlets in local and wider geographical locations. Accessibility includes the proximity of gambling products relative to an individual's residence, place of employment or travel route and ease of entering venues and/or placing bets. Acceptability of gambling refers to the extent to which gambling is considered a social norm or is culturally accepted as a recreational pursuit, for example, prohibited in Islamic but accepted in western jurisdictions.

There is substantive data to indicate the presence of a positive relationship between the density of machines and socio-economic disadvantage (Productivity Commission, 1999, 2010). This is consistent with the argument that those least likely to be able to afford to gamble, are more exposed to gambling than those better able to afford the activity.

Current legislation attempts to control the supply and growth of gambling and gaming machines in New South Wales through the Gambling Legislation Amendment (Responsible Gambling) Act 1999 and Gaming Machines Act 2001 (statewide caps).

However, minimal evidence is available to inform the optimal number/density of gaming machines within a region, or the optimal ratio of machines per head of population. Abbott (2006), in his comprehensive review, noted the complex relationship between exposure and prevalence of problem gambling. In some jurisdictions, regions of high exposure were associated with high

rates of problems, while in others the relationship was attenuating or reversing. As Abbott opined, the relationship between availability and prevalence breaks down at an estimated ratio six to 10 machines per thousand head of population. This provides a useful threshold ratio for informing policies subject to further evaluations, at least in relation to gaming machines: the ten to one thousand head of population, therefore has some face validity.

Although regulating the supply and distribution/density of gaming machines can be relatively easily achieved through legislation, limiting the supply of gambling products overall through regulation is being compromised by current disruptive technologies. Supply control options apply more generally to gaming machines, but interactive smart phone and internet platforms have transformed the gambling environment. This is evident through the rapid increase in both availability and diversity of gambling products through technological advances: online sports and horse wagering, casino and machine gaming, and social media gaming. It is anticipated that the availability of certain forms of gambling will increase as a result of remote technologies with a flow on effect to land-based products. This is evident in emerging social media forms of gambling, and the reconfiguration of electronic gaming machines to include interactive components to make these devices more appealing to younger generations.

The internet provides a unique and ideal solution to barriers of accessibility. The internet is available in most homes and workplaces in Australia (ABS, 2014b) as well as through portable devices such as smartphones, tablets, gaming consoles and interactive television. It provides 24 hour-a-day gambling opportunities, and removes the necessity for standard social requirements such as dress codes, cleanliness, and a pleasurable atmosphere. The younger generation is immersed and familiar with the use of smart phones, laptops and portable devices (iPad).

Given that gamblers, and problem gamblers in particular, tend to prefer venues that are closer to their home or regular routes, and are open longer hours or all the time (Thomas et al., 2011a) the internet provides optimal accessibility, specifically to those most vulnerable to gambling-related harms. Research data supports this assertion; with ease of access and availability to gambling being noted as the two of the main reasons university students in the UK gambled online (84% and 66%, respectively)(Griffith & Barnes, 2008).

In 1999, the Productivity Commission stated, "*if most Australians eventually have home internet access and could gamble on this medium, then every home (and workplace) would become a gambling outlet*" (p. 323). By increasing the geo-temporal and potentially social accessibility of gambling products through the use of the internet, the risk of excessive use by problem gamblers, and the potential for abuse by recreational gamblers is similarly increased. Therefore, online sites pose an increased risk for excessive gambling.

However, care must be exercised in restricting access to regulated sites. Although the Australian Interactive Gambling Act (2001) precludes Australian operators offering casino style gaming, there is no restriction on any NSW resident from accessing unregulated or regulated international sites.

Given this environmental shift, and the cross-jurisdictional nature of internet providers, modifying risk factors related to availability, density and distribution represents a real challenge to responsible gambling policy implementation. The extent to which land-based gamblers incorporate, or transfer to remote forms of gambling, and the characteristics of those who do, remains unknown. Youth are more technologically savvy and are hypothesised to engage in interactive gambling products remotely compared to older populations. Therefore, policies directed toward controlling supply are compromised by the availability and accessibility of remote gambling products. Many remote gambling operators have incorporated responsible

gambling features into their websites but these tend to be limited to regulated sites. Unregulated sites are more difficult to control and protect community members from exploitation. The introduction of highly regulated sites run by Australian operators is one harm minimisation strategy that would serve to protect the public.

1.22.2 Physical Proximity and Opening Hours

Accessibility is a risk factor for increased gambling; the easier it is to gamble, the more likely individuals will participate. Individuals travelling to destination venues (casinos, racetracks) make more considered decisions to gamble, compared to individuals with the option to choose and access one of many venues on route or close to home. Traditionally, gambling has been accessed through land-based venues with remote gambling being limited to telephone wagering. Geographical proximity to primary residence or workplace and opening hours are two key characteristics of accessibility to physical gambling sites (Marshall, 2005; Moore, Thomas, Kyrios, Bates, & Meredyth, 2011; Productivity Commission, 1999; St-Pierre, Walker, Derevensky, & Gupta, 2014; Thomas, Sullivan, & Allen, 2009). It has been demonstrated that gamblers residing within five kilometres of a venue are more likely to gamble and to gamble for longer durations compared to those who need to travel further distances (Productivity Commission, 1999, 2010).

Geographical accessibility includes not just how close a gambling venue or product is to a gambler, but the number and distribution of gambling opportunities around them. This includes the number and distribution of casinos, EGMs, racetracks, betting agencies and so forth. The Productivity Commission (1999) has highlighted the importance of not just the number of gambling opportunities available, but also how these opportunities are spatially distributed. For example, while there may be restrictions on the number of EGMs permitted in relative states and territories across Australia, the machines are positioned in a way so that they have a high spatial distribution, with patrons only having to travel a few kilometres or less to access one (KPMG Consulting, 2000; Marshall, 2005).

It is reasonable to assume that the proximal accessibility and lengthy opening hours might be associated with problem gambling. The easier a product is to access, the more likely it is to be used, therefore increasing the probability that the product will be engaged in excessively, leading to gambling problems. Studies reporting on machine use and distribution, and gambler preferences, problem gambling rates, and gambling frequency support this association, particularly for EGMs (Carr, Buchkoski, Kofoed, & Morgan, 1996; Marshall, 2005; Moore et al., 2011; Productivity Commission, 1999; Thomas et al., 2009).

The above relationship is supported by data on female problem gambling rates, which indicate that the availability of gambling to women was the primary (and probably single) catalyst driving rates to almost parallel those in men (Productivity Commission, 1999). Although there is some contention regarding the link between geo-temporal availability of gambling and gambling problems, this is predominantly due to inconsistencies across study methodologies, rather than null results (Productivity Commission, 1999). Several studies have applied mapping techniques linking geospatial and regional socioeconomic data to determine the distribution of gaming machines (McMillen, Marshall, & Doran, 2004; Young, 2010) and licensed betting offices across jurisdictions (Astbury & Thurstain-Goodwin, 2015).

Using gaming machine data from five major operators and a sample of loyalty card player data, Astbury and Thurstain-Goodwin (2015) applied geographic modelling to map the spatial relationship between population and betting offices (containing B2 and B3 gaming machines) in the United Kingdom. From their quantitative analysis, these authors concluded that the spatial relationship between these variables were complex, contained local variations, and were not

determined by the simple function of the location of either resident population density or economic centres. Of the loyalty cardholders, a modal distance of 400 metres for place of residence and location of machine play was found with 46% residing within a distance of three kilometres. Players tended to live in regions with higher levels of unemployment, multiple deprivation, and ethnic diversity. The functional relationship between distribution of machines and socioeconomic disadvantage has been reported in Australia (Productivity Commission, 1999, 2010).

However, although an emerging area of research, there are presently no clear data that provides satisfactory guidelines for policy as to the optimal distribution, density and location of gambling outlets. Options include capping the number of machines and limiting their density in venues but as mentioned, the threshold at which these become effective in reducing the incidence of problem gambling harms is unclear and currently remains in the domain of speculation. In addition, remote gambling options threaten the effectiveness of supply-based policies.

1.22.3 Accessibility and access to funds

A risk factor influencing the potential for loss is the ease of accessing additional money within sessions. Automated Teller Machines and EFTPOS facilities within venues, and internet electronic transfer of funds permit ready withdrawal of funds that are intended to be risked at the commencement of sessions. Online electronic fund transfers allow individuals to reload gambling accounts from their bank accounts on a 24/7 basis.

Given that far more problem gamblers access ATMs and EFTPOS facilities while gambling compared to non-problem gamblers (Productivity Commission, 2010), reducing accessibility to money for problem gamblers is an option to limit losses. Evidence indicates that problem as opposed to recreational gamblers, problem gamblers use ATMs to withdraw cash (60-87% versus 4-20%, respectively), make multiple withdrawals and withdraw larger amounts (McMillen, Marshall, & Murphy, 2004). The high level of accessibility to finances within online, sport and race wagering is also of particular concern to both problem and recreational gamblers.

Current NSW state legislation allows EGM players to use cash or cashless card-based systems. Therefore, EGM players are required to either; pre-load funds onto a player card at a kiosk using cash, or withdraw cash from an ATM to insert directly into machines in order to gamble. Importantly, this legislation extends to include restrictions on ATMs and EFTPOS facilities in NSW casinos, clubs and hotels; both of which are not permitted in gaming areas (Gaming Machines Act, 2001), obligating the gambler to leave the gaming floor to withdraw cash from their account.

Players using a card-based system must continually return to a cash kiosk to load more money on their card, and gambling operators are not permitted to provide credit to gamblers for the purpose of gambling. These restrictions vastly reduce the accessibility to gambling products in venues, and create physical barriers to gambling.

However, there are no restrictions on ATMs and EFTPOS facilities at sporting and race venues. Access to money is easier with online gambling, sports betting or race wagering. Online gamblers can access money through electronic fund transfer. Similarly, individuals are able to place a bet with betting agencies using cash or via direct debit online payment (via a website or app).

In 2009, the Victorian Gambling Regulation Amendment (Licensing) Act legislated the removal of ATMs from venues with the exclusion of casinos. In their review of the impact of this legislation at one-year post implementation, Thomas et al. (2013) reported a reduction in time and money expenditure among moderate and problem gamblers. In addition, self-reports indicated an

increase in subjective self-control manifested by fewer episodes of gambling more than intended (from 44% to 26% of occasions). Concomitantly, venues experienced an overall reduction of 7% in revenue and a decrease in patronage. Partly accounting for this may be related to the findings of other studies where the self-reported data indicated a proportion of patrons relocated to venues in close proximity to ATMs or transferred to other forms of gambling (McMillen & Pitt, 2005). Thus, the true impact on removal of ATMs on reducing harms is to be confirmed. Nevertheless, as Blaszczynski et al. (2014) suggested, removing ATMs may assist individuals to make more informed decisions regarding continuation of play. That is, in the absence of ATMs at a venue, impulsive decision making may subside in favour of more considered decisions given the need to deliberately leave the venue to access money. Balanced against this is the possibility that positive effects diffuse over time as individuals compensate for the absence of ATMs over the longer term.

Given research indicating access to in-session funds via EGMs plays a large role in problem gambling behaviour (Blaszczynski et al., 2001; Thomas et al., 2011a), limiting either access or withdrawal limits should be one strategy to minimise per session losses.

1.22.4 Credit

Using credit is a risk factor given the potential for accumulated debts to exceed an individual's capacity for repayment. To date, regulatory requirements have placed restrictions on advancing cash drawn on and subsequently redeeming cheques, and the provision of credit by club and hotel venues. The Productivity Commission (2010) concluded that credit facilities offered to punters by betting agencies and bookmakers may have a smaller impact than initially assumed as they target professionals and high-income punters. The rationale for not allowing credit betting in general is strong.

1.22.5 Underage Access

Exposure to gambling at formative stages of development is a risk factor for the normalisation of gambling as a recreational activity. Derevensky and his colleagues at McGill University have found that childhood involvement, parental role modelling and peer-group interactions at a young age formalise attitudes and beliefs regarding gambling and consequently the foundation for problem gambling in adulthood (Derevensky & Gupta, 2004; Derevensky, Shek, & Merrick, 2011).

Setting aside lottery/scratch tickets, and non-pub/hotel TAB outlets, the majority of gambling outlets are located in licensed premises. Entry to these venues is subject to age verification checks by staff members, and by retailers for the purchase of lottery tickets. However, with regard to online gambling, underage checks are more difficult. Identification checks are required in setting up accounts but the potential exists for subsequent transactions to be submitted by underage gamblers with access to that account, or accounts opened by friends on behalf of the gambler. This is particularly concerning for underage problem gamblers, as it provides the opportunity to gamble in secrecy thus further overcoming barriers of stigma, detection by family and friends. Griffiths and Barnes (2008) noted that anonymity was reported by 25% of their sample as a reason for using online gambling, and that 32% of internet gamblers sampled hid their gambling from their family. How many underage gamblers do access online products to date remains unknown. Effective means of preventing underage gambling on remote forms of gambling should be a priority for harm minimisation policies. In addition to regulatory requirements and compliance monitoring, it is appropriate to introduce school-based educational modules, and media campaigns to inform adolescents of the legal age restrictions.

1.22.6 Product configuration

It is difficult to modify the configuration of some gambling products because of their very nature. Horse and sports wagering and lotteries/Lotto have limited capacities to be directly modified in any meaningful ways. Accordingly, the focus to date has been on EGMs, given their propensity to be associated with problem gambling as a result of its capacity for rapid continuous play and random schedules of reinforcement. The primary objectives of strategies that target specific gaming design features are to (a) reduce the potential rate of loss per session of play, (b) promote breaks in play, and/or (c) direct attention to the time and money spent gambling. Superimposed on these direct measures is the potential to reduce motivations to play by lowering prize levels/linked jackpots.

In Australia, few studies have empirically evaluated individual configuration features of gambling products that contribute to excessive gambling. One study reported players rated free spins, multipliers, and jackpots as attractive features of EGMs and that increased levels of problem gambling associated with increased bet sizes (Schottler Consulting, 2014).

Although not strictly fitting the concept of 'product supply', some features of products can be viewed as contributing to supply, and others to demand. To illustrate, a mandatory precommitment system represents a reduction of supply in that once the threshold set by the player is reached, continued gambling is suspended (although transmigration to other products is possible). Similarly, removal of high denomination note acceptors, reel spin speed and breaks in play attempt to slow down rates of losses but are not really supply related. In contrast, near misses, losses disguised as wins, double up-buttons, free-spin features, and multi-line/game play can be considered as increasing the attractiveness of play and hence demand for a product. The display of clocks and credits in monetary form, ambient lighting and background sounds are neither supply nor demand related with no studies evaluating their impact.

Studies evaluating the effectiveness of modifying the configuration of gaming machines using actual gamblers in real-life venues remain relatively uncommon in the literature. Most studies have been conducted on analogue populations using non-gambling choice/decision making tasks (risking small amounts of credit/cash provided by the researchers), or have relied on self-report data.

1.22.7 High Denomination Note Acceptors

The capacity for an individual to insert large denomination notes into a gaming machine is purported to represent a risk factor for individuals to incur large losses. Similarly, in casino table games the larger the minimum permissible bet, the larger the resultant potential loss. Removing or restricting high denomination note acceptors can be achieved through legislation for both gaming machines, while for casino games, the minimum permissible bet can be regulated. Whether these strategies are effective or politically viable is another question, particularly for casino table games.

There is limited empirical research on the impact of high denomination bill acceptors or their prohibition on EGMs. One Australian study reports that over 65% of problem gamblers "often or always" preferred to use bank note acceptors when gambling (Productivity Commission, 1999). This is compared to only 23% of recreational gamblers. Similar findings are reported in a community survey of 755 individuals, where problem gamblers and regular players of EGMs reported that they always used bill acceptors and that they tend to use bill acceptors of larger denominations (McMillen et al., 2004).

Two studies which looked at recreational gamblers and problem gamblers frequenting clubs and hotels in Australia found that even though problem gamblers seemed to prefer using high denomination bill acceptors, when controlling for age, gender, credits wagered per bet and plat rate, high denomination bill acceptors were not independently associated with problem gambling status, severity of problem gambling, amount of money lost, or persistence of play (Blaszczynski et al., 2001; Sharpe, Walker, Coughlan, Enersen, & Blaszczynski, 2005). A Queensland study which explored the impact of limiting EGM bill acceptors to $20 found conflicting results (Brodie, Honeyfield, & Whitehead, 2003). Of the sample, 61% approved the $20 limit, 28% believed the limit should be reduced further and approximately 30-40% of high risk/ problem gamblers reported changes in their gambling behaviours (less time and money gambled, reduced bet size and visiting gambling venues less frequently). However, when revenue data was analysed, no significant loss of EGM revenue was reported. The authors concluded that there was a discrepancy between what participants reported and their actual behaviour, or the estimates of how much problem gambling contributes to overall gambling revenue were inflated.

Contrary to these findings, a study of Norwegian adolescents found that after note acceptors were prohibited on slot machines, slot machine gambling frequency was reduced by 20%, the proportion that gambled frequently on slot machines was reduced by 26%; overall gambling frequency was reduced by 10% and the proportion of problem gamblers (SOGS-RA 4+) was reduced by 20% (Hansen & Rossow, 2010). A qualitative study from Nova Scotia reports that non-problem and problem gamblers identified bill acceptors as an effective strategy for time management and decreasing money spent on EGMs (Focal Research Consultants Ltd, 2002).

1.22.8 Continuity of Play/Event frequency

Continuity of play refers to the amount of time a gambler can engage in a gambling activity without interruption (Blanco et al., 2013). The extent, to which individuals can restrict gambling to their intended level within and across sessions, is based on their ability to maintain control. In this context, emotional (distress leading to chasing losses) and personality factors (impulsivity) are risk factors that may lead to decisions to extend expenditure.

Traditionally, this has been one of the biggest arguments for the harm associated with EGM play, as theoretically, they can be played continuously, hour after hour without interruption by the game itself. Similarly, online casino and card games can be played in the same way. Imposing time and money by setting precommitment limits represents a strategy that can constrain an individual's gambling losses.

There are some reported positive findings of precommitment as effective in reducing expenditure. For example, in Sandgate, Queensland, gamblers setting limits experienced a 40% reduction in daily expenditure compared to those not setting limits (Schottler Consulting, 2008). Similarly, compared to a comparative control, South Australian 'PlaySmart' pre-commitment system users were shown to decrease turnover by 31.7% (average $21.60/day/player)(Schottler Consulting, 2010). In Norway, the replacement of slot machines with 'Multix' gaming terminals (fitted with mandatory pre-commitment technology), coincided with an approximate 50% reduction in registered calls to gambling helpline services; from 705 calls in the first half of 2007 to 316 in the first half of 2008 (The Norwegian Gambling Board, 2008, cited in Lund, 2009).

However, detracting significantly from these findings is the consistent poor uptake of precommitment in in-vivo real settings. In Nova Scotia, less than 1% of gamblers set any type of gambling limit, contributing significantly to the abandonment of the program (Polatschek, Wadden, & Gwynn, 2013). Similarly, Delfabbro (2012) reported budget-setting rates below 0.1%

for users of the Maxetag loyalty system in South Australia. Research demonstrates that many EGM players misperceive the system as a tool strictly for problem gamblers and therefore not relevant to them (Delfabbro, 2012; Schellinck, Schrans, Chen, & Chambers, 2010). Such findings highlight the need to educate gamblers in the benefits of pre-commitment as a *budget management tool* for *all* EGM players.

There have also been a small number of studies conducted to evaluate the efficacy of precommitment for online gambling sites, with comparable results to land-based trials. For example, two studies examined behavioural tracking data from more than 47,000 online sports betters (Broda et al., 2008; Nelson et al., 2008). According to these studies, self-set limits led to more responsible gambling in terms of reduced bet size and frequency, though only a small number of gamblers (1.2%) chose to utilise the pre-commitment option. More recently, an analysis of 5000 online lottery, casino, and poker gamblers, reported that voluntary limit setting had a specific and significant effect on higher intensity gamblers with respect to time and money spent (Auer & Griffiths, 2013). This group of limit-setters represented 5% of the overall online player sample. Even with low rates of participation, online gambling sites may represent a more viable option for limit-setting tools than land-based operators, as their structural characteristics allow for easier and much less costly integration of technologies.

Precommitment has a low take up rate and the impact on gambling-related harms remains unknown. Voluntary precommitment features on gaming machines might be beneficial in preventing or delaying recreational/regular gamblers from developing problem gambling behaviours and therefore ought to be made available. Given evidence from existing studies of players either swapping cards or migrating to other gambling products, the effectiveness of precommitment is yet to be established but nevertheless, has face value, justifying its trial as recommended by the Productivity Commission (1999).

Little attention has been given to the continuity of play possible for other gambling activities such as race wagering, or sports betting. This is largely due to the assumption that there are 'dry' periods of play where no or little opportunity to gamble exists (e.g. the wait between games or races, opening hours of betting agencies, etc.). However, with the introduction of new technology such as mobile apps and online gambling websites for betting agencies, the opportunity to engage in information on races or sports games from all over the country and sometimes internationally creates a rolling schedule of gambling opportunities. For example, although a race being held in Victoria may cease accepting bets, another may begin within minutes in another state, territory, or country shortly after, providing opportunity for continuous play.

Similarly, casino type games can be played online at any time on regulated and unregulated overseas sites permitting high rates of continuity of play and event frequencies. Under current legislation, there are restrictions on Australian operators providing live betting and casino type games to Australian residents. However, it is extremely difficult to prevent residents from engaging in such products unless and until legislation restricts ISP access to known sites, or prevents electronic transfer of funds from banks for such transactions.

1.23 Gambling Product Demand

The demand for gambling products is created by the industry through its introduction, marketing and promotional activities. Media advertising increases community awareness and attractiveness of available products while promotional activities are designed to induce individuals to participate. These approaches are complemented by media representations in films and TV shows glamorising gambling, for example, James Bond movies and celebrity Texas Hold'em TV shows. Demand reduction strategies are based on the premise that limiting marketing options and

inducements will result in lower rates of uptake and consequently for those at-risk, developing gambling-related problems. The following Table 4 describes some of the primary components relevant to product demand and responsible gambling strategies.

Table 4: Strategies targeting product demand: Demand increase risk factors

Gambling Product Demand	Marketing	Media advertising/promotion
		Inducements & bonus sign-up offers
		Free spin features
		Jackpots
		Targeting vulnerable subpopulations (ethnic and underage)
	Misperception of Risk	Near misses
		Losses disguised as wins
		Misunderstanding of return to player percentage

1.23.1 Media Advertising and Promotion

There is a paucity of empirical research on advertising and problem gambling and as such, little information on how and to what extent gambling advertising directly increases the likelihood of problem gambling (Griffiths, 2005). However, the function of advertising is to persuade and encourage the uptake of goods and services. The general effectiveness of advertising can be inferred from the fact that it remains a widespread practice with varied industries allocating substantial funds to marketing campaigns.

Advertising in general adopts an approach that draws attention to, raises interest in, creates desire, and encourages the uptake of a good or service, notably gambling in this context. Unrealistic depictions of gambling wins and losses and focus on the glamour of the gambling environment and participants are common. For example, television ads for lotteries are focused solely on stories and images of lottery winners in receipt of potentially millions of dollars. Horse race carnivals include images of jubilant winners and fashionable dress, with celebrities associated with poker tournaments. Given that the probability of winning the lottery in Australia is up to 1 in 76 million (Oz Lotteries, 2014), one could argue that this is a particularly biased and unrealistic representation of most people's lottery experience. There are no ads depicting the other, and larger, part of the story that millions are lost every week.

While the link between gambling advertising and gambling behaviour is often underplayed by advertising agencies and gambling providers, researchers argue that constant exposure to gambling triggers naturally reinforces gambling behaviour and encourages gambling urges in pathological gamblers (Grant & Won Kim, 2001). Exposure to gambling cues is achieved on a large scale through advertising on television and print media. Given the recent increase in sports betting advertising, it is difficult to measure the impact this has had on consumers. However, at very least, it can be assumed the direction of the impact is positive for the industry, as assessed by returns on investment.

Additionally, frequent gambling advertising may create a culture where gambling is seen as a normative part of Australian society, and therefore encourage more people to gamble. This concern is particularly worrying, given that children are especially receptive to advertising (Productivity Commission, 2010).

Hing, Cherney, Blaszczynski, Gainsbury and Lubman (2014) suggested that there were two potential effects of gambling advertising. On the one hand, it is possible that advertising increases demand and overall consumption; on the other, it affects the distribution of market share but not overall consumption. Currently, there is no information in the field of gambling to determine which is most likely to be the case. These authors concluded that despite studies on content analyses, recall of advertisements, and self-reported attitudes and effects of exposure to advertising, findings remain inconsistent and no conclusive statement can be made. Based on their findings from a qualitative study on 50 internet and 31 treatment-seeking gamblers, Hing and her colleagues (2014) concluded that advertising had limited effect. Only a minority reported commencing gambling or extending their gambling activities as a consequence of advertising exposure, and a minimal effect in shifting non-gamblers to the internet. However, self-report from these participants suggested that advertising and inducements did increase consumption in response to internet free bets and deposit offers. These findings are somewhat consistent with Binde's (2007) conclusion that concerns about the nature and impact of advertising, and its impact on gambling consumption, appears to range from minimal to moderate but is often less compared to other influential factors. Given the mix of land-based and internet participants in studies of advertising, it may be that there is a differential effect produced for each group. This needs to be taken into consideration when assessing the impact of advertising by a gambling product.

In 2010, a move to ban the promotion of betting odds during live televised sports games was passed and as a result gambling advertisers are not permitted to air commercials, report on, or promote live odds during, or up to 30 minutes before and after a live sports game is televised (Australian Communications and Media Authority [ACMA], 2010). While this reform has resulted in considerable restrictions on the advertisement of live sporting odds, betting agencies are still able to promote their business through overt advertising at gaming venues and on television during the broadcast of a sporting event provided no live odds are advertised. This includes television ads often promoting special deals and inducements to new customers, as well as banners at sporting grounds, and brand logos on clothing as part of sponsorship agreements with sporting teams and venues.

1.23.2 Inconsistent standards in gambling advertising

While some may argue that advertising promotes competition and improves outcomes for gambling patrons (UK Advertising Association, 2002), industry members have raised concerns about inconsistencies in gambling advertising regulations across the various gambling products as well as across jurisdictions (Productivity Commission, 2010). Currently, in NSW there is a total ban on all advertising for EGMs outside of gambling venues.

Compared with other forms of gambling, the reach of sports betting advertising extends far further, including technology-based strategies such as online websites, television ads, mobile and tablet device apps, and sports sponsorship agreements. Gambling advertising saturation within sporting events has led punters (young men in particular) to feel as though they are being 'bombarded' by betting agencies (Thomas, Lewis, McLeod, & Haycock, 2011b).

Given the effectiveness of advertising in changing consumer patterns of behaviour, it is reasonable at face value to suggest that marketing gambling products may contribute to increased consumption by:

- Attracting new players
- Increasing consumption among existing players
- Maintaining persistence despite problem gamblers attempting to cease/reduce their gambling

- Returning lapsed players into the gambling domain
- Causing longer sessions among players (Hing et al., 2014).

In the absence of evidence that some forms of gambling increase the uptake of other forms, and that some forms are not associated with gambling-related harms, restrictions on advertising should be targeted to those products most associated with harm: EGMs, hotels, casinos, and horse and sports wagering. In reality, however, most community members are aware of the availability of gaming machines in hotels and clubs and these venues are able to advertise and promote non-gambling entertainment and food and beverage services to attract patrons to their venue. Public pressure has rebounded on the excess of sports advertising on television but exposure to advertising continues with prominent gambling-related signs placed on playing fields and sponsorship of clubs displayed during televised programs. Given the popularity and history of horse wagering, it is politically unlikely that restrictions on advertising of events such as the Melbourne Cup and various carnivals will be achieved.

1.23.3 Inducements and Bonus Sign-up Features

There is a ban on some gambling-related inducements such as free or discounted liquor, or free credits for people to play gaming machines. No such restrictions on advertising exist for online gambling, sports betting or race wagering agencies. This has allowed these providers to advertise bonuses, prizes and other promotional matter to entice new customers.

Current sports betting agencies are free to lawfully run advertising campaigns offering explicit inducements such as: "New customers get up to $250 in bonus bets", "Every punter can win up to $1000 every day!" (www.ladbrokes.com.au), and "If your team leads after 3 quarters but lose, money back up to $100!" "Bet small, win big" (www.sportsbet.com.au). These types of inducements encourage the idea that the punter 'can't lose', or that at the very least, it is easy to win, when in fact the opposite is far more likely.

The evidence that banning inducements reduces problem gambling is largely anecdotal or qualitative. However, the Productivity Commission (2010) reported that while most patrons reported that inducements were unlikely to contribute to gambling problems, they indicated that they would often gamble longer to achieve rewards through loyalty schemes. This position is supported by preliminary studies indicating a positive effect of inducements on the consumption of internet gambling (Hing, Cherney, et al., 2014).

The difficulty for policy makers is to operationally define what promotion constitutes an inducement to gamble. The primary aim of marketing, advertising and promotional activities can be construed as representing an inducement to consume a product. The threshold differentiating acceptable from excessive/exploitative inducements is arbitrary and dependent on normative values. Broad guidelines such as any offer that is designed to encourage a person to visit a venue or open an account, for example, discounts on non-gambling services or offering attractive odds, are too diffuse to be applied in all instances. It is recommended that consideration be given to determine which inducements conform to standard marketing practices, and those that can be considered excessive inducements. This would be a difficult but necessary and useful task designed to provide operators with reasonable criteria and parameters to guide their advertising activities.

1.23.4 Marketing Directed Toward Potentially Vulnerable Subpopulations

Marketing directed toward specific subpopulations taking advantage of vulnerabilities and/or cultural values requires careful scrutiny. The concept of vulnerable implies some inherent

characteristic of the targeted subpopulation that increases the propensity for members of that population to (a) engage in gambling, and (b) to develop problem gambling behaviours. As noted above, Raylu and Oei's (2004b) study concluded that higher rates of problem gambling are found among certain cultural groups, with acculturation stresses contributing to the emergence of problem gambling behaviours. Children and youth are impressionable and are likely to have attitudes and behaviours influenced by marketing. Marketing targeting recent immigrants, those with difficulties in acculturating and/or assimilating into mainstream communities, exposed to political oppression and trauma, and underage children, can reasonably be argued to be exploitative and ethically unacceptable.

In some instances, marketing campaigns take advantage of culturally relevant events and activities. Advertising incorporates cultural icons and symbols and is designed to attract the target subpopulation to engage in, or increase, their gambling behaviours. A prime example is the Chinese New Year where casinos, clubs and hotels incorporate Chinese motifs and icons in their décor and marketing products. In many respects, this is consistent with standard marketing practices and may not necessarily represent exploitative strategies. To be regarded as unfair and/or exploitative it ought to be demonstrated that such strategies not only increase consumption (which is the aim of the campaign) but also increase the incidence of problem gambling behaviours. Studies to date have not effectively demonstrated that such marketing has increased the incidence of problem gambling although from other domains, it is accepted that increased consumption does occur.

1.23.5 Free Spins

Multiple factors influence the popularity of gaming machines including graphics, sounds, lighting, multiple reels/side games, double-up buttons and free spin features. These either individually or in combination, and/or as part of a marketing campaign, serve to increase the attractiveness (hence demand) to play.

Setting aside near miss and losses disguised as wins, few studies have evaluated the specific effects of these features on gaming machine play. Anecdotal and self-report data suggest that free spin features are one of the main factors that are appealing to players. In their study, Blaszczynski et al. (2001) conducted a series of focus groups on problem gamblers. Participants were asked to describe design features of gaming machine considered to be particularly addictive or contributed to the development or problem gambling behaviours. Free spins were consistently reported as representing an important psychological component that elevated mood and fostered continued play. It appeared that the pursuit of the free spins was a challenge to the player and on obtaining it, would make the player feel 'special". The free spin feature was described by some as the predominant reason contributing to their loss of control. One respondent stated that she did not like playing the machines before the introduction of free spins but since then, had developed a severe gambling addiction. The free spin feature appears to be highly reinforcing, and in conjunction with schedules of reinforcement, that is, frequency of hits and volatility, increases motivation (demand) for playing.

1.23.6 Reinforcement schedules & Prize levels

Learning models of gambling behaviour suggest that reinforcement (learning) plays a central role in the development and maintenance of problem gambling (Anderson & Brown, 1984; Sharpe & Tarrier, 1993). The temporal relationship between an event/action and the delivery of the reinforcer is important; the shorter the interval, the greater the probability the reinforcer will be associated with the event/action. In gambling, the payback interval is defined as the time between the result of a gambling outcome and the delivery of a reward (money) (Blanco et al.,

2013). Essentially, the closer the time between the behaviour (gambling) and outcome (monetary reward) the stronger will be the reinforcing effect (e.g., Choliz, 2010).

In the majority of cases, players are generally notified immediately or within a relatively short time, of an outcome (win). Some exceptions, such as lottery and lotto, exist wherein a draw may occur with the winner only becoming aware of the outcome at a later date. One could suggest that because of the rapid nature of payback within most forms of gambling, these tend to possess stronger reinforcing properties. However, this does not take into consideration the size of the win, something that can also affect the strength of reinforcement (Crewe-Brown, Blaszczynski, & Russell, 2014).

Studies in the field of cognitive neuroscience have linked the magnitude of monetary outcomes in gambling to specific neural regions supporting claims that monetary reinforcement plays a crucial role in reinforcing gambling behaviours. But, brain response to monetary outcomes in gambling has been shown to be the result of not only the positive and/or negative valence of the outcome but also its magnitude (Goyer, Wodorff, & Huettel, 2008; Kreussel, Hewig, Kretschmer, Hecht, Coles, & Miltner, 2012; Wu & Zhou, 2009). Consistent with this, more recent exploratory studies have highlighted the complexities of the relationship between monetary outcomes (prize level), debt and gambling behaviour. In a pilot study, Crew-Brown et al. (2014) found that male and female undergraduate students tended to bet similarly under laboratory simulated conditions of no debt and low prize levels, but that males tend to bet substantially higher than females when debt levels are high. The interaction between debt, and motivation and emotional factors needs to be fully investigated before conclusions about the effect of prize level on gambling can be made.

There is concern that high-value jackpots are linked to intensified betting amounts and frequency, thus elevating the risk of loss and problematic gambling (Delfabbro, 2012; Productivity Commission, 2010; SCIG, 2014). However, there is little empirical evidence available to demonstrate a link between high-value jackpots and problem gambling and its associated harms. It is argued that the chance to win a life-changing sum of money, to recoup losses, or pay off debts, with a single spin of the reel holds great appeal to gamblers, thus encouraging continued play, particularly in those with a propensity to chase losses (Productivity Commission, 2010). Crewe-Brown et al. (2014) support this notion. By administering a series of EGM gambling vignettes to university students, they found that EGM prize levels were a significant predictor of increased bet frequency and bet size. Evidence submitted to the Select Committee on the Impact of Gambling (SCIG, 2014) suggests that a reduction in jackpot prize amounts would be an effective harm minimisation measure for problem gambling. The correlation between low jackpot prize amounts in the UK (£50) and the lack of problem gamblers engaging in EGM play was provided as an example to support this modification. Moreover, it was argued that problem gamblers are more likely to invest more time and money in a game with a large jackpot amount because it is seen as a feasible way to recuperate large losses. For example, a gambler who has lost $30,000 may see investing in an EGM with a jackpot of $10,000 as a better use of their time and money than one with a jackpot of $100.

Progressive jackpots have been identified as being “potentially the most problematic feature” of current gaming machines (Delfabbro, 2012, p. 215). This is because a small percentage of each bet per spin is added to the total prize pool. As such, the likelihood of winning increases as further bets are made and the balance approaches the jackpot ceiling. Consequently, progressive jackpots may encourage gamblers to bet more on each spin so to increase the rate of accumulation. Moreover, it reinforces the perception that a large win is more likely to occur the longer one persists, which in this case (contrary to typical jackpots), is correct (Delfabbro, 2012). Recent reports highlight a community population survey which reported that over 30% of

problem gamblers played specifically linked jackpot machines, compared to only 3% of non-problem gamblers (Productivity Commission, 1999, cited in Productivity Commission, 2010; Delfabbro, 2012). A recent study reported that jackpot machines are associated with greater spends across all gamblers and that players placed larger bets on machines with larger jackpots (Rockloff et al., 2014).

Further research on real-world EGM play is required to confirm the suspicion that higher jackpot prize amounts encourage longer play and/or larger bet amounts.

Minimal research has directly explored the relationship between prize levels and gambling behaviour, despite the fact that prize levels are modifiable. Policies can reduce prize levels if there is substantial evidence to suggest that prize level not only motivates individuals to gamble but also increases the likelihood that they will chase losses. Currently, there is no robust evidence to indicate the prize level thresholds that are optimal in preventing excessive demand and motivation to play.

1.23.7 Near misses

Studies have shown that near misses, that is, obtaining a result that 'just' failed to win, have consistently demonstrated that this phenomenon increases arousal and motivation to persist in play. Near misses occur within most gambling products. In poker card games, the last card dealt may not complete the winning hand, a horse is beaten by a short margin, a team loses in the dying seconds of the game, or two winning symbols are revealed on a scratch card. On a gaming machine, the winning combination falls short by one reel, that is, all except the first reel displays the same icon. In Australia, although regulatory requirements prohibit the deliberate programming of near misses by chance, near miss combinations do inevitably appear. In other gambling products, near misses cannot be regulated; horse and sports wagering, card games, roulette, etc. The current regulatory requirements in Australia regarding near misses prevent the use of this feature appearing to some extent. It is not apparent as to how near misses can be eliminated entirely from games of chance.

1.23.8 Losses Disguised as Wins: Positively Framing Odds and 'wins'.

Similarly, sports betting agencies and bookmakers frame betting odds in a way that positively frames the amount of gain that occurs. For example, if someone places a bet and stakes $1, where the odds are displayed as 'paying $1.80', this implies the punter stands to gain $1.80. However, as the original $1 investment is lost, the punter's actual profit or gain is 80c.

Therefore, a more accurate advertisement of a punter's winnings would be to say that the bet is 'paying 80c'. Consequently, it is the reporting of odds that focus solely on gains (not taking into account loss of investment) imply less perceived risk. While there is no literature suggesting reframing reported odds would reduce excessive gambling, in theory that may occur.

Flashing lights and symbols, and jubilant audio tunes often accompany gaming machine wins. This audibly notifies the player that they have won, and as such acts as a cue for winning, and the monetary reinforcement that follows. Similarly, when a player wins back a portion of their initial wager (a net loss), the same sensory features are activated. These 'losses disguised as wins' are, as the name suggests, often mistakenly perceived by the player to be wins. An example is a player betting $1, and being returned 25c. This loss is presented to the player as if they have won 25c, when indeed they have lost 75c.

Research has shown that music and noises coming from gaming machines may contribute to the effect of a loss disguised as a win. Dixon et al. (2013) showed that reinforcing sights and sounds of

gaming machines paired with a loss disguised as a win (reported profit without subtracting investment) triggered player arousal at a similar level to genuine wins (profit), which were both significantly higher than losses. Given that prior research has linked heightened arousal to frequent gambling behaviour (Brown, 1986; Coventry & Hudson, 2001; Moodie & Finnigan, 2005), losses disguised as wins have significant implications for the development and maintenance of problem gambling. Additionally, a comparison of players of slot machine games with and without sound revealed that while both groups overestimated the amount they had won while playing, those who played machines with sound overestimated significantly more wins than players with no sound. The authors discuss this effect as relating to people's reliance on the machines to tell us whether or not we have won. They explain that the machines can be complex, and so people rely on sounds and lights emitted from the machine to indicate a win. Machines that generate sounds and lights when participants have also lost money, skew the players' view of wins and losses (Dixon et al., 2013).

It appears that manufacturers are already aware of this effect and admit to using positive reinforcement to hide losses in game design (Schull, 2005). The independent Liquor and Gaming Authority, the body that approves gaming machines for use in NSW, possesses a Gaming Machine Prohibited Features Register. The register comprises of gaming machine features that are likely to cause harm to the user. The register currently does not include a ban on alerts to players where the return is less than the amount wagered (loss disguised as a win).

While this phenomenon is typically restricted to EGMs and other automated, machine-based gambling activities, it is similar in nature to misleading reporting of odds mentioned earlier.

1.23.9 Return to Player Percentage

In business, the term 'return on investment' (ROI) is used to describe the amount of profit that can be made on an investment, after the invested amount is taken into account. This is usually expressed as a percentage. For example, a 25% return on a $100 investment equates to a return of $125, and total profit of $25 (return - investment = ROI).

A commonly reported and highly misunderstood statistic is the 'return to player percentage' for electronic gaming machines. The gambling industry, government-sponsored literature, and other media often report there is a return to player percentage associated with electronic gambling machines, which sounds similar to a return on investment The figure quoted is always positively framed and falls within a range between 87% and 90%. By comparison, if the figure were to be expressed as a return on investment, it then becomes negatively framed and would fall within a range of -10% to -13%, magnifying the risk for loss.

A robust finding in the psychology of decision making is known as the 'framing effect' (Tversky & Kahneman, 1981). This effect predicts shifts of preference as a result of framing a problem in a different way. For example, presented with a choice between saving 90% of a population or killing 10% of the population, most people opt for the former, although both result in the exact same loss of life.

In the same way, positively framing return to player percentage may unduly distort the perception of winning, thus increasing the likelihood of excessive gambling.

1.24 REVIEW OF HARM MINIMISATION LEGISLATION

State governments have introduced a range of legislation in order to minimise the harmful impacts of gambling. This study reviewed legislation and codes of practice in NSW, to highlight areas of potential improvement to current harm minimisation measures. In NSW, common harm minimisation principles are found across numerous acts of legislation aimed at separate codes of licensed gambling providers.

We reviewed the following legislation implemented in NSW to regulate the gambling industry:

- Australian Jockey and Sydney Turf Clubs Merger Act 2010
- Casino Control Act 1992
- Casino Control Regulation 2009
- Gambling (Two-up) Act 1998
- Gaming and Liquor Administration Act 2008
- Gaming and Liquor Administration Regulation 2008
- Gaming Machines Act 2001
- Gaming Machines Regulation 2010
- Greyhound Racing Act 2009
- Harness Racing Act 2009
- Hawkesbury Racecourse Act 1996
- Innkeepers Act 1968
- Liquor Act 2007
- Lotteries and Art Unions Act 1901
- Public Lotteries Act 1996
- Public Lotteries Regulation 2007
- Racing Administration Act 1998
- Racing Administration Amendment (Sports Betting National Operational Model) Act 2014
- Racing Administration Regulation 2012
- Racing Appeals Tribunal Act 1983
- Registered Clubs Act 1976
- Thoroughbred Racing Act 1996
- Totalizator Act 1997
- Totalizator Regulation 2012
- Unlawful Gambling Act 1998
- Wagga Wagga Racecourse Act 1993

It is noted that the majority of the existing legislation was originally drafted prior to the introduction of licensed online betting exchanges and online gambling service providers. As a result, the current legislation is aimed at the traditional conduct of gambling by the person at the physical environments of services providers. Therefore, certain harm minimisation provisions in existing legislation do not apply in NSW to licensed providers of interactive gambling, including:

- Prohibitions on gambling-related advertising and publishing, which can include oral, visual, electronic or other means by cinema, video, radio, television or the internet, outside the premises of service providers
- Provision of player information brochures
- Prohibition of credit and accepting gambling transactions involving a debit or credit card
- Promotion of junkets and inducements, which can be in the form of credit, voucher or reward, to take part in gambling, including opening a betting account
- Regulation of promotional prizes and player reward schemes

- Display of information concerning chances of winning prizes
- Requirement to arrange for problem gambling counselling services
- Limits to payment of prizes
- Verification of age requirements.

The major finding of this review was unlike other states including Queensland, Victoria, and South Australia, NSW lacks a single whole-of-industry act of legislation that prescribes and standardises responsible gambling measures across all licensed gambling providers.

SECTION 2: CDS DATA ANALYSIS AND GAMBLING HARM IN A TREATMENT POPULATION

2.0 RESEARCH AIMS

The focus of this empirical research is to provide insight into the nature and severity of the harms experienced by players of gambling products in NSW to determine which products pose the most risk. To this end, the research employed several methods, which included:

1. **INVESTIGATING THE RELATIONSHIPS BETWEEN HARM AND OTHER VARIABLES WITHIN THE RGF CDS CLIENT DATA SET.** An analysis of the raw data obtained from clients of Gambling Help Services was undertaken. The purpose of this analysis was to determine relationships between the harm variables that are included in the client database and various gambling products, in order to make recommendations regarding the use of the CDS in the context of harm minimisation.
2. **DETERMINING THE RELIABILITY OF THE CLIENT DATA IN THE CDS.** A sample of clients attending RGF funded counselling services was also recruited to participate in interviews designed to determine the reliability of data captured by Gambling Helpline counsellors.
3. **MEASURING THE FULL RANGE OF POTENTIAL HARMS IN A CLINICAL POPULATION.** The full range is not adequately assessed by the CDS in the format reviewed in this project. In order to comprehensively assess the full range of harms, the research team included the Gambling Effects Scale (GES), a 107-item scale that measures harms in the domains of health, leisure, social, education, employment and finance. This scale was administered to a sample of clients attending metropolitan treatment services in NSW as well as a sample of gamblers from a community sample.
4. **MEASURING THE FULL RANGE OF POTENTIAL HARMS IN A CLINICAL AND COMMUNITY POPULATION.**
5. **GATHERING THE PERSPECTIVES OF HARMS AND RISKS FROM VARIOUS STAKEHOLDERS.** Interviews and a series of focus groups and online discussion boards were held to gather the views of gaming operators, researchers, gambling counsellors and friends and families of problem gamblers to obtain their unique perspective on the harms and risks posed by various products.

2.1 THE RELATIONSHIPS BETWEEN HARM AND RGF CLIENT DATA SET (CDS) VARIABLES

The Responsible Gambling Fund was established in part to minimise harms related to gambling in the community. The Fund has established treatments services across NSW to specifically treat problem gamblers and provide support for significant others.

In 2004, the Responsible Gambling Fund introduced the Client Data Set (CDS) to enable the consistent and uniform collection of data on all clients presenting for treatment at RGF services in NSW. The database was not specifically designed for the purpose of measuring the range of gambling harms in the community. Rather, at the initial client assessment, counsellors enter data related to client attendance, a broad range of demographic and behavioural variables, and a limited number of items eliciting information related to the client's mental health and legal history. The full list of items is presented in Appendix A.

2.1.1 The CDS Analysis

The CDS analysis is based on data collected by counsellors at all services funded by the RGF for the five-year period, 1 July 2009 to 30 June 2014. Data from Wesley Community Legal Service were not included, as they provide legal services rather than counselling. The Gambling Helpline service has an independent data collection system and was also not included in this analysis.

Only those clients who received at least one counselling session between 1 July 2009 and 30 June 2014 were included in the final data set. Clients must consent to have their data provided. Therefore, non-consenting clients were counted in the analysis, without including demographic and gambling-related information. In total, 14,805 clients received counselling services.

The descriptive statistics for the demographic variables are presented in Table 5.

Table 5: Frequencies of age, sex, region, English proficiency and Aboriginal and Torres Strait Islander (ATSI) status for the total sample of n=14,805 clients

Variable		N	%
Age	< 18	39	0.3
	18-34	5,034	34.7
	35-49	5,484	37.8
	50-64	3,244	22.3
	65 +	723	5.0
	Missing	281	
Gender	Female	4,303	29.1
	Male	10,496	70.9
	Missing	6	
Region	Statewide	286	1.9
	North Coast	1,049	7.1
	New England/North West	253	1.7
	Illawarra	787	5.3
	Hunter	960	6.5
	Western NSW	650	4.4
	Central Coast	762	5.1
	South East	202	1.4
	Riverina/Murray	847	5.7
	Western Sydney	2,383	16.1
	South West Sydney	1,543	10.4
	Coastal Sydney	5,083	34.3
English proficiency	English only	11,568	78.1
	Very well	1,622	11
	Well	862	5.8
	Not well	673	4.5
	Not at all	31	0.2
	Missing	49	
ATSI	Aboriginal	781	5.3
	Torres Strait Islander	26	0.2
	Both Aboriginal and Torres Strait Islander	12	0.1
	Non-indigenous	13,734	92.8
	Missing	252	

Across all services, the largest proportion of clients was aged between 35-49 with the second largest category aged between 18 and 34. Only a small proportion of clients were either under 18 or over 64. The majority of clients were male. Of the total sample, the majority reported English as their only spoken language. The primary gambling activity engaged in by clients is shown in Table 6.

Table 6: Primary gambling activity reported by n=14,805

	N	%
Not applicable*	34	0.2
Gaming machines	11,333	76.5
TAB/Phonetab (racing & sports betting)	40	0.3
Card games	218	1.5
Casino table games	487	3.3
Lottery Products	88	0.6
Bingo	9	0.1
Horse/dog races	1,746	11.8
Sports Betting	563	3.8
Keno	50	0.3
Other	88	0.6
Not stated/inadequately described	83	0.6
Data not collected	66	0.4
Total	14,805	

**CDS database allows option of 'not applicable'*

The majority of clients identified poker machines as their primary gambling activity followed by race betting, sports betting and then casino table games.

Clients were also asked to indicate any other form of gambling activity in which they participated (see Table 7).

Table 7: Reported secondary gambling activities for the n=14,805 clients.

	N	%
Not applicable	8,132	54.9
Gaming machines	1137	7.7
TAB/Phonetab (racing & sports betting)	42	0.3
On course (racing & sports betting)	9	0.1
Card games	771	5.2
Casino table games	875	5.9
Lottery Products	1,416	9.6
Bingo	288	1.9
Horse/dog races	2,073	14.0
Sports Betting	1,465	9.9
Keno	1,025	6.9
Not stated/inadequately described	299	2.0
Data not collected	145	1.0

**CDS database allows option of 'not applicable'*

Of the sample of clients, 8,545 respondents (57.7%) reported a primary gambling activity but no secondary gambling activity (i.e., exclusivity). For those that did gamble on more than one form, race betting was the most common secondary activity, followed by sports betting, lottery products, and then gaming machines.

Table 8: Primary by secondary gambling activities

	N	1	2	3	4	5	6	7	8	9	10
1. Not applicable	34	0.0	73.5	0.0	8.8	2.9	0.0	0.0	41.2	17.6	2.9
2. Gaming machines	11333	60.7	0.0	0.3	4.6	5.7	10.6	2.2	15.0	7.1	7.9
3. TAB/Phonetab (racing & sports betting)	40	62.5	32.5	0.0	0.0	2.5	2.5	2.5	0.0	0.0	0.0
4. Card games	218	27.1	44.5	0.0	0.0	17.0	2.8	0.9	12.8	15.6	1.8
5. Casino table games	487	44.6	35.7	0.2	14.4	0.0	4.7	0.4	7.2	8.4	1.4
6. Lottery Products	88	33.0	20.5	0.0	23.9	0.0	0.0	8.0	4.5	1.1	4.5
7. Bingo	9	22.2	55.6	0.0	11.1	0.0	11.1	0.0	0.0	0.0	0.0
8. Horse/dog races	1746	36.4	33.9	0.3	5.8	7.2	6.9	0.8	0.0	31.9	5.1
9. Sports Betting	563	32.5	28.2	0.2	6.7	8.5	5.0	0.0	46.0	0.0	1.1
10. Keno	50	26.0	32.0	0.0	0.0	6.0	22.0	2.0	24.0	4.0	0.0
11. Other	88	55.7	18.2	0.0	4.5	6.8	12.5	2.3	6.8	11.4	4.5

N.B.: On course omitted from cross-tabulation as it was not coded for as a primary gambling activity

The majority of clients (60.7%) who gambled primarily on poker machines gambled exclusively on this form. In contrast, only 36.4% of clients who gambled primarily on racing did so exclusively. Nearly one third of horse racing clients, nominated sports betting as their secondary gambling activity, whilst 33.9% of clients whose primary activity was race betting nominated poker machines as their secondary gambling activity. A similar distribution of secondary activities was observed with clients who primarily gambled on sports. Nearly one third (32.5%) gambled on sports exclusively, almost half (46.0%) nominated race betting as their secondary form, while 28.2% nominated gaming machines as their secondary form.

2.1.2 Frequency of gambling activities by demographics

The following tables show the pattern of participation for each gambling product by age and gender. Note that bingo was excluded because of its low frequency.

The majority of gaming machine players, horse race bettors, Keno and lottery players are in the middle age bracket (35-49 years) (see Table 9). In contrast, those engaged in card games, sports betting and casino games fall predominantly in the younger age categories.

Table 9: Percentage of n=14,805 clients reporting primary gambling activity by age category

	<18 (%)	18-34 (%)	35-49 (%)	50-64 (%)	65+ (%)
Not applicable	0	36.4	36.4	24.2	3.0
Gaming machines	0.3	33.1	37.3	23.9	5.4
TAB/Phonetab (racing & sports betting)	0	22.5	55.0	17.5	5.0
Card games	0.9	46.0	35.3	17.2	0.5
Casino table games	0.4	39.1	36.4	20.9	3.2
Lottery Products	0	10.8	48.2	31.3	9.6
Other (specify)	0	32.2	49.4	17.2	1.1
Not stated/inadequately described	1.2	45.7	32.1	19.8	1.2
Horse/dog races	0.3	35.5	41.7	18.5	4.1
Sports Betting	0	61.5	31.3	5.6	1.6
Keno	0	16.0	60.0	20.0	4.0
Data not collected	0	25.8	41.9	22.6	9.7

The following Table (Table 10) describes the gender distribution for clients reporting a primary gambling activity. The data indicates that racing and sports betting are almost exclusively male-oriented activities. Although gaming machines, Keno and lottery had a higher proportion of females, there was no gambling product in which females were the predominate gender.

Table 10: Percentage of clients for each reported primary gambling activity by gender

	N	Female (%)	Male (%)
Not applicable	34	8.8	91.2
Gaming machines	11,333	35.4	64.5
TAB/Phonetab (racing & sports betting)	40	0	100.0
Card games	218	16.5	83.5
Casino table games	487	18.9	81.1
Lottery Products	88	43.2	56.8
Other (specify)	1,746	21.6	78.4
Not stated/inadequately described	563	22.9	77.1
Horse/dog races	50	2.0	98.0
Sports Betting	88	2.0	98.0
Keno	83	30.0	70.0
Data not collected	66	22.2	77.8

2.1.3 Weekly gambling losses by primary gambling activity

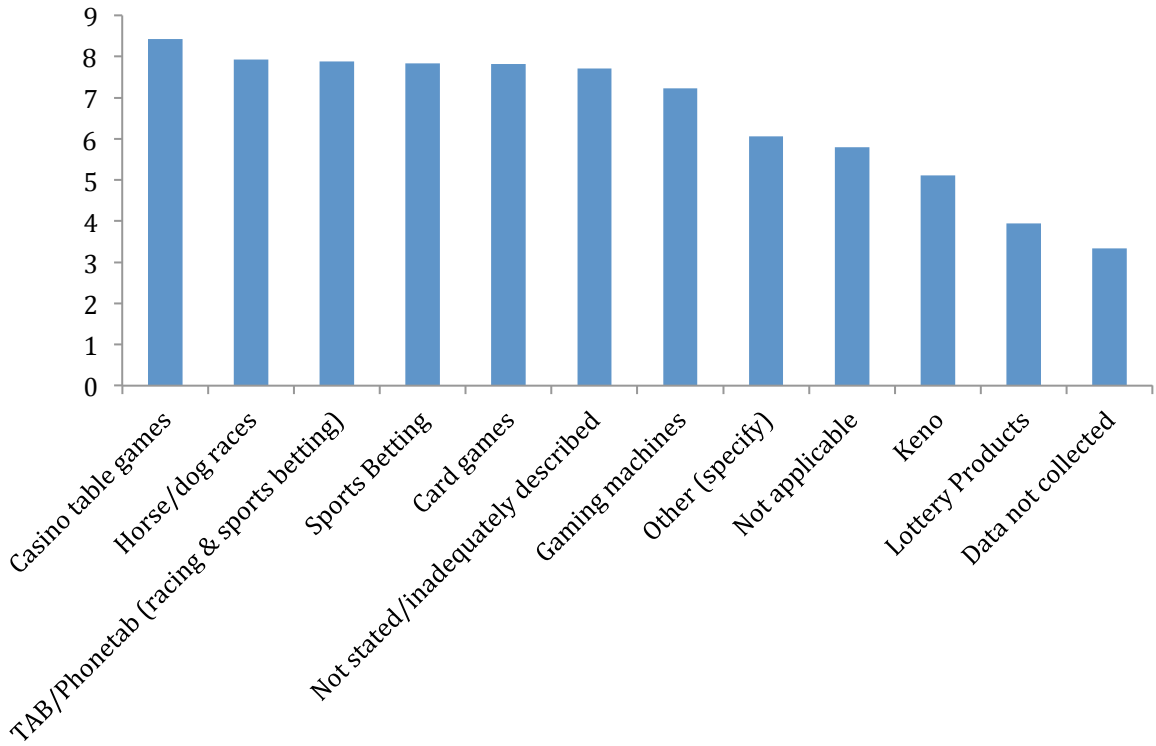
Clients were requested to estimate weekly losses sustained by their primary gambling activity. The data was entered according to brackets rather than specific amounts. The following brackets were used in Table 11:

Table 11: Losses recorded in the CDS database

	Amount
1	Nil
2	$1-$39
3	$40-$79
4	$80-$119
5	$120-$159
6	$160-$199
7	$200-$299
8	$300-$399
9	$400-$499
10	$500-$599
11	$600-$699
12	$700-$799
13	$800-$999
14	$1,000-$1,499
15	$1,500 or more

The distribution of mean weekly losses for each of the gambling products is graphically depicted in Figure 2.

Figure 2: Mean weekly gambling losses by primary gambling activity *(the numbers in the vertical axis refer to the loss brackets listed in Table 10)*



A one-way analysis of covariance was conducted to examine the mean differences in weekly gambling losses between primary gambling activities while controlling for level of involvement

(total number of primary and secondary gambling activities), age, weekly income and type of primary gambling activity.

Subsequently, an analysis of variance examining mean differences in weekly gambling losses between primary gambling activities, i.e., with the other variables not controlled for, was carried out. This was done to allow the comparison of mean losses between pairs of primary gambling activities, using the Tukey procedure to control for Type I error rate inflation resulting from multiple comparisons.

An assumption of analysis of variance is that the dependent variable (weekly gambling losses in this case) is continuous and normally distributed. As weekly gambling losses in the present case are recorded in categorical brackets (e.g., $1-$39, $40-$79), the data is not strictly continuous. However, the large number of categorical brackets means that linear regression can be justified, particularly given the complexity of interpreting the results of alternative analyses (e.g., ordinal logistic regression or chi-squared tests).

For the analysis of covariance, there were significant differences in weekly gambling losses between primary gambling activities, $F(11, 7837) = 7.16$, $p < .001$. The following covariates were also significant: weekly income, $F(1, 7837) = 1881.00$, $p <. 05$, and; age, $F(1, 7837) = 18.95$, $p < .05$. Level of involvement and exclusivity were not significantly related to weekly gambling losses.

When the covariates were removed (i.e., in the analysis of variance), there were significant differences in weekly gambling losses between the primary gambling activities, $F(11, 9617) = 14.33$, $p < .001$. The mean comparison between each pair or primary gambling activities is reported in Table 12.

Table 12: Mean difference and p value for each pairwise comparison of primary gambling activity (PGA)

PGA 1	PGA 2	Mean difference
Gaming machines	TAB/Phonetab (racing & sports betting)	-0.65
	Card games	-0.58
	Casino table games	-1.20*
	Lottery Products	3.29*
	Other (specify)	1.18
	Horse/dog races	-0.69*
	Sports Betting	-0.6
	Keno	2.12*
TAB/Phonetab (racing & sports betting)	Card games	0.07
	Casino table games	-0.55
	Lottery Products	3.95*
	Other (specify)	1.83
	Horse/dog races	-0.04
	Sports Betting	0.06
	Keno	2.77
Card games	Casino table games	-0.62
	Lottery Products	3.88*
	Other (specify)	1.76
	Horse/dog races	-0.11

	Sports Betting	-0.01
	Keno	2.70*
Casino table games	Lottery Products	4.49*
	Other (specify)	2.38*
	Horse/dog races	0.51
	Sports Betting	0.60
	Keno	3.32*
Lottery Products	Other (specify)	-2.12
	Horse/dog races	-3.98*
	Sports Betting	-3.89*
	Keno	-1.17
Other (specify)	Horse/dog races	-1.87
	Sports Betting	-1.77
	Keno	0.94
Horse/dog races	Sports Betting	0.09
	Keno	2.81*
Sports Betting	Keno	2.72*

* p<0.05

In summary, casino table games had significantly higher losses than gaming machines, Keno, lottery products, and other activities. Horse/dog races had significantly higher losses than gaming machines, Keno, and lottery. TAB/Phonetab had significantly higher losses than lottery products and sports betting had significantly higher losses than Keno. Card games had significantly higher losses than lottery..

The highest weekly gambling losses were found in casino table games and horse/dog races in contrast to the lowest losses that were exhibited by Keno and lottery products.

2.1.4 Predictors of mental health

A series of binary logistic regression analyses were conducted to determine if we could predict each mental health issue (present or absent) using level of involvement, age, weekly income, weekly gambling expenditure, and type of primary gambling activity as the key variables. Odds ratios, which represent the increase in odds of the mental health issue being present, associated with a one-point increase in the predictor, are also shown in Table 13. For example, each additional gambling product engaged in, the odds of having anxiety increase by 16%. Similarly, for age, each additional year the odds of having anxiety or depression increase by about 2%. Odds ratios below one indicate the converse, that is, for every increase in weekly income, the odds of having anxiety decrease by 8%.

Table 13: Odds ratios from binary logistic regression for clients reporting mental health issues

	Level of involvement	Age	Weekly income	Weekly gambling expenditure	Exclusivity
Anxiety	1.16*	1.02*	0.92*	1.01	1.09
Depression	1.08*	1.02*	0.90*	1.01	1.06
Alcohol	1.31*	0.99*	0.95*	1.00	1.12
Drug	1.29*	0.96*	0.93*	0.98*	1.22*
Suicide ideation	1.11*	1.01*	0.93*	1.04*	1.07
Suicide attempts	1.21*	1.00	0.91*	0.98*	1.22

* $p<0.05$

In summary, all six mental health issues were associated with higher level of involvement. Furthermore, higher anxiety and depression were both associated with higher age and lower weekly income. The presence of a past alcohol problem was associated with lower age and lower weekly income while past history of drug problems was associated with lower age, lower weekly income, lower weekly gambling expenditure and greater exclusivity. Suicidal ideation was associated with higher age, lower weekly income and higher weekly gambling expenditure; suicide attempts were associated with lower weekly income and lower weekly gambling expenditure.

2.1.5 Mental health by primary gambling activity

Tables 14 to 19 show the numbers of people within each of the primary gambling products identified as having a mental health issue. Mental health issues were assessed by items asking if the client had ever been diagnosed with anxiety or depression, had ever had a problem with drugs or alcohol, and or had ever thought about suicide, or had ever attempted suicide.

A chi-squared test of independence revealed significant differences for all six mental health issues across the primary gambling products. Gaming machines, Keno and lottery products were found to be most associated with anxiety, depression and suicidal ideation. Depression and suicidal ideation also featured among casino table games, while alcohol and drugs were mainly found among gaming machines and horses, and drugs across TAB/Phonetab and gaming machines.

Table 14: Frequency and percentage of clients reporting anxiety by primary gambling product (Note: for all Tables, gambling activities are sorted from highest percentage to lowest, with the four miscellaneous categories in grey font)

	Total sample	N	%
Not stated/inadequately described	46	26	56.5
Other	80	44	55.0
Data not collected	26	12	46.2
Keno	46	19	41.3
Gaming machines	10,400	4,128	39.7
Lottery Products	72	28	38.9
Not applicable	32	11	34.4
Casino table games	450	146	32.4
Horse/dog races	1,640	487	29.7
Card games	202	53	26.2
Sports Betting	540	114	21.1
TAB/Phonetab (racing & sports betting)	27	4	14.8
Total	13,561	5072	
χ^2 (11) = 166.59, p<.05			

Table 15: Frequency and percentage of clients reporting depression by primary gambling product

	Total sample	N	%
Not stated/inadequately described	47	33	70.2
Data not collected	30	18	60.0
Not applicable	33	18	54.5
Keno	46	28	60.9
Gaming machines	10,478	5,484	52.3
Casino table games	452	191	42.3
Lottery Products	70	29	41.4
Horse/dog races	1,639	639	39.0
Other	82	29	35.4
Card games	203	69	34.0
Sports Betting	541	158	29.2
TAB/Phonetab (racing & sports betting)	28	5	17.9
Total	13,649	6,701	
χ^2 (11) = 255.25, p<.05			

Table 16: Frequency and percentage of clients with alcohol by primary gambling product

	Total sample	N	%
Not applicable	33	20	60.6
Data not collected	30	16	53.3
Not stated/inadequately described	52	22	42.3
Gaming machines	10,482	3,125	29.8
Horse/dog races	1,650	442	26.8
Other	80	16	20.0
Sports Betting	534	102	19.1
Keno	49	9	18.4
Card games	197	33	16.8
Lottery Products	72	11	15.3
Casino table games	461	55	11.9
TAB/Phonetab (racing & sports betting)	29	2	6.9
Total	13,669	3,853	
χ^2 (11) = 159.01, p<.05			

Table 17: Frequency and percentage of clients with drug by primary gambling product

	Total sample	N	%
Data not collected	25	12	48.0
Not applicable	32	12	37.5
Not stated/inadequately described	51	19	37.3
TAB/Phonetab (racing & sports betting)	29	7	24.1
Gaming machines	10,450	2,111	20.2
Card games	197	31	15.7
Horse/dog races	1,632	246	15.1
Sports Betting	535	78	14.6
Other	82	10	12.2
Casino table games	460	45	9.8
Lottery Products	71	4	5.6
Keno	46	2	4.3
Total	13,610	2,577	
χ^2 (11) = 109.39, p<.05			

Table 18: Frequency and percentage of clients with suicide ideation by primary gambling product

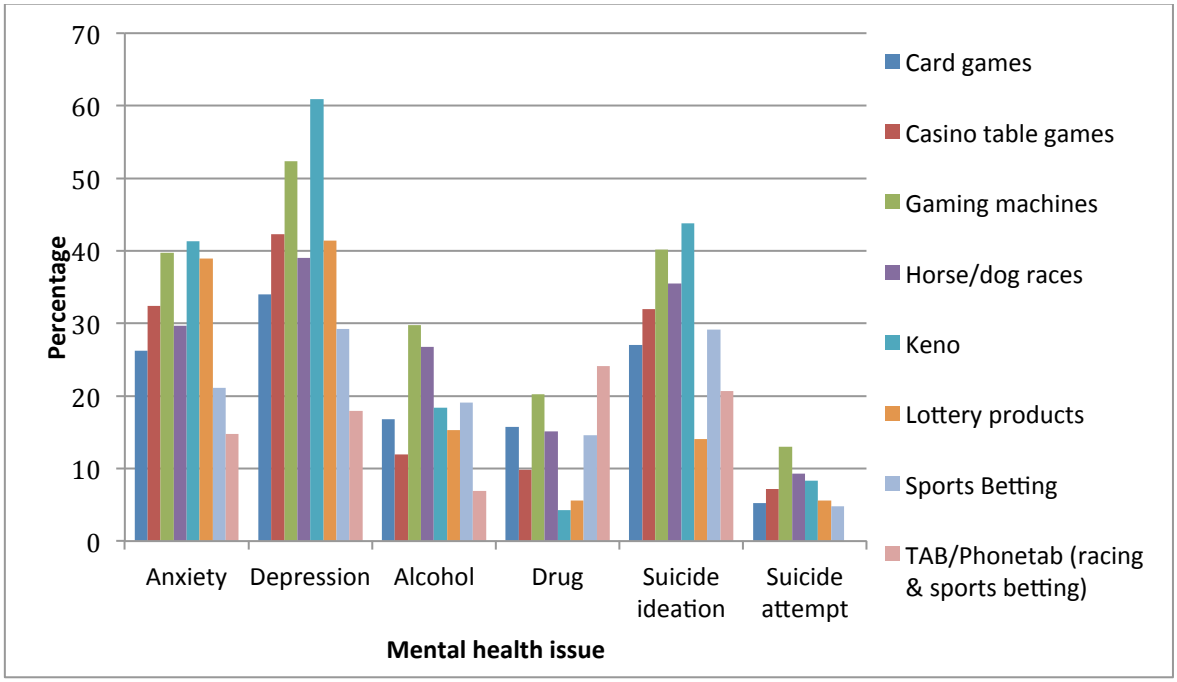
	Total sample	N	%
Not stated/inadequately described	52	29	55.8
Data not collected	24	10	41.7
Keno	48	21	43.8
Gaming machines	10,444	4,202	40.2
Horse/dog races	1,625	577	35.5
Casino table games	456	146	32.0
Not applicable	32	10	31.3
Sports Betting	537	156	29.1
Card games	200	54	27.0
TAB/Phonetab (racing & sports betting)	29	6	20.7
Other	82	14	17.1
Lottery Products	71	10	14.1
Total	13,600	5,235	
χ^2 (11) = 104.51, p<.05			

Table 19: Frequency and percentage of client with suicide attempt by primary gambling product

	Frequency	Total	%
Data not collected	5	24	20.8
Gaming machines	1355	10411	13.0
Horse/dog races	150	1619	9.3
Keno	4	48	8.3
Casino table games	33	457	7.2
Not applicable	2	32	6.3
Lottery Products	4	71	5.6
Card games	10	193	5.2
Other	4	82	4.9
Sports Betting	26	537	4.8
Not stated/inadequately described	2	47	4.3
TAB/Phonetab (racing & sports betting)	0	29	0.0
Total	1595	13550	
χ^2 (11) = 83.45, p<.05			

Figure 3 depicts graphically the differences in mental health issues by gambling product.

Figure 3: Percentage of individuals with each mental health issue by primary gambling product (miscellaneous categories are not included)



2.1.6 Summary: Harms according to gambling products

The data from the CDS database indicates that gaming machine players are over-represented among treatment-seeking clients. Approximately eight out of ten clients presenting for treatment reported this form of gambling as their primary product. Gaming machine players were also most likely to have suffered a mental health issue at some point in their lives. This product featured within the top two mental health issues across every category: anxiety, depression, suicidal ideation, suicidal attempts, drugs and alcohol. Gaming machines were also one of the better predictors of gambling losses. This is consistent with claims that higher losses are associated with rapid continuous forms of gambling, and the proportion of market share in terms of gambling revenue.

Race wagering was the second most nominated product representing just over 10% of the sample. Similar to gaming machine products, a large minority of race wagerers experienced all mental health issues. However, proportionally the figures were lower compared to gaming machine products. Race wagering was also highly predictive of gambling losses. This is consistent with the notion that although less continuous compared to gaming machine products, large stake sizes are possible, and representing the second largest market share of gambling revenue.

The next most nominated product, reported by slightly less than 4%, was sports betting. Of all the products, race wagering and TAB/Phonetab were lowest in respect to anxiety, depression and suicide attempts. Both products held a comparative middle point in respect to alcohol and suicidal ideation but with drugs it featured as the highest for TAB/Phonetab. However, the sample size for the latter was small (N=7) suggesting that findings should be interpreted with caution. Sports betting was found to be a significant predictor of gambling losses given that,

similar to race wagering, large bets are possible. Of importance, sport betting represents a small market share at 1.4% but represents 4% of clients attending treatment services.

These findings point to the potential for this product to be associated with an increase in the number of clients experiencing problems. This is pertinent given that the demographic data indicates that participants in this product are young males between 18 and 34 years. Given the average age at which clients seek treatment is between 35 and 40 years, and the greater amount of sports advertising flooding the media and targeting youth, it is reasonable to argue that a growing (but currently hidden) subpopulation of sports betting problem gamblers will become apparent over time. In addition, it must be borne in mind that the item eliciting mental health issues refer to past history. Younger clients may be at the early career stage of developing affective or substance related conditions. Therefore, the harms are either not yet apparent or recognised and thus underreported.

A similar proportion as sports betting reported casino table games as their primary gambling product. Casino table games were also significantly predictive of gambling losses and maintained a middle ground on mental issues comparative to other products.

It was puzzling to find that lotteries and Keno did not predict gambling losses but yet featured among the higher rankings for anxiety and depression with Keno ranking highest for suicidal ideation and highly for suicide attempts. This outcome may be explained by the higher likelihood that these gamblers engage in multiple forms of gambling compared to other products.

2.2 DETERMINING THE RELIABILITY OF THE CLIENT DATA IN THE CDS

To determine the reliability of the data in the CDS, a representative sample of clients attending RGF funded counselling services was to be recruited. An invitation was sent to these counsellors to participate in interviews designed to determine the reliability of data captured by Gambling Helpline across NSW. The RGF supported this approach to recruitment by emailing counsellors with a request to support the study. To do so effectively, it was considered necessary to interview a range of clients from various services in both regional and metropolitan NSW. The intent was to match this CDS data to the data obtained by the research team. However, despite approaching over 15 services, only the University of Sydney service and one other metropolitan service obtained clients for this part of the study. Given that this would not be representative of counsellors in Regional and Metropolitan NSW, this part of the study was abandoned.

2.3 PROFILE OF HARM IN A TREATMENT POPULATION

A series of studies were conducted on specific populations: a clinical sample of problem gamblers attending treatment clinics, a community sample of gamblers, and a community sample of family members of gamblers. This strategy allowed a comparative evaluation of the relative distribution of harms varying across these groups. The aim was to map the types and severity of harms across differing forms of gambling products, and by demographic characteristics such as age, gender, education, ethnicity, and preferred mode of access.

As indicated in the literature above, the level and latent risk for harm native to various gambling products and demographic characteristics remains relatively unclear. One issue contributing to this is the claim that current instruments purporting to measure problem gambling do not extend the construct of “harm” significantly beyond a list of a few harms or emotions of guilt and their frequency. This is partly attributable to a predominant focus on criteria for defining problem gambling and measuring the prevalence rates of problem gambling. As a result, attempts to

develop instruments designed to measure the nature, severity and extent of gambling-related harms remain effectively absent.

To address this gap, the authors developed the Gambling Effects Scale (GES), an instrument assessing gambling-related harm. This instrument was developed following a systematic review of the current psychological literature referring to various domains (or areas of functional impairment) of "harm". The instrument is described in detail below.

For the purposes of this report, the Gambling Effect Scale was used to measure harm in a representative sample of individuals presenting to RGF funded clinics seeking treatment for gambling-related problems in the Sydney metropolitan and suburban regions. Identifying harms and their causal relationship to gambling provides a clear picture of the negative impact directly attributable to excessive gambling as opposed to other causes. Therefore, the aim of the first study was designed to assess the relationship between harm and gambling products in a clinical sample of treatment-seeking problem gamblers.

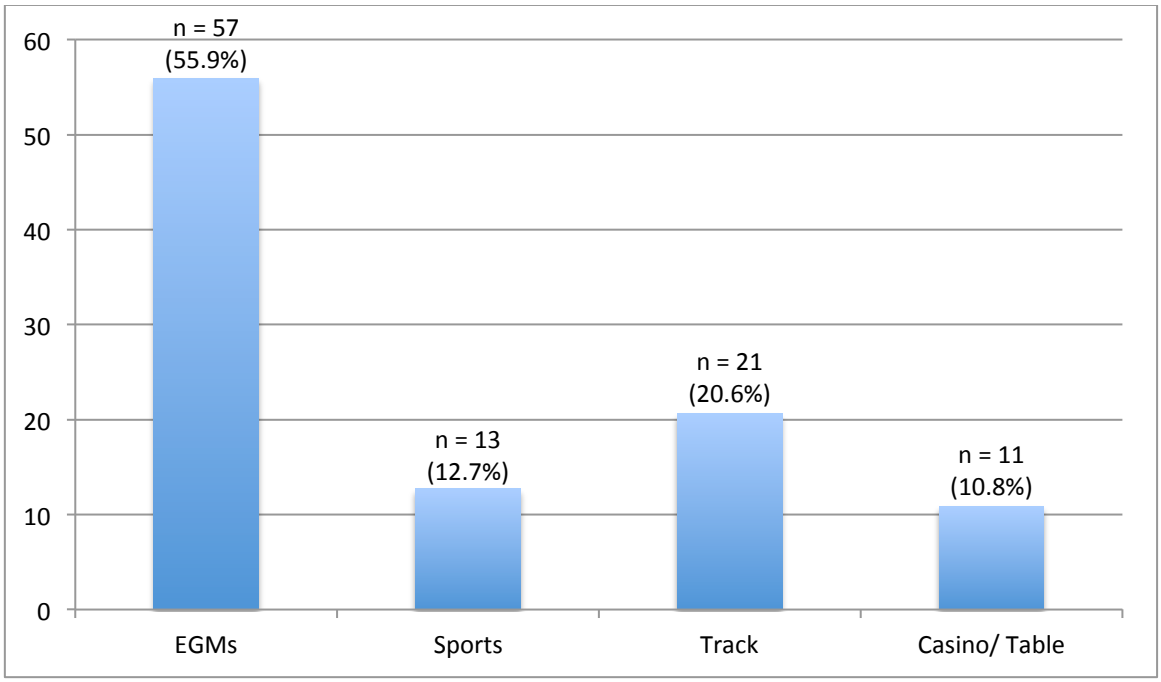
2.3.1 Measuring harm in a clinical treatment population

2.3.1.1 Participants:

A sample of 103 problem gamblers was drawn from the population of clients attending five RGF funded metropolitan services. One participant was excluded due to a failure to complete the full questionnaire. This resulted in a final sample of 102 participants (79 males and 23 females). With the exception of three, all were clients of the University of Sydney Gambling Treatment Clinic. Initially seven regional services and six metropolitan services were invited to participate in the study. Only one of the seven regional services and one metropolitan service agreed to participate. The other services did not reply to invitations despite additional emails from the RGF requesting counsellors support the project. In respect to response rates, of 177 clients from the University of Sydney Gambling Treatment Clinic invited, 102 agreed giving a rate of 58%. For the regional service, one out of eight agreed, 12.5%, and two from the Metropolitan services agreed, 100%.

The mean age of the total clinical sample was 38.2 years (SD = 11.54). The number of clients reporting their primary form of problem gambling is shown in Figure 3. A comparison of the mean age by reported primary form of problem gambling was: EGM = 41.6 years (SD = 12.7); sports = 32.0 years (SD = 6.1); track: 34.4 years (SD = 9.2); and casino/table games: 35.1 years (SD = 8.7). T-test analyses revealed no significant age differences across the differing forms of gambling.

Figure 4: Distribution of self-reported primary problem gambling form reported by N=102 clients



Descriptive statistics for the socio-demographic variables are shown in Table 20.

Table 20: Descriptive demographic and forms of gambling participated in by N = 102 clients

	Total		EGM		Sports		Track		Casino/ Table	
Gender	n	%	n	%	n	%	n	%	n	%
Female	23	22.5	23	59.6	0	0	0	0	0	0
Male	79	77.5	34	40.4	13	100.0	21	100.0	11	100.0
Marital status										
Never married	44	43.1	23	40.4	7	53.8	10	47.6	4	36.4
Widowed	1	1.0	1	1.8	0	0	0	0	0	0
Divorced	13	12.7	9	15.8	2	15.4	2	9.5	0	0
Separated	4	3.9	2	3.5	1	7.7	0	0	1	9.1
Married/de facto	40	39.2	22	38.6	3	23.1	9	42.9	6	54.5
Education										
Postgraduate university	14	13.7	8	14.0	2	15.4	3	14.3	1	9.1
Undergraduate university	35	34.3	17	29.8	6	46.2	7	33.3	5	45.5
Trade/tech cert/diploma	29	28.4	18	31.6	3	23.1	6	28.6	2	18.2
Year 12 or equivalent	13	12.7	7	12.3	2	15.4	3	14.3	1	9.1
Year 10 or equivalent	11	10.8	7	12.3	0	0	2	9.5	2	18.2
Country of origin										
Australia	72	70.6	41	71.9	8	61.5	19	90.5	4	36.4
Other	30	29.4	16	28.1	5	38.5	2	9.5	7	63.6
Indigenous										
Yes, Aboriginal	3	2.9	3	5.3	0	0	0	0	0	0
No	99	97.1	54	94.7	13	100.0	21	100.0	11	100.0
Language										
English	74	72.5	44	77.2	10	76.9	18	85.7	9	81.8
Other	28	27.5	13	22.8	3	23.1	3	14.3	2	18.2
Main source of income										

Work full time	66	64.7	34	59.6	9	69.2	17	81.0	6	54.5
Work part time/casually	15	14.7	7	12.3	3	23.1	3	14.3	2	18.2
Temp benefit (e.g. unemployed)	3	2.9	0	0	1	7.7	1	4.8	1	9.1
Pension e.g. aged/disability	12	11.8	12	21.1	0	0	0	0	0	0
Student allowance	1	1.0	1	1.8	0	0	0	0	0	0
Dependent on others	3	2.9	1	1.8	0	0	0	0	2	18.2
Retirement fund	1	1.0	1	1.8	0	0	0	0	0	0
Other	1	1.0	1	1.8	0	0	0	0	0	0
Referral										
Family/friend/neighbour/partner	16	15.7	7	12.3	2	15.4	4	19.0	3	27.3
Employer	1	1.0	1	1.8	0	0	0	0	0	0
Gambling venue (staff/notice)	1	1.0	0	0	0	0	0	0	1	9.1
Gambling Helpline	18	17.6	9	15.8	1	7.7	5	23.8	3	27.3
Media (radio/TV/newspaper/ internet)	4	3.9	1	1.8	0	0	3	14.3	0	0
Another agency (e.g. mental health, financial, etc.)	6	5.9	4	7.0	1	7.7	0	0	1	9.1
Correctional System	2	2.0	0	0	1	7.7	1	4.8	0	0
Medical	4	3.9	4	7.0	0	0	0	0	0	0
Another counsellor/psychologist	6	5.9	5	8.8	0	0	1	4.8	0	0
Self	43	42.2	25	43.9	8	61.5	7	33.3	3	27.3
Other	1	1.0	1	1.8	0	0	0	0	0	0

The sample consisted predominantly of males, with slightly fewer than half of the total sample completing tertiary studies, two thirds being of Australian background, and two thirds in full-time employment. Slightly less than half the sample was self-referred, with a similar proportion being referred by family/friends and Gambling Helpline.

2.3.1.2 Procedure:

Counsellors from each participating site attempted to recruit a consecutive series of clients attending their service from a nominated date. Counsellors provided each client with a participant information sheet and consent form and care was taken to ensure all participants were informed that their responses are held strictly confidential. The research team contacted each client agreeing to participate in the study to arrange a telephone interview. Questionnaires were completed over the telephone.

Due to the sensitive nature of the questions, one of the principle investigators was available during the interviews to ensure that respondents were able to talk to a qualified psychologist if there were feeling distressed by any of the questions. Each participant received a $50 Coles voucher to compensate them for their time.

2.3.1.3 Measures:

Demographic information was elicited from participants, including age, marital status, living arrangements, education and source of income. Questions were also included to determine the types of gambling activities engaged in, including regularity and amount spent.

The following psychometric instruments were administered:
The Gambling Effects Scale (Shannon, Anjoul, & Blaszczynski, unpublished). The Gambling Effect Scale is an instrument developed at the University of Sydney Gambling Treatment Clinic to measure a continuous latent variable described as *"harms caused by gambling".* The Gambling

Effect Scale consists of 104 items presented in a Likert-type response format. The total pool of items covers 31 putative indicators of the latent variable using a past twelve-month timeframe. These 31 indicators are categorised within the scale into seven broad types of harm:

Harm Type	**Indicators**
1) Health:	5
2) Leisure Activities:	2
3) Critical Events:	8
4) Social:	4
5) Employment and Education:	3
6) Financial	4
7) Psychological Harm	5
Total	31

Within each harm type, indicators typically reported in the literature were covered: substance use, sleep disturbance, entertainment and holiday, relationship conflicts, suicidality, employment, financial and personal sense of wellbeing. Items are generally asked in item-pairs for each indicator. Each item included a question asking if a specific harm was present and the degree to which it represented a problem the individual's life. The next question sought to determine the extent to which the participant considered that the harm was related to the individual's gambling behaviour. For example,

Q1.	**During the past 6 months, drugs (including street drugs and prescription drugs) have:**								
	❑	Not been problem in my life (go to Q3)	❑	Been a minor problem in my life	❑	Been a moderate problem in my life	❑	Been a major problem in my life	❑	Been a very serious problem in my life
Q2.	**My problem with drugs was:**								
	❑	Not related to my gambling	❑	Slightly related to my gambling	❑	Moderately related to my gambling	❑	Strongly related to my gambling	❑	Totally related to my gambling

Responses to each item-pair (Q1 and Q2 in the above example) are combined into a composite score according to the following scoring algorithm:
If no problem is reported, the composite score is 0;
If the respondent reported a problem (of any severity) but this was not related to gambling, the composite score was 0;
If the respondent reported a problem that to some extent related to gambling, the composite score for that harm scored according to values set out in Table 22.

Table 21: Scoring system for the Gambling Effect Scale

		Problem				
		Not	Minor	Moderate	Major	Serious
Due to gambling	Not	0	0	0	0	0
	Slightly	0	1	2	3	4
	Moderately	0	2	3	4	5
	Strongly	0	3	4	5	6
	Totally	0	4	5	6	7

For example, if a respondent reported drugs were a major problem in their life and that the drug problem was moderately related to gambling, they would receive a score of 4 for that item-pair. If the respondent reported that drugs were a major problem in their life, but the problem was not related to their gambling they would receive a score of 0. Possible scores for each pair of items range from zero to seven; zero indicating no gambling-related problems and seven, serious problems totally related to their gambling. For purposes of this report, scores were compiled for each domain of harm.

Problem Gambling Severity Index of the Canadian Problem Gambling Index (CPGI-PGSI: Ferris & Wynne, 2001). The nine-item CPGI-PGSI was used to classify problem gamblers. The CPGI-PGSI provides a range of possible scores from 0 to 27. Classification of participants was based on categories developed by the authors of the PGSI: 0= no problems, 1-2=low-risk, 3-7=moderate risk, and 8+=possible problem gambler. The PGSI has been independently evaluated with results suggesting that it has excellent reliability, dimensionality, external/criterion validation, item variability, practicality, applicability and comparability (McMillen & Wenzel, 2006).

2.3.2 Results

The first step in the analysis was to investigate the distribution of harms across gambling products. Accordingly, the Gambling Effect Scale scores were initially weighted and then compared across the index forms of gambling products. As indicated, this scale consists of 31 indicators of gambling-related harm, with the number of items unevenly distributed among the seven harm types. As the maximum possible score would therefore differ for each harm type, scores for each type of harm were adjusted by weighting scores: that is, a weight represented a number assigned to the variable score and was used as a multiplier to adjust the data. Weighting the Gambling Effect Scale resulted in a standardisation of the maximum possible score for each type of harm and allowed for comparisons between mean weighted scores. See table below for the weightings used:

Harm Type	Indicators	Max Score	Multiplier	Weighted Max
1) Health:	5	35	8/5	56
2) Leisure Activities:	2	14	8/2	56
3) Critical Events:	8	56	8/8	56
4) Social:	4	28	8/2	56
5) Employment and Educ.	3	21	8/3	56
6) Financial	4	28	8/4	56
7) Psychological Harm	5	35	8/5	56
Total	31	217		392

2.3.2.1 Statistical analysis

Parametric tests assume data have normal underlying distribution. The Kolmogorov-Smirnov test was used for the normal distribution of variable scores. The data obtained in the present study were categorical and did not exhibit a normal distribution; rather, the data was skewed. Accordingly, a Kruskal-Wallis non-parametric test was used to determine if problem gambling products were differentially associated with a type of harm. This non-parametric test does not require normally distributed scores and does not compare average scores. Rather, it assigns a rank to each raw score. The smallest raw score obtains a rank of one and the largest raw score is assigned the largest rank in the sample. The distribution of mean rank scores between groups is computed to yield an H-statistic and a p-value. To determine from which groups the difference among multiple comparisons arose, post-hoc tests were used to assess pairwise comparisons. Statistical significance was considered for p-values less than 0.05.

Given the exploratory nature of the study, the following null rather than specific directional hypotheses were tested:

1. That no difference in the type of harm is likely to be attributed to each gambling product
2. That no differences in overall harm is likely to be attributed to each gambling product
3. That no difference in problem gambling risk group is likely to be attributed to each gambling product
4. That no differences in help-seeking behaviour is likely to be attributed to each gambling product

2.3.2.2 Analysis of harm by gambling product and demographic characteristics

This section reports findings on the association between gambling products, demographic characteristics and harm scores on the Gambling Effect Scale in a clinical population.

Scores for financial harm, psychological harm, total Gambling Effect and PGSI were normally distributed. All other scores were positively skewed. There were significant between-group effects of primary problem gambling from the GES Health score and PGSI (see Table 22). Normally distributed scores were expressed as mean and SD. Non-normally distributed scores were expressed as median and mean rank.

Table 22: Average weighted mean scores for harms and help sought by gambling product for N=102 clients

		EGM (n = 57)	Sports (n = 13)	Track (n = 21)	Casino/table games (n = 11)	Test statistic	p value
Harm type							
Health	Mean (SD)	8.56 (7.50)	3.69 (6.28)	5.10 (4.25)	4.07 (4.26)		
	Median	6.40	0	4.80	4.80	H= 9.78	.021
	Mean Rank	58.96	35.12	46.69	41.36		
Leisure	Mean (SD)	21.26 (18.43)	12.92 (11.45)	15.81 (14.61)	14.18 (14.68)		
	Median	20.00	12.00	16.00	12.00	H = 2.92	.404
	Mean Rank	55.76	44.54	47.95	44.41		
Critical	Mean (SD)	3.14 (6.43)	4.77 (7.25)	1.67 (3.31)	8.27 (9.02)		
	Median	0	0	0	5.00	H = 6.45	.092
	Mean Rank	49.17	57.73	46.21	66.32		
Social	Mean (SD)	10.91 (10.60)	9.23 (10.28)	11.24 (10.05)	12.91 (9.22)		
	Median	10.00	6.00	10.00	14.00	H= 1.47	.689
	Mean Rank	50.74	45.65	52.88	59.73		
Employ/Edu.	Mean (SD)	3.98 (6.92)	5.40 (7.79)	3.73 (5.50)	5.65 (6.98)		
	Median	0	2.70	0	0	H = 2.16	.539
	Mean Rank	49.28	58.31	50.05	57.73		
Financial	Mean (SD)	24.39 (11.51)	20.77 (13.13)	23.14 (12.04)	21.64 (15.33)	*F* = 0.37	.772
	Median	24.00	20.00	22.00	28		
	Mean Rank	53.76	46.19	49.24	50.36		
Psychological	Mean (SD)	35.68 (13.05)	25.60 (14.55)	31.39 (12.54)	30.40 (17.57)	*F* = 2.23	.090
	Median	36.80	25.60	32.00	35.20		
	Mean Rank	57.11	36.00	47.19	49.00		
Total score	Mean (SD)	107.92 (52.42)	82.38 (31.99)	92.08 (45.15)	97.12 (47.60)	*F* = 1.24	.300
	Median	102	82.60	92.80	101.20		
	Mean Rank	55.67	41.23	47.19	50.27		
PGSI Total	Mean (SD)	18.26 (4.25)	15.62 (4.09)	15.10 (4.16)	14.91 (3.11)	*F* = 4.72	.004
	Median	19.00	15.00	16.00	15.00		
	Mean Rank	60.86	42.04	39.98	36.18		
Help Sought	Mean (SD)	2.82 (2.84)	3.38 (2.02)	3.43 (2.87)	2.45 (2.21)	H = 2.16	.590
	Median	2.00	3.00	3.00	2.00		
	Mean Rank	49.25	58.96	55.60	46.50		

Results revealed few significant differences in harms across gambling products. Pairwise comparisons were performed using a non-parametric Bonferroni-Dunn test and a parametric Tukey HSD post hoc test. The Bonferroni-Dunn test showed the distribution of Gambling Effect Scale health scores for the EGM group was significantly different (mean rank = 58.96) to the distribution of mean rank scores for sports gamblers (mean rank = 35.12; p = .046). The findings from Tukey's HSD showed that mean PGSI scores were significantly greater in the EGM group (M = 18.3, SD = 4.2) compared to the track group (M = 15.1, SD = 4.2), p = .017.

These findings suggest that EGM gamblers manifest higher levels of severity as measured by PGSI scores compared to sports and track gamblers, and health-related harms but not in respect to help-seeking or other types of harms experienced. A similar analysis was applied to explore the association between demographic characteristics, specifically, gender, age, education, ethnicity, and mode of access to help, and types of harm experienced.

With the exception of psychological harms, there did not appear to be any gender differences across the broad range of harms experienced (see Table 23). For psychological harm, females compared to males reported significantly higher scores. This finding suggests females are more likely to suffer negative psychological reactions compared to males in response to the same types of harms experienced.

Table 23: Weighted Gambling Effect Scale scores by gender

		Male (n = 79)	Female (n = 23)	Test statistic	*p* value
Health	Mean (SD)	6.32 (6.78)	8.21 (6.6)		
	Median	4.8	6.4		
	Mean rank	49.18	59.46	U= 1091.5	.136
Leisure	Mean (SD)	17.7 (16.06)	20.17 (19.04)		
	Median	16	20		
	Mean rank	50.81	83.87	U= 963.0	.658
Critical	Mean (SD)	3.8 (6.37)	2.82 (7.18)		
	Median	0	0		
	Mean rank	52.91	46.65	U= 797.0	.278
Social	Mean (SD)	10.71 (9.4)	11.91 (12.68)		
	Median	10	10		
	Mean rank	51.48	51.57	U= 910.0	.990
Employ/Edu.	Mean (SD)	4.75 (7.02)	2.7 (5.3)		
	Median	0	0		
	Mean rank	53.29	45.35	U= 767.0	.180
Financial	Mean (SD)	22.54 (12.19)	25.83 (10.9)	t = 1.349	.248
	Median	22	26		
	Mean rank	49.51	58.35		
Psychological	Mean (SD)	30.99 (14.07)	39.65 (11.23)	t = 7.339	**.008****
	Median	32	40		
	Mean rank	47.32	65.85		
Total GES	Mean (SD)	96.97 (46.33)	108.83(48.22)	t = 1.142	.288
	Median	92.8	110.4		
	Mean rank	49.93	56.89		

Table 24 displays the association between age and weighted mean Gambling Effect Scale scores. The findings showed that Age Group had no significant effects on harm scores. This finding suggests that although higher prevalence rates of gambling disorders are found among youth/young adults, the types of harms experienced by those seeking treatment are similar across all age groups.

Table 24: Weighted Gambling Effect Scale scores by age

		18-34 (n = 47)	35-44 (n = 33)	45+ (n = 22)	Test statistic	*p* value
Health	Mean (SD)	6.20 (7.36)	6.74 (5.66)	7.93 (6.75)		
	Median	4.80	6.40	7.20		
	Mean rank	47.46	53.85	56.61	H = 1.801	.406
Leisure	Mean (SD)	17.11 (14.43)	19.52 (18.24)	19.09 (19.31)		
	Median	16.00	16.00	20.00		
	Mean rank	50.53	52.65	51.84	H = .106	.948
Critical	Mean (SD)	4.48(7.58)	3.39(5.79)	2.00 (4.92)		
	Median	.00	.00	.00		
	Mean rank	54.22	51.92	45.05	H = 2.147	.342
Social	Mean (SD)	11.96 (10.80)	10.48 (9.17)	9.64 (10.57)		
	Median	10.00	10.00	9.00		
	Mean rank	53.55	51.62	46.93	H = .768	.681
Employ/Edu.	Mean (SD)	5.17(7.07)	3.52(5.82)	3.56 (7.23)		
	Median	.00	.00	.00		
	Mean rank	55.23	49.29	46.84	H = 2.068	.356
Financial	Mean (SD)	23.15 (11.91)	23.09 (13.37)	23.86 (10.10)	F = .033	.968
	Median	24.00	24.00	25.00		
	Mean rank	-	-	-		
Psychological	Mean (SD)	31.59(14.26)	32.00(13.79)	37.24(13.08)	F = 1.354	.263
	Median	32.00	32.00	40.00		
	Mean rank	-	-	-		
Total GES	Mean (SD)	98.45(45.02)	98.86 (47.20)	103.36 (52.05)	F = .087	.916
	Median	92.80	100.80	102.80		
	Mean rank	-	-	-		

From Table 25 it can be seen that education does not appear to be a demographic factor related to the types of harms experienced by clients. There were not significant differences in the distribution of scores found for types of harms reported by those with tertiary compared to technical or secondary school qualifications.

Table 25: Weighted Gambling Effect Scale scores by Education

		University (n = 49)	TAFE (n = 30)	Year 12 (n = 12)	Year 10 (11)	Test statistic	*p* value
Health	Mean (SD)	5.49(5.91)	8.11(8.28)	9.20(6.25)	5.96(5.45)		
	Median	4.80	5.60	8.00	8.00		
	Mean rank	46.27	55.08	64.71	50.64	H = 4.521	.210
Leisure	Mean (SD)	16.49 (14.98)	16.80 (17.59)	27.33 (15.70)	20.73 (21.15)		
	Median	16.00	16.00	24.00	16.00		
	Mean rank	49.03	48.47	67.79	53.00	H = 4.454	.216
Critical	Mean (SD)	3.85 (7.74)	3.86 (5.47)	2.33 (3.86)	3.09 (6.17)		
	Median	.0000	.0000	.0000	.0000		
	Mean rank	49.37	56.40	50.13	49.14	H = 1.735	.629
Social	Mean (SD)	10.04 (8.85)	11.73 (12.08)	14.17 (10.63)	9.64 (10.30)		
	Median	8.00	9.00	15.00	10.00		
	Mean rank	49.97	51.18	62.29	47.41	H = 1.983	.576
Employ/Edu.	Mean (SD)	5.01 (7.10)	3.87 (6.32)	4.05 (7.41)	2.45 (5.46)		
	Median	.00	.00	.00	.00		
	Mean rank	54.62	49.78	49.92	44.00	H = 1.941	.585
Financial	Mean (SD)	25.06 (12.05)	21.23 (13.05)	21.50 (10.51)	22.91 (9.77)	F = .744	.529
	Median	26.00	14.00	20.00	24.00		
	Mean rank	-	-	-	-		
Psychological	Mean (SD)	31.64 (15.02)	33.39 (13.77)	35.33 (11.28)	34.91 (12.71)	F = .338	.798
	Median	33.60	35.20	31.20	36.80		
	Mean rank	-	-	-	-		
Total GES	Mean (SD)	96.51 (44.69)	99.03 (52.51)	113.92 (42.38)	99.69 (48.32)	F = .438	.726
	Median	101.20	84.00	112.45	92.80		
	Mean rank	-	-	-	-		

Although differences may exist in the prevalence of gambling disorders across ethnic subpopulations, as seen from Table 26, the distribution of types of harms experienced are no different between English and non-English subpopulations. A detailed statistical analysis by

specific ethnic subpopulations was not possible given the small sample size for each subpopulation.

Table 26: Weighted Gambling Effect Scale scores by ethnicity

		English (n = 81)	NESB (n = 21)	Test statistic	*p* value
Health	Mean (SD)	7.01 (6.85)	5.71 (6.41)		
	Median	6.40	4.80		
	Mean rank	52.85	46.31	U = 741.5	.359
Leisure	Mean (SD)	19.36 (16.71)	14.29 (16.47)		
	Median	20.00	12.00		
	Mean rank	53.63	43.29	U = 678.0	.147
Critical	Mean (SD)	3.02 (6.11)	5.80 (7.75)		
	Median	.0000	.0000		
	Mean rank	49.53	59.10	U = 691.0	.108
Social	Mean (SD)	11.01 (10.66)	10.86 (8.38)		
	Median	8.00	10.00		
	Mean rank	51.02	53.36	U = 811.5	.744
Employ/Edu.	Mean (SD)	4.47 (6.67)	3.60 (7.00)		
	Median	8.00	10.00		
	Mean rank	52.22	48.74	U = 792.5	.570
Financial	Mean (SD)	23.32 (12.11)	23.14 (11.55)	t =.061	.952
	Median	22.00	26.00		
	Mean rank	-	-		
Psychological	Mean (SD)	32.26 (13.90)	35.58 (13.96)	t = -.975	.332
	Median	32.00	36.80		
	Mean rank	-	-		
Total GES	Mean (SD)	99.81 (49.65)	98.99 (35.03)	t = .071	.943
	Median	92.80	101.20		
	Mean rank	-	-		

Analyses showed that individuals reporting a preference to gamble in person (land-based) reported significantly higher median scores on the health subscale compared to individuals with a preference for online gambling. Although some studies have reported higher prevalence rates of gambling disorders among online gamblers, emerging evidence indicates that such online gamblers also engage in multiple land-based forms. It may well be that the current sample included a number of exclusive online gamblers experiencing less severe or fewer problems compared to mixed and exclusive land-based gamblers.

Table 27: Weighted Gambling Effect Scale scores by preferred mode of access

		In Person (n = 79)	Online (n = 23)	Test statistic	*p* value
Health	Mean (SD)	7.62 (7.21)	3.76 (3.59)		
	Median	6.40	3.20		
	Mean rank	54.89	39.87	U = 641.0	**.029****
Leisure	Mean (SD)	19.75 (17.28)	13.39 (13.78)		
	Median	20.00	16.00		
	Mean rank	53.83	43.50	U = 724.5	.135
Critical	Mean (SD)	3.96 (6.94)	2.34 (4.82)		
	Median	.0000	.0000		
	Mean rank	52.56	47.85	U = 824.5	.413
Social	Mean (SD)	11.04 (10.27)	10.78 (10.15)		
	Median	10.00	10.00		
	Mean rank	51.44	51.72	U = 903.5	.968
Employ/Edu.	Mean (SD)	4.14 (6.83)	4.81 (6.40)		
	Median	.00	.00		
	Mean rank	50.30	55.61	U = 814.0	.371
Financial	Mean (SD)	23.03 (11.96)	24.17 (12.08)	t = -.404	.687
	Median	24.00	24.00		
	Mean rank	-	-		
Psychological	Mean (SD)	33.88 (13.90)	29.70 (13.77)	t = 1.271	.207
	Median	35.20	32.00		
	Mean rank	-	-		
Total GES	Mean (SD)	102.75 (47.96)	88.97 (42.11)	t = 1.244	.216
	Median	100.80	92.80		
	Mean rank	-	-		

2.3.2.3 Summary

This study found mixed evidence of elevated risk for harm among EGM players, females and individuals with a preference for land-based forms of gambling. These findings are consistent with the general literature reporting higher rates of EGM gamblers among clients entering treatment programs. It is also consistent with the gender literature suggesting females are more likely to report emotional and affective symptoms compared to males, and to seek treatment.

Accepting the assumption that all gambling-related harms emanate from an individual spending more money and time than personally affordable, it can be hypothesised that those forms of gambling with the capacity to lose or spend large amounts of time and money would be associated with harm. Harms generated would be similar across various ages, gender and ethnicity. However, there is no conceptual or theoretical reason to assume that the types of harm would differ across such gambling products or demographics. The main forms of gambling products associated with gambling disorders, EGMs, wagering and casinos, all have a greater capacity for generating financial losses and occupying time that would lead to the full range of

listed harms; financial, relationship, social and employment. In contrast, softer forms such as lotteries/lotto are more contained and therefore have lesser potentials to generate financial problems and harm. Similarly, it can be argued that the same types of harm are experienced by educated versus less educated males and females of all ages. The crucial factor may well be not so much related to the type of harm but rather external variables that dictate how individuals respond to and deal with typical harms experienced.

However, as in all studies these findings are tentative and should be interpreted with caution. The sample size, although relatively large, contains small subsamples within each specific form of gambling. Accordingly, the statistical power may be weak and thus result in the failure to detect significant differences. Setting this aside, the findings are consistent with clinical data suggesting that irrespective of whether the form of gambling is EGMs, wagering, casino and/or multiple forms, financial stresses and time away from marital/family generate a host of harms that impact on psychological wellbeing and quality of life. It may well be that the types of harm are similar but that the factors triggering treatment-seeking may differ across individuals.

SECTION 3: GAMBLING HARM IN THE COMMUNITY

3.0 RESEARCH AIMS

3.1 PROFILES OF HARM IN THE COMMUNITY: REGULAR GAMBLERS

Gambling can have direct and indirect adverse effects both on individuals and others in the community. In an attempt to distinguish the direct effects of gambling on individuals and the indirect effects on others, two separate studies were undertaken using samples drawn from the community.

The aim of the first study was to provide an understanding of the types of gambling-related harm that can occur in a community sample of consumers of gambling products. The aim of the second study was undertaken to determine the types of gambling-related harms experienced by the family members of gamblers in the community.

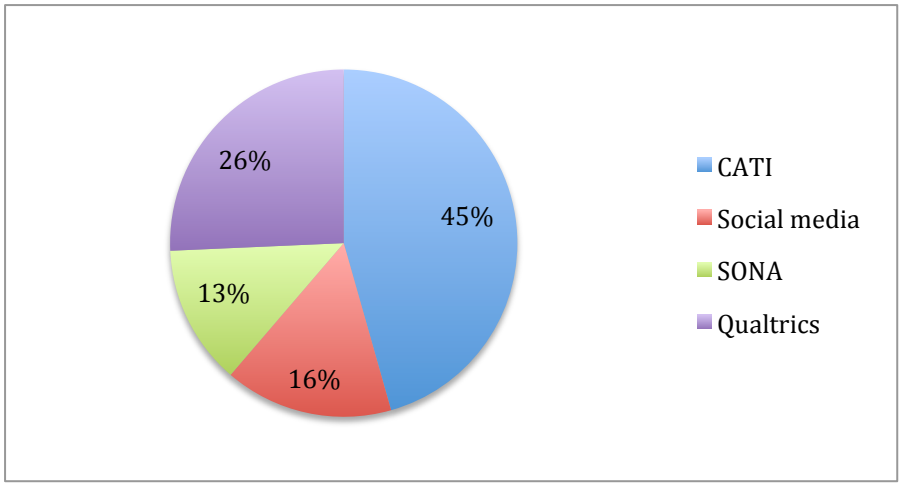
3.1. METHOD:

3.1.1 Participants

A community sample of adult (18+ years) gamblers and their family members living in New South Wales were recruited used a mix of sampling methods. Initially, a Computer Assisted Telephone Interviewing (CATI) random digit dialing approach conducted by a social research market company (Social Research Group) was used to obtain responses from regular gamblers and family members. Unfortunately, the CATI survey experienced significant difficulties recruiting regular gamblers in the community within the constraints of the allocated funding budget. Accordingly, it was decided to increase the sample size by recruiting participants from the community using social media advertisements, an online Qualtrics survey, and an undergraduate student pool (SONA) of first year psychology students at the University of Sydney.

A total of 377 regular gamblers in the community participated in the study. Of these, 46 were excluded from the dataset following inconsistent or incomplete responses. The final sample included 331 participants (88% response rate of those agreeing to participate). The following diagram shows the proportion of participants recruited via the various methods.

Figure 5: Proportion of n = 331 participants recruited via each method



The mean age for the total community sample was 40.9 years (SD=15.49). The mean age for males was 41.0 years (SD =15.3), and for females, 40.5 years (SD=16.0). There were no significant age differences for gender. The descriptive data for the community sample is shown in Table 28.

Table 28: Descriptive demographics for N=331 community gamblers

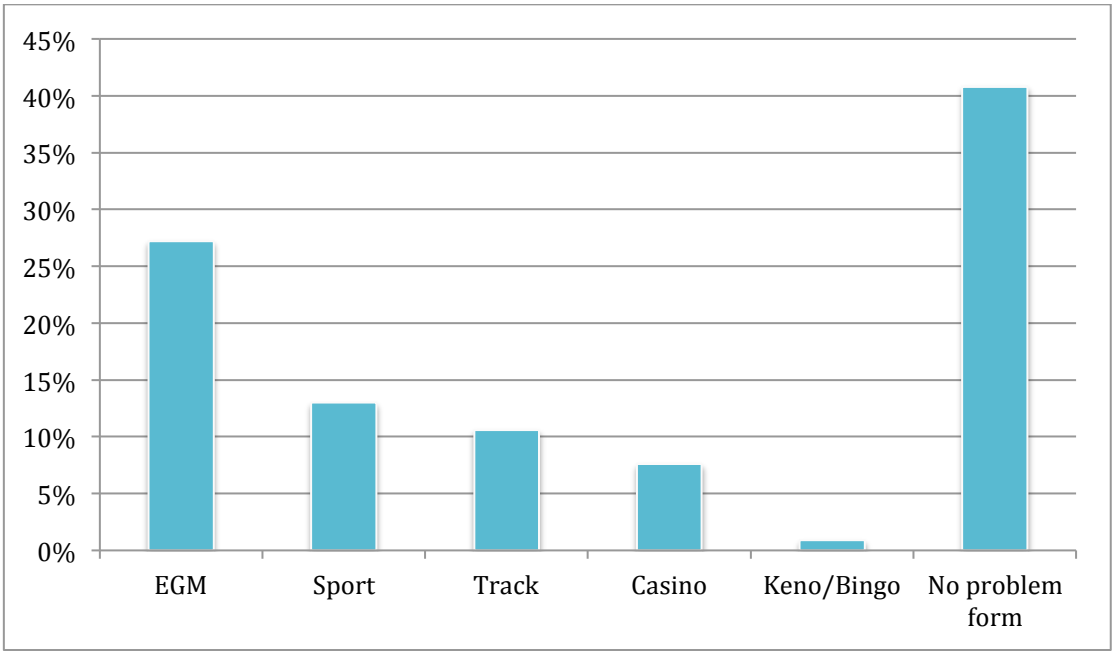
	TOTAL	EGM	Sport	Track	Casino/table games	Keno/Bingo	No problem
	N (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
N	331	90(27.2%)	43(13.0%)	35(10.6%)	25(7.6%)	3(0.9%)	135(40.8%)
Gender							
M	223(67.4%)	54(60%)	34(79.1%)	29(82.9%)	18(72.0%)	1(33.3%)	87(64.4%)
F	108 32.6%)	36(40%)	9(20.9%)	6(17.1%)	7(28.0%)	2(66.7%)	48(35.6%)
Age							
18-24	61 (18.4%)	14(15.6%)	14(32.6%)	2(5.7%)	9(36.0%)	0(0%)	22(16.3%)
25-34	74 (22.4%)	17(18.9%)	19(44.2%)	6(17.1%)	7(28.0%)	0(0%)	25(18.5%)
35-44	60 (18.1%)	23(25.6%)	6(14.0%)	7(20.0%)	7(28.0%)	1(33.3%)	16(11.9%)
45-54	57 (17.2%)	15(16.7%)	2(4.7%)	12(34.3%)	0(0%)	1(33.3%)	27(20.0%)
55-64	18.7%(62)	15(16.7%)	2(4.7%)	7(20.0%)	2(8.0%)	1(33.3%)	35(25.9%)
65 +	17 (5.1%)	6(6.7%)	0(0%)	1(2.9%)	0(0%)	0(0%)	10(7.45%
Relationship							
Married	134 (40.5%)	35(38.9%)	13(30.2%)	17(48.6%)	9(36.0%)	3(100.0%)	57(42.2%)
Living with partner/de facto	50 (15.1%)	20(22.2%)	6(14.0%)	5(14.3%)	2(8.0%)	0(0%)	17(12.6%)
Widowed	4(1.2%)	2(2.2%)	0(0%)	0(0%)	0(0%)	0(0%)	2(1.5%)
Divorced or separated	35(10.6%)	10(11.1%)	2(4.7%)	5(14.3%)	1(4.0%)	0(0%)	17(12.6%)
Never married	108 (32.6%)	23(25.6%)	22(51.2%)	8(22.9%)	13(52.0%)	0(0%)	42(31.1%)
Household							
Single person	57 (17.2%)	13(14.4%)	12(27.9%)	9(25.7%)	1(4.0)	0(0%)	22(16.3%)
Single parent with children	16 (4.8%)	5(5.6%)	2(4.7%)	1(2.9%)	0(0%)	0(0%)	8(5.9%)
Couple with children	127 (38.4%)	33(36.7%)	16(37.2%)	16(45.7%)	12(48.0%)	3(100.0%)	47(34.8%)
Couple with no children	79 (23.9%)	22(24.4%)	7(16.3%)	6(17.1%)	5(20.0%)	0(0%)	39(28.9%)
Group household	50(15.1%)	17(18.9%)	6(14.0%)	3(8.6%)	7(28.0%)	0(0%)	17(12.6%)
Other	2(0.6%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	2(1.5%)
Education							
Postgrad	48 (14.5%)	8(8.9%)	8(18.6%)	6(17.1%)	4(16.0%)	0(0%)	22(16.3%)
University/college	87(26.3%)	23(25.6%)	13(30.2%)	9(25.7)	7(28.0%)	2(66.7%)	33(24.4%)
Trade, technical cert or diploma	86(26%)	32(35.6%)	5(11.6%)	10(28.6%)	3(12.0%)	1(33.3%)	35(25.9%)
Year 12 or equivalent	78(23.6%)	17(18.9%)	13(30.2%)	7(20.0%)	10(40.0%)	0(0%)	31(23.0%)
Year 10 or equivalent	25(7.6%)	8(8.9%)	2(4.7%)	3(8.6%)	1(4.0%)	0(0%)	11(8.1%)
Completed primary school	7(2.1%)	2(2.2%)	2(4.7%)	0(0%)	0(0%)	0(0%)	3(2.2%)

No schooling	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)
Employment							
Full time	146(44.1%)	34(37.8%)	22(51.2%)	19(54.3%)	12(48.0%)	2(66.7%)	57(42.2%)
Part time/casual	47(14.2%)	13(14.4%)	8(18.6%)	7(20.0%)	3(12.0%)	1(33.3%)	15(11.1%)
Self employed	19(5.7%)	7(7.8%)	3(7.0%)	0(0%)	0(0%)	0(0%)	9(6.7%)
Unemployed and looking for work	11(3.3%)	3(3.3%)	1(2.3%)	2(5.7%)	0(0%)	0(0%)	5(3.7%)
Full-time student	51(15.4%)	11(12.2%)	8(18.6%)	2(5.7%)	8(32.0%)	0(0%)	22(16.3%)
Part-time student	6(1.8%)	3(3.3%)	0(0%)	1(2.9%)	1(4.0%)	0(0%)	1(0.7%)
Full-time home duties	9(2.7%)	6(6.7%)	0(0%)	0(0%)	1(4.0%)	0(0%)	2(1.5%)
Retired	30(9.1%)	9(10%)	1(2.3%)	4(11.4%)	0(0%)	0(0%)	16(11.9%)
Sick or disability pension	10(3%)	3(3.3%)	0(0%)	0(0%)	0(0%)	0(0%)	7(5.2%)
Other 1	2(0.6%)	1(1.1%)	0(0%)	0(0%)	0(0%)	0(0%)	1(0.7%)
Country of origin							
Australia	266(80.4%)	68(75.6%)	30(69.8%)	30(85.7%)	20(80.0%)	3(100.0%)	115(85.2%)
China	5(1.5%)	0(0%)	1(2.3%)	0(0%)	2(8.0%)	0(0%)	2(1.5%)
India	8(2.4%)	3(3.3%)	1(2.3%)	0(0%)	0(0%0	0(0%)	4(3.0%)
Italy	1(0.3%)	0(0%)	0(0%)	0(0%)	1(4.0%)	0(0%)	0(0%)
Lebanon	2(0.6%)	1(1.1%)	0(0%)	1(2.9%)	0(0%)	0(0%)	0(0%)
New Zealand	2(0.6%)	0(0%)	1(2.3%)	0(0%)	0(0%)	0(0%)	1(0.7%)
Philippines	3(0.9%)	1(1.1%)	1(2.3%)	1(2.9%)	0(0%)	0(0%)	0(0%)
South Africa	1(0.3%)	0(0%)	1(2.3%)	0(0%)	0(0%)	0(0%)	0(0%)
United Kingdom	11(3.3%)	4(4.4%)	1(2.3%)	1(2.9%)	0(0%)	0(0%)	5(3.7%)
Other2	32(9.7%)	13(14.4%)	7(16.3%)	2(5.7%)	2(8.0%)	0(0%)	8(5.9%)
Aboriginal							
No	325(98.2%)	87(96.7%)	43(100.0%)	34(97.1%)	25(100.0%)	3(100.0%)	133(98.5%)
Yes	5(1.5%)	2(2.2%)	0(0%)	1(2.9%)	0(0%)	0(0%)	2(1.5%)
Refused	1(0.3%)	1(1.1%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)
Household income							
<$20,000	23(6.9%)	2(2.2%)	6(14.0%)	2(5.7%)	1(4.0%)	0(0%)	12(8.9%)
$20,000 -$49,999	52(15.7%)	16(17.8%)	8(18.6%)	7(20.0%)	2(8.0%)	0(0%)	19(14.1%)
$50,000 - $79,999	60(18.1%)	18(20%)	8(18.6%)	7(20.0%)	6(24.0%)	0(0%)	21(15.6%)
$80,000 -$109,999	59(17.8%)	19(21.1%)	10(23.3%)	7(20.0%)	4(16.0%)	1(33.3%)	18(13.3%)
$110,000 - $149,999	52(15.7%)	17(18.9%)	3(7.0%)	4(11.4%)	2(8.0%0	2(66.7%)	24(17.8%)
$150,000 +	66(19.9%)	15(16.7%)	7(16.3%)	7(20.0%)	7(28.0%)	0(0%)	30(22.2%)
Refused	19(5.7%)	3(3.3%)	1(2.3%)	1(2.9%)	3(12.0%)	0(0%)	11(8.1%)
Access via internet	92(46.9%)	22(24.4%)	27(62.7%)	30(57.1%)	11(44.0%)	2(66.0%)	
PGSI							
Low	88(26.6%)	25(27.8%)	18(41.9%)	8(22.9%)	7(28.0%)	1(33.3%)	29(21.5%)
Moderate	69(20.9%)	32(35.6%)	10(23.3%)	13(37.1%)	8(32.0%)	0(0%)	6(4.4%)
Problem	65(19.6%)	29(32.2%)	11(25.6%)	12(34.3%)	10(40.0%)	2(66.7%)	1(0.7%)
Help-Seeking	33(10.0%)	15(45.5%)	6(18.2%)	6(18.2%)	6(18.2%)	0(0%)	0(0%)

Regular gamblers were categorised into separate groups depending on the primary form of gambling associated with any problems reported. Participants were asked, *"What form of gambling*

has contributed to any problems that you may have experienced as a result of your gambling?" Responses were categorised into the following groups: EGM, sport, track, casino/table games (such as cards), Keno or bingo, or no problem. Respondents who indicated that they gamble on poker or card games with friends were categorised as casino/table games. The distribution of groups is summarised in Figure 6:

Figure 6: Distribution of primary form of gambling associated with any problems



As can be seen from the histogram, slightly less than a third identified EGMs as the main form contributing to problems, followed by sports, wagering on track racing, casino/table games and Keno/bingo. A large minority reported that they did not experience any gambling-related problems. Of those who reported at least one form of gambling associated with harm, slightly less than half (46.9%) reportedly accessed gambling through the internet. Participants reporting problems associated with sport betting were most likely (62.7%) to use the internet.

3.1.2 Procedure

Respondents were screened to ensure they met the necessary criteria prior to interviewing. Regular gamblers were defined as those who have gambled at least once a week or more often over the last 12 months on any gambling activity as follows (excluding lotteries or scratch cards):

- Playing electronic gaming machines, also called pokies (including card machines and other gaming machines but excluding keno)
- Betting on sporting events through a TAB, TOTE, a betting operator or bookie
- Betting on horse, dog, or harness races through a TAB, TOTE, betting operator or bookie, including both in-person and online
- Playing bingo
- Playing Keno
- Playing poker or games of skill for money, such as backgammon, mahjong, bridge or strategy games
- Playing casino table games such as blackjack, roulette, craps or baccarat.

Upon qualifying, respondents were informed that the interviewer was also interested in speaking to a friend or family member at the end of the interview. If available, a friend or family member was

interviewed immediately following the gambler or, if not, a time was scheduled to call back and complete the interview. Respondents were given the opportunity to enter a prize draw to win a $500 Coles Myer gift voucher.

Full interviews with each target group were sought; however, where gamblers declined to participate, a shorter interview asking about gambling activities and gambling risk (the PGSI) was conducted provided that a full interview could also be conducted with a friend or family member.

For the Qualtrics and student populations, participants completed the questionnaire online.

3.1.3 Measures

Two semi-structured interview questionnaires were constructed: one for regular gamblers and the other for significant others. The questionnaires were designed to elicit data on a broad range of socio-gambling-demographics (see Appendix B), and contained mainly closed questions but with a few open-ended items included. Embedded in the questionnaire survey were the same instruments administered in the clinical client sample study reported above in Section 2: Problem Gambling Severity Index (PGSI) (Ferris & Wynne, 2001) and the Gambling Effects Scale.

SRG also incorporated detailed screening questions to ensure the questionnaire was suitable for a telephone interviewing approach. The questionnaire was also streamlined by ensuring consistent closed question response options and to contain the overall interview length to minimise respondent burden. SRG programmed and tested the questionnaire to ensure it was ready for telephone interviewing.

Call results: Table 17 above provides a summary of all call result codes. It shows that, of the contacts made, 82% resulted in a completed interview. Attempts resulting in no contact (no answer, answering machine and engaged) were tried a minimum of five times to minimise sample loss and possible sample bias.

3.1.4 Results

The association between gambling products and weighted mean Gambling Effect, PGSI and scores for help-seeking behaviour are shown in the following Tables. The distribution of all scores showed an inflated number of zero responses and was positively skewed. The scores were expressed as mean and median for reference only. The Gambling Effect scores by problem gambling status for community gamblers are shown in Appendix C.

The distributions of mean rank scores were analysed using bivariate (Mann-Whitney U test) and multivariate tests (Kruskal-Wallis). These tests yield a U-statistic and an H-statistic respectively. The No Problem group was excluded from the analysis because the effects of gambling products could not be tested. The Keno/Bingo group was excluded from the analysis due to insufficient numbers.

As shown in Table 29, there were significant between group differences in relation to primary form of problem gambling product on Gambling Effect Scale and health score ($p = .007$), GES Leisure score ($p = .009$), and Psychological score ($p=0.016$).

Table 29: Weighted Gambling Effect by gambling product for N=331 community gamblers

Primary problem form of gambling		EGM (n= 90)	Sport (n =43)	Track (n =35)	Casino/table games (n = 25)	Keno/Bingo[1] (n = 3)	No problem[1] (n = 135)	Test statistic H(3)	*p* value
Harm type (weighted GES scores)									
Health	Mean (SD)	2.15 (3.91)	0.37 (1.39)	1.01 (2.83)	1.15 (3.38)	-	0.07 (0.58)		
	Median	0	0	0	0	-	0		
	Mean rank	107.67	82.41	90.50	92.78	-	-	12.257	**.007***
Leisure	Mean (SD)	5.69 (10.30)	0.93 (2.87)	3.09 (8.41)	0.48 (1.76)	-	0.15 (1.42)		
	Median	0	0	0	0	-	0		
	Mean rank	106.86	86.88	93.71	83.52	-	-	11.542	**.009***
Critical	Mean (SD)	0.70 (2.53)	0.58 (2.40)	0.29 (1.18)	-	-	0.04 (0.43)		
	Median	0	0	0	-	-	0		
	Mean rank	99.66	96.84	95.37	90.00	-	-	3.097	.377
Social	Mean (SD)	1.82 (4.93)	0.65 (2.85)	0.46 (1.54)	0.32 (0.95)	-	0.03 (0.34)		
	Median	0	0	0	0	-	0		
	Mean rank	103.63	89.94	91.10	93.54	-	-	6.506	.089
Employ/Edu.	Mean (SD)	0.84 (3.95)	0.09 (0.61)	-	-	-	-		
	Median	0	0	-	-	-	-		
	Mean rank	99.38	96.20	94.00	94.00	-	-	3.825	.281
Financial	Mean (SD)	4.87 (8.15)	2.33 (5.74)	2.74 (4.90)	2.32 (3.90)	-	0.34 (1.67)		
	Median	0	0	0	0	-	0		
	Mean rank	104.31	86.60	95.17	91.12	-	-	4.482	.214
Psychological	Mean (SD)	6.63 (12.61)	1.86 (4.70)	1.65 (4.36)	1.09 (3.99)	-	0.21 (2.10)		
	Median	0	0	0	0	-	0		
	Mean rank	107.32	90.03	88.50	83.72	-	-	10.359	**.016***
Total GES	Mean (SD)	22.70 (38.01)	6.81 (15.35)	9.57 (17.10)	5.36 (10.19)	1.60 (2.77)	0.84 (4.96)		
	Median	2	0	2	0	0	0		
	Mean rank	105.77	84.35	96.94	87.28	-	-	6.019	.111

[1]The Keno/Bingo group was excluded from the analysis due to insufficient numbers.
[2]The No Problem group was excluded from the analysis because the effects of gambling products could not be tested.

These findings suggest that the distribution of these types of harms differs across gambling products. Pairwise comparisons were performed using a non-parametric Bonferroni-Dunn test and a parametric Tukey HSD post hoc test. The Bonferroni-Dunn test showed the distribution of Gambling Effect Scale health scores for the EGM group was significantly different to the distribution of scores for sports gamblers.

Similarly, the distribution of Gambling Effect Scale leisure scores for the EGM group was significantly different to the distribution of scores for sports gamblers. However, after adjusting

for multiple comparisons, differences between the distributions of group scores for Gambling Effect Scale psychological score were not statistically significant.

Table 30 shows the findings in relation to the association between gambling products and PGSI scores and help-seeking behaviours. As can be seen, there was no significant difference in the distribution of mean ranked scores on these variables.

Table 30: PGSI scores and help-seeking behaviour in N=331 community gamblers

Primary problem form of gambling		EGM (n= 90)	Sport (n =43)	Track (n =35)	Casino/table games (n = 25)	Keno/Bingo[1] (n = 3)	No problem[2] (n = 135)	Test statistic H(3)	*p* value
PGSI total	Mean (SD)	6.62 (6.02)	4.77 (4.89)	6.71 (6.15)	7.16 (5.71)	8.33 (6.03)	0.54 (1.21)		
	Median	4	2	4	7	9	0		
	Mean rank	100.59	79.00	101.10	109.28	-	-	6.292	.098
Total incidence of help-seeking	Mean (SD)	0.63 (2.56)	0.12 (0.45)	0.11 (0.40)	0.20 (0.50)	-	0.22 (0.26)		
	Median	0	0	0	0	-	0		
	Mean rank	100.77	91.29	92.57	99.44	-	-	3.315	.346

[1]The Keno/Bingo group was excluded from the analysis due to insufficient numbers.
[2]The No Problem group was excluded from the analysis because the effects of gambling products could not be tested.

As shown in Table 31, gender did not appear to contribute to any significant effects on scores on Gambling Effect Scale scores.

Table 31: Gender and Gambling Effect Scale scores in N=331 community gamblers

		Male (n = 223)	Female (n = 108)	Test statistic	p value
Health	Mean (SD)	.80 (2.54)	1.00 (2.82)		
	Median	0	0		
	Mean rank	164.43	169.23	11693.0	.489
Leisure	Mean (SD)	2.34 (7.15)	1.55 (5.26)		
	Median	0	0		
	Mean rank	168.00	161.86	11595.0	.344
Critical	Mean (SD)	.34 (1.86)	.25 (1.14)		
	Median	0	0		
	Mean rank	165.94	166.13	12028.0	.962
Social	Mean (SD)	.62 (2.82)	.74 (3.11)		
	Median	0	0		
	Mean rank	166.26	165.47	11984.5	.886
Employ/Edu.	Mean (SD)	.35 (2.54)	.00 (.00)		
	Median	0	0		
	Mean rank	167.45	163.00	11718.0	.086
Financial	Mean (SD)	2.43 (5.76)	1.7 (4.90)		
	Median	0	0		
	Mean rank	168.69	160.44	11441.5	.323
Psychological	Mean (SD)	2.51 (8.28)	2.11(5.97)		
	Median	0	0		
	Mean rank	164.96	168.14	11810.5	.649

Total GES	Mean (SD)	9.49 (25.77)	7.46 (17.56)		
	Median	0	0		
	Mean rank	167.30	163.32	11752.5	.667

The distribution of mean ranks between age and harm scores is shown in Table 32. The data indicates that there were significant differences between group effects of age on Gambling Effect Scale leisure, social financial, psychological score, and total scale scores. This suggests that the distribution of these types of harms differ across ages.

Table 32: Age and Gambling Effect Scale harm scores for N=331 community gamblers

		18-34 (n = 135)	35-44 (n = 60)	45+ (n = 136)	Test statistic	p value
Health	Mean (SD)	1.23 (3.37)	.74 (1.85)	.56 (1.98)		
	Median	0	0	0		
	Mean rank	171.37	170.88	158.52	3.702	.157
Leisure	Mean (SD)	2.84 (7.52)	2.26 (6.96)	1.26 (5.28)		
	Median	0	0	0		
	Mean rank	173.31	169.53	157.19	6.044	.049**
Critical	Mean (SD)	.39 (2.23)	.31 (1.20)	.22 (1.07)		
	Median	0	0	0		
	Mean rank	164.81	169.30	165.73	.719	.698
Social	Mean (SD)	1.00 (4.10)	.96 (2.48)	.19 (1.00)		
	Median	0	0	0		
	Mean rank	166.62	181.37	158.60	9.837	.007**
Employ/Edu.	Mean (SD)	.53 (3.19)	.00 (.00)	.05 (.68)		
	Median	0	0	0		
	Mean rank	169.13	163.00	164.21	4.702	.095
Financial	Mean (SD)	3.17 (7.20)	2.33 (4.60)	1.25 (3.35)		
	Median	0	0	0		
	Mean rank	175.31	173.66	153.38	7.286	.026**
Psychological	Mean (SD)	3.40 (9.78)	2.50 (6.45)	1.32 (5.07)		
	Median	0	0	0		
	Mean rank	171.97	175.75	155.77	6.966	.031**
Total GES	Mean (SD)	12.67 (31.4)	9.13 (18.30)	4.88 (13.47)		
	Median	0	0	0		
	Mean rank	174.82	184.21	149.21	11.078	.004**

Pairwise comparisons were performed using a non-parametric Bonferroni-Dunn test and a parametric Tukey HSD post hoc test. The Bonferroni-Dunn test showed the distribution of leisure scores for the 18-34 age bracket (mean rank = 171.37) was significantly different compared to those for the 45+ group (mean rank = 158.52). Similarly, the distribution of GES Social scores for the 18-34 age groups (mean rank = 166.62) was significantly different to the distribution of scores for the 45+ groups (mean rank = 158.60).

The distribution of financial scores for the 18-34 year age group (mean rank = 153.38) was significantly different to the distribution of scores for 45+ age groups (mean rank = 158.60).

After adjusting for multiple comparisons, differences between the distributions of group scores for GES Psychological score were not statistically significant.

The distribution of total Gambling Effect Scale scores for the 18-34 groups (mean rank = 174.82) was significantly different to those of the 45+ groups (mean rank = 149.21). Similarly, the distribution of total scale scores for the 35-44 year age group (mean rank = 184.21) was significantly different to the distribution of scores for 45+ age groups (mean rank = 149.21).

Table 33 indicates that there was a significant relationship between education and financial scores. This suggests that the distribution of these types of harms differs across age groups.

Table 33: Education and Gambling Effect Scale harm scores for N=331 community gamblers

		University (n = 135)	TAFE (n = 86)	Year 12 (n = 78)	Year 10 ≥ (n =32)	Test statistic	*p* value
Health	Mean (SD)	.85 (2.81)	1.13 (2.95)	.65 (2.08)	.75 (2.14)		
	Median	0	0	0	0		
	Mean rank	165.66	169.36	164.22	162.77	.449	.930
Leisure	Mean (SD)	2.19 (6.65)	2.55 (7.07)	1.38 (5.19)	2.12 (8.12)		
	Median	0	0	0	0		
	Mean rank	169.08	170.28	158.03	160.94	2.821	.420
Critical	Mean (SD)	.44 (2.25)	.18 (1.01)	.14 (.87)	.50 (1.58)		
	Median	0	0	0	0		
	Mean rank	167.14	164.22	162.74	173.92	2.763	.430
Social	Mean (SD)	.97 (3.66)	.74 (3.09)	.10 (.63)	.50 (1.96)		
	Median	0	0	0	0		
	Mean rank	172.31	166.95	155.62	162.16	6.508	.089
Employ/Edu.	Mean (SD)	.38 (2.53)	.27 (2.58)	.05 (.45)	.00 (.00)		
	Median	0	0	0	0		
	Mean rank	167.90	164.95	165.10	163.00	1.908	.592
Financial	Mean (SD)	2.28 (5.88)	3.27 (6.72)	1.02 (2.98)	2.12 (4.36)		
	Median	0	0	0	0		
	Mean rank	164.93	182.79	149.76	164.98	8.886	**.031****
Psychological	Mean (SD)	2.39 (7.69)	3.08 (9.08)	1.04 (3.91)	3.75 (9.29)		
	Median	0	0	0	0		
	Mean rank	163.56	174.96	155.61	177.55	5.738	.125
Total GES score	Mean (SD)	9.61 (27.02)	11.26 (25.66)	4.40 (10.85)	9.75 (22.55)		
	Median	0	0	0	0		
	Mean rank	166.67	177.80	153.06	162.98	4.092	.252

The Bonferroni-Dunn test showed the distribution of financial scores for the TAFE group (mean rank = 182.79) was significantly different to the distribution of scores for Year 12 group (mean rank = 149.76).

There did not appear to be a significant relationship between ethnicity and harm scores (see Table 34).

Table 34: Ethnicity and Gambling Effect Scale harm scores for N=331 community gamblers

		English (n = 283)	NESB (n = 48)	Test statistic	*p* value
Health	Mean (SD)	.79 (2.32)	1.30 (4.01)		
	Median	0	0		
	Mean rank	165.93	166.41	6772.5	.959
Leisure	Mean (SD)	1.85 (6.12)	3.50 (8.87)		
	Median	0	0		
	Mean rank	164.22	176.49	6288.5	.155
Critical	Mean (SD)	.25 (1.32)	.64 (2.97)		
	Median	0	0		
	Mean rank	165.49	169.03	6646.5	.510
Social	Mean (SD)	.48 (1.91)	1.75 (6.01)		
	Median	0	0		
	Mean rank	164.84	172.84	6463.5	.275
Employ/Edu.	Mean (SD)	.14 (1.53)	.83 (4.03)		
	Median	0	0		
	Mean rank	165.33	169.94	6603.0	.182
Financial	Mean (SD)	2.01 (4.78)	3.50 (8.54)		
	Median	0	0		
	Mean rank	163.96	178.00	6216.0	.206
Psychological	Mean (SD)	2.21 (6.98)	3.43 (10.55)		
	Median	0	0		
	Mean rank	164.99	171.93	6507.5	.456
Total GES	Mean (SD)	7.79 (19.02)	14.96 (40.38)		
	Median	0	0		
	Mean rank	164.13	177.05	6261.5	.293

To investigate the relationship between harm and mode of access to gambling, only individuals reporting online versus land-based gambling products were included in the analysis. There were significant between group effects of mode of access on social, financial, and psychological scores. This suggests that the distribution of these types of harms differs across mode of access (see Table 35).

Table 35: Ethnicity and Gambling Effect Scale harm scores for N=331 community gamblers

		In Person (n = 74)	Online (n = 85)	Test statistic	*p* value
Health	Mean (SD)	1.90 (3.48)	1.52 (3.67)		
	Median	0	0		
	Mean rank	83.41	77.03	2892.5	.265
Leisure	Mean (SD)	4.27 (9.39)	3.57 (8.48)		
	Median	0	0		
	Mean rank	81.71	78.51	3018.5	.547
Critical	Mean (SD)	.52 (1.67)	.63 (2.74)		
	Median	0	0		
	Mean rank	80.95	79.17	3074.5	.608
Social	Mean (SD)	1.83 (4.30)	.77 (3.79)		
	Median	0	0		
	Mean rank	86.30	74.51	2678.5	**.010****
Employ/Edu.	Mean (SD)	.59 (3.60)	.28 (2.20)		
	Median	0	0		
	Mean rank	80.17	79.85	3132.5	.874
Financial	Mean (SD)	4.97 (6.81)	3.43 (7.59)		
	Median	0	0		
	Mean rank	87.47	73.50	2592.5	**.032****
Psychological	Mean (SD)	6.91 (12.90)	2.37 (6.40)		
	Median	0	0		
	Mean rank	89.38	71.84	2451.0	**.002****
Total GES score	Mean (SD)	21.18 (33.84)	12.60 (28.12)		
	Median	2.0	2.0		
	Mean rank	85.33	73.36	2750.5	.149

The Mann-Whitney U test showed the distribution of social scores for the land-based group (mean rank = 86.30) was significantly different to the distribution of scores for online group (mean rank = 74.51). The distribution of financial scores for the land-based group (mean rank = 87.47) was significantly different to the distribution of scores for online group (mean rank = 73.50). The distribution of psychological scores for the land-based group (mean rank = 89.38) was significantly different to the distribution of scores for online group (mean rank = 71.84).

3.1.5 Summary

The distribution of all scores showed that there was an inflated number of zero responses resulting in a positively skewed distribution; that is, most participants failed to positively endorse the presence of a harm indicator, or if present, was not related to gambling.

Differences in the distribution of mean rank scores suggested that EGM community gamblers had a tendency to report higher levels of harm for health and leisure compared to sports gamblers but not others. Similarly, 18-34 year olds had a distribution of mean rank scores for social, leisure, financial and for total scale scores that was significantly different to the distribution of mean rank scores for 45+ age groups. This implies that younger gamblers tended to report higher frequencies of harms.

The TAFE, but not other groups, had a distribution of mean rank scores for financial harm that was significantly different to the distribution of mean rank scores for Year 12 age group.

Individuals who preferred to gamble land-based had a distribution of mean rank scores on the social, financial, psychological mean rank scores compared to individuals who preferred to gamble online.

3.2 Profiles of Harm in the Community: Family Members of Community Gamblers

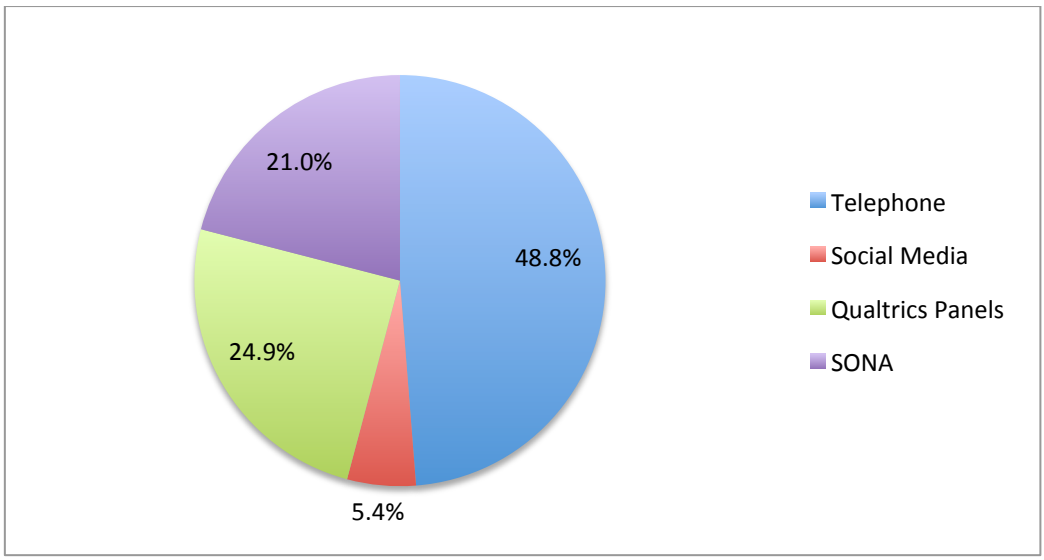
This section reports on the types of gambling-related harms experienced by significant others (family members and friends) of gamblers in the community.

3.2.1 Participants

The same methodology used to recruit community gamblers for the CATI study was used to recruit significant others. The data set contained the responses of 226 significant others in the community who had been impacted by someone in their lives who gambles regularly. However, 46 cases were excluded from the dataset following inconsistent or incomplete responses.

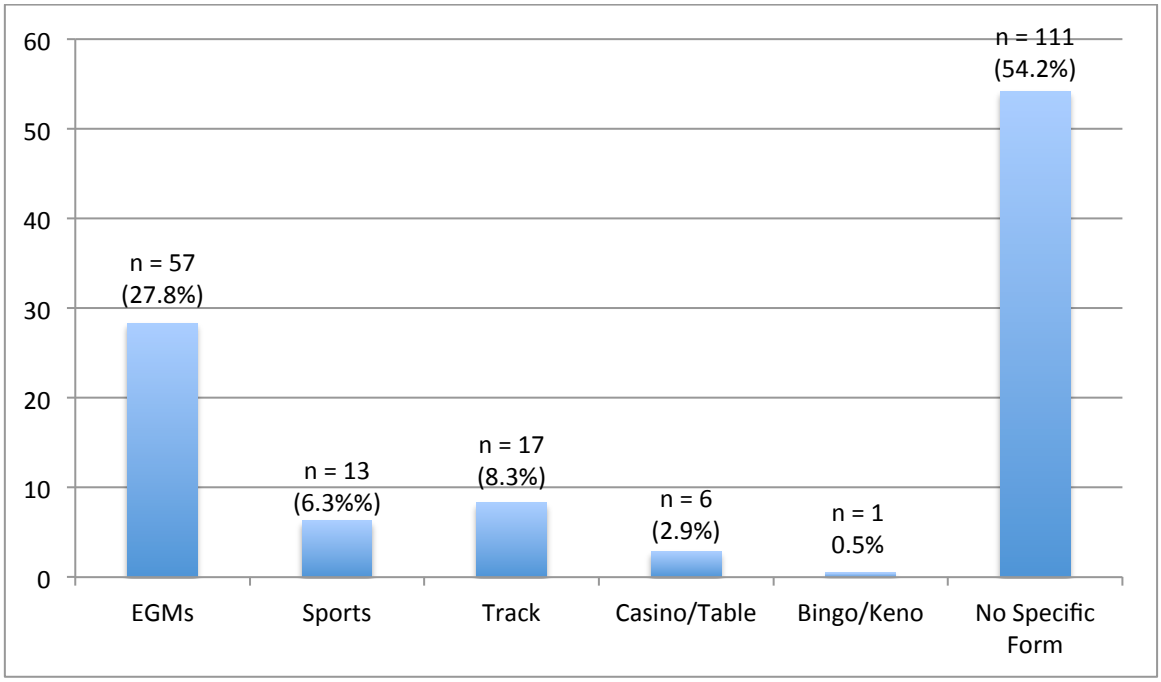
Figure 7 shows the relative proportion drawn from each recruitment method.

Figure 7: Proportion of N=205 significant others drawn from each recruitment method.



The final sample size consisted of 205 significant others (friends or family members). Participants were included in the sample if they were aware of someone in their lives who was a regular gambler. Significant others were categorised into separate groups, depending on the form of gambling preferred by the regular gambler in their lives. In this way, it was possible to estimate the harmful impact of various gambling products on significant others. This resulted in a distribution of cases into the following groups as shown in Figure 8.

Figure 8: Distribution of gambling products for community gamblers as reported by N=205 significant others



Given only one participant reported bingo/ Keno as the primary problem form of gambling preferred by the regular gambler in their life, this category was omitted from further analyses.

The descriptive statistics, form of gambling and relationship to the community gambler are displayed in Table 36.

Table 36: Descriptive statistics for N=205 significant others of community gamblers

	Total		EGM		Sports		Track		Casino		No Specific	
	N	%	n	%	n	%	n	%	n	%	n	%
Gender												
Female	124	60.5	36	63.2	8	38.5	9	52.9	4	66.7	67	60.4
Male	81	39.5	21	36.8	5	61.5	8	47.1	2	33.3	44	39.6
Marital status												
Never married	72	35.1	17	29.8	4	30.8	5	29.4	6	100.0	39	35.1
Widowed	5	2.4	2	3.5	0	0	1	5.9	0	0	2	1.8
Divorced	14	6.8	7	12.3	0	0	4	23.5	0	0	3	2.7
Married/de facto	114	55.6	31	54.4	9	69.2	7	41.2	0	0	67	60.4
Education												
Postgraduate university	12	5.9	2	3.5	1	7.7	1	5.9	0	0	8	7.2
Undergraduate university	52	25.4	12	21.1	7	53.8	6	25.3	2	33.3	25	22.5
Trade/tech cert/diploma	41	20.0	12	21.1	2	15.4	3	17.6	0	0	23	20.7
Year 12 or equivalent	66	32.2	21	36.8	2	15.4	6	35.3	3	50.0	34	30.6
Year 10 or equivalent	28	13.7	8	14.0	0	0	1	5.9	1	16.7	18	16.2
Primary school	6	2.9	2	3.5	1	7.7	0	0	0	0	3	2.7
Country of origin												
Australia	160	78	49	86.0	12	92.3	14	82.4	3	50.0	82	73.9
Other	45	22	8	14.0	1	7.7	3	17.6	3	50.0	29	26.1
Household												
Children	76	37.1	25	43.9	9	69.2	4	23.5	0	0	38	34.2
No children	129	62.9	32	56.1	4	30.8	13	76.5	6	100.0	73	65.8
Indigenous												
Yes, Aboriginal	5	2.4	1	1.8	0	0	0	0	1	16.7	108	97.3
No	200	97.6	56	98.2	13	100.0	17	100.0	5	83.3	3	2.7
Day-to-day activity												
Work full time	55	26.8	15	26.3	4	30.8	6	35.3	0	0	30	27.0
Work part time/casually	37	18.0	9	15.8	3	23.1	2	11.8	1	16.7	22	19.8
Self-employed	16	7.8	7	12.3	0	0	1	5.9	1	16.7	7	6.3
Unemployed/ looking for work	3	1.5	1	1.8	0	0	0	0	0	0	2	1.8
Full-time student	42	20.5	9	15.8	5	38.5	2	11.8	4	66.7	21	18.9
Part-time student	3	1.5	1	1.8	0	0	0	0	0	0	2	1.8
Full-time home duties	19	9.3	5	8.8	1	7.7	3	17.6	0	0	11	9.9
Retired	18	8.8	5	8.8	0	0	2	11.8	0	0	11	9.9
Sick/ disability pension	9	4.4	3	5.3	0	0	1	5.9	0	0	5	4.5
Other	3	1.5	2	3.5	0	0	0	0	0	0	0	0
Average weekly income ($)												
< $20,000	10	4.9	4	7.0	1	7.7	2	11.8	1	16.7	2	1.8
$20,000 - $49,999	54	26.3	13	22.8	2	15.4	4	23.5	2	33.3	32	28.8
$50,000 - $79,999	45	22.0	11	19.3	3	23.1	0	0	1	16.7	30	27.0
$80,000 - $109,999	29	14.1	9	15.8	3	23.1	3	17.6	0	0	14	12.6
$110,000 - $149,999	20	9.8	9	15.8	2	15.4	3	17.6	0	0	6	5.4
> $150,000	25	12.2	6	10.5	2	15.4	3	17.6	0	0	14	12.6
Refused	22	10.7	5	8.8	0	0	2	11.8	2	33.3	13	11.7
Relationship to gambler												
Spouse/ de facto	100	48.8	26	45.6	4	30.8	7	41.2	0	0	63	56.8
Child	32	15.6	9	15.8	4	30.8	2	11.8	3	50.0	14	12.6
Sibling	31	15.1	10	17.5	3	23.1	3	17.6	1	16.7	14	12.6
Friend	14	6.8	5	8.8	0	0	1	5.9	0	0	8	7.2
Parent	13	6.3	4	7.0	1	7.7	2	11.8	1	16.7	4	3.6
Other	15	7.3	3	5.3	1	7.7	2	11.8	1	16.7	8	7.2

The mean age for the community sample of significant others was 40.2 years (SD= 15.5). The majority of participants were female (60.5%) and 55.6% were married to the regular gambler. Slightly over half of the sample of significant others (54.2%) reported that they did not experience any problems arising from the regular gambler's gambling behaviour.

3.2.2 Results

In this section, the effects of harm for each gambling product reported by significant others, and by demographics are reported. Similar to the sample of community gamblers, the distribution of all scores showed an inflated number of zero responses and was positively skewed. The scores were expressed as mean and median. Participants not experiencing any problems associated with the gambler's behaviour were excluded from the analysis.

As shown in Table 37, there did not appear to be any significant difference in the distribution of mean ranked Gambling Effect Scale scores and help-seeking across gambling products for significant others.

Table 37: Gambling Effect Scale scores and help-seeking by problem gambling form as reported by significant others

		EGM (n = 57)	Sports (n = 13)	Track (n = 17)	Casino/table games (n = 6)	None (n = 111)	Test statisic[1] H	*p* value
GES scores								
Health	Mean (SD)	4.10 (6.26)	5.91 (9.25)	3.58 (7.47)	6.67 (8.37)	0.48 (2.43)		
	Median	0	0	0	3.20	0		
	Mean Rank	47.30	50.00	41.35	53.67	-	1.59	.662
Leisure	Mean (SD)	9.61 (15.38)	6.46 (15.79)	4.47 (9.04)	6.00 (10.04)	0.94 (4.94)		
	Median	0	0	0	0	0		
	Mean Rank	49.29	43.00	42.59	46.42	-	1.712	.634
Critical	Mean (SD)	1.63 (3.81)	4.38 (6.04)	1.47 (3.47)	2.50 (6.12)	0.41 (2.06)		
	Median	0	0	0	0	0		
	Mean Rank	45.61	49.19	45.71	48.50	-	3.417	.332
Social	Mean (SD)	3.89 (7.79)	3.23 (5.07)	2.94 (5.79)	4.00 (7.27)	0.81 (3.39)		
	Median	0	0	0	0			
	Mean Rank	46.73	49.19	45.71	48.50	-	.221	.974
Employ/Edu.	Mean (SD)	1.61 (4.71)	-	-	-	0.11 (1.14)		
	Median	0	-	-	-	0		
	Mean Rank	49.21	43.50	43.50	43.50	-	4.722	.193
Financial	Mean (SD)	8.00 (11.90)	3.85 (5.86)	4.35 (7.15)	1.33 (3.27)	0.81 (3.21)		
	Median	2.00	0	0	0	0		
	Mean Rank	50.49	42.88	43.56	32.50	-	3.871	.276
Psychological	Mean (SD)	12.07 (15.59)	9.72 (14.51)	7.72 (15.68)	5.07 (8.00)	0.53 (2.42)		
	Median	3.20	3.20	0	0	0		
	Mean Rank	49.64	47.19	41.21	37.92	-	2.287	.515
Total score	Mean (SD)	40.92 (53.36)	33.55 (50.96)	24.53 (39.16)	25.57 (41.29)	4.09 (11.94)		
	Median	11.20	5.20	2.00	3.20	0		
	Mean Rank	49.93	45.73	40.47	40.42	-	2.168	.538
Help-seeking	Mean (SD)	1.53 (2.97)	1.15 (1.68)	0.53 (1.38)	1.83 (4.02)	0.16 (0.88)		
	Median	0	0	0	0	0		
	Mean Rank	48.39	49.73	39.91	48.00	-	2.128	.546

Differences in the demographic variables of gender, age, education, ethnicity, relationship to gambler between weighted mean harm scores are shown in Tables 38 to 42. With the exception of

ethnicity, findings showed that the majority of demographic characteristics had no significant effects on the sample rank distribution of harm scores.

Table 38: Weighted Gambler Effect Scale scores by gender for N=205 significant others

		Male (n = 81)	Female (n = 124)	Test statistic	*p* value
Health	Mean (SD)	2.39 (5.56)	2.18 (5.33)		
	Median	0	0		
	Mean rank	102.14	103.56	4952.0	.817
Leisure	Mean (SD)	2.81 (8.72)	5.00 (11.88)		
	Median	0	0		
	Mean rank	97.52	106.58	7899.0	.099
Critical	Mean (SD)	1.46 (3.74)	0.95 (3.10)		
	Median	0	0		
	Mean rank	106.40	100.78	4746.5	.251
Social	Mean (SD)	2.72 (6.82)	1.68 (4.43)		
	Median	0	0		
	Mean rank	105.78	101.18	4796.5	.437
Employ/Edu.	Mean (SD)	.59 (2.61)	0.45 (2.75)		
	Median	0	0		
	Mean rank	104.04	102.32	4938.0	.547
Financial	Mean (SD)	2.74 (6.58)	3.68 (8.47)		
	Median	0	0		
	Mean rank	102.14	103.56	4952.0	.827
Psychological	Mean (SD)	5.39 (11.25)	4.83 (11.53)		
	Median	0	0		
	Mean rank	106.91	100.45	4705.0	.328
Total GES	Mean (SD)	18.10 (35.48)	18.76 (39.76)		
	Median	0	0		
	Mean rank	105.23	101.54	4841.5	.620

Table 39: Weighted Gambler Effect Scale scores by age for N=205 significant others

		18-34 (n = 91)	35-54 (n = 57)	55+ (n = 57)	Test statistic	*p* value
Health	Mean (SD)	2.23 (5.25)	2.25 (5.75)	2.33 (5.41)		
	Median	0	0	0		
	Mean rank	103.55	102.99	102.12	.038	.981
Leisure	Mean (SD)	4.04 (11.32)	4.91 (10.36)	3.51 (10.42)		
	Median	0	0	0		
	Mean rank	101.82	107.58	100.30	1.177	.555
Critical	Mean (SD)	1.51 (3.82)	.89 (3.49)	.84 (2.29)		
	Median	0	0	0		
	Mean rank	106.82	97.58	102.32	2.578	.276
Social	Mean (SD)	1.98 (5.33)	3.05 (6.81)	1.30 (4.09)		
	Median	0	0	0		
	Mean rank	102.55	108.72	97.99	1.930	.381
Employ/Edu.	Mean (SD)	.40 (2.46)	.98 (3.72)	.21 (1.58)		
	Median	0	0	0		
	Mean rank	102.37	106.22	100.79	2.286	.319
Financial	Mean (SD)	.19 (6.58)	3.79 (8.89)	3.02 (8.45)		
	Median	0	0	0		
	Mean rank	103.05	106.67	99.25	.752	.687
Psychological	Mean (SD)	.25 (10.14)	6.01 (12.20)	5.36 (12.55)		
	Median	0	0	0		
	Mean rank	100.85	108.09	101.35	.959	.619
Total GES	Mean (SD)	.60 (34.60)	21.88 (43.71)	16.57 (37.68)		
	Median	0	0	0		
	Mean rank	106.35	104.32	96.34	1.349	.509

Table 40: Weighted Gambler Effect Scale scores by education for N=205 significant others

		University (n = 64)	TAFE (n = 41)	Year 12 (n = 66)	Year 10≥ (n = 34)	Test statistic	*p* value
Health	Mean (SD)	1.22 (3.67)	2.54 (6.97)	2.04 (4.18)	4.33 (7.44)		
	Median	0	0	0	0		
	Mean rank	94.16	102.30	106.75	113.21	5.059	.168
Leisure	Mean (SD)	3.00 (8.12)	5.07 (13.17)	3.88 (10.07)	5.65 (1.25)		
	Median	0	0	0	0		
	Mean rank	101.32	103.93	101.82	107.34	.642	.887
Critical	Mean (SD)	.81 (2.77)	.61 (2.38)	1.29 (3.51)	2.18 (4.75)		
	Median	0	0	0	0		
	Mean rank	99.59	97.44	105.23	111.79	4.223	.238
Social	Mean (SD)	1.97 (5.52)	2.00 (5.00)	1.24 (3.45)	4.06 (8.37)		
	Median	0	0	0	0		
	Mean rank	101.66	100.70	100.16	113.81	2.818	.421
Employ/Edu.	Mean (SD)	.38 (2.10)	.49 (3.12)	.73 (3.20)	.35 (2.05)		
	Median	0	0	0	0		
	Mean rank	102.19	101.57	105.19	102.00	1.202	.753
Financial	Mean (SD)	1.88 (4.33)	3.51 (8.80)	2.94 (6.25)	6.47 (12.35)		
	Median	0	0	0	0		
	Mean rank	98.91	101.83	102.80	112.49	2.009	.571
Psychological	Mean (SD)	2.78 (6.76)	6.05 (14.00)	4.22 (9.47)	9.74 (16.34)		
	Median	0	0	0	0		
	Mean rank	99.23	101.77	101.39	114.72	2.718	.437
Total GES	Mean (SD)	12.03 (24.47)	20.27 (45.21)	16.33 (31.09)	32.78 (55.82)		
	Median	0	0	0	0		
	Mean rank	101.67	95.84	105.39	109.50	1.490	.685

Table 41: Weighted Gambler Effect Scale scores by ethnicity for N=205 significant others

		English (n = 178)	NESB (n = 27)	Test statistic	*p* value
Health	Mean (SD)	2.49 (5.71)	.77 (2.23)		
	Median	0	0		
	Mean rank	104.40	93.76	2153.5	.234
Leisure	Mean (SD)	4.36 (10.91)	2.67 (9.86)		
	Median	0	0		
	Mean rank	104.31	94.33	2169.0	.208
Critical	Mean (SD)	1.26 (3.55)	0.44 (1.62)		
	Median	0	0		
	Mean rank	103.88	97.20	2246.5	.346
Social	Mean (SD)	2.20 (5.57)	1.33 (5.08)		
	Median	0	0		
	Mean rank	103.93	96.87	2237.5	.409
Employ/Edu.	Mean (SD)	.58 (2.88)	.00 (.00)		
	Median	0	0		
	Mean rank	103.61	99.00	2295.0	.262
Financial	Mean (SD)	3.61 (8.10)	1.33 (4.83)		
	Median	0	0		
	Mean rank	105.72	85.07	1919.0	**.029****
Psychological	Mean (SD)	5.56 (11.82)	1.66 (7.40)		
	Median	0	0		
	Mean rank	105.56	86.15	1948.0	**.042****
Total GES	Mean (SD)	20.07 (39.33)	8.21 (26.33)		
	Median	0	0		
	Mean rank	104.69	91.87	2102.5	.232

Table 42: Weighted Gambler Effect Scale scores by relationship to gambler for N=205 significant others

		Partner (n = 100)	Sibling (n = 30)	Parent (n = 13)	Child (n = 32)	Friend/Other (n = 30)	Test statistic	*p* value
Health	Mean (SD)	1.87 (5.57)	1.97 (4.84)	2.71 (4.63)	3.35 (6.01)	2.51 (5.22)		
	Median	0	0	0	0	0		
	Mean rank	98.22	103.22	111.35	110.38	107.23	2.915	.572
Leisure	Mean (SD)	4.72 (11.31)	4.67 (13.41)	2.15 (5.32)	4.25 (11.35)	2.40 (6.61)		
	Median	0	0	0	0	0		
	Mean rank	105.55	100.40	100.38	102.27	99.03	.968	.915
Critical	Mean (SD)	.88 (3.08)	1.47 (3.14)	1.15 (4.16)	2.03 (4.79)	0.80 (2.09)		
	Median	0	0	0	0	0		
	Mean rank	99.33	110.12	98.65	109.63	102.95	3.843	.428
Social	Mean (SD)	3.22 (7.15)	1.33 (3.20)	.46 (1.66)	1.50 (3.83)	0.40 (1.52)		
	Median	0	0	0	0	0		
	Mean rank	109.77	102.02	90.00	101.19	89.00	7.449	.114
Employ/Edu.	Mean (SD)	.24 (1.68)	.67 (3.65)	.00 (.00)	0.13 (0.70)	1.87 (5.00)		
	Median	0	0	0	0	0		
	Mean rank	101.04	102.52	99.00	102.09	112.72	8.730	.068
Financial	Mean (SD)	3.02 (6.97)	5.27 (12.27)	3.54 (5.95)	3.37 (6.99)	2.13 (6.05)		
	Median	0	0	0	0	0		
	Mean rank	104.43	102.35	114.58	103.11	93.75	2.172	.704
Psychological	Mean (SD)	5.02 (12.18)	5.23 (10.77)	4.18 (6.07)	4.75 (9.98)	5.65 (13.01)		
	Median	0	0	0	0	0		
	Mean rank	100.46	111.22	112.27	101.52	100.82	1.870	.760
Total GES	Mean (SD)	18.98 (41.12)	20.60 (43.12)	14.20 (20.07)	19.38 (35.65)	15.76 (31.60)		
	Median	0	1.6	4.0	0	0		
	Mean rank	100.20	111.88	113.85	105.64	95.93	2.369	.668

3.2.3 Summary

Similar to the sample of community gamblers, the distribution of all scores for the significant others showed an inflated number of zero responses, that is, no harms endorsed or harms were not related to gambling. The distribution was positively skewed.

The findings would suggest that the distributions of harms are not affected by demographic variables except for ethnicity. Participants with an English background had a distribution of mean rank scores for financial and psychological harms that was significantly different to the distribution of mean rank scores for the non-English speaking participants. This suggests that non-English speakers reported a lower frequency of financial problems and associated negative psychological impacts as compared to those with an English background.

3.3 ANALYSES OF COMBINED CLINICAL AND COMMUNITY GAMBLER SAMPLES

The findings from the clinical and community samples can be summarised in the following manner. Data from the clinical population could be interpreted as suggesting that EGM and land-based gamblers show a tendency to have a higher distribution of health-related harms as compared to other gambling products or online modes of access. In addition, females tend to have higher negative psychological impacts as a consequence of the range of harms experienced. One possibility is that the financial harms are more characteristic of land-based gambling products that permit more continuous rapid play, with females as compared to males responding with more emotional distress to financial stresses. The impact on leisure, work and serious critical incidents are essentially similar across gambling products. Additionally, demographic variables in general do not appear to influence the distribution of harms experienced. This is reasonable if the assumption is accepted that the majority of harms are caused by financial stresses and that the flow-on effect of financial stressed result in similar negative impacts on social and employment functioning across all gamblers. Gender and variables at the individual level, that is, personal skills and capacity to cope with stresses, may dictate how stresses are dealt with and treatment-seeking behaviours.

An analysis of the sample of regular gamblers in the community reveals the presence of harm is not restricted to those individuals seeking treatment. Electronic gaming machine appears to be associated with higher PGSI scores and frequencies of reported harms, specifically health, leisure and psychological impacts. This is consistent with the literature reporting that electronic gaming machines are over-represented among treatment-seeking populations.

Younger gamblers in the community, compared to those over 45 years of age, appear to report higher frequencies of harm across the financial, social and leisure domains and higher psychological impacts. This could be interpreted to indicate that younger gamblers tend to experience more financial stresses relative to their income, and this flows on to affect their capacity to engage in social and recreational activities. Whether it is the financial stresses, interference with social and leisure pursuits, or a combination of all three that contributes to their negative psychological responses, is yet to be determined.

Land-based compared to online gamblers report higher frequencies of social, financial and psychological harms. This is perhaps due to the low numbers of gamblers reporting exclusive online gambling compared to those in mixed categories. Studies suggest that gamblers engaged in multiple forms of gambling obtain higher PGSI severity scores (Gainsbury, Russell, Blaszczynski, & Hing, 2014).

In respect to significant others, few reported differences in the frequency with which they endorsed gambling-related harms as a consequence of a gambler's behaviour. The finding in regards to ethnicity is tentative given that the small sample sizes precluded comparative analyses beyond the gross variable of English background versus non-English speaking.

The main effects found on Gambling Effect Scale scores were unconditional, that is, the statistical relationships did not take into account the mediating effects of all other independent variables. Accordingly, a multiple regression analysis was used to explore the main effects of independent variables previously found on the Gambling Effect Scale scores controlling for the shared effects of other independent variables. It was hypothesised that there are no significant statistical associations between gambling products and Gambling Effect Scale harm scores, and that there are no significant statistical associations between gender, age, ethnicity, mode of access and harm scores.

To undertake these analyses, the data from the gamblers from the clinical and community samples reported in studies 2 and 3 were combined. The combined sample increases the statistical power of the multiple regression analysis.
The following input variables were entered into the analyses; main form of self-reported gambling (EGM, sports/track/casino, bingo/Keno), gender, education, ethnicity, mode of access, income, average monthly loss); and Gambling Effect Scale scores. The all-possible-subsets feature, which is part of the automatic linear modelling function in SPSS 22.0, was used to select levels for each categorical variable. This approach considers all possible regression models in the model space of input variables and suggests how to merge categorical variables to maximise association with the dependent variable (Yang, 2013). Sports, track and casino gambling were combined based on the output of the automatic modeling functioning. This was also consistent with the findings of previous studies that there were no main effects for these forms but there were main effects compared to EGMs.

Two additional variables, average loss per month, and individual/household income per year were also included in the analysis. These variables were identified in accordance with the integrated conceptual framework presented in Section 1 of this report. This framework assumes that the loss of money is a necessary precondition for the occurrence harm and that higher losses are associated with higher levels of harm. Moreover, higher losses presuppose, in the first instance, that money is available to lose. Presumably, increases in the amount of money available potentially lead to higher levels of loss.

The distribution of all Gambling Effect Scale harm scores was zero-inflated and positively skewed. All attempts to normalise the data failed, including logarithmic, square root, and inverse transformations. Therefore, a generalised linear mixed regression model that does not assume normalised data was required. The data was modelled using a maximum likelihood gamma regression approach (McCullagh & Nelder, 1989). This multiple linear regression approach can be used for fitting a statistical model to continuous data with an inflated zero modal response and a long positive skew. The model only fits responses with positive integers, thus deletes zero responses and assumes non-constant variance.

This regression approach is appropriate because the distribution of data in this study matches the shape of a gamma probability density function. In this study, a zero response indicates either the harm indicator was not present or the harm indicator was present but not related to gambling. In either case, the majority of the sample responses indicated no gambling-related harm. However, this study is not about understanding what protects individuals from experiencing gambling-related harm. Rather, the study aims to understand the main effects of Gambling Effect Scale harm scores, which can be expressed as endorsing a positive response value on one of 31

Gambling Effect Scale indicators of harm.

The gamma regression approach was used with identity-linked estimation. This means that original data was used in the analysis without any transformation. This conservative approach increases the likelihood of a Type II error because main effects are harder to detect when outliers are present in the distribution.

The original data set included 638 respondents. Missing data and zero-response data was excluded list-wise from the model. The final sample size thus varied for each response variable. SPSS 22.0 was used to calculate separate gamma multiple linear regressions to simultaneously test the main effects on Gambling Effect Scale total, psychological, financial, social, leisure, and health. The results are summarised in Table 43. With the exception of social scores, a significant regression equation was found for all other harm scores. With exception of harm scores, a statistically significant model implies that at least one of the variables in the equation had a main effect on harm scores.

Table 43 also summarises all variables found to have a statistically significant main effect (i.e., regression coefficient) on harm scores. The significant effect means that even though multiple independent variables may share association with harm scores, there remains a strong and unique association between harm score and that independent variable.

Table 43: Gamma multiple linear regressions testing main effects on Gambling Effect Scale total, psychological, financial, social, leisure, and health scores

				Categorical Variables Levels		
	Sample (n=)	Goodness of Fit χ^2 (10)=	Average Loss/Month	Income Level	Main Problem	Mode of Access
GES Total	183	75.83, p=.000	p=.000	Low: p=.000 Mid: p=.001		Land-based: p=.046
Psychological	143	25.89, p=.004	p=.001	Low: p=.005 Mid: p=.005		
Financial	161	53.84, p=.000	p=.000	Low: p=.000 Mid: p=.003		
Social	100	12.07, p=.280				
Leisure	106	27.18, p=.001		Mid: p=.041	EGM: p= .029	
Health	114	22.62, p=.012	p=.041			

The pattern of results indicates that average loss per month and income level had the most effect on Gambling Effect Scale harm scores. The results suggest that higher average losses per month are statistically associated with higher scores for total, psychological, financial and health harms, above and beyond the main effects of other variables. Albeit, this relationship is not linear over the spectrum of Gambling Effect Scale scores given the gamma regression assumes a long-tailed distribution and non-constant variance.

It also appears that lower and middle-income demographics are statistically associated with higher harm scores for total, psychological and financial Gambling Effect Scale harm scores. Interestingly, only middle-income brackets were statistically associated with increased levels of harm experienced, presumably as a result of decreased opportunities for leisure activities. The same relationship was found between self-reporting EGM as the main problem form of gambling

and Gambling Effect Scale leisure scores.

Finally, land-based gambling was statistically associated with an increase in Gambling Effect Scale total harm scores but not with any particular type of harm. There were no significant unique statistical associations between sports/track/casino or Keno/bingo self-reported problem gambling and Gambling Effect Scale harm scores under this model. There were no significant unique statistical associations between gender, age, ethnicity, and Gambling Effect Scale harm scores under this model.

3.4 DISCUSSION

The aim of these series of studies was to better understand the main effects on gambling-related harm using independent samples and statistical techniques to estimate the level of potential risk for harm inherent in different gambling products. The secondary aim was to study gambling-related harm from a demographic perspective. Here, the question is whether individual features and characteristics such as age, gender, education, ethnicity, and preferred mode of access potentially entail higher levels of harm.

One of the most significant contributions of these studies is the creation of a comparable body of data on the structural distribution frequency and potential indicators of gambling-related harms across clinical and community samples.

This study found that only financial and psychological types of harm were normally distributed in a clinical population, and most commonly reported in a community population. This implies they are the best indicators of gambling-related harm.

This study also found the distribution of harms is best characterised in terms of a gamma probability function represented by group of zero-inflated scores and a subgroup represented by a thin positive skew. This response curve indicates either a structural or sampling explanation for the data. From a structural perspective, it is possible that most individuals' gambling does not lead to harm or is associated with minor levels of harm and that higher levels of harm do occur with relatively lower frequency. In addition it is not possible to experience some types, for example educational harms, if not attending school. Alternatively, it is also possible that the response curve is better explained by sampling variability. The sample may not have experienced gambling-related harms during the study period, which required the occurrence of harm within the past twelve months.

Nonetheless, these studies found an irregularity in observation frequency across many harm indicators, particularly those relating to acute harms such as divorce, bankruptcy domestic violence, suicide, and repossession of home, which have been reported in the literature as occurring with elevated frequency.

The distribution of these effects is important for policymakers and planners to design strategies to mitigate their impact. This is particularly relevant in the context of public awareness campaigns to highlight the harmful effects of gambling. These campaigns need to be guided by the structural distribution of gambling-related harms in order to resonate with the broader community, that is, gamblers will relate to the nature and types of harms that they can identify as being personally relevant.

The literature has consistently identified demographic variables as risk factors for gambling-related harm. These demographic characteristics typical reference stable and un-modifiable individual traits such as gender and ethnicity. These studies have shown that the main effects of demographic variables tend to become insignificant in the presence of behavioural measures of gambling and moderated by the financial capacity of the individual. Hence, we should not expect gambling-related harm to be determined exclusively by stable demographic characteristics.

This study also found EGM gambling has a tendency to be associated with higher harm scores, but the tendency does not appear robust enough to the extent that it can be considered as having a main effect on harm that is statistically reliable compared to other forms of gambling. Our findings suggest there is an interaction between EGM as the self-reported form of problem gambling and income levels. Those on lower incomes do not report reduced leisure activities

resulting from gambling, probably because their baseline frequency of engagement with leisure activities was low. On the other hand, this type of harm appears to be moderated by high-income status.

This study has found evidence to support the integrative conceptual framework presented in Section 1. This framework assumes that all harms stem from the loss of money. This assumption was supported by the near ubiquitous relationship between monthly losses and gambling harm scores. The same relationship was obtained between individual/household income levels and gambling harm scores. Considered together, average monthly losses represent the level of individual demand for gambling and income levels represent the relative supply of money to gamble with.

In light of the above findings it appears that future studies must focus beyond gambling products and demographic characteristics and consider other variables that may influence the extent of harm.

It appears that the more robust determinants of harm are more to do with the level of demand or motivation to gamble and the extent of the supply of money the individual is exposed to. In other words, this study has found evidence that the role of psychosocial variables must be considered as associated with elevated risk for harm. Such variables have been previously mentioned in this report and include misperceptions about risk, and the normalisation of gambling in society through extensive media coverage.

SECTION 4: GATHERING THE PERSPECTIVES OF HARM AND RISK FROM VARIOUS STAKEHOLDERS: FOCUS GROUP, ONLINE DISCUSSION BOARD AND INDUSTRY/RESEARCHER RESPONSES TO THE ASTERIG INSTRUMENT

4.0 GATHERING THE PERSPECTIVES OF HARM AND RISK FROM VARIOUS STAKEHOLDERS: FOCUS GROUP AND ONLINE DISCUSSION BOARD STUDY FINDINGS

To determine the relative risk and harms associated with each form of gambling, a series of interviews and focus groups were held with a number of family members of problem gamblers, community welfare service workers including those working in the legal industry and financial counsellors, and gambling operators and industry representatives. These sub-populations were interviewed with the aim of eliciting their unique perspectives and experiences of harms.

To supplement this qualitative data, an online discussion board was established where participants could share and discuss information and opinions over a period of days or weeks. This methodology was a particularly appropriate choice for our researcher and industry participants, who live all over the world and thus in different time zones. The format of the boards allowed them to participate at times convenient for them.

Researcher, counsellor and industry staff participants were recruited from lists provided to the Social Research Group by the University of Sydney team. Family/friend participants were recruited from a prior SRG gambling study. Counsellors and friends and family were all located in NSW. Researchers and industry staff were located both within Australia and overseas. The detailed findings of the online discussion can be found in Appendix C.

Approaches were made to key participants through personal or network contacts with an attempt to obtain responses from both metropolitan and rural and remote operators and researchers. Participant responses to perceived risk and measures of harm were derived from the administration of a number of probe questions (qualitative analysis).

4.1 RECRUITMENT AND PARTICIPANTS

Participants were recruited through personal contacts, as well as through the distribution of emails to relevant community workplaces and organisations. Overall, organisation-wide emails were sent to 37 community welfare organisations inviting staff to take part in the focus groups. Further, 15 RGF financial counsellors were contacted personally and invited, and organisation-wide emails were distributed to Clubs NSW staff, along with personal phone calls to gambling venues. All clients of the Gambling Treatment Clinic were provided with information and consent forms to take home to a family member inviting them to take part in the focus group. A total of 20 participants consented to the focus groups, and 14 took part in 4 separate focus groups. This consisted of three industry representatives, four financial counsellors, four legal workers, and three family members of problem gamblers.

4.2 RESULTS

This study was exploratory in nature, and therefore no hypotheses or assumptions were made about the final outcomes.

Qualitative data were analysed using an inductive form of the thematic analysis referred to by Braun and Clarke (2006). The analysis was carried out using NVivo 10 computer software for

unstructured data. The process initially involved reading through all of the transcribed data, and organising excerpts from the data into logical, and meaningful coded groups. Codes were then arranged into themes that represented and described the data in a meaningful way. As a last step, themes were reviewed and evaluated by a third party, and refined, reordered, or discarded in an effort to increase their respective internal homogeneity and external heterogeneity.

The subsequent themes identified in the focus group data can be broadly placed under three headings: Harms, risks, and harm minimisation strategies.

4.2.1 Harms: Impact on significant others

Across groups, problem gambling was seen to impact significantly on gamblers' friends and family. This was primarily reported by partners of problem gamblers, and included physical harms such as a wife's lack of sleep when her husband was out for several hours or days gambling, financial strain such as loss of savings and debt, to non-clinical feelings of shame, loneliness, and embarrassment, as well as more severe symptoms of anxiety, depression and suicide.

> I get really bad anxiety when I walk into anywhere, like if I walked into a pub and there were poker machines or hearing the races I um, I, I can't listen to it. Yeah. Too overwhelming. Wife of problem gambler

> I'm on anti-depressants now and anti-anxiety stuff because I can't sleep. Wife of problem gambler

> Well one of the worst times of my life with my husband. I even thought about suicide, that's, that's how terrible effect he made. And I'm, I'm sure I'm not the only one. Wife of problem gambler

Arguments and relationship breakdowns were also reported to be common; this was most evident from the discussion with family members of problem gamblers, as well as from financial counsellors, and legal service workers. One woman tells of her recent separation with her husband who was in treatment for gambling problems.

> I just didn't want it in my life and I decided to leave him. Wife of problem gambler

Additionally, similar impacts were reported for children and friends impacted by the problem gambling. Wives of problem gamblers discussed the impact on their husband's friendships, with one woman explaining that her husband's friends would purposefully organise social events where there were no poker machines, so that her husband would be able to attend without gambling. Financial counsellors discussed their observations of children bearing the effects of relationship stress and breakdown between parents where gambling was a problem.

> They're feeling the effects of the relationship breakdown and stress and fighting and that sort of thing. Financial counsellor

To that list, online discussants added 'employers and employees' and 'the industry' as also harmed by problem gambling.

4.2.2 Harms are generalisable across different forms of gambling

In general, participants did not see any discernable difference between harms associated with problem gambling, and the different forms of gambling.

> I get clients with issues with pokies mostly, or problems with roulette, card games, online, they're all varied, but they all have an impact socially, physically, politically, legally, everywhere. Yeah. So I can't distinguish that a type of activities, gaming activities, impact overall. I don't think I can differentiate with that. Financial counsellor

Instead, harms were seen to vary across individuals, and result from a multitude of co-existing factors.

> There are player attributes, there are game attributes, there are context attributes, there are marketing attributes, which is even larger context and I think there is a perfect storm that is required. Gambling researcher

4.2.3 Stigma

Across groups, problem gambling was seen to have a great deal of stigma attached to it, in comparison to other behavioural pathologies and 'addictions'. EGMs in particular, were described by gambling industry participants as bearing more stigma than other forms of gambling.

> It's the sport of Gods, isn't it? That's what they call horse racing now... No one says that about your pokie players. Industry member

> It's all about the stigma attached to it. Industry member

Gambling was frequently described as hidden from loved ones, and wives of problem gamblers reported that their husbands would manipulate, deceive and blame their partners in order to hide their gambling problems.

> …He always used to say to me, oh you're too materialistic, you want more um, but his excuse would be that he gambled more to please me cause I wanted more things. Wife of problem gambler

> And then he always told me I'm very weak. 'You're very weak that's why you have, anxiety attacks because you are so weak you have a panic attack' and he said to me 'you need to be strong, you need to be strong' and I always took that as real. Wife of problem gambler

> Well he's 40 and… I've been with him for almost six years. So he's been doing it the whole time… I didn't know until, until 2 months ago. Wife of problem gambler

4.2.4 Financial harms

Across all focus groups, financial harms were discussed as an obvious yet poignant harm associated with problem gambling. One researcher working in the field of gambling suggested that one of the most significant harms of problem gambling is the loss of money that you can't afford to lose.

> What we forget about in the gambling, gambling is a question of money. Money is a generalisable re-enforcer… We don't realise that the money is not used only for such and such thing, it's used for everything. And this is what makes me see it more harmful as opposed to other addictions. Gambling researcher

Those working in the legal industry described a range of financial harms seen in their work, such as reduced savings, debt, leading to the inability to pay fines which places the gambler at risk for criminal prosecution, impacts on housing and accommodation, as well as the impact on children via a redistribution of funds away from childcare and childhood opportunities, toward gambling.

> I can think of a case of mine who was an Australian boy who his parents – and it was more to do with their cigarettes and alcohol, but it would be applicable for gambling –he was a very bright boy, but uh not a well off family. Uh and he got selected to go on the Young Endeavour, you know, where you go on the sailing ship and everything, and he was so excited... and then he couldn't go because his parents couldn't afford it. Yet, they could always afford their cigarettes and alcohol, and for him, that was a massive sort of setback. So I think that's a kind of, you know, the subtle impact. Even if they're a fairly wealthy functioning family, you know, on the kids, but anyway. Lawyer

4.2.5 Comorbidity: mental health and substance use

Comorbid mental health and substance use problems were seen as common among problem gamblers, and may act as both a risk factors for problem gambling, and a harmful effect of it. Participants described alcohol misuse as the most common substance use problem among problem gamblers, and described life stressors such as mental illness as contributing factors to gambling problems as well as resulting from it.

> He always drinks uh whenever he gambles so um, I assume when he, I can smell, you know the alcohol, but he always deny. Wife of problem gambler

> Yeah but the drinking, it's definitely a trigger. Wife of problem gambler

> We just see people with uh often complex problems, and people who uh who uh have challenges in other areas. So a lot of the time when they get themselves into difficulty, they can't get themselves out again, uh and those stressors can – I guess – put them in a cycle where, you know, it might increase their level of addiction in other areas, and gambling can be one of those areas. Lawyer

Suicide thoughts and attempts were also discussed as a direct harm of problem gambling.

> *Participant*: Um, and along with that goes suicidality. Um, the thought, the attempts. Um, yeah I've had a couple of clients, maybe 3 in the last twelve months who have had either one or two attempts of suicide.
> *Facilitator*: Would you say that that's directly related to the gambling or is it something else in their lives?
> *Participant*: No. Gambling. That's, that's their major issue. And then the consequences of that.

4.2.6 Isolation/disengaging

Participants discussed isolation and disengagement as both a result of problem gambling, and an inherent aspect of EGM gambling. Problem gamblers were described as disengaging from previous community commitment and involvement in things such as sporting clubs, and volunteer events, as well as disengaging from their family, partner, friends and normal life.

> It's always ticking over in their mind as well. So even when they are with the family they're isolated because they've got a, they've almost got a separate life going on in their heads, so it's almost like they've disconnected even when they show up. Financial counsellor

> Yes, exactly, and it's (EGM play) almost isolation I suppose. Uh and that's all it is, antisocial in that regard. It's an isolating behaviour. Industry member

4.2.7 Time

Similarly, problem gambling was often defined by time; loss of time with family, the amount of time spent gambling, and how quickly you can reinvest funds into a gambling activity in any one time frame.

> Uh so not spending time with the family at home, losing the quality of time and life with family and all that, that's like when it becomes harmful. Industry members

> He'd go Friday night from work and he wouldn't come home till Saturday. Wife of problem gambler

4.2.8 Harms to the community

Community harms were perceived as being widespread, and resulting from individual gambling problems as well as large-scale gambling scandals. These included the financial, social and health burden to society, decreased contributions to the economy due to lost productivity at work;

> I see a lot of people where their work has been impacted, their, you know they're not focusing, they're not functioning as well, they're having long lunches, they're gambling at work, that sort of thing. Financial counsellor.

Crime including embezzlement and fraud at work;

> She was an employee of Medicare and was putting in fraudulent claims and-and cashing them. Lawyer

And things like match fixing in social sports clubs.

4.2.9 Ethnicity

Ethic/culturally and linguistically diverse (CALD) communities were reported as experiencing unique and specific harms, such as family members enabling the gambler financially in an attempt to hide gambling problems, country-specific loan sharks, and gamblers borrowing money from various family members.

> Well I found with some of my CALD communities it's causing issues with them borrowing from an aunt or an uncle and then the mother coming along and saying you've got to pay your aunt or uncle back because I'm suffering for it. Financial counsellor

> Um, also with the casino we see a lot of um clients from CALD cultures who um are caught up with the, their uh country specific loan sharks that frequent the casino so that adds another sort of component to their, to their situation. Financial counsellor

4.2.10 Benefits of gambling

Some of the benefits of gambling discussed were the financial gains for the community, such as funding for infrastructure and community programs, as well as an opportunity for gamblers to socialise at gambling venues. Winning was also seen as an individual benefit of gambling.

> They get socialisation, they get interaction with others, they're in community, they're out of the house, they might be with like their true friends, they do get a sense of self-worth and value from other gamblers and from staff at the, at the place, at the venues. Financial counsellor

4.2.11 Access to money

Whether or not a gambler had access to money was seen as a risk factor for problem gambling. Interestingly, both having and not having access to money were both seen as risk factors. For example, people who had a higher income, owned small businesses and had access to cash flow were seen to be at a higher risk for developing gambling problems (or furthering existing problems through further gambling). However, it was also suggested that those on low income and impoverished people exhibited a number of risk factors, not only for problem gambling, but also for other comorbidities.

> If you are less financially well-off, you might be in a position to experience more harm. Industry member

> …Poverty is a... an enormous risk factor for all kinds of things. Gambling researcher

4.2.12 Coping/escapism

Gambling was often seen as the result of an individual's inability to cope with certain stressors in life. Participants described it as a sort of 'escape' from a stressful life:

> People that have highly stressed jobs that actually have described to me that they started gambling because it was a way of coming down and stopping their brain. Financial counsellor

> … But I see it as a kind of stressor for people, and so where you have got people who don't cope and then are either abusing substances or engaging in other forms of behaviour that are overall destructive… I think it ties in with those elements really well. Lawyer

4.2.13 Intergenerational gambling

Having a family history of gambling, or friends who gambled, was seen as a discernible risk factor. Financial counsellors reported treating problem gamblers whose parents and grandparents were gamblers, and in addition family members reported that their spouse often gambled with friends before developing gambling problems. This sense of intergenerational and peer gambling was seen as promoting the normalisation of gambling within the family, and often from a very young age.

> Family history I think. Sort of how it, how gambling is promoted or not promoted, accepted in a family growing up and you know, for some it's quite normal and they just carry that on into their adulthood. Financial counsellor

There were also concerns over children modelling their parents gambling behaviour.

> I've only seen two generations happen, but there's a concern about generational addiction. So I see a lot of young dads who take their kids to the footy and or watch footy together on Saturday when they're spending time with him, and there's so much advertising for that online gambling. It's so easy to do, and dad will be there gambling while the children are there, so how much influence is that having over the kids and what they think is acceptable, and you know, they're able to get a hold of dad's phone. Are they having a flutter? Lawyer

4.2.14 Winning

A positive outcome of gambling was seen as a key risk factor. This included winning in a single session, and having a positive early experience with gambling (e.g., an early win). All partners of problem gamblers reported their spouse having a significant early win in their gambling career, which later led to beliefs that they could continue to win each time they gambled.

> So I put it in, I don't even remember what machine I did but $10 just gone in a second. So, I was thinking well 'what's this?' But my husband um, put it in… and then a lot of coins came and we were all like 'what's going on?' and then we had to catch it, you know, catch it with the cup and I think he got excited and he said 'this is fun' and then put more in. And then money was quickly gone and then when the money was gone I went to go back to the restaurant where my children and my friends are, but my husband wanted to… 'let's go put some more in'. Wife of problem gambler

Winning in a single gambling session was seen to promote further gambling.

> Once they've had a payout or a win as they call it… then they're chasing the win, so promotes it more on that level for them. Financial counsellor

4.2.15 EGMs are more harmful

Participants generally agreed that there is a higher degree of risk with products in which one can lose a lot of money quickly, where it is difficult to keep track of how much one is losing, and with games that are highly repetitive. Both focus group and online discussants singled out EGMs as the gambling product known to pose the greatest threat due such features and their availability. Those in the industry group felt that EGMs were more harmful due to three main factors:

> 1) EGMs allow much smaller bet sizes ($1) than other forms of gambling, and people are more willing to risk a small amount of money than a larger amount:
>
> > What you find with sports betting is that people will bet less frequently but bet more, whereas like this pokies – it's now $1, $1, $1, $1, $1 – and of course, seemingly a dollar is an insignificant amount to $200, it's easier to dispose of. Industry member
>
> 2) Consecutive games can be played relatively quickly, where any payouts can be immediately reinvested:
>
> > And I think also because it happens rapid – you know, within 10 minutes you could be down $100 or thousand. Rapid.
> > With sport, you've got to buy your ticket and you've got to wait 8 or 9 minutes, and then the game's done. Uh and there's only a limited game spots and there's only a, you know, a three hour weekend on a Saturday and a Sunday with Rugby being

> played. Also, it is a little bit different that more-more races and there's a 10 minute gap or a 5 minute gap.
> For lack of a better word, like a cooling off period.
> You've got time to assess where you're at, what money you've spent. Industry members

3) Games of chance are more risky than games with some skill:

> I think the pokie machines are more harmful in a way because…it's a computer doing it, it doesn't have memory, it doesn't have anything. With your dogs…you're looking at the odds with it. And like with track, it's all done through numbers, and eventually, it's going to come out, you know numbers about which one is going to come out, you know, something happens there, you've got more of a chance. Industry member.

4.2.16 False beliefs/cognitions

Across the focus groups, participants agreed that a major risk for the development of gambling problems was a false set of underlying beliefs about how gambling activities work.

> …You know they've been playing it for a couple of hours, they think it's got to pay off soon, it's got to pay off soon, and they keep trying to get their money back they've put in for that day. You know, I put in $100 or $200 oh I've got to get that $200 back before I leave. Financial counsellor

Participants also described the belief by gamblers that gambling was a legitimate way to make money.

> So you know, 'I've got to get this money back, yeah this is a good way to do it' and I'd be like 'why don't you just save like any normal person?' and he'd make me think that it was normal that every family lived like this. Wife of family member

> There's this perception that you can go and put a few thousand dollars on different things and you're going to come out a few days later with a windfall, but actually it doesn't work that way. Lawyer

4.2.17 Normalisation of gambling (particularly in sport)

Perhaps one of the most significant themes to arise out of the focus group and online discussions was the concern that gambling in sport is promoting the normalisation of gambling to a younger audience through advertising at sporting events (primarily on TV), and through the ease with which sports and TAB betting can be accessed via internet and phone apps.

4.2.18 Normalisation through advertising

Participants described the sporting scene as currently saturated with gambling advertising. Further, this advertising was seen to glorify gambling, and promote it to a young audience.

> And the games have always been 18 plus, haven't they. If it's done in the pub, it's 18+, but if they go home with the TV advertising, then it's being normalised for under 18s. My 13 year old girl was watching the netball, you don't want to see and have ads for Sportsbet and all that stuff... Lawyer

> Sure. It's glorified I think. Industry member

> Pokie machines can't be advertised on TV, but sports betting can… and I'm sure they don't intentionally do it – is do those ads appeal to people form a younger age uh – the pokies are always sanctioned off in a club, whereas sports betting, it's more open and it's more inviting, sort of thing. Billboards and TVs uh… it is in your face. And so I guess uh, it-it's not such a big surprise when you do turn 18, it's not, you know, new and exciting… Because you've been exposed to it. Industry member

4.2.19 Normalisation through online and App betting technology

Similarly, participants were concerned that gambling is becoming increasingly more accessible through the use of new app and online betting technology. There was a particular concern around the use of betting technology among young gamblers, as they tend to be more tech-savvy, and are accustomed to engaging in activities via the internet.

> …But then you've got all the young ones growing up – who they're so used to social media – and everything being online, and if it's normalised and they've got instant access to it, where's the line for them? Lawyer

Social media was seen as another medium for advertising and normalising gambling on the internet to a younger audience.

> [I] know I get bombarded with those Facebook requests to play Mega Pokies Jackpot, and that's not good for them. It's an app, you're doing it for free, but they'll always have a link in there somewhere off to another website… Then when they do hit 18, they're then going to go and have a go at a club or a pub to see –Yeah, I did really well in that application that was free, imagine if that was real money. Industry member

There were also concerns around unregulated overseas online gambling providers.

> The commercialisation of it, the ubiquity of it, is just … you know, the problem I get now in the global world with online gambling being international and offshore, like, what could you do to stop that? Lawyer

4.3 FOCUS GROUP HARM MINIMISATION RECOMMENDATIONS:

4.3.1 Reducing advertising for gambling (particularly in sport)

Given that the promotion and normalisation of gambling was seen as such a significant risk factor, particularly for young males, it is not surprising that a reduction in gambling advertising in sport was suggested as one of the most important harm minimisation strategies among focus group participants. A reduction in gambling advertising was seen to have a flow on effect and reduce the normalisation of gambling to young adults and teenagers.

> It's in front of our kids. In front of the teenagers, the young men. It's um, the role modelling is, is very, very poor. Yeah I think that has to stop in terms of policy making. Financial counsellor

A reduction in gambling advertising was likened to similar advertising restrictions that have been made in the last decade or so with regards to alcohol and cigarettes.

> So it's really about reducing some of the aspects of the advertising or the availability of things. So, just making it a bit more sensible, you know, where they reduced advertising about um, I don't know if they have with all alcohol with sports, but in some situations, but smoking as well. Financial counsellor

In support of this, a gambling researcher suggested that reducing the advertising of gambling could change the prevalence and incidence of problem gambling.

> Even though people will say advertising doesn't affect them, the evidence is that advertising does affect them and it goes back to an awareness issue. If people aren't aware of it, then they are not going to pursue it. Gambling researcher

In addition to a reduction in gambling advertising in sport, a lawyer suggested that more advertising be placed on raising awareness for problem gambling.

> There should be reduction in the number of ads that can be aired during one session of the telecast of a sporting event, or for every ad about Sports Bet, there is an ad about 'Are you a problem gambler, here's the hotline...' Lawyer.

4.3.2 Education and awareness campaigns

It was suggested, unanimously, that there is a need for a focus on education around safe gambling, and awareness of problem gambling and available services.

> In order to make a good decision, you need to be aware of what's going on. Gambling researcher

Financial counsellors suggested that education campaigns focus on the harms associated with problem gambling, the true statistics that relate to gambling odds and poker machine play, and on challenging false beliefs which promote further gambling. Those in the legal and gambling industry felt that it would be suitable to target youth in an attempt to 'correct' skewed perceptions of gambling via school-based programs, as well as mass television commercials that raise awareness of problem gambling, and its available services, similar to those of Quitline.

> I think there's huge benefits for the sort of TV commercials where they might start a conversation in a lounge room at home with the football on, like 'oh you were out late last night', something like that. Industry member

> I would sort of think that if you target young people, so teenagers and that kind of stuff – because they're the ones that start to, uh get exposed to thing and you know, they'll get the … you know, they're adapt at the newer technology and those sorts of things. Lawyer

Family members also suggested that there could be more awareness of available services for family of problem gamblers, as they often felt alone, and were not aware of services to help them. Likewise, legal professionals suggested that if more community workers knew more about problem gambling, they might be able to refer clients to gambling services early on, before gambling problems worsen.

Only one member of the industry focus group suggested that there was 'too much' harm minimisation paraphernalia already, and that any further efforts to educate gamblers would be futile.

> There's too much signage… I think it could be too much all in your face. You've got it all there so you sort of glaze over it. When you go to the ATM how many people actually notice the sticker above that says, 'think about your choices'. Industry member

4.3.3 Play/design restrictions

Modifications to the design of different forms of gambling were suggested, these included mandatory pause times on EGMs, pop up messages that detail a players' expenditure, and limits on bet sizes.

> I was wondering if there's something that's, you know, mandatory pause times on games. So for example… if a machine's been occupied for, you know, 50 minutes straight, that it then has to be paused for 5 minutes or something like that. Industry member

> I'm sure we could do that, the machines could pop up and say you've put in $500 in the last hour, are you sure you want to continue. Financial counsellor

Other restrictions to gambling play included involuntary self-exclusion, and reduced promotional activity and jackpot sizes.

> I wonder if, self-exclusion is the right thing. Like you said before you have to wait until someone gets a problem. Quite often it's too late and the damage is already then done, thousands have been lost maybe. There could be a lot of restrictions around mandatory, or, or sorry and involuntary self-exclusion. Industry member

> Like the promo prizes; win a trip to Hawaii if you put a 10 spot-on, you know, and as it gets higher, as the jackpot gets higher, it's a known fact that a lot more are hitting that amount up, it peaks in those areas. Industry member

4.3.4 Limiting access to money

There were two ways in which limiting access to money was suggested to be carried out; 1) limiting access to credit, and; 2) limiting access to ATMs or ATM withdrawals. Lawyers suggested that with the ease of accessing and using credit with online betting, that credit checks be performed before a gambler could be approved for credit to gamble with.

> *Female legal participant*: Yes, provisional credit. The higher level in … investment is probably the wrong word, but investment into gambling. So where you've got high income …
> *Male legal participant*: Or even an income, some sort of assessment of income so that whatever you're doing, you have to put in.
> *Female legal participant*: You can spend 2% of your income and that's it.
> *Female legal participant*: Yeah. I earn $50,000, and you have to enter that information before people will allow you to spend, and then it may say, 'Do you know that you are spending 10% of your income?'

Family members suggested that there should be a limit on the number of withdrawals you can make from an ATM in a gambling venue, or ban ATMs in venues altogether.

4.3.5 Staff training

Participants suggested that there is a greater need for venues to take responsibility for harm

minimisation strategies, and that staff need to be better trained in dealing with potential problem gamblers in their venues. There were two areas of focus for staff training: Educating and training staff in how to approach and assist a potential problem gambler in their venue, and training staff to better detect and manage self-exclusion breaches.

> Yeah I have a client who um, the self-exclusion, but just once he went back the next day he was able to join as a new member and he's been still going gambling every day since he self-excluded himself. So, it didn't really work. And he's laughing at them. It's like, it's not working and he's actually going more. Financial counsellor

Industry members described their current Responsible Conduct of Gambling training as inadequate, and not practical.

> *Male industry participant*: I think there should be a huge focus on mostly therapeutic, I mean, I use the term loosely, but teach [staff] how to deal with the … a patron that potentially could have a problem.
> *Female industry participant*: Maybe being able to approach them without actually saying, 'You've got a problem' and then going up. You know, having a chat with them, stopping that communication with the machine for 5-10 minutes.
> *Male industry participant*: And be aware of the red flags. Industry members

4.3.6 Accessibility to gambling

Twenty-four hour opening times, and an abundance of EGM machines at your local club were described as key issues increasing gamblers' access to gambling. Participants suggested that in order to reduce problem gambling, we should aim to reduce the number of EGMs available in NSW, and restrict the opening hours of the casino's gaming rooms.

> All the time, like I tell my husband, you know, the government should help, maybe reduce the clubs either all around Sydney or Australia, you know. Wife of problem gambler

It was further suggested that the accumulated effects of sleep deprivation from gambling in a 24-hour venue could have detrimental effects on a person's judgement.

> While his wife and children were in Lebanon visiting family, he ran on a gambling binge at the casino… He didn't speak for 36 hours and he was spending all his money including the money that was in their joint account that his wife needed while she was overseas. He had no money left, and on his way home from the casino at 7 o'clock at the morning, his fuel light came on and he went and did an armed robbery of the florist. So he got no money, he went to gaol for several years for that – and quite rightly – but uh for me, it was a really memorable case because it has this extra factor of the sleep deprivation... … locked in a single sitting and the sleep deprivation, that if he was at the local pub which had to close at midnight, that couldn't have happened. Lawyer

4.4 OTHER PERCEPTIONS ABOUT GAMBLING

4.4.1 Harms, risks, and harm minimisation strategies will depend on 'the individual'

There was a perception, particularly among the industry focus group members, that gambling harms, risks, and harm minimisation efforts were dependent on the individual, and that little could be done to account for their actions.

Problem gamblers were said to have an underlying mental illness, and that should be the target of many interventions.

> I think there's an underlying issue there. Um, I think it's, what, what is the real issue at hand which I daresay for a lot of people is probably mental health. Industry member

Contrary to the legal professional, and gambling researchers, there was a view among industry members that whether or not gambling is deemed risky, or harmful will come down to the individual person playing, and that the efficacy of harm minimisation efforts will also depend on the individual's 'willingness' to change.

> I think it depends on the person, the individual playing as whether it's going to be harmful for them or whether it's just a loss. Industry member

This view was furthered by a perception that regulatory action is ineffective.

> I don't think, I don't think any more regulation or legislation is going to assist in this and I think, to be honest, I think it's a load of crap. And they're putting more regulations and legislation, leave it as it is, even strip it back a little bit, monitor what's going on, but even then you can't stop them. They'll find another form. Industry member

4.4.2 Conflict of interest

There was a general theme across groups that those involved in the gambling industry (e.g. providers, governments, venues, etc.) were in direct conflict with their social responsibility to help alleviate the harms associated with problem gambling.

> I think there's conflict within what a club could do responsibly and what they're actually doing. Financial counsellor

Any efforts made by governments or industry organisations were seen as tokenistic and not adequate support given the harms resulting from gambling.

> Yeah, they are, and look, they are incredibly unaccountable – [gambling organisation] started talking about the programs that they were running, you know, to try to support uh either education or something like that with problem gamblers, and it's like, well you're contributing a large part of the problem yourself, and then coming in and then, you know, just this tokenistic kind of gestures to put back into the community, and that kind of … everyone knows what's going on in the first place. Lawyer

Additionally, there was a perception that gambling was 'needed' in society as a means to create revenue for the government.

> *Female participant*: You know, we need the pokies for money. To build different things, to, you know, go towards the hospitals, without this money where's it going to come from? And then they've [casino] got their buses going around to every other, going around picking up people who do have a problem, just dropping them off at Star City. And how much do they put toward the RGF?
> *Facilitator*: 2%. $55 million in total.
> *Female participant*: And that's enough to keep everyone off their back. Industry members

4.4.3 Gambling as an addiction

Primarily, those in the legal industry also described problem gambling as an addiction similar to substance use. However, problem gamblers were deemed to be suffering far greater or more severe harms compared to substance users, and this was seen to result from the unique financial harms associated with problem gambling.

> And in fact, I used to joke with my colleagues quite regularly – and they agreed – that gambling addicts were the worst because there's only so much heroin you can shoot up your arm or how much alcohol you can consume, whereas gambling is endless. You can lose all of your money and all of your boss' money and you just keep going. Lawyers

4.4.4 Summary

The information gleaned from both focus group participants and online discussion board respondents were consistent with those derived from the literature review and empirical studies. Gambling researchers, counsellors, industry representatives, and family and friends of at-risk and problem gamblers recognise that harms originate from financial losses first and foremost, but with numerous other consequent harms following, including loss of time, and harms to psychological and mental health, relationships and physical health.

Multiple and diverse risk factors for problem gambling were reported with risk factors and level of risk dependent on the individual along with a combination of other factors that can interact to result in problem gambling.

Many of the product-specific strategies were mentioned with reference to electronic gaming machines, a product perceived as causing the most harm. This was particularly true of researchers, almost all of who made suggestions focused toward electronic gaming machines.

Participants were also concerned about the possible risks of internet gambling and provided a number of suggestions to reduce the risks. However, many noted the difficulty in implementing many of the changes, both because of the nature of the internet and also because of the risk of problem gamblers simply switching to offshore internet sites with few regulations.

Sports betting (especially online) and betting on horses and greyhound races were also identified as significant products associated with harms. In particular, participants recommended either a ban or limit on advertising of sports betting, particularly during general viewing hours and during live sports action.

In summary, participants discussed a range of strategies for preventing the development of harms from gambling, including specific recommendations by gambling product.

In particular, participants noted the need for:

- A shift in focus with harm minimisation from problem gamblers to all gamblers
- An overarching and integrated harm minimisation strategy
- A harm minimisation strategy than includes/involves the gambling industry
- A sustained program of research around harm minimisation with a broader range of enquiry
- Consideration of measures that target known risk factors for problem gambling such as social isolation and boredom

Finally, a number of gaps in current knowledge around harm minimisation were noted:

- More research is needed on harms to people other than the gambler
- More longitudinal research is needed in order to understand causality

- More trials of specific strategies are needed, particularly those focused on individual products, in order to understand impacts
- More research is needed with non-clinical samples of problem and at-risk gamblers
- More research is needed with non-problem gamblers in order to understand protective factors
- Greater focus in needed on prevention and early intervention

Researchers, counsellors and friends/family mostly focused on restrictions of various sorts along with education; some industry participants were concerned about reducing the enjoyment of recreational gamblers.

Strategies largely fell into five categories:

- Providing information/education
- Altering or modifying the playing experience
- Offering gambler-initiated actions/decisions
- Implementing broader regulation/restrictions/changes to venue government initiatives/public policy around providing services/research.

4.5 INDUSTRY/RESEARCHER RESPONSES TO THE ASTERIG INSTRUMENT

The perceptions of industry and researchers on the relative risk of various gambling products to produce harm were elicited using an online survey. This survey was adapted from the ASTERIG, an instrument developed to systematically assess the risk potential of gambling products (Blanco et al., 2013). This instrument was validated through expert consensus ratings. It covers ten relevant dimensions; event frequency, interval payback, jackpot, continuity of play, chances of winning, availability, multiple playing/stake opportunities, variable stake amount, sensory product design, and near wins. Scores are obtained by summing the multiplied weights by obtained scores on each dimension to give a total score.

The ASTERIG is comprised of a series of vignettes and respondents are asked to indicate the appropriate estimate for that parameter for each of the following gambling products: EGMs, horses/dogs/trots, sports betting, card games, casino table games, lottery products, Keno and bingo. The ASTERIG was administered in an online form and was preceded by a series of demographic and background information for the respondent, and ratings of the perception of gambling harms and risks. See Appendix C for the online survey and ASTERIG.

4.5.1 Participants

A total of 40 participants began completing the online survey. Eleven participants did not input any data and therefore were deleted from the analysis. Of the remaining 29 participants, 19 provided complete survey response, and 10, partial completion: this resulted in varied sample sizes in the analyses of results.

Of the participants, 10 (34%) were male, and 19 (66%), female. Thirteen (44.8%) were employed in clubs/hotels/casino, 1 (3.4%) in lotteries, 5 (17.5%) in wagering, 4 (13.8%) in bingo and Keno, and 4 (13.8%) in sports betting. No online gambling operators responded. Fourteen (48.2%) worked in their respective industries for ten or less years, and the remainder, 15 (51.8%), for more than ten years. .All but one respondent (a US researcher) was from Australia.

4.5.2 Procedure

The survey was posted online. An invitation to participate in the survey was sent to the email addresses of researchers and academics. A banner was also posted on the website of peak industry bodies: clubs and wagering. Unfortunately, the response was poor with a number accessing the site but either not proceeding or commencing but not completing the survey. The findings therefore should not be considered representative of the population of researchers or industry members. However, the responses do provide some useful information on the perceptions of harm by gambling product by these groups.

4.5.3. Results

Participants were asked to rate which forms of gambling products were associated with the greater risk of harm, contributed the most to problem gambling, and the types of harms associated with each form. The types of harm were social, legal, financial, mental health, physical health, employment and suicide.

Participants ranked the gambling products in the following descending order of perceived harm: online EGMs, land-based EGMs, online sports betting, online wagering, and online casino table games. This suggests that online gambling products are uniformly perceived as representing the riskiest form of gambling.

Table 44 shows the descriptive statistics for the perceived risk of harm by gambling product.

Table 44: Descriptive statistics for perceived risk of harm by gambling product for N=29 researchers and industry participants

N=29	*M* (SD)	Min	Max
EGM			
Online	4.69 (.66)	2	5
Land-based	4.59 (.50)	4	5
Horse/ Dog/ Harness races			
Online	4.41 (.63)	3	5
Land-based	4.00 (.46)	3	5
Sports betting			
Online	4.52 (.51)	4	5
Land-based	4.03 (.50)	3	5
Card games			
Online	4.10 (.82)	2	5
Land-based	3.55 (.74)	2	4
Casino table games			
Online	4.28 (.65)	2	5
Land-based	4.03 (.63)	2	5
Lottery products			
Online	2.86 (1.3)	1	5
Land-based	2.59 (1.1)	1	5
Keno			
Online	3.52 (1.2)	1	5
Land-based	3.28 (1.1)	1	5
Bingo			
Online	2.86 (1.2)	1	5
Land-based	2.48 (1.0)	1	4

Consistent with the view that lottery products are soft-forms of gambling, lottery, Keno and bingo were rated as less risky than the other forms, both for online and land-based forms.

The types of harm that research and industry participants considered were associated with different gambling forms is shown in Table 45.

Table 45: Types of harm perceived by research and industry participants were associated with different gambling forms

Gambling Forms	Type of Harm						
	Social (relationship breakdowns) N (%)	**Legal (crime, court cases)** N (%)	**Financial (debt, bankruptcy)** N (%)	**Mental health** N (%)	**Suicide (ideation, attempts and completed)** N (%)	**Physical health** N (%)	**Employment (job loss, productivity)** N (%)
EGM							
Online	25 (92.6%)	16 (59.3%)	25 (92.6%)	24 (88.9%)	20 (74.1%)	20 (74.1%)	21 (77.8%)
Land- based	23 (85.2%)	19 (70.4%)	26 (96.3%)	25 (92.6%)	23 (85.2%)	19 (70.4%)	24 (88.9%)
Horse/ Dog/ Harness races							
Online	21 (77.8%)	15 (55.6%)	23 (85.2%)	22 (81.5%)	19 (70.4%)	13 (48.1%)	21 (77.8%)
Land- based	20 (74.1%)	19 (70.4%)	25 (92.6%)	23 (85.2%)	19 (70.4%)	13 (48.1%)	21 (77.8%)
Sports betting							
Online	22 (81.5%)	15 (55.6%)	26 (96.3%)	21 (77.8%)	16 (59.3%)	13 (48.1%)	21 (77.8%)
Land- based	21 (77.8%)	15 (55.6%)	26 (96.3%)	21 (77.8%)	16 (59.3%)	11 (40.7%)	22 (81.5%)
Card games							
Online	22 (81.5%)	14 (51.9%)	23 (85.2%)	17 (63.0%)	12 (44.4%)	13 (48.1%)	18 (66.7%)
Land- based	19 (70.4%)	15 (55.6%)	23 (85.2%)	17 (63.0%)	13 (48.1%)	11 (40.7%)	17 (63.0%)
Casino table games							
Online	23 (85.2%)	15 (55.6%)	26 (96.3%)	22 (81.5%)	18 (66.7%)	12 (44.4%)	22 (81.5%)
Land- based	23 (85.2%)	17 (63.0%)	25 (92.6%)	22 (81.5%)	20 (74.1%)	11 (40.7%)	22 (81.5%)
Lottery products							
Online	4 (14.8%)	4 (14.8%)	8 (30.0%)	7 (26.0%)	3 (11.1%)	4 (14.8%)	6 (22.2%)
Land- based	4 (14.8%)	4 (14.8%)	7 (26.0%)	6 (22.2%)	2 (7.4%)	3 (11.1%)	6 (22.2%)
Keno							
Online	6 (22.2%)	5 (18.5%)	14 (51.9%)	11 (40.7%)	4 (14.8%)	4 (14.8%)	9 (33.3%)
Land- based	6 (22.2%)	4 (14.8%)	14 (51.9%)	11 (40.7%)	3 (11.1%)	3 (11.1%)	10 (37.0%)
Bingo							
Online	4 (14.8%)	3 (11.1%)	7 (26.0%)	6 (22.2%)	3 (11.1%)	4 (14.8%)	4 (14.8%)
Land- based	2 (7.4%)	2 (7.4%)	6 (22.2%)	5 (18.5%)	2 (7.4%)	3 (11.1%)	3 (11.1%)

Fewer participants rated the soft-forms of gambling to represent a potential cause of all types of harm that were listed. In contrast, the vast majority of respondents considered all other forms

contributed to financial and social/relationship problems. Consistent with findings from the Gambling Effect Scale, EGMs were rated as more likely to contribute to physical health compared to the other forms; endorsed by three quarters compared to slightly less than half, respectively.

Most participants generally endorsed EGMs as the form contributing most to all types of harm. Interestingly, although criminal offences have been eliminated from the criteria list for diagnosis of a gambling disorder in DSM-5, over half the participants considered the main forms of gambling were associated with legal problems.

In contrast to the findings of the Gambling Effect Scale where gamblers and significant others reported low levels of critical incidents (suicide, legal problems, bankruptcy), over half the sample of researchers and industry estimated critical incidents to be commonly associated with gambling products.

Nineteen participants completed the ASTERIG. The results are shown in Table 46. The Table contains the relative risk potential as indicated here:

Result	Score	Risk Category	Risk Potential
1 – 124	> 0 - ≤ 2	A	Lowest
125 - 248	> 2 - ≤ 4	B	Low
249 – 372	> 4 - ≤ 6	C	Moderate
373 - 496	> 6 - ≤ 8	D	High
497 - 620	> 8 - ≤ 10	E	Highest

Table 46. ASTERIG risk potential for different gambling products rated by N = 19 research and industry participants

Forms	Profession								
	Industry			Researcher			Total		
	N	Mean (SD)	Category	N	Mean (SD)	Category	N	Mean (SD)	Category
EGM									
Online	6	448.0 (95.4)	High	13	498.0 (71.1)	Highest	19	482.2 (80.4)	High
Land-based	6	421.6 (75.1)	High	13	454.2 (58.6)	High	19	443.9 (64.0)	High
Horse/ Dog/ Harness races									
Online	6	392.5 (121.3)	High	13	432.3 (44.6)	High	19	419.7 (76.0)	High
Land-based	6	315.3 (79.4)	Moderate	13	360.8 (64.2)	Moderate	19	346.5 (70.5)	Moderate
Sports betting									
Online	6	407.7 (96.5)	High	13	427.7 (49.2)	High	19	421.3 (65.5)	High
Land-based	6	324.2 (56.1)	Moderate	13	358.5 (61.4)	Moderate	19	347.6 (60.5)	Moderate
Card games									
Online	6	391.8 (154.2)	High	13	438.4 (83.5)	High	19	423.7 (108.4)	High
Land-based	6	272.4 (85.2)	Moderate	13	339.2 (84.0)	Moderate	19	318.1 (87.9)	Moderate
Casino table games									
Online	6	393.8 (140.9)	High	13	456.3 (91.0)	High	19	436.5 (109.2)	High
Land-based	6	314.0 (80.3)	Moderate	13	361.5 (80.9)	Moderate	19	346.5 (81.7)	Moderate
Lottery products									
Online	6	280.4 (148.0)	Moderate	13	317.1 (98.0)	Moderate	19	305.5 (113.1)	Moderate
Land-based	6	228. 0 (99.3)	Low	13	268.1 (70.1)	Moderate	19	255.4 (79.9)	Moderate
Keno									
Online	6	314.0 (152.6)	Moderate	13	395.3 (97.0)	High	19	369.6 (119.4)	Moderate
Land-based	6	237.0 (114.3)	Low	13	322.0 (109.0)	Moderate	19	295.2 (114.9)	Moderate
Bingo									
Online	6	282.5 (183.0)	Moderate	13	372.6 (92.0)	Moderate	19	344.2 (129.6)	Moderate
Land-based	6	194.8 (102.0)	Low	13	290.6 (77.7)	Moderate	19	260.3 (94.9)	Moderate

Overall, EGM online and land-based, horse/ dog/ harness races online, sports betting online, card games online and casino table games online were rated as representing the high-risk potential gambling products.

Horse/dog/harness races land-based, sports betting land-based, card games land-based, casino table games land-based, lottery products online and land-based, Keno online and land-based and bingo online and land-based, scored in the moderate risk potential category.

There were some difference of opinion between researchers and industry participants as follows:

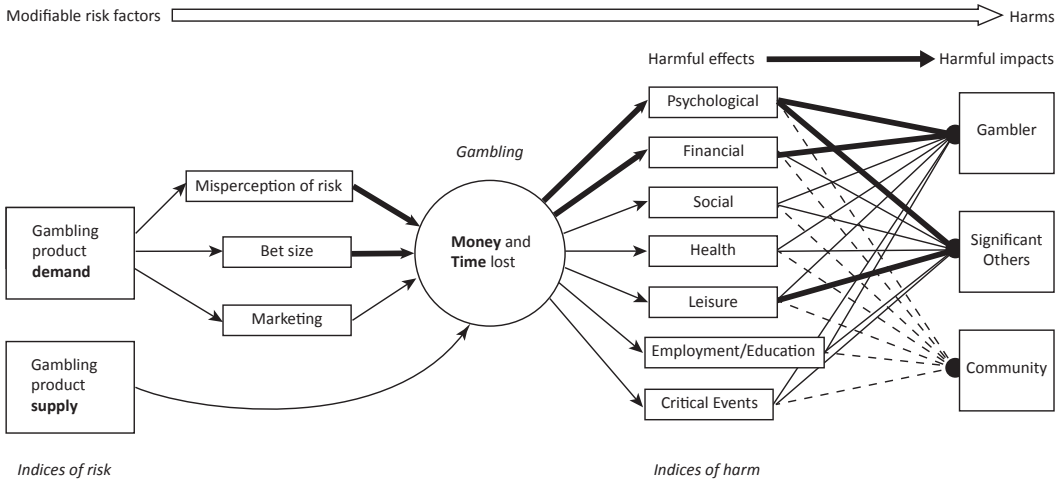
- EGM Online (industry rated this as high while researchers it as highest)
- Lottery Land-based (industry rated this as it low; researchers rated this as moderate)
- Keno Online (industry rated this as moderate; researchers rated this as high)
- Keno Land-based (industry rated this as low; researchers rated this as moderate)
- Bingo Land-based (industry rated this as low; researchers rated this as moderate)

As indicated, although consistent with the general consensus that EGMs are risky forms of gambling, and the expressed opinions that online forms are more risky compared to land-based, the obtained data should be interpreted with caution given the small and unrepresentative sample size. What is interesting is the tendency for researchers to perceive greater risks associated with gambling products than industry members. This may reflect differences in the level of exposure to subgroups of gamblers; industry members interacting with recreational gamblers and not identifying or being aware of problem gamblers, while researchers conduct research on identified gamblers. Hence, perceptions of severity of harms and impacts may differ between these populations.

SECTION 5: DISCUSSION

Although it is possible for a player to win in the short term, the mathematical structure of commercial forms of gambling is designed to provide operators with a statistical advantage or 'house edge'. *This advantage means that in the longer term, continued play, nearly universally, results in the player losing money.* Gambling-related problems occur when losses cause some form of harm to the individual, family, or society in general.

Therefore, *to cause harm, losses must exceed the individual's personal threshold of affordability, either in respect to money or time*. The findings of our studies are schematically summarised in the diagram below:



Many existing instruments in the field are designed to measure prevalence as opposed to gambling-related harm. This indicates that extensive consideration has been given to measuring cases of problem gambling, while measuring gambling-related harms has not been a priority. A review of the literature found that harm is often classified into broad domains, such as financial and psychological harms, and each domain of harm can be comprised of list of individual indicators or facets. The research team used the Gambling Effects Scale; an instrument that provides an overall comprised of seven types or domains of gambling-related harm and 31 indicators of harm.

5.1 HARM BY GAMBLING PRODUCT

One of the main findings of this Report was that EGMs, sports, track, and casino gambling products are riskier than Keno, bingo, lotteries and scratchies. There was no evidence found to suggest that lotto, scratchies, and bingo were associated with elevated levels of harm with the exception of the CDS data which found harms were associated for lottery and Keno clients in treatment. However, the latter findings can be explained by the lack of exclusivity in lottery and Keno products: these clients are more likely to engage in more forms of gambling products.

This finding is consistent with previous studies that reported harms were more prevalent and serious among those individuals playing electronic gaming machines, wagering, and casino table games, compared to lotteries, scratch cards, and bingo (Productivity Commission, 2010).

The literature review and consultation process both concur that higher levels of harm are associated with electronic gambling machines. Our empirical data suggested EGM has a tendency to be associated with higher harm scores, but that tendency is not statistically reliable across domains of harm compared to other risky forms of gambling.

Except for leisure, harm scores for total, psychological, financial, social and health were not statistically different across products. We did find that EGM is associated with reduced leisure activities, but only for middle-income earners. This result is to be interpreted in light of our findings that there is a strong moderating effect of income level on harms scores; the higher the income the lower the harm score.

5.2 HARM BY DEMOGRAPHIC

The moderating effect of socio-economic-status is well documented in the literature (e.g., Rankine & Haigh, 2003; Reith, 2006; Social Research Centre, 2013; Stevens & Young, 2009; Walker, Abbott, & Gray, 2012; Welte, Barnes, Wieczorek, & Tidwell, 2004a). Like other studies, we found high-income groups, regardless of the preferred product, are less likely to experience gambling-related harm (Marshall, 1999; Layton & Worthington, 1999; Harrah's Entertainment, 2006; National Centre for Social Research [NatCen], 2007).

No other demographic variable included in this study was associated with elevated risk for harm.

5.3 HARM BY TYPES

This study found that only psychological and financial types of harm are most commonly reported in the best indicators of the adverse effects of gambling. Harms reported in moderate frequency include disengagement with leisure activities, social and health.

The literature tends to place focus on severe harms associated with gambling, such as domestic violence and suicide, which have broader impacts on significant others and the community. Consistent with the literature, stakeholders (industry and researchers) perceived gambling products to be associated with more risk and harms compared to land-based products.

The empirical studies found regular gamblers report these types of acute harms and significant others with considerably lower frequency compared to other types of harm.

5.4 EMERGING HARM-RELATED TRENDS

Our literature review and consultation process suggested that sports-betting is an emerging concern in light of trends and the tendency to access this product through online platforms. The literature reports expenditure on sports betting is rising at a faster rate than all other products. The analysis of the CDS database suggests that sport betting is over-represented (3.8%) in a clinical population relative to its market share (1.4%).

Moreover, the literature indicates, as supported by stakeholder perceptions, that online platforms in conjunction with portable devices such as smartphones products are increasingly being used to access gambling products. These technologies have disruptive effects that pose considerable challenges for harm reduction strategies in the future. For example, given the internet is a borderless jurisdiction, it is difficult to impose regulations on how it is used to access gambling products.

Given the increasing use of the internet to access the local and international supply of gambling products, state authorities such as the NSW government will need to increasingly rely on reducing excessive levels of individual demand reduction to promote harm minimisation within their jurisdiction. Harm minimisation policies have focused on traditional forms of gambling namely, electronic gaming machines, racing, and casinos. Our review of the current legislation found that policies aimed at minimising the harmful effects of sports betting and internet-based gambling products have lagged in development and scope.

5.5 Shift the Conceptualisation of Risk

Identifying risk factors is needed to inform multilayered measures and policies that aim to prevent or limit the harmful effects of gambling. A review of the literature indicates no policies and practices have been effectively evaluated over the medium or long term to demonstrate any changes in objective measures of gambling-related harm (Williams, West, & Simpson, 2012). The reported lack of effective policies and practices is a matter of significant concern that highlights a need to revise traditional approaches. It also appeals to a need for new directions in harm minimisation.

Similarly, there was a perception, particularly amongst stakeholders from industry that gambling harms, risks, and harm minimisation efforts were dependent on the individual, and that little could be done to account for their actions because regulatory controls were ineffective.

The notion that regulatory controls are ineffective is **possibly explained by** current framework that has traditionally conceptualised risk-factors in terms of **non-modifiable** demographic characteristics, **structural characteristics** of the product, and **supply of gambling products**. It is perhaps more fruitful to conceptualise risk factors in terms of psychosocial variables that increase **individual differences in level of demand for gambling** (i.e., bet size), given that bet size appears to be a robust predictor of gambling-related harm relative to their personal supply of money.

Researchers have identified a range of risk factors that may explain individual differences in level of demand for gambling, including erroneous cognitions about gambling and misperceptions of risk (Delfabbro & Winefield, 2000; Joukhador et al., 2004; Miller & Currie, 2008; Wohl et al., 2007).

Erroneous cognitions relate to aspects of skill level, illusions of control, perceptions of luck or superstitious rituals, favourable attitudes toward gambling, and biased memories of gambling wins over losses (Derevensky, Sklar, Gupta, & Messerlian, 2010; Gilovich, 1983; Gilovich & Douglas, 1986; Joukhador et al., 2004; Langer, 1975; Langer & Roth, 1975; Orford, Griffiths, Wardle, Sproston, & Erens, 2009; Productivity Commission, 2010; Savoie & Ladouceur, 1995; Sproston et al., 2012; Wickwire et al., 2007; Wohl et al., 2007).

Raylu and Oei (2004a) have proposed five categories of gambling-related cognitions: interpretative control/bias, illusion of control, predictive control, gambling-related expectancies and a perceived inability to stop gambling. Interestingly, both problem and non-problem gamblers hold them (Productivity Commission, 2010). Nevertheless, there is evidence to suggest that some types of cognitions such as superstitious rituals or perceptions of luck may be more closely related to problem gambling specifically (Joukhador et al., 2004; Nower & Blaszczynski, 2010; Wohl et al., 2007).

A qualitative analysis of consultations with stakeholders also identified gambling-related

cognitions as key risk factors. These included winning in a single session, and having a positive early experience with gambling (e.g., an early win). All partners of problem gamblers reported their spouse having a significant early win in their gambling career, which later led to beliefs that they could continue to win each time they gambled, despite the mathematical structure of commercial gambling products. In addition, all stakeholders agreed that a major risk for the development of gambling problems was a false set of underlying beliefs about how gambling activities work.

Accordingly, focusing future harm minimisation on gambling-related cognitions is identified as a promising area because risk factors of this type are modifiable through prevention, education and persuasion strategies.

5.6 Modifiable risk factors

In light of our findings on the profile of harms reported by gamblers and the concerns regarding the relative ineffectiveness of policies and strategies discussed above, we have proposed a new framework for classifying risk factors. The range of risk factors described in the literature can be classified into three meaningful categories, creating a coherent and thematic framework to guide harm minimisation policy.

a. There are a number of risk factors that are not amenable to direct change ***(i.e., non-modifiable***) but may nonetheless fall within the scope of responsible gambling policies as far as they identify characteristics or individual experiences than can be used to target and improve engagement with affected individuals.
b. Other risk factors can be classified in terms of functional increase to either the ***supply*** (opportunities and amount) of gambling or the ***demand*** for gambling products.

Risk factors related to the increased supply of gambling products include: available density of a product, accessibility of a product, accessibility to funds, and product configurations that increases rates and amounts of possible gambling. These risk factors inform supply reduction strategies to control the amount of gambling available, mainly through legislation and regulation.

Marketing and misperception of risk increases excessive individual demand for gambling products, which is one of few modifiable risk factors suited to policy intervention. At the same time, they guide the development of demand reduction strategies to discourage harmful patterns of use through information, education, and public awareness of inherent risks.

5.7 Normalisation of gambling

The literature identified 'normalisation' of gambling as a significant risk factor; for the purposes on this study, normalisation can be construed as increasing **individual level of demand for gambling.**

Derevensky and his colleagues at McGill (Derevensky & Gupta, 2004; Derevensky et al., 2011) have found that exposure to gambling through parental role modelling and peer-group interaction at formative stages of development normalises gambling and sets the foundation for attitudes and beliefs for problem gambling in adulthood. Normalisation and early exposure to gambling also occurs through the media and advertising. This is of concern given that children are especially receptive to advertising messages (Productivity Commission, 2010).

Stakeholders also held a high degree of concern that advertising gambling products on television, namely sports betting, normalised gambling to a younger audience, particularly for young males. Of particular concern related to advertising, is the universal tendency to emphasise the positive

aspects of gambling, while completely overlooking or minimising risk factors and harmful consequences. This functions to unduly skew favourable attitudes towards gambling, without due regard for caution.

5.8 Inconsistent standards in gambling advertising

Industry members raised concerns that current levels of gambling advertising on television are attributable to inconsistencies in gambling advertising regulations across the various gambling products. For example, in NSW there is a total ban on all advertising for EGMs outside of gambling venues, but similar or comparable restrictions have not been applied across other gambling products.

Compared with other forms of gambling, the reach of sports betting advertising extends far further, including technology-based strategies such as online websites, television ads, mobile and tablet device apps, and sports sponsorship agreements. Gambling advertising saturation within sporting events has led punters (young men in particular) to feel as though they are being 'bombarded' by betting agencies (Thomas et al., 2011b).

The following recommendations are based on an overall analysis of our main findings. We endeavoured to highlight current gaps and opportunities for new directions in harm minimisation. Previous efforts have had limited success in terms of harm minimisation. It remains unclear to what extent efforts to control and or limit the supply of gambling products have had their intended effect, given the lack of longitudinal data and the myriad of complexities related to measuring the impacts of previous practices and strategies.

5.9 Main conclusion- prioritise the reduction of excessive demand

The main conclusion of our findings was new directions in harm minimisation are required. The harm reduction framework for the future is one that prioritises **excessive demand reduction at the individual level** in light of new and emerging technologies that will make it increasingly difficult to impose regulations on gambling products. The view is held that strategies that aim to reduce or control the supply of gambling may become even less effective in a future world where technology and the internet provide boundless opportunities for gambling.

More importantly, our undertaking was exercised with a determination to deliver a list of recommendations that were informative, actionable, and relevant to gambling in NSW.

5.10 Recommendations

The suggested recommendations are informed by three strategies: education, regulation, and mass communication. Three broad aims relate to: prevention, promoting realistic attitudes, and better engagement. A statement of intent unites these strategies:

> *To use regulation, mass communication and educational strategies to prevent harmful gambling from occurring, promote realistic attitudes across the entire spectrum of gamblers, and to better engage with individuals who are at-risk or in need of individual treatment.*

Despite the tendency to perceive education, persuasion and mass communication strategies as softer approaches, the view held is that our understanding of how to optimally leverage these strategies remains very much in its infancy, given the traditional focus on individual demographics and structural product characteristics.

The challenge going forward is, indeed, to optimise harm minimisation efforts that seek to reduce excessive demand for gambling products. This will require new ideas, new ways of thinking, and a cogent matching of strategies with intended aims.

5.10.1 Recommendation 1

Shift focus from prevalence to measuring harms and individual level of excessive demand for gambling.

Historically, the focus of epidemiological surveys has been on determining the prevalence rates of individuals who meet diagnostic criteria for pathological gambling or a gambling disorder. While prevalence studies estimate the number of 'cases' within the community, they do not assess the severity or nature of harms, focus predominantly on the problem gambling end of the spectrum, and are of very limited use to either identify modifiable risk factors at the individual level or inform policies designed to reduce harm.

5.10.2 Recommendation 2

Support the development of long-term prevention strategies that seek to mitigate individual level of excessive demand for gambling without recourse to stigma or highlighting acute harms, in order to promote better engagement with the harm minimisation message.

Australians have the highest rates of gambling losses per capita and NSW has the largest gambling expenditure of all states and territories. This is in part due to the long history of liberal attitudes towards gambling. A sustained effort must be made to modify prevailing community attitudes and expectations about gambling, starting from an early age. Accordingly, it is important that adolescents are provided with information that aims to promote informed and responsible attitudes towards gambling. Harm prevention programs are likely to have many components, including a central focus on how commercial gambling products derive a financial advantage for the operator.

Evaluating the effectiveness of any preventative strategy is rarely a straightforward task. Although, the history of prevention science documents many promising strategies that failed to make a difference. However, there are several ways to enhance the likelihood of effectiveness. Firstly, the intervention should be focused on a known risk factor rather than promoting awareness of potential harms. The intervention should have a clear theoretical basis and a logical connection to reducing the likelihood of harm. When designing the intervention, consideration must also be given to known barriers that may reduce engagement. Implementing the intervention requires optimal training, booster sessions, and fidelity checks. Finally, every program should be viewed from the outset as a work in progress, where refinements continually occur to improve the quality of the intervention. In short, successful prevention strategies require a long-term commitment.

Traditionally, campaigns have been directed towards deterring individuals from excessive gambling by highlighting severe consequences such as family breakdown, marital conflict/domestic violence, and bankruptcy. An analysis of the profile of harms on the Gambling Effect Scale suggests that across all forms, reduced savings is the most commonly reported harm followed by chronic worry. This analysis also suggested that severe harmful consequences occur in the community with much less frequency. This means that while all problem gamblers experience some level of harm, the majority will not have experienced a range of severe harms.

It is argued that individuals tend to become more attentive to messages that are personally relevant, make them feel understood, and are consistent with their personal experiences and motives. For example, it has to be assumed that no one seeks to gamble for the purpose of harm. Rather, gambling is an activity that is sought after because it offers a perceived benefit.

The *'Stronger than you think'* campaign is an excellent example of a recent approach by the NSW government that avoided dramatising harmful consequences to deter excessive involvement in gambling. The move away from fear-based public health campaigns is consistent with current trends in related fields such as driver safety and drug use.

5.10.3 Recommendation 3

Legislate a whole-of-industry responsible code of practice, which, amongst other measures, extends restrictions on advertising to all risky gambling products, and prohibits all licensed gambling operators, including online bookmakers from offering all types of inducements to new or existing customers in NSW.

A uniform code of advertising practice would bring uniformity and a level playing field to the gambling arena, as is the case in Victoria, Queensland and South Australia.

The 'normalisation' of gambling was identified a significant risk factor for harmful gambling in so far as it may increase the likelihood of excessive individual demand for gambling. There is a growing concern about advertising gambling products on television, namely sports betting, is promoting the normalisation of gambling to a younger audience, particularly for young males, and depicting gambling in a manner that unduly skews favourable attitudes towards gambling, without due regard for caution.

5.10.4 Recommendation 4

We recommend the mandatory reporting of the actual proportion of annual profitable gamblers.

Communicating how commercial gambling derives its edge in a way that is easily understood is a challenging task. One way to circumvent this problem is to adopt a frequency approach that seeks to describe the proportion of profitable gamblers for each gambling product. This aims to correct problematic perceptions about the level of financial success enjoyed by others who gamble on the same product. Such information would function to de-normalise the idea that winning is possible, without recourse to abstract mathematical concepts. For example, gambling operators who have the relevant data at their disposal could report the percentage of customers who turn a profit in a 12-month period. It is expected that nearly all consumers of electronic gaming machines, track and sports betting, and casino patrons will lose money over a 12 month period. As such, tangible data based on consumer profits and losses, reported in a comprehensible form that the average individual could readily understand, will provide NSW residents with a basis to form realistic attitudes about the prospect of winning and losing.

5.10.5 Recommendation 5

We recommend positive alerts to players, in reference to 'losses disguised as wins', where the return is less than the amount wagered, be added to the Gaming Machine Prohibited Features Register, on all future gaming machines.

The structural characteristics of electronic gaming machines (EGMs) are designed and manufactured to sustain the interest and attention of the player. Research has indicated that

certain characteristics may encourage problem gambling (Blaszczynski et al., 2001; Livingstone & Woolley, 2008; Nisbet, 2013; Productivity Commission, 2010). Consequently, EGMs are subjected to an approval process prior to their introduction as per the *Australian and New Zealand Gaming Machine National Standard* (2012). They are evaluated based on whether any feature, function, or characteristic is likely to cause harm or lead to problem gambling (SCIG, 2014). The NSW Office of Liquor, Gaming, and Racing has compiled a register detailing the prohibited features of EGMs.

With regard to gaming machines, when a player wins back only a portion of their initial wager (a net loss), they receive positive reinforcement in the form of audio and visual alerts from the machine as if the outcome resulted in a net gain for the player. These types of outcomes are referred to as 'losses disguised as wins', and function to skew the players' view of wins and losses.

5.10.6 Recommendation 6

Prioritise the identification of psychosocial factors associated with an increased risk for harm, including individual barriers to a more realistic understanding of the mathematical principles that underlie the misperception of risk and the excessive demand for gambling products.

For example, a commonly reported and highly misunderstood statistic is the 'return to player percentage' for electronic gaming machines. The gambling industry, government-sponsored literature, and other media often report there is a return to player percentage falls within a range between 87% and 90%. This may serve to unduly distort the perception of winning, thus increasing the likelihood of excessive gambling. By comparison, if the figure were to be expressed as a return on investment, it then becomes negatively framed and would fall within a range of 10% to -13%. Negatively framing expected return accordingly magnifies the risk for loss for the consumer.

A false set of underlying beliefs about how gambling activities work was identified as a major risk for the development of gambling problems and subsequent harms. A poor understanding of how commercial forms of gambling are likely to underlie our finding that reduced savings are reported as the most likely harmful consequence of gambling for all gambling products.

5.10.7 Recommendation 7

We recommend supporting research that seeks to define personal financial thresholds at which harms are likely to emerge.

This may include defining a new construct called a 'relative unit of gambling', similar in principle to a 'standard unit of alcohol', which may be used for the purpose of mass dissemination and harm minimisation.

REFERENCES

Abbott M. (2001). *Problem and non-problem gamblers in New Zealand: A report on phase two of the 1999 National Prevalence Survey.* Wellington, New Zealand: Department of Internal Affairs.

Abbott, M. (2006). Do EGMs and problem gambling go together like a horse and carriage? *Gambling Research, 18*(1), 7-38.

Abbott, M. W., & McKenna, B. G. (2005). Gambling and problem gambling among recently sentenced women in New Zealand prisons. *Journal of Gambling Studies*, *21*(4), 559-581. Doi: 10.1007/s10899-005-5563-5

Abbott, M. W., McKenna, B. G., & Giles, L. C. (2000). *Gambling and problem gambling among recently sentenced males in four New-Zealand prisons.* New Zealand: Department of Internal Affairs.

Abbott, M., & Volberg, R. (1991). *Gambling and problem gambling in New Zealand: Report on Phase One of the national survey of problem gambling*. Research Series No. 12. Wellington: New Zealand Department of Internal Affairs.

ACIL Tasman (2006). *The economic impact of gambling on the Northern Territory*. Melbourne: Australia: Author.

ACNielsen, (2007). *Prevalence of gambling and problem gambling in NSW—A community survey*. Sydney: NSW Office of Liquor, Gaming and Racing.

Afifi, T.O., Brownridge, D. A., MacMillan, H., & Sareen, J. (2010). The relationship of gambling to intimate partner violence and child maltreatment in a nationally representative sample. *Journal of Psychiatric Research, 44*(5), 331–337. doi:10.1016/j.jpsychires.2009.07.010

Aho, P., & Turja, T. (2007). *Suomalaisten rahapelaaminen 2007. (Finnish gambling 2007) Taloustutkimus Oy 2007*. Helsinki: Sosiaali ja terveysministerio: Ministry of Social Affairs and Health.

Allen Consulting Group, Problem Gambling Research and Treatment Centre, & the Social Research Centre. (2011). *Social and economic impact study of gambling in Tasmania: Summary report.* Commissioned by the Tasmanian Government Department of Treasury and Finance.

American Psychiatric Association (APA). (1980). *Diagnostic and statistical manual of mental disorders.* Third edition. Washington DC: American Psychiatric Association.

American Psychiatric Association (APA). (1987). *Diagnostic and statistical manual of mental disorders.* Third edition-Revised. Washington DC: American Psychiatric Association.

American Psychiatric Association (APA). (1994). *Diagnostic and statistical manual of mental disorders.* Fourth edition. Washington DC: American Psychiatric Association.

American Psychiatric Association (APA). (2000). *Diagnostic and statistical manual of mental disorders.* Fourth edition – text revised. Washington DC: American Psychiatric Association.

American Psychiatric Association (APA). (2013). *Diagnostic and statistical manual of mental disorders.* Fifth edition. Washington DC: American Psychiatric Association.

Anderson, G., & Brown, R. J. F. (1984). Real and laboratory gambling, sensation-seeking and arousal. *British Journal of Psychology, 75*(3), 401-410.

Antonetti, E., & Horn, M. (2001). *Gambling the home away: The study of the impact of gambling on homelessness*. Melbourne, Australia: Hanover Welfare Services.

Astbury, G., & Thurstain-Goodwin, M. (2015). *Contextualizing machine gambling characteristics by location – Final Report: A spatial investigation of machines in bookmakers using industry data.* Prepared by Geofutures. Bath, UK: Responsible Gambling Trust.

Auer, M., & Griffiths, M. D. (2013). Voluntary limit setting and player choice in most intense online gamblers: An empirical study of gambling behaviour. *Journal of Gambling Studies, 29*(4), 646-60. doi:10.1007/s10899-012-9332-y

Australasian Gaming Council (AGC). (2008). *Australasian Gaming Council Fact Sheet: Gambling Expenditure*. Retrieved from: http://devtest.austgamingcouncil.org.au/system/files/FactSheets/AGC%20FS%2004%202012%20-%20Gambling%20Expenditure%20in%20Australia.pdf

Australasian Gaming Council (AGC). (2013/2014). *A database on Australia's gambling industries.* Retrieved from: https://www.austgamingcouncil.org.au/agc-database

Australian Bureau of Statistics (ABS). (2007). *National Survey of Mental Health and Wellbeing: Summary of Results, 2007 (Cat no. 4326.0).* Canberra, Australia: ABS.

Australian Bureau of Statistics (ABS). (2011). *Population by age and sex, regions of Australia, 2011 (New South Wales)* (Cat no. 3235.0). Canberra, Australia: ABS.

Australian Bureau of Statistics (ABS). (2014a). *Labour force, May* (Cat No. 6202.0). Canberra, Australia: ABS.

Australian Bureau of Statistics (ABS). (2014b). *Household use of information technology, Australia, 2012-2013* (Cat. No. 8146.0.). Canberra, Australia: ABS.

Australian Capital Territory Gambling and Racing Commission (ACTGRC). (2010). *2009 Survey of The nature and extent of gambling, and problem gambling in the Australian Capital Territory.* Canberra: Australian Capital Territory Government.

Australian Communications and Media Authority (ACMA). (2010). *The commercial television industry code of practice.* Canberra: ACMA.

Australian Gambling Statistics (AGS). (2014a). *Australian gambling statistics 1986–87 to 2011–12,* 29th edition*.* Queensland Government Statistician's Office. Queensland treasury and Trade. Retrieved from: http://www.qgso.qld.gov.au/products/reports/aus-gambling-stats/aus-gambling-stats-29th-edn.pdf

Australian Gambling Statistics (AGS). (2014b). *Australian Gambling Statistics 1987-88 to 2012-13,* 30th edition*.* Queensland Government Statistician's Office. Queensland treasury and Trade. Retrieved from: http://www.qgso.qld.gov.au/products/reports/aus-gambling-stats/aus-gambling-stats-30th-edn.pdf

Australian Gaming Machine Manufacturers Association (n.d.). *Australian gaming machines: Player information booklet*. Sydney: Australian Gaming Machine Manufacturers Association.

Australian Institute for Gambling Research. (1995). *Report of the first year of the study into the social and economic impact of the introduction of gaming machines to Queensland clubs and hotels.* Department of Family Services & Aboriginal & Islander Affairs. Brisbane, Australia: AIGR.

Australian Institute of Criminology, & PricewaterhouseCoopers. (2003). *Serious fraud in Australia and New Zealand* (No. 48). Retrieved from the AIC website: http://aic.gov.au/media_library/publications/rpp/48/rpp048.pdf

Australian Institute of Health and Welfare (AIHW). (2002). *2001 National Drug Strategy Household Survey: Detailed findings* (AIHW cat no. PHE 41). Canberra, Australia: AIHW.

Australian Institute of Health and Welfare (AIHW). (2010). *Drinking patterns in Australia, 2001-2007* (Cat. No. PHE 133). Canberra, Australia: AIHW.

Australian/New Zealand Gaming Machine National Standard. (2012). *Australian/New Zealand Gaming Machine National Standard Revision 10.3*. Retrieved from http://www.dob.nt.gov.au/gambling-licensing/gambling/Pages/standards.aspx.

Bagby, R. M., Vachon, D. D., Bulmash, E., & Quilty, L. C. (2008). Personality disorders and pathological gambling: A review and re-examination of prevalence rates. *Journal of Personality Disorders, 22*(2), 191-207. doi:10.1521/pedi.2008.22.2.191

Barrault, S., & Varescon, I. (2013). Cognitive distortions, anxiety, and depression among regular and pathological gambling online poker players. *CyberPsychology, Behavior, and Social Networking, 16*(3), 183-188. doi:10.1089/cyber.2012.0150

Battersby, M., Tolchard, B., Scurrah, M., & Thomas, L. (2006). Suicide ideation and behaviour in people with pathological gambling attending a treatment service*. International Journal of Mental Health and Addiction, 4*(3), 233-246. doi:10.1007/s11469-006-9022-z

Baxandall, P., & Sacerdote, B. (2005). *Betting on the future: The economic impact of legalized gambling. Policy brief.* Cambridge, MA: Rappaport Institute for Greater Boston.

Beckert, J., & Lutter, M. (2009). The inequality of fair play: Lottery gambling and social stratification in Germany. *European Sociological Review, 25*(4), 475-488. Doi: 10.1093/esr/jcn063

Bellringer, M., Abbott, M., Williams, M., & Gao, W. (2008). *Problem gambling - Pacific islands families' longitudinal study: Final report.* Retrieved from: http://aut.researchgateway.ac.nz/handle/10292/2015

Ben-Tovim, D., Esterman, A., Tolchard, B., & Battersby, M. (2001). *The Victorian Gambling Screen.* Commissioned by the Gambling Research Panel. Melbourne, Victoria.

Bergh, C., & Kuhlhorn, E. (1994). Social, psychological and physical consequences of pathological gambling in Sweden. *Journal of Gambling Studies, 10*(3): 275-85. doi:10.1007/BF02104968

Bergh, C., Eklund, T., Sodersten, P., & Nordin, C. (1997). Altered dopamine function in pathological gambling. *Psychological Medicine, 27*(2), 473–475. doi:10.1017/S0033291796003789

Berwick, D., Murphy, J., Goldman, P., Ware, J., Barsky, A., & Weinstein M. (1991). Performance of a five-item mental health screening test. *Medical Care, 29*(2), 169-176. doi:10.1097/00005650-199102000-00008

Besednjak, T. (2008). Excessive Gambling: Risk Factors for Casino Employees. *Raziskave & Razprave/Research & Discussion, 1*(1-3), 37-62.

Binde, P. (2007). Selling dreams –causing nightmares? On gambling advertising and problem gambling. *Journal of Gambling Issues*, *20*, 167-192.

Black, D., Shaw, M., McCormick, B., & Allen, J. (2012). Marital status, childhood maltreatment, and family dysfunction: A controlled study of pathological gambling. *Journal of Clinical Psychiatry, 73*(10), 1293-1297. doi:10.4088/JCP.12m07800.

Blanco, C., Blaszczynski, A., Clement, R., Derevensky, J., Goudriaan, A., Hodgins, D. C., … Wardle, H. (2013). Assessment tool to measure and evaluate the risk potential of gambling products, ASTERIG: A global validation. *Gaming Law Review and Economics, 17*(9), 1-8.

Blanco, C., Blaszczynski, A., Reiner, C., Derevensky, J., Goudriaan, A. E., Hodgins, D.C., … Wardle, H. (2013). Assessment tool to measure and evaluate the risk potential of gambling products, ASTERIG: A Global Validation. *Gaming Law Review and Economics, 17*(9), 635-642. doi: 10.1089/glre.2013.1797

Blanco, C., Orensanz-Munor, L., Blanco-Jerez, C., & Saiz-Ruiz, J. (1996). Pathological gambling and platelet MAO activity: A psychobiological study. *American Journal of Psychiatry, 153*(1), 119–121. doi:10.1176/ajp.153.1.119

Bland, R. C., Newman, S. C., Orn, H., & Stebelsky, G. (1993). Epidemiology of pathological gambling in Edmonton. *Canadian Journal of Psychiatry, 38*(2), 108-112.

Blaszczynski, A. (2009). Problem gambling: We should measure harm rather than 'cases'. *Addiction, 104*(7)*,* 1070-1074.

Blaszczynski, A., & MacCallum, F. (2003). Pathological gambling and suicidality: An analysis of severity and lethality. *Suicide and Life-Threatening Behaviour, 33*(1). 88-98. doi: 10.1521/suli.33.1.88.22781

Blaszczynski, A., & McConaghy, N. (1994a). Antisocial personality disorder and pathological gambling. *Journal of Gambling Studies, 10*(2), 129-145. doi:10.1007/BF02109936

Blaszczynski, A., & McConaghy, N. (1994b). Criminal offences in gamblers anonymous and hospital-treated pathological gamblers. *Journal of Gambling Studies, 10*(2)*,* 99-127. doi:10.1007/BF02109935

Blaszczynski, A., & Nower, L. (2002). A pathways model of problem and pathological gambling. *Addiction, 97*(5), 487–499. doi:10.1046/j.1360-0443.2002.00015.x

Blaszczynski, A., Ladouceur, R., & Moodie, C. (2008). The Sydney Laval Universities Gambling Screen: Preliminary data. *Addiction Theory and Research, 16*(4)*,* 401-411. doi:10.1080/16066350701699031

Blaszczynski, A., Parke, A. J., Parke, J., & Rigbye, J. L. (2014). *Operator-based approaches to harm minimization: Summary, review and future directions*. London, UK: The Responsible Gambling Trust.

Blaszczynski, A., Sharpe, L., & Walker, M. (2001). *The assessment of the impact of the reconfiguration on electronic gaming machines as harm minimization strategies for problem gambling.* Sydney: University of Sydney Gambling Research Unit.

Blue Thorn Research, Population Health Promotion Associates, PFIA Corporation, & Williams, R. J. (2007). *Socioeconomic impacts of new gaming venues in four British Columbia lower mainland communities: Final report.* Submitted to the Gaming Policy and Enforcement Branch, Ministry of Public Safety & Solicitor General, Government of British Columbia. Victoria, British Columbia, Canada: Author.

Boardman, B., & Perry, J. J. (2007). Access to gambling and declaring personal bankruptcy. *The Journal of Socio-Economics, 36*(5), 789-801. doi:10.1016/j.socec.2007.01.012

Bondolfi, G., Osiek, C., & Ferrero, F. (2000). Prevalence estimates of pathological gambling in Switzerland. *Acta Psychiatrica Scandinavica*, *101*(6), 473–475. doi:10.1034/j.1600-0447.2000.101006473.x

Bonnaire, C., Bungener, C., & Varescon, I. (2006). Pathological gambling and sensation seeking – How do gamblers playing games of chance in cafés differ from those who bet on horses at the racetrack? *Addiction Research & Theory, 14*(6), 619-629. doi:10.1080/16066350600964296

Brading, R. (2003). Gambling as cause of bankruptcy in Australia and the US. *New Directions in Bankruptcy, 13*(2), 16-17.

Brasfield, H., Febres, J., Shorey, R., Strong, D., Ninnemann, A., Elmquist, J., … Stuart, G. L. (2012). Male batterers' alcohol use and gambling behavior. *Journal of Gambling Studies, 28*(1), 77-88. doi:10.1007/s10899-011-9246-0

Breen, H., Hing H., & Gordon, A. (2013). Indigenous Australian gambling crime and possible interventions: A qualitative study. *Asian Journal of Gambling Issues and Public Health 3*(4), 1-16. DOI: 10.1186/2195-3007

Broda, A., LaPlante, D., Nelson, S., LaBrie, R., Bosworth, L., & Shaffer, H. (2008). Virtual harm reduction efforts for Internet gambling: effect of deposit limits on actual Internet sports gambling behaviour. *Harm Reduction Journal, 5*(1), 1-9. doi:10.1186/1477-7517-5-27

Brodie, M., Honeyfield, N., & Whitehead, G. (2003). *Change in bank note acceptors on electronic gaming machines in Queensland - Outcome Evaluation.* Queensland Office of Gaming and Regulation and the Office of Economic and Statistical Research. Retrieved from http://pandora.nla.gov.au/tep/51572

Brown, R. I. F. (1986). Arousal and sensation-seeking components in the general explanation of gambling and gambling addictions. *International Journal of the Addictions, 21*(9-10), 1001-1016.

California Economic Forecast (2008). *Economic impact of the Chumash Casino Resort on the County of Santa Barbara*. Prepared for the Santa Barbara County Taxpayers Association. Goleta, CA, USA: Author.

Cantos, A., Neidig, P., & O'Leary, K. (1994). Injuries of women and men in a treatment program for domestic violence. *Journal of Family Violence, 9*(2), 113–124. doi:10.1007/BF01531958

Carr, R. D., Buchkoski, J. E., Kofoed, L., Morgan, T. J. (1996). Video lottery and treatment for pathological gambling. A natural experiment in South Dakota. *South Dakota Journal of Medicine, 49*(1), 30-32.

Castren, S., Basnet, S., Pankakoski, M., Ronkainen, J. E., Helakorpi, S., Uutela, A., … Lahti, T. (2013). An analysis of problem gambling among the Finnish working-age population: A population survey. *BMC Public Health, 13*(1), 1-9. Doi: 10.1186/1471-2458-13-519.

Centre for Gambling Research (2004). *2003 Victorian Longitudinal Community Attitudes Survey*. Report no. 6. Prepared for the Gambling Research Panel. Victoria, Australia: Centre for Gambling Research.

Chaput, Y., Label, M. J., Labonte, E., Beaulieu, L., & Paradis, M. (2007). Pathological gambling and the psychiatric emergency service. *Canadian Journal of Psychiatry, 52*(8), 535-538.

Chhabra, D. (2007). Exploring social exchange theory dynamics in Native American casino settings. *UNLV Gaming Research & Review Journal, 11*(2)*,* 31-48.

Choliz, M. (2010). Experimental Analysis of the game in pathological gamblers: Effect of the immediacy of the reward in slot machines. *Journal of Gambling Studies, 26*(2)*,* 249-256. doi: 10.1007/s10899-009-9156-6.

Chou, K. L., & Afifi, T. O. (2011). Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *American Journal of Epidemiology, 173*(11). doi: 10.1093/aje/kwr017

Clark, L., Lawrence, A. J., Astley-Jones, F., & Gray, N. (2009). Gambling and near-misses enhance motivation to gamble and recruit win-related brain circuitry. *Neuron, 61*(3), 481-490. doi:10.1016/j.neuron.2008.12.031

Comings, D. E., Rosenthal, R. J., Lesieur, H. R., Rugle, L. J., Muhleman, D., Chiu, C., ... Gade, R. (1996). A study of the dopamine D2 receptor gene in pathological gambling. *Pharmacogenetics*, *6*(3), 223–234. doi:10.1097/00008571-199606000-00004

Conner, T., & Taggart, W. (2009). The impact of gaming on the Indian nations in New Mexico. *Social Science Quarterly, 90*(1)*,* 50-70. doi:10.1111/j.1540-6237.2009.00602.x

ConNetica Consulting (2009). *The estimation of the economic cost of suicide to Australia.* Retrieved from http://connetica.com.au/resources-1/the-estimation-of-the-economic-cost-of-suicide-to-australia

Cote, D., Caron, A., Aubert, J., Desrochers, V., & Ladouceur, R. (2003). Near wins prolong gambling on a video lottery terminal. *Journal of Gambling Studies, 19*(4). 433-438. doi:10.1023/A:1026384011003

Cotti, C. (2008). The effect of casinos on local labor markets: A county level analysis. *The Journal of Gambling Business and Economics, 2*(2), 17-41. doi: http://dx.doi.org/10.5750/jgbe.v2i2.529

Coventry K. R., & Hudson J. (2001). Gender differences, physiological arousal and the role of winning in fruit machine gamblers. *Addiction, 96*(6), 871–879. doi:10.1046/j.1360-0443.2001.9668718.x

Cowlishaw, S., Merkouris, S., Chapman, A., & Radermacher, H. (2013). Pathological and problem gambling in substance use treatment: A systematic review and meta-analysis. *Journal of Substance Abuse Treatment, 46*(2), 98-105. doi:10.1016/j.jsat.2013.08.019

Craig, S. (2010). *Treatment utilization by problem gamblers in Northwestern Ontario.* (Master's dissertation, Lakehead University, Ontario). Retrieved from ProQuest Dissertations and Theses. (MR71759).

Crewe-Brown, C., Blaszczynski, A., & Russell, A. (2014). Prize level and debt size: Impact on gambling behaviour. *Journal of Gambling Studies, 30*(3), 639-651. doi:10.1007/s10899-013-9379-4

Crofts, P. (2003). Problem gambling and property offences: An analysis of court files. *International Gambling Studies, 3*(2), 183–197. doi:10.1080/1356470320000142289

Cunningham-Williams, R. M., Abdallah, A. B., Callahan, C., & Cottler, L. (2007). Problem gambling and violence among community-recruited female substance abusers. *Psychology of Addictive Behaviors, 21*(2), 239–243. doi:10.1037/0893-164X.21.2.239

Cunningham-Williams, R. M., Cottler, L. B., Compton, W. M., & Spitznagel, E. L. (1998). Taking chances: Problem gamblers and mental health disorders: Results from the St. Louis Epidemiologic Catchment Area Study. *American Journal of Public Health, 88*(7), 1093-1096.

Currie, S. R., & Casey, D. M. (2008). Quantification and dimensionalization of gambling behaviour. In. G. Smith, D. C. Hodgins, & R. J. Williams (Ed.), *Research and measurement issues in gambling studies* (p. 693). Amsterdam: Elsevier.

Currie, S. R., Hodgins, D. C., Wang, J., el-Guebaly, N., Wynne, H., & Chen, S. (2006). Risk for harm among gamblers in the general population as a function of level of participation in gambling activities. *Addiction, 101*(4), 570-580.

Currie, S. R., Miller, N., Hogdins, D. C., & Wang, J. L. (2009). Defining a threshold of harm from gambling for population health surveillance research. *Journal of International Gambling Studies, 9*(1), 19-38.

Dangerfield, L. (2004). *Job satisfaction, substance abuse, and gambling behaviour of northern Albertan casino employees* (Master's thesis, University of Lethbridge, Canada). Retrieved from http://www.uleth.ca/dspace/bitstream/10133/553/1/dangerfield,%20lyndsey.pdf

Davidson, T. & Rodgers, B. (2010). *2009 Survey of the nature and extent of gambling and problem gambling in the Australian Capital Territory.* Canberra: ACT Gambling & Racing Commission.

Delfabbro, P. H., & Winefield, A. H. (2000). Predictors of irrational thinking in regular slot machine gamblers. *The Journal of Psychology, 134*(2), 117–128. doi:10.1080/00223980009600854

Delfabbro, P. H. (2003). Gambling and homelessness – A hidden link? *Parity, 16*(4), 13-14.

Delfabbro, P. H. (2009). *Australasian gambling review (1992-2008).* 4th ed. Adelaide, South Australia: Independent Gambling Authority. Retrieved from: http://www.iga.sa.gov.au/

Delfabbro, P. H. (2011). *Australasian gambling review (1992-2011).* 5th ed. Adelaide, South Australia; Independent Gambling Authority. Retrieved from: http://www.iga.sa.gov.au/

Delfabbro, P. H. (2012). *Evaluation of the Maxetag Budget Setting Feature: Final report.* Retrieved from http://www.treasury.sa.gov.au/__data/assets/pdf_file/0013/2155/Maxetag-Budget-Setting-Feature.pdf

Department of Justice and Attorney-General (DJAG). (2012). *Queensland Household Gambling Survey 2011–12.* Brisbane, Queensland, Australia: Office of Economic and Statistical Research, DJAG.

Derevensky, J., & Gupta, R. (2004*). Gambling problems in youth: Theoretical and applied perspectives.* New York, NY: Kluwer Academic/Plenum Publishers.

Derevensky, J., Shek, D., & Merrick, J. (2011). *Youth gambling: The hidden addiction*. Berlin, Germany: Walter de Gruyter & Co.

Derevensky, J., Sklar, A., Gupta, R., & Messerlian, C. (2010). An empirical study examining the impact of gambling advertisements on adolescent gambling attitudes and behaviors. *International Journal of Mental Health and Addiction, 8*(1), 21–34. doi:10.1007/s11469-009-9211-7

Desai, R. A., & Potenza, M. N. (2008). Gender differences in the associations between past-year gambling problems and psychiatric disorders. *Social Psychiatry and Psychiatric Epidemiology, 43*(3), 173-183. doi:10.1007/s00127-007-0283-z

Desai, R. A., Desai, M. M., & Potenza, M. N. (2007). Gambling, health, and age: Data from the National Epidemiologic Survey on Alcohol and Related Conditions. *Psychology of Addictive Behaviours, 21*(4), 431-440. doi: 10.1037/0893-164X.21.4.431.

Desai, R. A., Maciejewski, P. K., Dausey, D. J., Caldarone, B. J., & Potenza, M. N. (2004). Health correlates of recreational gambling in older adults. *The American Journal of Psychiatry, 161*(9), 1672-1679. doi:10.1176/appi.ajp.161.9.1672

Dickerson, M. (2004). *Analysis of clients presenting to problem gambling counselling services, July 2001 to June 2002, Client and Service Analysis Report No.8*. Melbourne, Australia: Victorian Government Department of Human Services.

Dickerson, M. G., Baron, E., Hong, S-M., & Cottrell, D. (1996). Estimating the extent and degree of gambling related problems in the Australian population: A national survey. *Journal of Gambling Studies, 12*(2), 161-178.

Dickerson, M., & Maddern, R. (1997). *The extent and impact of gambling in Tasmania with particular reference to problem gambling: A follow up to the Baseline study conducted in 1994.* Sydney: Australian Institute for Gambling Research.

Dickerson, M., Allcock, C., Blaszczynski, A., Nicholls, B., Williams, J., & Maddern, R. (1996). *Study 2: An examination of the socio-economic effects of gambling in individuals, families and the community, including research into the costs of problem gambling In NSW.* Sydney: Report to the NSW Office of Liquor Gaming and Racing, Sydney.

Dickerson, M., McMillen, J. Hallebone, E., Volberg, R., & Woolley, R. (1997). *Definition and*

incidence of pathological gambling including the socioeconomic distribution. Melbourne: Victorian Casino and Gaming Authority. Dixon, M. J., Harrigan, K. A., Sandhu, R., Collins, K., & Fugelsang, J. A. (2010). Losses disguised as wins in modern multi-line video slot machines. *Addiction, 105*(10), 1819–1824. doi:10.1111/j.1360-0443.2010.03050.x

Dickerson, M. G., Baron, E., & O'Conner, J. (1994). *Measuring the extent and degree of gambling related problems in Western Australia*. Sydney: Department of Racing and Gaming, Western Australia.

Dixon, M. R., & Schreiber, J. E. (2004). Near-miss effects on response latencies and win estimations of slot machine players. *The psychological Record, 54*(3)*,* 335-348.

Dixon, M. J., Harrigan, K. A., Santesso, D. L., Graydon, C., Fugelsang, J. A., & Collins, K. (2013). The impact of sound in modern multiline video slot machine play. *Journal of Gambling Studies, 30*(4), 913-929*.* doi: 10.1007/s10899-013-9391-8

Doley, R. (2000), *Want to make a bet? Gambling and crime in Australasia.* Marden, South Australia, Australia: Australian Centre for policing Research.

Doughney, J. (2005). *An unconscionable business. The ugly reality of electronic gambling: A selection of critical essays on gambling research, ethics, and economics.* Australasian Gaming Council Review. Retrieved from: http://www.austgamingcouncil.org.au/images/pdf/eLibrary /2894.pdf

Dowling, N., Smith, D., & Thomas, T. (2009). The family functioning of female pathological gamblers. *International Journal of Mental Health and Addiction, 7*, 29–44. doi:10.1007/s11469-007-9126-0

Downs, C. & Woolrych, R. (2009). *Gambling and debt pathfinder study*. Manchester: Research Institute for Health and Social Change.

Duns, J. (2007). Other people's money: Gambling and bankruptcy. *Melbourne University Law Review, 31*(1), 87-105.

Duquette, K. B. (1999). *Casino employee gambling behaviour* (Unpublished Master's thesis), University of Nevada, Las Vegas.

Dyall, L., & Hand, J. (2003). Maori and gambling: Why a comprehensive Maori public health response is required in Aotearua/New Zealand. *Community Journal of Mental Health and Addiction, 1*(1), 1-16.

Echeburua, E., Gonzalez-Ortega, I., De Corral, P., & Polo-Lopez, R. (2011). Clinical gender differences among adult pathological gamblers seeking treatment. *Journal of Gambling Studies, 27*(2), 215–227.

Edens, E. l., & Rosenheck, R. A. (2011). Rates and correlates of pathological gambling among VA mental health service users. *Journal of Gambling Studies, 28*, 1-11. doi: 10.1007/s10899-011-9239-z.

Evans, W. N., & Topoleski, J. H. (2002). *The social and economic impact of Native American casinos* (no. 9198). National Bureau of Economic Research, Inc., Massachusetts, USA: RBER.

Fehringer, J., & Hindin, M. (2014). "I get angry if he's always drinking and we have no money": Exploring motivations for male and female perpetrated intimate partner violence in the Philippines. *Health Care for Women International, 35*(4), 476-491. doi:10.1080/07399332.2013.770003

Feigelman, W., Kleinman, P. H., Lesieur, H. R, Millman, R. B., & Lesser, M. L. (1995). Pathological gambling among methadone patients. *Drug and Alcohol Dependence, 39*(2), 75–81. doi:10.1016/0376-8716(95)01141-K

Fernandez-Montalvo, J., & Echeburua, E. (2004). Pathological gambling and personality disorders: An exploratory study with the IPDE. *Journal of Personality Disorders, 18*(5), 500-505. doi:10.1521/pedi.18.5.500.51326

Ferris, J., & Wynne, H. (2001). The Canadian problem gambling index: Final report. Ottawa: Canadian Centre on Substance Abuse.

Focal Research Consultants Ltd. (2002). *Atlantic lottery corporation video lottery responsible gaming features research. Final report*. Retrieved from http://greo.ca/content/atlantic-

lottery-corporation-video-lottery-responsible-gaming-features-research-final-repo-1
French, M. T., Maclean, J. C., & Ettner, S. L. (2008). Drinkers and bettors: Investigating the complementarity of alcohol consumption and problem gambling. *Drug and Alcohol Dependence, 96*, 155-164. doi:10.1016/j.drugalcdep.2008.02.011
Frost, R. O., Meagher, B. M., & Riskind, J. H. (2001). Obsessive-compulsive features in pathological lottery and scratch-ticket gamblers. *Journal of Gambling Studies, 17*(1), 5–19. doi:10.1023/A:1016636214258
Gainsbury, S., Russell, A., Blaszczynski, A., & Hing, N. (2014). The interaction between gambling activities and modes of access: A comparison of Internet-only, land-based only, and mixed-mode gamblers. *Addictive Behaviors*, doi: 10.1016/j.addbeh.2014.09.023.
Gainsbury, S., Russell, A., Hing, N., Wood, R., & Blaszczynski, A. (2013a). The impact of internet gambling on gambling problems: A comparison of moderate-risk and problem internet and non-internet gamblers. *Psychology of Addictive Behaviors, 27*(4), 1092-1101. doi:10.1037/a0031475.
Gainsbury, S. M., Russell, A., Hing, N., Wood, R., Lubman, D., & Blaszczynski, A. (2013b). How the Internet is changing gambling: Findings from an Australian prevalence survey. *Journal of Gambling Studies, 31*(1), 1-15. doi: 10.1007/s10899-013-9404-7.
Gambling Legislation Amendment (Responsible Gambling) Act 1999 (NSW) no. 49 (Austl.).
Gambling Regulation Amendment (Licensing) Act 2009 (VIC) no. 29 (Austl.).
Gaming Machines Act 2001 (NSW) no. 127 (Austl.).
Gardner, K. (2005). *Seneca Niagara Casino fiscal & economic impact on Niagara Falls, NY.* Rochester, NY, USA: USA Niagara Development Corporation. Retrieved from: http://www.google.com.au/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB4QFjAA&url=http%3A%2F%2Fwww.usaniagara.com%2FUploadedFiles%2FSenecaNiagaraCasinoEconomicImpactJune20.pdf&ei=Pa1rVZmRDoP68QWM-oOYAw&usg=AFQjCNHVZ76GLebG6qt-Wl1C_5mAC8GrAw&sig2=wylc8YOWNWfaOiQynabAMQ&bvm=bv.94455598,d.dGc
Garrett, T. A. (2004). Casino gaming and local employment trends. *Federal Reserve Bank of St. Louis Review, 86*(1), 9-22.
Gazel, R. C., Rickman, D. S., & Thompson, W. N. (2001). Casino gambling and crime: A panel study of Wisconsin counties. *Managerial and Decision Economics, 22*(1/3), 65-75. doi:10.1002/mde.998
Gerstein, D. R., Hoffmann, J. P., Larison, C., Engelman, L., Murphy, S., Palmer, A., … Sinclair, S. (1999). *Gambling Impact and behavior study: Report to the National Gambling Impact Study Commission.* Retrieved from: http://www.google.com.au/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB4QFjAA&url=http%3A%2F%2Fwww.norc.org%2FPDFs%2Fpublications%2FGIBSFinalReportApril1999.pdf&ei=6OhrVen_OMS2mQXd4IGABw&usg=AFQjCNG2HHA6sxHedYncqZWQpfPaxV2YXQ&sig2=Eif0UdBZzsuYXr3IKaZHdQ&bvm=bv.94455598,d.dGY
Getty, H. A., Watson, J., & Frisch, G. R. (2000). A comparison of depression and styles of coping in male and female GA members and controls. *Journal of Gambling studies, 16*(4), 377–391. doi:10.1023/A:1009480106531
Gilovich, T. (1983). Biased evaluation and persistence in gambling. *Journal of Personality and Social Psychology, 44*(6), 1110–1126. doi:10.1037/0022-3514.44.6.1110
Gilovich, T., & Douglas, C. (1986). Biased evaluations of randomly-determined gambling outcomes. *Journal of Experimental Social Psychology*, *22*(3), 228–241. doi:10.1016/0022-1031(86)90026-0
Goyer, J. P., Woldorff, M. G., & Huettel, S. A. (2008). Rapid electrophysiological brain responses are influenced by both valence and magnitude of monetary rewards. *Journal of Cognitive Neuroscience, 20*(11), 2058-2069. doi:10.1162/jocn.2008.20134

Grant, J. E., Schreiber, L., Odlaug, B. L., & Kim, S. W. (2010). Pathological gambling and bankruptcy. *Comprehensive Psychiatry, 51*(2), 115–120. doi:10.1016/j.comppsych.2009.04.002

Grant, J. E., & Won Kim, S. (2001). Demographic and clinical features of 131 adults pathological gamblers. *Journal of Clinical Psychiatry, 62*(12), 957-962. doi:10.4088/JCP.v62n1207

Griffiths, M. D. (2005). Does gambling advertising contribute to problem gambling? *International Journal of Mental Health and Addiction, 3*(2), 15-25.

Griffiths, M. D., & Barnes, A. (2008). Internet gambling: An online empirical study among student gamblers. *International Journal of Mental Health and Addiction, 6*(2), 194-204. doi:10.1007/s11469-007-9083-7

Grinols, E. L. (2004). *Gambling in America: Costs and benefits.* Cambridge, UK: Cambridge University Press. Retrieved from: http://www.cambridge.org/au/academic/subjects/economics/industrial-economics/gambling-america-costs-and-benefits

Grinols, E. L., & Mustard, D. B. (2001). Business profitability vs. social profitability: Evaluating the social contribution of industries with externalities and the case of the casino industry. *Managerial and Decision Economics, 22*(1-3)*,* 143-162. doi:10.1002/mde.1004

Grinols, E. L., & Mustard, D. B. (2006). Casinos, crime, and community costs. *The Review of Economics and Statistics*, *88*(1), 28-45. doi:10.1162/003465306775565756

Grote, K. R., & Matheson, V. A. (2014). The impact of state lotteries and casinos on state bankruptcy filings. *Growth and Change, 45*(1), 121-135. doi:10.1111/grow.12030

Guttentag, D., Harrigan, K., & Smith, S. (2012). Gambling by Ontario casino employees: gambling behaviours, problem gambling and impacts of the employment. *International Gambling Studies 12*(1)*,* 5-22. doi:10.1080/14459795.2011.605069

H2 Gambling Capital. (2012). eGaming data set. London: H2 Gambling Capital.

Hall, G. W., Carriero, N. J., Takushi, R. Y., Montoya, I. D., Preston, K. L., & Gorelick, D. A. (2000). Pathological gambling among cocaine-dependent outpatients. *American Journal of Psychiatry, 157*(7), 1127–1133. doi:10.1176/appi.ajp.157.7.1127

Hansen, M. & Rossow, I. (2010). Limited cash flow on slot machines: Effects of prohibition of note acceptors on adolescent gambling behaviour. *International Journal of Mental Health Addiction, 8*(1)*,* 70-81. doi:10.1007/s11469-009-9196-2

Harrah's Entertainment. (2006). Harrah's survey: Profile of the American casino gambler. Retrieved from https://www.google.com.au/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB4QFjAA&url=https%3A%2F%2Fwww.caesars.com%2Fimages%2FPDFs%2FProfile_Survey_2006.pdf&ei=E6ZiVcbqI4SA8QWoi4PYDA&usg=AFQjCNHTDZzXAF0PUPlGZsxpjtnUlLJauQ&sig2=sBz-zte5NO9HAKlxnns94w&bvm=bv.93990622,d.dGc

Harwood, H., Fountain, D., & Livermore, G. (1999). Economic cost of alcohol and drug abuse in the United States, 1992: A report. *Addiction, 94*(5)*,* 631-635.

Haw, J., Holdsworth, L., & Nisbet, S. (2013). *Gambling and co-morbid disorders.* Melbourne: Gambling Research Australia. Retrieved from: http://www.gamblingresearch.org.au/resources/420563d3-e0c2-411d-aea5-2746a51d2de5/pages+from+gragamblingandcomorbiddisorderstableofcontents.pdf

Hayatbakhsh, M. R., Najman, J. M., Aird, R., Bor, W., O'Callaghan, M., Williams, G., … Heron, M. (2006). *Early life course determinants of young adults' gambling behaviour: An Australian longitudinal study.* Queensland: Office of Gaming Regulation, Queensland Treasury.

Haynes, S. N., O'Brien, W. H., Kaewe'aimoku, J. & Witteman, C. (2012). Concepts of causality in psychopathology: Applications in clinical assessment, clinical case formulation and functional analysis. *Journal of Unified Psychotherapy and Clinical Science, 1*(1), 87-103.

Hayward, K., & Colman, R. (2004). *The costs and benefits of gaming: A summary report from the literature review*. GPI Atlantic. Retrieved from: http://www.gpiatlantic.org/pdf/gambling/gamblingsumm.pdf

Hing, N., & Breen, H. (2006). *Gambling by employees of Queensland gaming venues: Workplace influences on responsible gambling and problem gambling: Interim report*. Prepared for the Queensland Treasury. South Cross University: Centre for Gambling Education and Research. Retrieved from: http://epubs.scu.edu.au/tourism_pubs/624/

Hing, N., & Breen, H. (2007). Workplace factors that encourage and discourage gambling amongst gaming venue employees: A manager's perspective. *International Journal of Mental Health and Addiction, 5*(4), 346– 366. doi: 10.1007/s11469-007-9062-z

Hing, N., & Breen, H. (2008). How working in a gaming venue can lead to problem gambling: The experiences of six gaming venue staff. *Journal of Gambling Issues, 21*, 11–29.

Hing, N., & Gainsbury, S. (2011). Risky business: Gambling problems amongst gaming venue employees in Queensland, Australia. *Journal of Gambling Issues, 25*, 4-23. doi: 10.4309/jgi.2011.25.2

Hing, N., & Nisbet, S. (2009). *Testing the link between accessibility and gambling problems: Gambling and problem gambling amongst gaming venue staff.* Retrieved from: http://www.responsiblegambling.vic.gov.au/about-us/what-we-do/foundation-research-program/gambling-research-by-topic/problem-gambling-research

Hing, N., Cherney, L., Blaszczynski, A., Gainsbury, S., & Lubman, D. (2014). Do advertising and promotions for online gambling increase gambling consumption? An exploratory study. *International Gambling Studies, 14*(3), 394-409. doi: 14459795.2014.903989.

Hing, N., Gainsbury, S., Blaszczynski, A., Wood, R., Lubman, D., & Russell, A. (2014). *Interactive gambling*. Melbourne: Gambling Research Australia.

Hodgins, D. C., & El-Guebaly, N. (2009). The influence of substance dependence and mood disorders on outcome from pathological gambling: Five-year follow-Up. *Journal of Gambling Studies, 26*, 117-127. doi: 10.1007/s10899-009-9137-9

Hodgins, D. C., & Peden, N. (2005). Natural course of gambling disorders: Forty-month follow-up. *Journal of Gambling Issues, 14*. doi: 10.4309/jgi.2005.14.5

Humphreys, B. R., & Marchand, J. (2013). New casinos and local labor markets: Evidence from Canada. *Labour Economics, 24*, 151-160. doi:10.1016/j.labeco.2013.08.006

Hutson, L., & Sullivan, S. (2004). Gambling problems affecting clients accessing foodbanks: Integrating help into a generic social service. In Adamson S. J. (ed.) New Zealand Treatment Research Monograph, Alcohol, Drugs and Addiction*. Research Proceedings from the Cutting Edge Conference, September 2004.* Retrieved from www.chmeds.ac.nz/departments/psychmed/treatment/monograph2004.pdf

Ibanez, A., Blanco, C., Donahue, E., Lesieur, H. R., Perez de Castro, I., Fernandez-Piqueras, J., & Saiz-Ruiz, J. (2001). Psychiatric comorbidity in pathological gamblers seeking treatment. *American Journal of Psychiatry, 158*(10), 1733–1735. doi: 10.1176/ajp.158.10.1733

Insolvency & Trustee Service Australia. (2012). *Annual report 2011-2012*. Retrieved from the Australian Financial Security Authority website: https://www.afsa.gov.au/about-us/annual-report/annual-report-pdf-versions/annual-report-2011-12-2.

Interactive Gambling Act 2001 no. 5 (Austl.). Retrieved from http://www.austlii.edu.au/au/legis/cth/consol_act/iga2001193/

Jackson, A. C., Thomas, S. A., Thomason, N., Crisp, B. R., Smith, S., Ho, W., & Borrell, J. (1997) *Analysis of clients presenting to problem gambling counselling services from July 1 1996 to June 30 1997. Client Analysis Report No. 2*. Melbourne: Victorian Department of Human Services.

Jacques, C., & Ladouceur, R. (2006). Prospective study on the impact of opening a casino on gambling behaviours: Two and four-year follow-ups. *Canadian Journal of Psychiatry, 51*(12), 764-773.

Johansson, A., Grant, J. E., Kim, S. W., Odlaug, B. L., & Gotestam, K. G. (2009). Risk Factors for Problematic Gambling: A Critical Literature Review. *Journal of Gambling Studies, 25*(1), 67-92**.** doi:10.1007/s10899-008-9088-6

Joukhador, J., Blaszczynski, A., & Maccallum, F. (2004). Superstitious beliefs in gambling among problem and non-problem gamblers: Preliminary data. *Journal of Gambling Studies, 20*(2), 171-180. doi: 10.1023/B:JOGS.0000022308.27774.2b

Kassinove, J. I., & Schare, M. L. (2001). Effects of the "near miss" and the "big win" on persistence at slot machine gambling. *Psychology of Addictive Behaviors, 15*(2), 155–158. doi:10.1037/0893-164X.15.2.155

Kerber, C. S., Black, D. W., & Buckwalter, K. (2008). Comorbid psychiatric disorders among older adult recovering pathological gamblers. *Issues in Mental Health Nursing, 29*, 1018-1028. doi: 10.1080/01612840802274933

Kessler, R. C., Howes, M. J., Walters, E. E., Hiripi, E., Normand, S. T., Colpe, L. J., … Barker, P. R. (2003). Screening for serious mental illness in the general population. *Archives of General Psychiatry, 60*(2), 184-189. doi:10.1001/archpsyc.60.2.184

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication . *Archives of General Psychiatry, 62*, 593-603.

Kessler, R. C., Hwang, I., LaBrie, R., Petukhova, M., Sampson, N. A., Winters, K. C., & Shaffer, H .J. (2008). DSM-IV pathological gambling in the National Comorbidity Survey Replication. *Psychological Medicine, 38*(9), 1351-1360. doi:10.1017/S0033291708002900

Kim, W. (2006). *The economic impacts of American Indian casinos* (Doctoral thesis, University of Maryland, USA). Retrieved from: http://drum.lib.umd.edu/bitstream/1903/3882/1/umi-umd-3729.pdf

Korman, L. M., Collins, J., Dutton, D., Dhayananthan, B., Littman-Sharp, N., & Skinner, W. (2008). Problem gambling and intimate partner violence*. Journal of Gambling Studies, 24*(1), 13–23. doi:10.1007/s10899-007-9077-1

Korn, D., & Shaffer, H. (1999). Gambling and the health of the public: Adopting a public health perspective. *Journal of Gambling Studies, 15*, 289–365. doi:10.1023/A:1023005115932

KPMG Consulting. (2000). *Longitudinal community impact study: 1999 Report.* Melbourne: Victorian Casino and Gaming Authority. Retrieved from: http://www.vcglr.vic.gov.au/home/resources/data+and+research/studies+and+reports+site+area/ on 03/09/2014.

Kreussel, L., Hewig, J., Kretschmer, N., Hecht, H., Coles, M. G. H., & Miltner, W. H. R. (2012). The influence of the magnitude, probability, and valence of potential wins and losses on the amplitude of the feedback negativity. *Psychophysiology, 49*(2), 207-219. doi: 10.1111/j.1469-8986.2011.01291.x

Kruijshaar, M. E., Barendregt, J., Vos, T., de Graaf, R., Spijker, J., & Andrews, G. (2005). Lifetime prevalence estimates of major depression: An indirect estimation method and a quantification of recall bias. *European Journal of Epidemiology, 20,* 103–111.

Kyngdon, A., & Dickerson, M. (1999). An experimental study of the effect of prior alcohol consumption on a simulated gambling activity. *Addiction, 94*(5), 697-707.

Ladouceur, R., Boisvert, J. M., Pepin, M., Loranger, M., & Sylvain C. (1994). Social costs of pathological gambling. *Journal of Gambling Studies. 10*(4), 399–409. doi:10.1007/BF02104905

Ladouceur, R., Boudreault, N., Jacques, C., & Vitaro, F. (1999). Pathological gambling and related problems among adolescents. *Journal of Child & Adolescent Substance Abuse*, *8*(4), 55–68. doi:10.1300/J029v08n04_04

Lahr, M. L, Hincken, G., Chao, J., & Azhar, N. (2010). *The contribution of the casino hotel industry to New Jersey's economy*. R/ECON Working Paper, E. J. Bloustein School of Planning and Public Policy, Rutgers University, New Jersey.

Lane, S. P., & Sher, K. J. (2014). Limits of current approaches to diagnosis severity based on criterion counts: An example with DSM-5 alcohol use disorders. *Clinical Psychological Science,* 1-17. DOI: 10.1177/2167702614553026.

Langer, E. J. (1975). The illusion of control. *Journal of Personality and Social Psychology, 32*(2),

311–327. doi: 10.1037/0022-3514.32.2.311

Langer, E. J., & Roth, J. (1975). Heads I win, tails it's chance: The illusion of control as a function of the sequence of outcomes in a purely chance task. *Journal of Personality and Social Psychology, 32*(6), 951-955. doi:10.1037/0022-3514.32.6.951

LaPlante, D. A., & Shaffer, H. J. (2007). Understanding the influence of gambling opportunities: Expanding exposure models to include adaptation. *American Journal of Orthopsychiatry, 77*(4), 616–623.

LaPlante, D. A., Nelson, S. E., LaBrie, R. A., & Shaffer, H. J. (2008). Stability and progression of disordered gambling: Lessons from longitudinal studies. *Canadian Journal of Psychiatry, 53*(1)*,* 52-60.

Layton, A., & Worthington, A. (1999). The impact of socio-economic factors on gambling expenditure. *International Journal of Social Economics, 26*(1-3)*,* 430-440. doi:10.1108/03068299910230035

Leary, K., & Dickerson, M. (1985). Levels of arousal in high- and low-frequency gamblers*. Behavioural Research and Therapy, 23*(6), 635–640. doi:10.1016/0005-7967(85)90058-0

Lesieur, H. R., & Rothschild, J. (1989). Children of Gamblers Anonymous members. *Journal of Gambling Behavior, 5*(4)*,* 269–282. doi:10.1007/BF01672428

Lesieur, H. R., & Blume, S. B. (1987). The south oaks gambling screen (SOGS): A new instrument for the identification of pathological gamblers*. American Journal of Psychiatry, 144*(9), 1184-1188. doi:10.1176/ajp.144.9.1184

Levens, S., Dyer, A-M., Zubritsky, C., Knott, K., & Oslin, D. W. (2005). Gambling among older, primary-care patients: An important public health concern. *The American Journal of Geriatric Psychiatry, 13*(1), 69-76.

Liao, M. S. (2008). Intimate partner violence within the Chinese community in San Francisco: problem gambling as a risk factor. *Journal of Family Violence, 23*(8), 671–678. doi:10.1007/s10896-008-9190-7.

Lin, C., Chiu, Y., Cheng, C., & Hsieh, J. (2008). Brain maps of Iowa gambling task. *BMC Neuroscience, 9*(1), 72-72. doi:10.1186/1471-2202-9-72

Livingstone, C., & Woolley, R. (2008). *The relevance and role of gaming machine games and game features in the play of problem gamblers*. Report prepared for the Independent Gambling Authority of South Australia. Melbourne: Australian Institute for Primary Care.

Lorain, F. K., Cowlishaw, S., & Thomas, S. A. (2011). Prevalence of comorbid disorders in problem and pathological gambling: a systematic review and meta-analysis of population surveys. *Addiction, 106*(3)*,* 490-498. doi:10.1111/j.1360-0443.2010.03300.x

Lorenz, V. C., & Shuttleworth, D. E. (1983). The impact of pathological gambling on the spouse of the gambler. *Journal of Community Psychology, 11*(1)*,* 67–76. doi:10.1002/1520-6629(198301)11:1<67::AID-JCOP2290110107>3.0.CO;2-O

Lund, I. (2009). Gambling behaviour and the prevalence of gambling problems in adult EGM gamblers when EGMs are banned. A natural experiment. *Journal of Gambling Studies, 25,* 215–225. doi: 10.1007/s10899-009-9127-y

MacCallum, F., & Blaszczynski, A. (2002). Pathological gambling and comorbid substance use. *Australasian Psychiatry, 36*(3), 411-415. doi:10.1046/j.1440-1614.2002.01005.x

MacCallum, F., Blaszczynski, A., Joukhador, J., & Beattie, L. (1999). Suicidality and pathological gambling: A systematic assessment of severity and lethality. In J. McMillen & L. Laker (eds.). Developing strategic alliances*. Proceedings of the 9th annual conference of the National Association for Gambling Studies* (pp. 300–312), Gold Coast, Queensland.

MacDonald, M., McMullan, J. L., & Perrier, D. C. (2004). Gambling households in Canada. *Journal of Gambling Studies, 20*(3), 187–236. doi:10.1023/B:JOGS.0000040277.85569.a1

MacDonald, Z. (2002). Official crime statistics: Their use and interpretation. *The Economic Journal, 112*(477)*,* 85-106. doi:10.1111/1468-0297.00685

Markham, F., Young, M. & Doran, B. (2014). Gambling expenditure predicts harm: Evidence from a venue-level study. *Addiction*, *109*(9). 1509–1516. doi: 10.1111/add.12595.

Marshall, D. (1999). Adelaide's pokie geography: Distribution and expenditure on electronic gaming machines in Adelaide. *South Australian Geographical Journal, 98*, 19–29.

Marshall, D. (2005). The gambling environment and gambler behaviour: Evidence from Richmond-Tweed, Australia. *International Gambling Studies, 5*(1). 63-83. doi: 10.1080/14459790500099471.

Marshall, D., & Baker, R. G. V. (2002). The evolving market structures of gambling: Case studies modelling the socioeconomic assignment of gaming machines in Melbourne and Sydney, Australia. *Journal of Gambling Studies, 18*(3). 273-291. doi: 10.1023/A:1016847305942

Marshall, M., Balfour, R., & Kenner, A. (1998). *Pathological gambling: Prevalence, type of offence, comorbid psychopathology and demographic characteristics in a prison population*. (Unpublished Masters thesis), University of South Australia, Australia.

Mason, K., & Arnold, R. (2007). Problem gambling and risk factors and associated behaviours and health status: Results from the 2002/03 New Zealand Health Survey. *The New Zealand Medical Journal*, *120*(1257).

McCleary, R., Chew, K., Feng, W., Merrill, V., Napolitano, C., Males, M., & Graffeo, B. (1998). Suicide and gambling: An analysis of suicide rates in U.S. counties and metropolitan areas. *American Gaming Association.* Retrieved from: http://www.americangaming.org/sites/default/files/uploads/docs/whitepapers/suicide.pdf

McCready, J., Mann, R. E., Zhao, J., & Eves, R. (2008). Correlates of gambling-related problems among older adults in Ontario. *Journal of Gambling Issues,* (22), 174-194. doi: 10.4309/jgi.2008.22.3

McCullagh, P., & Nelder, J. A. (1989). *Generalized linear models* (2nd ed.). London: Chapman & Hall.

McDonnell-Phillips Pty Ltd. (2006). *Australian National Survey of Gambler Precommitment Behaviour 2005*. Commissioned by Gambling Research Australia. Melbourne, Australia: McDonnell-Phillips.

McLain, P. M., & Maheshwari, S. K. (2006). Impact of gaming industry on local employment and personal income. *Journal of Economics and Economic Education Research, 7*(3), 35-52.

McMillen, J. & Wenzel, M. (2006). Measuring problem gambling: Assessment of three prevalence screens. *International Gambling Studies, 6* (2), 147-174.

McMillen, J., & Pitt, S. (2005). *Review of the ACT government's harm minimization measures.* The Australian National University, Centre for Gambling Research. Canberra, Australia: ANU.

McMillen, J., Marshall, D., & Doran, B. (2004). Geography of gambling: Accessibility of EGMs in suburban Canberra. In Coman, G. (Ed.). *Proceedings of the National Association for Gambling Studies Conference.* Melbourne: National Association for Gambling Studies.

McMillen, J., Marshall, D., & Murphy, L. (2004). *The use of ATMs in ACT gaming venues: An empirical study.* The Australian National University, Centre for Gambling Research. Canberra, Australia: ANU.

Miller, N. V., & Currie, S. R. (2008). A Canadian population level analysis of the roles of irrational gambling cognitions and risky gambling practices as correlates of gambling intensity and pathological gambling. *Journal of Gambling Studies. 24*(3), 257-274. doi:10.1007/s10899-008-9089-5

Mishra, S, Lalumiere, M. L., Morgan, M., & Williams, R. L. (2011). An examination of the relationship between gambling and antisocial behavior. *Journal of Gambling Studies, 27*(3), 409-426. doi:10.1007/s10899-010-9217-x.

Moffitt, T. E., Caspi, A, Rutter, M., & Silva, P. A. (2001). *Sex differences in antisocial behavior: Conduct disorder, delinquency and violence in the Dunedin Longitudinal Study*. Cambridge, UK: Cambridge University Press.

Moodie C., & Finnigan F. (2005). A comparison of the autonomic arousal of frequent, infrequent and non-gamblers while playing fruit machines. *Addiction*, *100*(1), 51– 59. doi:10.1111/j.1360-0443.2004.00942.x

Moore, S. M., Thomas, A. C., Kyrios, M., Bates, G., & Meredyth, D. (2011). Gambling accessibility:

A scale to measure gambler preferences. *Journal of Gambling Studies, 27*(1), 129-143. doi: 10.1007/s10899-010-9203-3

Morasco, B. J., Pietrzak, R. H., Blanco, C., Grant, B. F., Hasin, D., & Petry, N. M. (2006b). Health problems and medical utilization associated with gambling disorders: Results from the National Epidemiological Survey on Alcohol and Related Conditions. *Psychosomatic Medicine, 68*(6), 976-984. doi:10.1097/01.psy.0000238466.76172.cd

Morasco, B. J., Vom Eigen, K. A., & Petry, N. M. (2006a). Severity of gambling is associated with physical and emotional health in urban primary care patients. *General Hospital Psychiatry, 28,* 94-100.

Moufakkir, O. (2002). *Changes in selected economic and social indicators associated with the establishment of casinos in the city of Detroit: A case study* (Doctoral thesis). Available from ProQuest, UMI Dissertations Publishing database (ISBN: 0493952101, 9780493952109).

Muelleman, R. L., DenOtter, T., Wadman, M. C., Tran, T. P., & Anderson, J. (2002). Problem gambling in the partner of the emergency department patient as a risk factor for intimate partner violence. *The Journal of Emergency Medicine, 23*(3), 307–312. doi:10.1016/S0736-4679(02)00543-7

Myrseth, H., Pallesen, S., Molde, H., Johnsen, B. H., & Lorvik, I. M. (2009). Personality factors as predictors of pathological gambling. *Personality and Individual Differences, 47*(8), 933–937. doi:10.1016/j.paid.2009.07.018

Najavits, L. M. (2010). Treatment utilization of pathological gamblers with and without PTSD. *Journal of Gambling Studies, 26,* 583-592. doi:10.1007/s10899-010-9179-z

National Centre for Social Research (NatCen). (2007). *Gambling in Britain: The latest survey evidence.* Retrieved from: http://www.natcen.ac.uk/natcen/pages/news_and_media_docs/gambling.pdf

National Gambling Impact and Policy Commission [NGIPC]. (1999). *The National Gambling Impact Study Commission Report*. Washington D.C.: National Gambling Impact and Policy Commission.

National Opinion Research Center (1999*). Gambling impact and behavior study.* Report to the National Gambling Impact Study Commission. Retrieved from: http://govinfo.library.unt.edu/ngisc/reports/gibstdy.pdf

Neal, P., Delfabbro, P., & O'Neil, M. (2005). *Problem gambling and harm: Towards a national definition.* Gambling Research Australia, Melbourne. Retrieved from: https://www.adelaide.edu.au/saces/gambling/publications/ProblemGamblingAndHarmTowardNationalDefinition.pdf

Nelson, S. E., LaPlante, D. A., Peller, A. J., Schumann, A., LaBrie, R. A., & Shaffer, H. J. (2008). Real limits in the virtual world: Self-limiting behaviour of Internet gamblers. *Journal of Gambling Studies, 24*(4), 463-477. doi:10.1007/s10899-008-9106-8

New Zealand Department of Internal Affairs (NZDIA). (1995). *Review of gaming: A discussion document* (Series no. 1). Wellington: Dept of Internal Affairs.

New Zealand Department of Internal Affairs (NZDIA). (2003). *Gambling Act 2003* (No. 51). Wellington: Dept of Internal Affairs.

New Zealand Ministry of Health. (2009). *A focus on problem gambling: Results of the 2006/07 New Zealand Health Survey*. Wellington: Ministry of Health.

Newman, S. C., & Thompson, A. H. (2003). A population-based study of the association between pathological gambling and attempted suicide. *Suicide and Life Threatening Behaviour, 33*(1), 80-87. doi:10.1521/suli.33.1.80.22785

Newman, S. C., & Thompson, A. H. (2007). The association between pathological gambling and attempted suicide: Findings from a national survey in Canada. *Canadian Journal of Psychiatry, 52*(9), 605-612.

Nichols, M. W., Stitt, B. G., & Giacopassi, D. (2004). Changes in suicide and divorce in new casino jurisdictions. *Journal of Gambling Studies, 20*(4). 391-404. doi:10.1007/s10899-004-4581-z

Nisbet, S. (2013). *Electronic gaming machine payment systems and their influence on player*

behaviour (Doctoral thesis, Melbourne Graduate School Education, Australia). Retrieved from https://minerva-access.unimelb.edu.au/handle/11343/38696

Nower, L., & Blaszczynski, A. (2008). Characteristics of problem gamblers 56 years of age or older: A statewide study of casino self-excluders. *Psychology and Aging*, *23*(3), 577-584. doi:10.1037/a0013233

Nower, L., & Blaszczynski, A. (2010). Gambling motivations, money-limiting strategies, and precommitment preferences of problem versus non-problem gamblers. *Journal of Gambling Studies, 26*(3)*,* 361-372. doi: 10.1007/s10899-009-9170-8

Nower, L., & Blaszczynski, A. (2014). Legal and financial issues and disordered gambling. In D.C.S. Richard, A. Blaszczynski, & L. Nower, (eds.). *The Wiley Handbook of disordered gambling.* West Sussex: Wiley-Blackwell Publishing.

Nower, L., Eyrich-Garg, K. M., Pollio, D. E., & North, C. S. (2014). Problem gambling and homelessness: Results from an epidemiological study. *Journal of Gambling Studies.* doi: 10.1007/s10899-013-9435-0.

O'Dea, D., & Tucker, S. (2005). *The cost of suicide to society.* Wellington, New Zealand: Ministry of Health.

Office of Gaming and Racing (2005). *Regional electronic gaming machines Caps Review Panel: Final report.* Melbourne, Australia: Victorian Government Department of Justice.

Orford, J., Griffiths, M., Wardle, H., Sproston, K., & Erens, B. (2009). Negative public attitudes towards gambling: Findings from the 2007 British Gambling Prevalence Survey using a new attitude scale. *International Gambling Studies, 9*(1), 39–54. doi: 10.1080/14459790802652217

Oz Lotteries. (2014). Retrieved September 5th, 2014, from http://www.ozlotteries.com/play/powerball

Parke, J., & Griffiths, M. (2004). Gambling addiction and the evolution of the "near miss". *Addiction Research and Theory, 12*(5), 407-411. doi:10.1080/16066350410001728118

Paterson, A., & Garrett, L. (2010). *Report into the possible connection between problem gambling, drug use and criminal activity among clients of OARS SA.* Adelaide: Independent Gambling Authority of South Australia.

Pelletier, O., Ladouceur, R., & Rheaume, J. (2008). Personality disorders and pathological gambling: Comorbidity and treatment dropout predictors. *International Gambling Studies, 8*(3), 299-313. doi:10.1080/14459790802405913

Penfold, A., Hatcher, S., Sullivan, S., & Collins, N. (2006). Gambling problems and attempted suicide. Part I. High prevalence amongst hospital admissions. *International Journal of Health Addiction, 4,* 265-272. doi:10.1007/s11469-006-9025-9

Petry, N. M. (2002). A comparison of young, middle-aged, and older adult treatment-seeking pathological gamblers. *The Gerontologist, 42*(1), 92-99. doi:10.1093/geront/42.1.92

Petry, N. M., & Weinstock, J. (2007). Internet gambling is common in college students and associated with poor mental health. *The American Journal of Addictions, 16,* 325-330. doi:10.1080/10550490701525673

Petry, N. M., Stinson, F. S., & Grant, B. F. (2005). Comorbidity of DSM-IV pathological gambling and other psychiatric disorders: Results from the National Epidemiological Survey on Alcohol and Related Conditions. *Journal of Clinical Psychiatry, 66*(5), 564 – 574.

Phillips, D. P., Welty, W., & Smith, M. (1997). Elevated suicide levels associated with legalized gambling. *Suicide and Life Threatening Behaviour, 27*(4), 373-378.

Pietrzak, R. H., & Petry, N. M. (2006). Severity of gambling problems and psychosocial functioning in older adults. *Journal of Psychiatry and Neurology, 19*(2)*,* 106-113. doi: 10.1177/0897988706286508.

Pietrzak, R. H., Molina, C. A., Ladd, G. T., Kerrins, G. J., & Petry, N. M. (2005). Health and psychosocial correlates of disordered gambling in older adults. *The American Journal of Geriatric Psychiatry, 13*(6), 510-519.

Pietrzak, R. H., Morasco, B. J., Blanco, C., Grant, B. F., & Petry, N. M. (2007). Gambling level and psychiatric and medical disorders in older adults: Results from the National Epidemiological Survey on Alcohol and Related Conditions. *The American Journal of Geriatric Psychiatry, 15*(4), 301-313.

Pinge, I. (2001). *Measuring the economic impact of electronic gaming machines in regional areas: Bendigo—a case study.* Bendigo, Australia: La Trobe University.

Pinge, I. (2008). *Electronic gaming machines in Bendigo 2008 – assessing their economic impact.* Prepared for the City of Greater Bendigo. Bendigo, Australia: Jimbrada Pty Ltd.

Pinto, S., & Wilson, P. (1990). *Gambling in Australia* (No. 24). Canberra, Australia: Australian Institute of Criminology.

Poirier-Arbour, A., Trudal, G., Boyer, R., Harvey, P., & Goldfarb, M. R. (2014). Correlates of depressive symptom severity in problem and pathological gamblers in couple relationships. *Journal of Gambling Studies, 30,* 173-185. doi:10.1007/s10899-012-9345-6

Polatschek, A., Wadden, L., & Gwynn, M. (2013). My-Play: Nova Scotia's experience with a responsible gambling system for VLTs. In *23rd Annual Conference on National Association for Gambling Studies,* Sydney, Australia: NAGS. Retrieved from http://www.nags.org.au/conference_presentations.php

Potenza, M. N., Steinberg, M. A., McLaughlin, S. D., Wu, R., Rounsaville, B. J., & O'Malley, S. S. (2001). Gender-related differences in the characteristics of problem gamblers using a gambling helpline. *American Journal of Psychiatry, 158*(9), 1500–1505. doi:10.1176/appi.ajp.158.9.1500

Productivity Commission (PC). (1999). *Australia's gambling industries* (Report no. 10). Canberra, Australia: PC.

Productivity Commission (PC). (2010). *Gambling* (Report no. 50). Canberra, Australia: PC.

Queensland Government Treasury. (2002). *The Queensland responsible gambling strategy: A partnership approach.* Retrieved from: http://www.clubsqld.com.au/wp-content/uploads/2011/02/Responsible-Gambling-Strategy.pdf

Queensland Government Treasury. (2008). *Queensland household gambling survey 2006–2007*. Brisbane, Australia: Queensland Government.

Queensland Government Treasury. (2012). *Queensland household gambling survey 2011-12*. Brisbane, Australia: Queensland Government.

Raisamo S., Halme J., Murto., & Lintonen T. (2013). Gambling-related harms among adolescents: A population-based study. *Journal of Gambling Studies, 29,* 151-159.

Rankine, J., & Haigh, D. (2003). *Social impacts of gambling in Manukau City*. Report prepared for Manukau City Council. Manukau City, NZ: Manukau City Council.

Raventos, P., & Zolezzi, S. (2011). Sportsbooks and politicians: Place your bet! *Journal of Business Research, 64*(3), 299-305. doi: 10.1016/j.jbusres.2009.11.016

Raylu, N., & Oei, T.P.S (2004b). Role of culture in gambling and problem gambling. *Clinical Psychology Review, 23,* 1087-1114. doi:10.1016/j.cpr.2003.09.005

Raylu, N., & Oei, T.P.S. (2004a). The Gambling Related Cognition Scale (GRCS): development, confirmatory factor validation and psychometric properties. *Addiction, 99*(6)*,* 757-769. doi: 10.1111/j.1360-0443.2004.00753.x

Reith, G. (2006). *Research on the social impacts of gambling, final report.* Edinburgh: Scottish Executive Social Research. Retrieved from: http://www.gla.ac.uk/media/media_34552_en.pdf

Risk. (2015). In *The Oxford Dictionaries.* Retrieved from http://www.oxforddictionaries.com/definition/american_english/risk

Rockloff, M., Hing, N., Donaldson, P., Li, E., Browne, M, & Langham. (2013). *The impact of electronic gaming machine jackpots on gambling behaviour*', Research Report for Gambling Research Australia.

Rodda, S., Brown, S. L., & Phillips, J. C. (2004). The relationship between anxiety, smoking, and gambling in electronic gaming machine players. *Journal of Gambling Studies, 20*(1), 71-81. doi: 10.1023/B:JOGS.0000016704.06088.85

Roy, A., Adinoff, B., Roehrich, L., Lamparski, D., Custer, R., Lorenz, V., ... Linnoila, M. (1988). Pathological gambling: A psychobiological study. *Archives of General Psychiatry*, *45*(4), 369–373. doi:10.1001/archpsyc.1988.01800280085011

Savoie, D., & Ladouceur, R. (1995). E´valuation et modification de conceptions erronees au sujet des Loteries. *Canadian Journal of Behavioural Science,* 27, 199–213.

Schellinck, T., Schrans, T., Chen, C., & Chambers, E. (2010). *Evaluating the impact of the 'My-Play' system in Nova Scotia phase 1: Regular VL player benchmark survey.* Retrieved from http://www.nsgamingfoundation.org/uploads/Research/Technical%20Report%20Phase%201%20My-Play%20Benchmark%20Final%20%20_Focal_%20Jan%2028%202011.pdf

Schottler Consulting. (2008). *Major findings of a trial of a card-based gaming product at the Sandgate RSL: Card-based trial evaluation*. Retrieved from https://publications.qld.gov.au/storage/f/2014-06-20T02%3A52%3A22.890Z/report-into-card-based-gaming-cbg-trial-sandgate-rsl.pdf

Schottler Consulting. (2010). *Major findings and implications: Player tracking and pre-commitment trial. A program and outcome evaluation of the PlaySmart Pre-commitment System.* Retrieved from http://www.treasury.sa.gov.au/__data/assets/pdf_file/0016/2158/PlaySmart.pdf

Schottler Consulting. (2014). *Impact of structural characteristics of electronic gaming machines (EGM)*. Gambling Research Australia.

Schull, N. D. (2005). Digital gambling: The coincidence of desire and design. *Annals of the American Academy of Political and Social Science*, *597*(1), 65-81. doi:10.1177/0002716204270435

Seguin, M., Boyer, R., Lesage, A., McGirr, A., Suissa, A., Tousignant, M., & Turecki, G. (2010). Suicide and gambling: Psychopathology and treatment-seeking. *Psychology of Addictive Behaviours, 24*(3), 541-547. doi:10.1037/a0019041

Select Committee on the Impact of Gambling (SCIG). (2014). *The impact of gambling*. Sydney: New South Wales Parliament Legislative Council.

Shaffer, H. J., LaBrie, R. A., & LaPlante, D. (2004). Laying the foundation for quantifying regional exposure to social phenomena: Considering the case of legalized gambling as a public health toxin. *Psychology of Addictive Behaviors, 18*(1), 40-48. doi:10.1037/0893-164X.18.1.40

Shaffer, H. J., & Korn, D. (2002). Gambling and related mental disorders: A public health analysis. *Annual Review Public Health*, *23*, 171 – 212. doi:10.1146/annurev.publhealth.23.100901.140532

Shaffer, H. J., Bilt, J. V., & Hall, M. N. (1999). Gambling, drinking, smoking and other health risk activities among casino employees. *American Journal of Industrial Medicine*, *36*(3)*,* 365–378. doi:10.1002/(SICI)1097-0274(199909)36:3<365::AID-AJIM4>3.0.CO;2-I

Sharpe, L., & Tarrier, N. (1993). Towards a cognitive-behavioural theory of problem gambling. *British Journal of Psychiatry, 162*, 407-412.

Sharpe, L., Walker, M., Coughlan, M. J., Enersen, K., & Blaszczynski, A. (2005). Structural changes to electronic gaming machines as effective harm minimization strategies for non-problem and problem gamblers. *Journal of Gambling Studies, 21*(4), 503-520. doi:10.1007/s10899-005-5560-8

Single, E., Collins, D., Easton, B., Harward, H., Lapsley, H., Kopp, L., & Wilson, E. (2003). *International guidelines for estimating costs of substance abuse.* Geneva: World Health Organisation.

Slutske, W. S., Caspi, A., Moffitt, T. E., & Poulton, R. (2005). Personality and problem gambling: A prospective study of a birth cohort of young adults. *Archives of General Psychiatry*, *62*(7). 769–775.

Slutske, W. S., Eisen, S. A., True, W. R., Lyons, M. J., Goldberg, J., & Tsuang, M. T. (2000). Common genetic vulnerability for pathological gambling and alcohol dependence in men. *Archives of General Psychiatry, 57*(7), 666–673. doi:10.1001/archpsyc.57.7.666

Slutske, W. S., Eisen, S., Xian, H., True, W. R., Lyons, M. J., Goldberg, J., & Tsuang, M. (2001). A twin study of the association between pathological gambling and antisocial personality disorder. *Journal of Abnormal Psychology, 110*(2), 297–308. doi:10.1037/0021-843X.110.2.297

Slutske, W. S., Jackson, K. M., & Sher, K. J. (2003). The natural history of problem gambling from age 18 to 29. *Journal of Abnormal Psychology, 112*(2), 263-274.

Soberay, A., Faragher, J. M., Barbash, M., Brookover, A., & Grimsley, P. (2014). Pathological gambling, co-occurring disorders, clinical presentation, and treatment outcomes at a university-based counseling clinic. *Journal of Gambling Studies, 30*(1), 61-69. doi:10.1007/s10899-012-9357-2

Social Research Centre. (2013). *Gambling prevalence in South Australia 2012*. Office for Problem Gambling, Department for Communities and Social Inclusion. Adelaide, Australia: Government of South Australia.

South Australian Centre for Economic Studies (SACES). (2005). *Study of the impact of caps on electronic gaming machines.* Melbourne, Australia: Victorian Gambling Research Panel.

South Australian Centre for Economic Studies (SACES). (2006). *The South Australian Gambling Industry. Final report.* South Australian Independent Gambling Authority. Adelaide, Australia: SACES.

South Australian Centre for Economic Studies (SACES). (2008). *Social and economic impact study into gambling in Tasmania. Final report*. Commissioned by Department of Treasury and Finance Tasmania. Adelaide, Australia: SACES.

South Australian Department for Families and Communities (SADFC). (2006). *Gambling prevalence in South Australia*. Adelaide, Australia: Government of South Australia.

South Australian Office for Problem Gambling (SAOPG). (2012). *Gambling prevalence in South Australia (2012)*. Adelaide, Australia: Government of South Australia.

Splevins, K., Mireskandari, S., Clayton, K., & Blaszczynski. (2010). Prevalence of adolescent problem gambling, related harms and help-seeking behaviours among an Australian population. *Journal of Gambling Studies, 26*(2)*,* 189-204. doi:10.1007/s10899-009-9169-1

Sproston, K., Hing, N., & Palankay, C. (2012). *Prevalence of gambling and problem gambling in New South Wales.* Sydney: NSW Office of Liqour, Gaming and Racing.

St-Pierre, R. A., Walker, D. M., Derevensky, J., & Gupta, R. (2014). How availability and accessibility of gambling venues influence problem gambling: A review of the literature. *Gaming Law Review and Economics, 18*(2), 15-172. doi:10.1089/glre.2014.1824

Stevens, M., & Bailie, R. (2012). Gambling, housing conditions, community contexts and child health in remote indigenous communities in the Northern Territory, Australia. *BMC Public Health, 12*(1), 377-377. doi:10.1186/1471-2458-12-377

Stevens, M., & Young, M. (2009). Betting on the evidence: Reported gambling problems among the Indigenous population of the Northern Territory. *Australian and New Zealand Journal of Public Health*, *33*(6), 556-565. doi:10.1111/j.1753-6405.2009.00453.x

Stevens. M., & Young. M. (2010). Betting on the evidence: Reported gambling problems among the Indigenous population of the Northern Territory. *Australian and New Zealand Journal of Public Health, 33*(6), 556- 565.

Stinchfield, R. (2011). Gambling among Minnesota public school students from 1992 to 2007: Declines in youth gambling. *Psychology of Addictive Behaviors, 25*(1), 108-117.

Straus, M. (2008). Dominance and symmetry in partner violence by male and female university students in 32 nations. *Children and Youth Services Review, 30*(3), 252-275. doi:10.1016/j.childyouth.2007.10.004

Sullivan, S. (1997). Problem gambling and harmful alcohol use: Screening needs in outpatient and primary health environments. In G. Coman., Evans. B., & Wootton, R. (Eds.), Responsible

Gambling a Future Winner. *Proceedings of the 8th annual conference of the National Association for Gambling Studies* (pp. 352–361), Melbourne, Australia: NAGS.

Sullivan, S., Abbott, M., & McAvoy, E. (1994). Evaluation of the national gambling hotline and associated clinics for pathological gamblers. *Auckland: Compulsive Gambling Society.*

Suomi, A., Jackson, A. C., Dowling, N. A., Lavis, T., Patford, J., Thomas, S. A., … Cockman, S. (2013). Problem gambling and family violence: Family member reports of prevalence, family impacts and family coping. *Asian Journal of Gambling Issues and Public Health, 3*(1), 1-15. doi:10.1186/2195-3007-3-13

Taft, A., Hegarty, K., & Flood, M. (2001). Are men and women equally violent to intimate partners. *Australasian and New Zealand Journal of Public Health, 25*(6), 498-500. doi:10.1111/j.1467-842X.2001.tb00311.x

Taylor, A., Dal Grande, E., Gill, T., Delfabbro, P., Glenn, V., Goulding, S., … Kingston, R. (2001). *Gambling patterns of South Australians and associated health indicators.* South Australian Department of Human Services. Retrieved from: https://www.google.com.au/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCMQFjAA&url=https%3A%2F%2Fhealth.adelaide.edu.au%2Fpros%2Fdocs%2Freports%2Fgeneral%2Fgambling_patterns_sa.pdf&ei=6i1dVf3CAc3d8AWl5ILoAQ&usg=AFQjCNHnDmZGpNTAYyhm36UOkSMqBF-APw&sig2=4ZrrH0N4shn7VRqnDUQiVg&bvm=bv.93756505,d.dGc

Thomas, A. C., Sullivan, G. B., & Allen, F. C. L. (2009). A theoretical model of EGM problem gambling : More than a cognitive escape. *International Journal of Mental Health and Addiction, 7*(1), 97-107. doi:10.1007/s11469-008-9152-6

Thomas, A. C, Pfeifer, J., Moore, S., Meyer, D., Yap, L., & Armstrong, A. (2013). *Evaluation of the removal of ATMs from gaming venues in Victoria, Australia: Final report.* Commissioned by the Department of Justice, Office of Liquor, Gaming and Racing. Victoria, Australia: Brain and Psychological Sciences Research Centre, Swinburne University of Technology.

Thomas, A. C., Bates, G., Moore, S., Kyrios, M., Meredyth, D., & Jessop, G. (2011a). Gambling and the multidimensionality of accessibility: More than just proximity to venues. *International Journal of Mental Health and Addiction, 9*(1), 88-101. doi:10.1007/s11469-009-9256-7

Thomas, S. L., Lewis, S., McLeod, C., & Haycock, J. (2011b). They are working every angle. A qualitative study of Australian adults' attitudes towards, and interactions with, gambling industry marketing strategies. *International Gambling Studies, 12*(1), 111-127. doi: 10.1080/14459795.2011.639381

Thompson, W. N., Gazel, R., & Rickman, D. (2000). Social costs of gambling: A comparative study of nutmeg and cheese state gamblers. *Gaming Research & Review Journal, 5*(1), 1-16.

Thomsen, K. R., Callesen, M. B., Linnet, J, Kringelbach, M. L., & Moller, A. (2009). Severity of gambling is associated with severity of depressive symptoms in pathological gamblers. *Behavioural Pharmacology, 20*(5-6)*,* 527-536. doi:10.1097/FBP.0b013e3283305e7a

Tversky, A., & Kahneman D. (1981). The framing of decisions and the psychology of choice. *Science, 211*(4481), 453-458.

UK Advertising Association. (2002). *Response of the Advertising Association to the Department of Culture, Media and Sport's statement of intent*. Retrieved from http://www.adassoc.org.uk/position/dcms_safe_bet.html.

Vachon, J., Vitaro, F., Wanner, B., & Tremblay, R. E. (2004). Adolescent gambling: Relationships with parent gambling and parenting practices. *Psychology of Addictive Behaviours, 18*(4), 398-401. doi:10.1037/0893-164X.18.4.398

Victorian Competition and Efficiency Commission (VCEC). (2012). *Counting the cost: Inquiry into the costs of problem gambling.* October. Melbourne: Victorian Competition and Efficiency Commission.

Victorian Department of Justice (VDJ). (2009). *A study of gambling in Victoria: Problem gambling from a public health perspective.* Melbourne, Australia: Department of Justice. Retrieved from: http://www.responsiblegambling.vic.gov.au/about-us/what-we-do/foundation-research-program/research-programs-and-activities/victorian-gambling-study

Victorian Department of Justice (VDJ). (2011). *The Victorian gambling study: A longitudinal study of gambling and public health – Wave two findings.* Melbourne, Australia: Department of Justice. Retrieved from: http://www.responsiblegambling.vic.gov.au/about-us/what-we-do/foundation-research-program/research-programs-and-activities/victorian-gambling-study

Victorian Responsible Gambling Foundation. (n.d.). *Guides to application processes for electronic gaming machines: Fact sheet 2* [Fact sheet]. Melbourne, Australia: Author. Retrieved from http://egm.responsiblegambling.vic.gov.au/fact-sheet-2

Vitaro, F., Arsenault, L., & Tremblay, R. E. (1997). Dispositional predictors of problem gambling in male adolescents. *American Journal of Psychiatry, 154*(12), 1769–1770. doi:10.1176/ajp.154.12.1769

Volberg, R. A., Abbot, M. W., Ronnberg, S., & Munck, I. M. E. (2001). Prevalence and risks of pathological gambling in Sweden. *Acta Psychiatrica Scandinavica, 104*(4), 250–256.

Walker, D. M. (2008). Do casinos really cause crime? *Economic Journal Watch, 5*(1), 4-20.

Walker, D. M., & Jackson, J. D. (2007). Do casinos cause economic growth? *The American Journal of Economics and Sociology, 66*(3), 593-607. doi: 10.1111/j.1536-7150.2007.00528.x

Walker, D. M. (2007). Problems in quantifying the social costs and benefits of gambling. *American Journal of Economics and Sociology, 66*(3), 609-645. doi:10.1111/j.1536-7150.2007.00529.x.

Walker, S., Abbott, M., Gray, R. (2012). Knowledge, views and experiences of gambling and gambling-related harms in different ethnic and socio-economic groups in New Zealand. *Australian and New Zealand Journal of Public Health, 36*(2), 153-159. doi:10.1111/j.1753-6405.2012.00847.x

Wardle, H., Moody, A., Spence, S., Orford, J., Volberg, R., Jotangia, D., ... Dobbie, F. (2011). *British Gambling Prevalence Study 2010.* U.K. Gambling Commission: National Centre for Social Research.

Warfield, B. (2008). *Gambling motivated fraud in Australia 1998-2007*. Sydney: Warfield and Associates.

Welte, J. W., Barnes, G. M., Wieczorek, W. F., & Tidwell, M. C. (2004a). Gambling participation and pathology in the United States: A socio-demographic analysis using classification trees. *Addictive Behaviors, 29*(5), 983-989.

Welte, J. W., Barnes, G. M., Wieczorek, W. F., Tidwell, M. C., & Hoffman, J. H. (2007). Type of gambling and availability as risk factors for problem gambling: A Tobit regression analysis by age and gender. *International Gambling Studies, 7*(2), 183-198. doi: 10.1080/14459790701387543

Welte, J. W., Barnes, G. M., Wieczorek, W. F., Tidwell, M. C., & Parker, J. C. (2004b). Risk factors for pathological gambling. *Addictive Behaviors, 29*(2), 323–335. doi:10.1016/j.addbeh.2003.08.007

Welte, J. W., Barnes, G. M., Tidwell, M-C, O., Hoffman, J. H., & Wieczorek, W. F. (2014). Gambling and problem gambling in the United States: Changes between 1999 and 2013. *Journal of Gambling Studies,* doi: 10.1007/s10899-014-9471-4.

Wheeler, S., Round D., Sarre, R., & O'Neil, M. (2008). The influence of gaming expenditure on crime rates in South Australia: A local area empirical investigation. *Journal of Gambling Studies*, *24*(1), 1-12. doi:10.1007/s10899-007-9070-8

Wheeler, S., Round, D., & Wilson, J. K. (2010). The relationship between crime and electronic gaming expenditure: Evidence from Victoria, Australia. *Journal of Quantitative Criminology*, *27*(3), 315-338. doi:10.1007/s10940-010-9123-5

Wickwire, E. M., Whelan, J. P., West, R., Meyers, A., McCausland, C., & Luellen, J. (2007). Perceived availability, risks, and benefits of gambling among college students. *Journal of Gambling Studies, 23*(4), 395–408. doi: 10.1007/s10899-007-9057-5

Williams, R. J., Belanger, Y. D., & Arthur, J. N. (2011a). *Gambling in Alberta: History, current status and socioeconomic impacts. Final Report.* Prepared for the Alberta Gaming Research Institute. Alberta, USA: AGRI.

Williams, R. J., Rehm, J., & Stevens R. M. G. (2011b). *The social and economic impacts of gambling. Final report.* Canadian Consortium for Gambling Research. Accessed on June 16, 2014. http://hdl.handle.net/10133/1286

Williams, R. J., Volberg, R. A., & Stevens, R. M. G. (2012). *Prevalence of problem gambling: Methodological influences, standardized rates, jurisdictional differences, and worldwide trends.* Ontario: Ontario Problem Gambling Research Centre and Ontario Ministry of Health and Long Term Care.

Winters, K. C., Stinchfield, R., & Fulkerson, J. (1993). Patterns and characteristics of adolescent gambling. *Journal of Gambling Studies, 9(*4), 371–386. doi:10.1007/BF01014628

Winters, K. C., & Anderson, N. (2000). Gambling involvement and drug use among adolescents. *Journal of Gambling Studies, 16*(2), 175-198.

Winters, K. C., Stinchfield, R., Botzet, A., & Anderson, N. (2002). A prospective study of youth gambling behaviors. *Psychology of Addictive Behaviors, 16*(1), 3-9.

Wohl, M., Young, M., & Hart, K. (2007). Self-perceptions of dispositional luck: Relationship to DSM gambling symptoms, subjective enjoyment of gambling and treatment readiness. *Substance Use & Misuse, 42*(1), 43–63. doi:10.1080/10826080601094223

Wong, J., & Tse, S. (2003). The face of Chinese migrants' gambling: A perspective from New Zealand. *Electronic Journal of Gambling Issues,* (9). Retrieved from https://www.fmhs.auckland.ac.nz/en/faculty/cfar/our-research/the-centre-for-gambling-studies/publications.html

World Health Organization (WHO). (1986). (2015) Gender and women's mental health. Retrieved from http://www.who.int/mental_health/prevention/genderwomen/en/

World Health Organization (WHO). (1986). *The Ottawa Charter for Health Promotion.* Geneva, Switzerland: WHO. Retrieved from: http://www.who.int/healthpromotion/conferences/previous/ottawa/en/index.html.

Wu, Y., & Zhou, X. (2009). The P300 and reward valence, magnitude, and expectancy in outcome evaluation. *Brain Research*, *1286*, 114-122. doi:10.1016/j.brainres.2009.06.032

Wynne, H., & Shaffer, H. J. (2003). The socioeconomic impact of gambling: The Whistler symposium. *Journal of Gambling Studies, 19*(2), 111-121. doi:10.1023/A:1023648230928.

Yang, H. (2013). The case for being automatic: Introducing the automatic linear modeling (LINEAR) procedure in SPSS statistics. *Multiple Linear Regression Viewpoints, 39*(2), 27-37.

Young, M. (2010). Re-placing geographic accessibility: A response to the Productivity Commission. *Gambling Research*, *22*, 20-31.

Zheng, W. Y., Walker, M., & Blaszczynski, A. (2010). Mahjong gambling in the Chinese-Australian community in Sydney: A prevalence study. *Journal of Gambling Studies, 26*(3), 441-454. doi:10.1007/s10899-009-9159-3

Zheng, W., Walker, M., & Blaszczynski, A. (2008). Mahjong gambling and Chinese international students in Sydney: An exploratory study. *Journal of Psychology in Chinese Societies, 9*(2), 241-262.

Appendix A:
Responsible Gambling Fund Client Data Set

RGF PROBLEM GAMBLING COUNSELLING CLIENT DATA SET

INDIVIDUAL CLIENT RECORD

AGENCY IDENTIFIER: ☐☐☐☐☐

CLIENT IDENTIFIER: ☐☐☐☐

CLIENT CONSENT: Yes ☐ No ☐

DATE OF BIRTH: ☐☐/☐☐/☐☐☐☐

Tick ONE box only	SEX
01 ☐	Male
02 ☐	Female
09 ☐	Not stated / inadequately described

CLIENT'S PLACE OF RESIDENCE	
Suburb	
Postcode	
State	

Tick ONE box only	COUNTRY OF BIRTH
1101 ☐	Australia
0001 ☐	Other (specify) _____
0000 ☐	Not stated / inadequately described

Tick ONE box only	INDIGENOUS STATUS
01 ☐	Non-indigenous
02 ☐	Aboriginal
03 ☐	Torres Strait Islander
04 ☐	Both Aboriginal and Torres Strait Islander
09 ☐	Not stated / inadequately described

Tick ONE box only	MAIN LANGUAGE OTHER THAN ENGLISH SPOKEN AT HOME
1201 ☐	Not applicable (i.e. speaks English only)
0001 ☐	Other (specify) _____
0000 ☐	Not stated / inadequately described

Tick ONE box only	SPOKEN ENGLISH PROFICIENCY
00 ☐	Not applicable (i.e. speaks English only)
01 ☐	Very well
02 ☐	Well
03 ☐	Not well
04 ☐	Not at all
09 ☐	Not stated / inadequately described

SUBURB / POSTCODE / STATE IN WHICH THE CLIENT PREFERS TO GAMBLE (only fill in if client is the problem gambler)	
Suburb	
Postcode	
State	

Tick ONE box only	VENUE AT WHICH THE CLIENT PREFERS TO GAMBLE (only fill in if client is the problem gambler)
00 ☐	No preference
01 ☐	Casino
02 ☐	TAB
03 ☐	On course (racing & sports betting)
04 ☐	Club
05 ☐	Hotel/pub
06 ☐	Newsagent
07 ☐	Home
08 ☐	Work
09 ☐	Other (specify) _____
10 ☐	Not stated / inadequately described

Tick ONE box only	PRINCIPAL GAMBLING ACTIVITY (only fill in if client is the problem gambler)
01 ☐	Gaming machines
02 ☐	Horse/dog races
03 ☐	Sports betting
04 ☐	Card games
05 ☐	Casino table games
06 ☐	Lottery products
07 ☐	Keno
08 ☐	Bingo
09 ☐	Other (specify) _____
10 ☐	Not stated / inadequately described

Tick one or more boxes	OTHER GAMBLING ACTIVITIES (only fill in if client is the problem gambler)
00 ☐	None
01 ☐	Gaming machines
02 ☐	Horse/dog races
03 ☐	Sports betting
04 ☐	Card games
05 ☐	Casino table games
06 ☐	Lottery products
07 ☐	Keno
08 ☐	Bingo
09 ☐	Other (specify) _____
10 ☐	Not stated / inadequately described

Tick ONE box only	PREFERRED MEANS OF ACCESSING GAMBLING (only fill in if client is the problem gambler)
01 ☐	In person
02 ☐	Telephone
03 ☐	Internet
04 ☐	Other (specify) _____
09 ☐	Not stated / inadequately described

Tick ONE box only	LENGTH OF TIME SINCE CLIENT FIRST EXPERIENCED PROBLEMS WITH GAMBLING (only fill in if client is the problem gambler)
01 ☐	Less than one year
02 ☐	1-2 years
03 ☐	Over 2 years to 5 years
04 ☐	Over 5 years to 7 years
05 ☐	Over 7 years to 10 years
06 ☐	Over 10 years to 15 years
07 ☐	Over 15 years
09 ☐	Not stated / inadequately described

Tick ONE box only	MARITAL STATUS
01 ☐	Never married
02 ☐	Widowed
03 ☐	Divorced
04 ☐	Separated
05 ☐	Married (registered and de facto)
09 ☐	Not stated / inadequately described

Tick ONE box only	DEPENDENT CHILDREN
01 ☐	No
02 ☐	Yes How many?_____

Tick ONE box only	LIVING ARRANGEMENTS
01 ☐	Lives alone
02 ☐	Lives with others
09 ☐	Not stated / inadequately described

Tick ONE box only	CLIENT STATUS
01 ☐	Person with gambling problem
02 ☐	Partner / ex-partner
03 ☐	Family member (other than partner)
04 ☐	Friend
05 ☐	Colleague or employer
06 ☐	Financial counselling client (not related to problem gambling)
07 ☐	Other (specify) _____
09 ☐	Not stated / inadequately described

Tick ONE box only	MOST RECENT REFERRAL SOURCE
01 ☐	Family / friend / neighbour / partner
02 ☐	Employer
03 ☐	Gambling venue (staff / notice)
04 ☐	Gambling Helpline
05 ☐	Phone book / directories
06 ☐	Another gambler
07 ☐	Media (radio / TV / newspapers / internet)
08 ☐	Brochures
09 ☐	Another agency (e.g. mental health, financial, etc.)
10 ☐	Self help group (e.g. Gamblers Anonymous, etc.)
11 ☐	Correctional system / legal / police
12 ☐	Medical
13 ☐	Religious organisation / group
14 ☐	Another counsellor / psychologist
15 ☐	Within agency referral
16 ☐	Self
17 ☐	Other (specify) _____
18 ☐	Not stated / inadequately described

Tick one or more boxes	REFERRALS TO OTHER SERVICE PROVIDERS
00 ☐	None
01 ☐	Problem gambling counselling service/s
02 ☐	Financial counselling service/s
03 ☐	Mental health service/s
04 ☐	Legal service/s
05 ☐	Drug and alcohol service/s
06 ☐	Self help group/s (Gamblers Anonymous, etc.)
07 ☐	Other health/welfare service/s
08 ☐	Other (specify) _____

Appendix B:
New South Wales Office of Liquor Gaming & Racing Telephone and Online Surveys Family and Gamblers

Harms Study 3 Online Survey - FAMILY

Thank you for choosing the community harms survey for family members of gamblers. To complete this survey you need to, (1) be aged 18 and over, (2) have NOT gambled regularly over the last 12 months, and (3) have a family member who gambles regularly. We truly appreciate you taking the time and effort to take part in this important research. The study will assist the NSW Office of Liquor, Gaming and Racing to better understand the impact of gambling on NSW residents. The survey will take between about 10 and 20 minutes depending on your answers. Participation is voluntary and you can stop at any time you wish. All responses are confidential and anonymous and it is extremely important that you answer the questions as honestly as possible. On the following page you will find a Participant Information Statement explaining important details and terms of the study. We ask that you read through these carefully before beginning the survey. Note that by submitting a completed survey you indicate your consent to participate in this study. Please click on the arrow below (right) to continue.

Inclusion/exclusion questions

Are you 18 years or older?

- ❍ Yes (1)
- ❍ No (2)

If No Is Selected, Then Skip To End of Block

Do you have a family member who gambles on a regular basis? (i.e., gambles at least once per month) (not including lotteries and scratch cards)

- ❍ Yes (1)
- ❍ No (2)

If No Is Selected, Then Skip To End of Block

Do you gamble regularly? (i.e., once per month or more)

- ❍ Yes (1)
- ❍ No (2)

If Yes Is Selected, Then Skip To End of Block

Participant Information Statement

(1) What is the study about?

You are invited to participate in a study that is attempting to evaluate the types and severity of harm that are associated with all forms of gambling. We also wish to find out which professional services a gambler or a member of their family use when they experience harms as a result of excessive gambling.

(2) Who is carrying out the study?

Professor Alex Blaszczynski, Ms. Kirsten Shannon, and Dr. Fadi Anjoul of the Gambling Treatment Clinic are conducting the study.

(3) What does the study involve?

You will be asked to complete an online questionnaire asking about your gambling behaviour, the types and severity of harm caused by excessive gambling, and if you have used any professional services to help you overcome the harms being experienced by you or a family member.

(4) How much time will the study take?

The questionnaire at the first session should take approximately 15-20 minutes to complete.

(5) Can I withdraw from the study?

Being in this study is completely voluntary and you are not under any obligation to complete the questionnaire. You can withdraw at any time without affecting your relationship with The University of Sydney or the researchers. However, once submitted your questionnaire cannot be withdrawn because we will not be able to identify which responses are yours.

(6) Will anyone else know the results?

All aspects of the study, including results, will be strictly confidential and only the researchers will have access to information on participants. A report of the study may be submitted for publication or presented at conferences, but individual participants will not be identifiable in such a report.

(7) Will the study benefit me?

It is unlikely that the study will benefit you directly. However this study may provide you with information on the possible harms and help-seeking behaviour associated with excessive gambling.

(8) Can I tell other people about the study?

Yes, you can tell anyone you like about the study.

(9) What if I require further information about the study or my involvement in it?

When you have read this information, Alex Blaszczynski, Kirsten Shannon or Fadi Anjoul, will discuss it with you further and answer any questions you may have. If you would like to know more at any stage, please feel free to contact Kirsten Shannon, Clinic Manager, Ph: 9036 9335; email: Kirsten.shannon@sydney.edu.au

(10) What if I have a complaint or any concerns?
Any person with concerns or complaints about the conduct of a research study can contact The Manager, Human Ethics Administration, University of Sydney on +61 2 8627 8176 (Telephone); +61 2 8627 8177 (Facsimile) or ro.humanethics@sydney.edu.au (Email).

Please click on the arrow below (right) to begin the survey.

Demographics
We are going to ask you some questions about your current personal circumstances. Please answer each question as accurately and honestly as you can. What is your relationship with the gambler?

- ❍ Spouse/ defacto (1)
- ❍ Sibling of gambler (2)
- ❍ Parent of gambler (3)
- ❍ Child of gambler (4)
- ❍ Other (specify) (5) _____

What is your gender?

- ❍ Male (1)
- ❍ Female (2)

What is your age?
If What is your age? Is Less Than 18, Then Skip To End of Block

Including yourself, how many people aged 18 years or older usually live in your household?

And how many people under age 18 usually live here?

What is the suburb/postcode of your usual place of residence?

What is your current relationship status?

- ❍ Married (1)
- ❍ living with partner/de facto (2)
- ❍ Widowed (3)
- ❍ Divorced or separated (4)
- ❍ Never married (5)

Please indicate which of the following best describes your household.

- ❍ Single person (1)
- ❍ Single parent family with child/children (2)
- ❍ Couple with child/children (3)
- ❍ Couple with no child/children (4)
- ❍ Group household (5)
- ❍ Other (6) _____

What is your highest educational qualification?

- ❍ No schooling (1)
- ❍ Did not complete primary school (2)
- ❍ Completed primary school (3)
- ❍ Less than year 10 (4)
- ❍ Year 10 or equivalent (5)
- ❍ Year 12 or equivalent (6)
- ❍ A trade or technical certificate or diploma (7)
- ❍ University or college degree (8)
- ❍ Postgraduate qualifications (9)

Please select one of the following that best describes what you currently do.

- ❍ Work full-time (1)
- ❍ Work part-time (2)
- ❍ Unemployed/ looking for work (3)
- ❍ Full-time student (4)
- ❍ Part-time student (5)
- ❍ Self-employed (6)
- ❍ Full-time home duties (7)
- ❍ Disability or other (not aged) pension (8)
- ❍ Retired (9)
- ❍ Other (10) _____

In which country were you born?

- ❍ Australia (1)
- ❍ England (2)
- ❍ New Zealand (3)
- ❍ Italy (4)
- ❍ Vietnam (5)
- ❍ India (6)
- ❍ Scotland (7)
- ❍ Other (specify) (8) _____

Do you identify as an Aboriginal and/or Torres Strait Islander?
- ❍ No (1)
- ❍ Yes, Aboriginal (2)
- ❍ Yes, Torres Strait islander (3)
- ❍ Yes, both Aboriginal and Torres Strait islander (4)

Which of the following categories best describes your total household income for the last 12 months?
- ❍ Less than $20,000 (1)
- ❍ Between $20,000 and $49,999 (2)
- ❍ Between $50,000 and $79,999 (3)
- ❍ Between $80,000 and $109,999 (4)
- ❍ Between $110,000 and $149,999 (5)
- ❍ $150,000 or more (6)
- ❍ Prefer not to say (8)
- ❍ Don't know (7)

Q509 You may find some of the following questions a bit personal, or not relating to your own, or your family member's situation, but they are very important for understanding gambling behaviours and impacts. We need to ask the same questions of everyone. Have you or your family member experienced any negative consequences as a result of your family member's gambling?
- ❍ Yes (2)
- ❍ No (3)

Answer If You may find some of the following questions a bit personal, or not relating to your own, or your family member's situation, but they are very important for understanding gambling behaviours and im... Yes Is Selected

Which type of gambling has contributed MOST to any problems that you or your family member may have experienced from their gambling?
- ❍ Played electronic gaming machines, also called pokies (1)
- ❍ Bet on a sporting event (2)
- ❍ Bet on horse/ greyhound/ harness races (3)
- ❍ Played bingo (4)
- ❍ Played keno (5)
- ❍ Played poker or games of skill for money, such as, backgammon, mah-jong, puzzles, board games, arcade games (not including casino table games) (6)
- ❍ Played casino table games (7)
- ❍ Other (specify) (8) _____
- ❍ NONE - Don't have any problems with gambling (9)

Which type of gambling has contributed the SECOND MOST to any problems that you or your family member may have experienced from their gambling?

- ❍ Played electronic gaming machines, also called pokies (1)
- ❍ Bet on a sporting event (2)
- ❍ Bet on horse/ greyhound/ harness races (3)
- ❍ Played bingo (4)
- ❍ Played keno (5)
- ❍ Played poker or games of skill for money, such as, backgammon, mah-jong, puzzles, board games, arcade games (not including casino table games) (6)
- ❍ Played casino table games (7)
- ❍ Other (specify) (8) _____
- ❍ NONE - No second most gambling type (9)

Which type of gambling has contributed the THIRD MOST to any problems that you or your family member may have experienced from their gambling?

- ❍ Played electronic gaming machines, also called pokies (1)
- ❍ Bet on a sporting event (2)
- ❍ Bet on horse/ greyhound/ harness races (3)
- ❍ Played bingo (4)
- ❍ Played keno (5)
- ❍ Played poker or games of skill for money, such as, backgammon, mah-jong, puzzles, board games, arcade games (not including casino table games) (6)
- ❍ Played casino table games (7)
- ❍ Other (specify) (8) _____
- ❍ NONE - No third most (9)

What was your family member's primary form of gambling over the last twelve months? (the gambling activity they spent the most money on)

- ❍ Electronic gaming machines, also called pokies (1)
- ❍ Sports betting (2)
- ❍ Horse, greyhound or harness races (3)
- ❍ Bingo (4)
- ❍ Keno (5)
- ❍ Poker or games of skill for money, such as, backgammon, mah-jong (not including casino table games) (6)
- ❍ Casino table games (7)
- ❍ Other (specify) (8) _____

Next we would like to ask some questions that will provide important information about different areas of your life that may have been affected by your family member's gambling. Not all questions will apply to you but we appreciate your responses.

SECTION A: HEALTH

Over the last 12 months, have you had sleeping problems?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you smo...

Would you say that your sleeping problems were...

- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ severe (4)

Were your sleeping problems caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you smo...

To what extent were your sleeping problems caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help for your sleeping problems?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you smo...

What kind of help did you seek? (select all that apply)

- ❑ General Practitioner (1)
- ❑ Sleep Specialist (2)
- ❑ Counsellor (3)
- ❑ Psychiatrist/ psychologist (funded by medicare) (4)
- ❑ Psychiatrist/ psychologist (funded by another source, please specify) (5)

  _____
- ❑ Hospital/ Sleep clinic (6)
- ❑ Medication (e.g. sleeping pills or other drugs to aid sleep) (7)
- ❑ Contacted a Helpline (8)
- ❑ Online Counselling Service (9)
- ❑ Other (please specify) (10) _____

Over the last 12 months, have you or a family member (not including gambler) smoked, taken up smoking, or increased the number of cigarettes you smoke?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

Would you say that the smoking, taking up, or increase in smoking has been a...

- ❍ minor change (1)
- ❍ moderate change (2)
- ❍ major change (3)
- ❍ serious change (4)

Was the smoking, taking up, or increase in smoking caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

To what extent was your smoking, taking up, or increase in smoking caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Was help sought for the smoking?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

What kind of help was sought?

- ❑ General Practitioner (1)
- ❑ Counsellor (2)
- ❑ Psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Hospital (5)
- ❑ Medication (e.g. nicotine gum/patches) (6)
- ❑ Contacted a Helpline (7)
- ❑ Online Counselling Service (8)
- ❑ Other (please specify) (9) _____

Over the last 12 months, have you or a family member (not including gambler) had any issues with alcohol?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

Would you say the alcohol issue(s) was...

- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Was the alcohol issue(s) caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

To what extent was the alcohol issue(s) caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Was help sought for the alcohol issue(s)?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

What kind of help was sought?

- ❑ General Practitioner (1)
- ❑ Counsellor (2)
- ❑ Psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Hospital/ rehabilitation centre (5)
- ❑ Medication (e.g. drugs to reduce withdrawal) (6)
- ❑ Crisis accommodation (at a shelter or rehab clinic, not private accommodation) (7)
- ❑ Contacted a Helpline (8)
- ❑ Online Counselling Service (9)
- ❑ Other (please specify) (10) _____

Over the last 12 months, have you or a family member (not including gambler) had any issues with prescription or illicit drugs?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

Would you say the drug issue(s) was...

- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Was the drug issue(s) caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

To what extent was the drug issue(s) caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Was help sought for the drug issue(s)?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

What kind of help was sought?

- ❑ General Practitioner (1)
- ❑ Counsellor (2)
- ❑ Psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Hospital/ rehabilitation centre (5)
- ❑ Medication (e.g. drugs to reduce withdrawal) (6)
- ❑ Crisis accommodation (at a shelter or rehab clinic, not private accommodation) (7)
- ❑ Contacted a Helpline (8)
- ❑ Online Counselling Service (9)
- ❑ Other (please specify) (10) _____

Over the last 12 months, have you or a family member (not including gambler) had any other health problems?

- ❍ No (1)
- ❍ Yes (please specify) (2) _____

If No Is Selected, Then Skip To SECTION B: LEISURENext we are going t...

Would you say the health problems were...

- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ severe (4)

Were the health problems caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION B: LEISURENext we are going t...

To what extent were the health problems caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Was help sought for the health problems?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION B: LEISURENext we are going t...

What kind of help was sought? (Select all that apply)

- ❑ General Practitioner (1)
- ❑ Counsellor (2)
- ❑ Psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Hospital (5)
- ❑ Medication (6)
- ❑ Contacted a Helpline (7)
- ❑ Online Counselling Service (8)
- ❑ Other (please specify) (9) _____

SECTION B: LEISURE

Next we are going to ask some questions about your leisure activities.

Over the last 12 months, has the number of times you go out for non-gambling entertainment decreased?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, has the numb...

Over the last 12 months, has the number of times you go out for entertainment decreased...

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ strongly (3)
- ❍ totally (4)

Was the reduction in entertainment outings caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, has the numb...

To what extent was the reduction in entertainment outings caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Over the last 12 months, has the number of times you holiday or travel decreased?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have any of ...

Over the last 12 months, has the number of times you holiday or travel decreased...
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ strongly (3)
- ❍ totally (4)

Was the reduction in holiday and travel at all caused by your family member's gambling?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have any of ...

To what extent was the reduction in holiday and travel caused by your family member's gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Over the last 12 months, have any of your other leisure activities decreased?
- ❍ No (1)
- ❍ Yes (please specify) (2) _____

If No Is Selected, Then Skip To SECTION C: CRITICAL EVENTS In this ...

Over the last 12 months, has your other leisure activity decreased...
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ strongly (3)
- ❍ totally (4)

Was the reduction in your other leisure activity caused at all by your family member's gambling?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION C: CRITICAL EVENTS In this ...

To what extent was the reduction in your other leisure activity caused by your family member's gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

SECTION C: CRITICAL EVENTS

In this next section of the survey I'm going to ask you about critical events in your or your family's life. Many of these questions are quite personal but we hope you will answer them as honestly as you can. Please be reassured that all answers are confidential and anonymous.

Over the last 12 months, have you or a family member (not including gambler) gotten a divorce or separated from a live-in, defacto or long-term relationship?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you dec...

Was the divorce or separation caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you dec...

To what extent was the divorce or separation caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Was external intervention sought or costs incurred as a result of the divorce or separation?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you dec...

What kind of help did you seek or what costs did you incur? (select all that apply)

- ❑ Consulted a Lawyer (1)
- ❑ Consulted Marriage/ relationship counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Paid for divorce court proceedings (5)
- ❑ Paid for the cost of custody proceedings (6)
- ❑ Lost out on settlement costs (7)
- ❑ Stayed at crisis accommodation (a shelter not a friend's or family members house) (8)
- ❑ Medication (9)
- ❑ Contacted a Helpline (10)
- ❑ Online Counselling Service (11)
- ❑ Other (please specify) (12) _____

Over the last 12 months, have you or a family member (not including gambler) declared bankruptcy?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you los...

Was the bankruptcy caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you los...

To what extent was the bankruptcy caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

What help sought or costs incurred as a result of the bankruptcy?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you los...

What kind of help was sought and/or what costs were incurred? (select all that apply)

- ❑ Consulted a Lawyer (1)
- ❑ Consulted a financial counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Attended court (5)
- ❑ Lost a house (6)
- ❑ Lost other assets (7)
- ❑ Stayed at crisis accommodation (a shelter not a friend's or family members house) (8)
- ❑ Contacted a Helpline (9)
- ❑ Online Counselling Service (10)
- ❑ Other (please specify) (11) _____

Over the last 12 months, have you or a family member (not including gambler) lost a job?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you com...

Was the job loss caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you com...

To what extent was the job loss caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Was help sought or any costs incurred as a result of the job loss?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you com...

What kind of help was sought and/or what costs were incurred? (select all that apply)

- ❑ Consulted an employment provider/ agency (1)
- ❑ Accessed welfare payments (2)
- ❑ Was unemployed for more than 1 month (3)
- ❑ Re-training/ re-skilling (4)
- ❑ Consulted a counsellor (5)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (6)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (7) _____
- ❑ Contacted a Helpline (8)
- ❑ Online Counselling Service (9)
- ❑ Other (please specify) (10) _____

Over the last 12 months, have you or a family member (not including gambler) committed any illegal acts that resulted or could have resulted in incarceration?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you los...

Were the illegal activities motivated/caused by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you los...

To what extent were the illegal activities motivated/caused by the family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did the illegal activities result in some action against you or a family member?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you los...

What kind of action? (select all that apply)

- ❑ Consulted a self-funded lawyer (1)
- ❑ Consulted a government funded/ community lawyer (2)
- ❑ Charged by the police (3)
- ❑ Attended court (4)
- ❑ Went to gaol (5)
- ❑ Other (please specify) (6) _____

Over the last 12 months, have you or a family member (not including gambler) lost a place of residence or lost personal items through eviction or default on payment?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you del...

Was losing your place of residence caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you del...

To what extent was losing a place of residence caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Q381 Was help sought as a result of losing a place of residence?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you del...

Q380 What kind of help? (select all that apply)

- ❑ Stayed at crisis accommodation (a shelter not a friend’s or family members place) (1)
- ❑ Used commissioned housing (2)
- ❑ Stayed at a friend or family member’s place (3)
- ❑ Other (please specify) (4) _____

Over the last 12 months, have you or a family member (not including gambler) deliberately inflicted serious physical injury (i.e., self harm) upon yourself/themselves?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you att...

Was the deliberately inflicted serious physical injury at all caused by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you att...

To what extent was the deliberately inflicted injury caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Was help sought as a result of the deliberately inflicted serious physical injury?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you att...

What kind of help was sought (select all that apply)

- ❑ Consulted a GP (1)
- ❑ Consulted a counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Went to a hospital emergency department (5)
- ❑ Stayed at a hospital (6)
- ❑ Surgery (7)
- ❑ Medication (8)
- ❑ Police (9)
- ❑ Crisis accommodation (a psychiatric clinic or shelter not a friend’s or family members house) (10)
- ❑ Contacted a Helpline (11)
- ❑ Online Counselling Service (12)
- ❑ Other (please specify) (13) _____

Over the last 12 months, have you or a family member (not including gambler) attempted suicide?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

Was the suicide attempt caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

To what extent was the suicide attempt caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Was help sought as a result of the suicide attempt?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

What kind of help was sought (select all that apply)

- ❑ Consulted a GP (1)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (3) _____
- ❑ Went to a hospital emergency department (4)
- ❑ Stayed at a hospital (5)
- ❑ Crisis accommodation (a psychiatric clinic or shelter not a friend’s or family members house) (6)
- ❑ Police (7)
- ❑ Medication (8)
- ❑ Contacted a Helpline (9)
- ❑ Online Counselling Service (10)
- ❑ Other (please specify) (11) _____

Over the last 12 months, have you or a family member experienced any other critical events not already asked about?

- ❍ No (1)
- ❍ Yes (please specify) (2) _____

If No Is Selected, Then Skip To SECTION D: SOCIAL Next we will ask ...

Was the critical event caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION D: SOCIAL Next we will ask ...

To what extent was the critical event caused by your family member's gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did the critical event require external intervention?
- ❍ No (1)
- ❍ Yes (please list the type of help required) (2) _____

Q397 SECTION D: SOCIAL

Next we will ask you some questions about your social situation.

Over the last 12 months, have you been in a relationship?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Some people who have difficulties aro...

Over the last 12 months, have you experienced problems with your relationship?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Some people who have difficulties aro...

Would you say that the relationship problems were...
- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Were the relationship problems caused at all by your family member's gambling?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Some people who have difficulties aro...

To what extent were the relationship problems caused by your family member's gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did the relationship problems necessitate external intervention for either you or your partner?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Some people who have difficulties aro...

What kind of external intervention occurred? (select all that apply)

- ❑ Consulted a lawyer (1)
- ❑ Marriage/ relationship counsellor (2)
- ❑ Consulted a counsellor (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (4)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (5) _____
- ❑ Contacted a Helpline (6)
- ❑ Online Counselling Service (7)
- ❑ Stayed in crisis accommodation (a shelter not a friend's or family members house) (8)
- ❑ Contacted the police (9)
- ❑ Medication (10)
- ❑ Other (please specify) (11) _____

Some people who have difficulties around gambling have said they don't always look after their children as well as they would like to.
Do you have any children?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

Thinking about the past 12 months, have you felt sometimes that you and/or your partner haven't provided the level of care for your child/children you should or would have liked to?

- ❍ No (1)
- ❍ Yes, both of us have not provided the child/children with the amount of care we should or would have liked to (2)
- ❍ Yes, I have not provided my child/children with the amount of care I should or would have liked t (3)
- ❍ Yes, my partner has not provided my child/children with the amount of care I should or would have liked them to (4)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

To what degree was the level of care provided for your children below what you should or would have liked it to be?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ strongly (3)
- ❍ totally (4)

Was the lower level of care provided a consequence of your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

To what extent was the lower level of care a consequence of your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did the lower level of care provided result in external intervention?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

What kind of external intervention occurred? (select all that apply)

- ❑ Paid carer was employed (1)
- ❑ Day care used (2)
- ❑ Friends/ relatives cared for child (3)
- ❑ School intervened (4)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (5)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (6) _____
- ❑ Children consulted a psychiatrist/ psychologist (funded by medicare) (7)
- ❑ Children consulted a psychiatrist/ psychologist (funded by another source, please specify) (8) _____
- ❑ Police involved (9)
- ❑ Department of Community Services (10)
- ❑ Other (please specify) (11) _____

Over the last 12 months, have you experienced difficulties in your relationships with your friends or acquaintances?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

Would you say that the problems with your friends/ acquaintances were...
- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Were the problems with your friends/ acquaintances caused at all by your family member's gambling?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

To what extent were the problems with friends/acquaintances caused by your family member's gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did the problems between you and your friend/ acquaintance result in external intervention?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

What kind of external intervention was sought? (select all that apply)
- ☐ Consulted a Counsellor (1)
- ☐ Consulted a psychiatrist/ psychologist (funded by medicare) (2)
- ☐ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (3) _____
- ☐ Contacted a Helpline (4)
- ☐ Online Counselling Service (5)
- ☐ Consulted a lawyer (6)
- ☐ Contacted the police (7)
- ☐ Medication (8)
- ☐ Other (please specify) (9) _____

Over the last 12 months, have you experienced any other social problem not previously mentioned?
- ❍ No (1)
- ❍ Yes (please specify) (2) _____

If No Is Selected, Then Skip To SECTION E: EMPLOYMENT & EDUCATION N...

Would you say that the social problems were...
- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Were the social problems caused at all by your family member's gambling?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION E: EMPLOYMENT & EDUCATION N...

To what extent were the social problems caused by your family member's gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of these social problems?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION E: EMPLOYMENT & EDUCATION N...

What kind of help did you seek? (select all that apply)
- ❑ Consulted a lawyer (1)
- ❑ Consulted a counsellor (2)
- ❑ Consulted a counsellor (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (4)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (5) _____
- ❑ Contacted a Helpline (6)
- ❑ Online Counselling Service (7)
- ❑ Contacted the police (8)
- ❑ Medication (9)
- ❑ Other (please specify) (10) _____

SECTION E: EMPLOYMENT & EDUCATION

Now we're going to ask you some questions about employment and education.

Over the last 12 months, have you been employed?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you bee...

Over the last 12 months, have you experienced problems at work?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you bee...

Would you say that your work problems were...

- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Were your work problems caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you bee...

To what extent were the work problems caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

What were some of the consequences of your work problems? (select all that apply)

- ❑ Worked slower/ less productively (1)
- ❑ Took time off work (2)
- ❑ Was demoted (3)
- ❑ Lost your job (4)
- ❑ Disciplinary Action was taken against me (5)
- ❑ Consulted the work Counsellor/ Psychologist (6)
- ❑ Consulted a counsellor privately (7)
- ❑ Consulted a counsellor (8)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (9)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (10) _____
- ❑ Contacted a Helpline (11)
- ❑ Online Counselling Service (12)
- ❑ Other (please specify) (13) _____

Over the last 12 months, have you been enrolled in a formal course of study?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

Over the last 12 months, have you experienced educational problems?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

Would you say that the educational problems were...

- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Were your educational problems caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

To what extent were the educational problems caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

What were some of the consequences of your educational problems? (select all that apply)

- ❑ Dropped out of or deferred a whole course/ institution (1)
- ❑ Dropped out or deferred from part of a course (e.g. a subject) (2)
- ❑ Failed a course (3)
- ❑ Missed lectures and assignments (4)
- ❑ Received lower marks than previously (5)
- ❑ Applied for work extensions/ special consideration (6)
- ❑ Consulted a counsellor (7)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (8)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (9) _____
- ❑ Contacted a Helpline (10)
- ❑ Online Counselling Service (11)
- ❑ Other (please specify) (12) _____

Over the last 12 months, have you experienced any other employment/educational problems not previously mentioned?

- ❍ No (1)
- ❍ Yes (please specify) (2) _____

If No Is Selected, Then Skip To SECTION F: FINANCIAL Next I'm going...

Would you say that the employment/educational problems were...
- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Were your employment/educational problems caused at all by your family member's gambling?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION F: FINANCIAL Next I'm going...

To what extent were the employment/educational problems caused by your family member's gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Were there any consequences of your employment/educational problems and/or did the problems require external intervention?
- ❍ No (1)
- ❍ Yes (please list the consequences/ interventions) (2) _____

SECTION F: FINANCIAL

Next I'm going to ask you some financial questions. Again, please be assured that all responses are confidential and cannot be linked to you in any way. Over the last 12 months, have you saved less money than you should or would have liked to?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you acq...

How much less money did you save than you should or would have liked to?
- ❍ slightly less (1)
- ❍ moderately less (2)
- ❍ much less (3)
- ❍ very much less (4)

Were your reduced savings at all a consequence of your family member's gambling?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you acq...

To what extent were your reduced savings a consequence of your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did your reduced savings require any external assistance?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you acq...

What kind of external assistance? (select all that apply)

- ❑ Financial counsellor/Creditline (1)
- ❑ Bank/credit union/building society (2)
- ❑ Debt consolidation company (3)
- ❑ Loan sharks (4)
- ❑ Social services (5)
- ❑ Friend or relative (6)
- ❑ Lawyer (7)
- ❑ Other (please specify) (8) _____

Over the last 12 months, have you or a family member (not including gambler) acquired new debts?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you bee...

Would you say that the new debt was...

- ❍ small (1)
- ❍ moderate (2)
- ❍ large (3)
- ❍ very large (4)

Was the new debt a consequence of your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you bee...

To what extent was the new debt a consequence of your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Was external assistance sought for the new debts?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you bee...

What kind of external assistance? (select all that apply)

- ❑ Financial counsellor/Creditline (1)
- ❑ Bank/credit union/building society (2)
- ❑ Debt consolidation company (3)
- ❑ Loan sharks (4)
- ❑ Social services (5)
- ❑ Friend or relative (6)
- ❑ Lawyer (7)
- ❑ Other (please specify) (8) _____

Over the last 12 months, have you or a family member (not including gambler) been reported to a Credit Reporting Agency (CRA) for failing to make a payment?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 month...

Was being reported at all a consequence of your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 month...

To what extent was being reported to a CRA a consequence of your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did being reported to a CRA require external assistance?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 month...

What kind of external assistance? (select all that apply)

- ❑ Financial counsellor/Creditline (1)
- ❑ Bank/credit union/building society (2)
- ❑ Debt consolidation company (3)
- ❑ Loan sharks (4)
- ❑ Social services (5)
- ❑ Friend or relative (6)
- ❑ Lawyer (7)
- ❑ Other (please specify) (8) _____

Over the last 12 months, have you or a family member (not including gambler) experienced any other financial problems not previously mentioned?

- ❍ No (1)
- ❍ Yes (please specify) (2) _____

If No Is Selected, Then Skip To SECTION G: PSYCHOLOGICAL HARM Next...

Would you say that the financial problems were...

- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Were the financial problems at all caused by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION G: PSYCHOLOGICAL HARM Next...

To what extent were the financial problems caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did the financial problems require external assistance?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION G: PSYCHOLOGICAL HARM Next...

What kind of external assistance? (select all that apply)

- ❑ Financial counsellor/Creditline (1)
- ❑ Bank/credit union/building society (2)
- ❑ Debt consolidation company (3)
- ❑ Loan sharks (4)
- ❑ Social services (5)
- ❑ Friend or relative (6)
- ❑ Lawyer (7)
- ❑ Other (please specify) (8) _____

SECTION G: PSYCHOLOGICAL HARM

Next I'm going to ask you some questions about your mood or how you've been feeling.
Over the last 12 months, would you say your level of happiness has decreased?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

Would you say your level of happiness decreased...

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ considerably (3)
- ❍ totally (4)

Would you say the decrease in happiness was at all caused by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

To what extent would you say your decrease in happiness was caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of this?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

What kind of help did you seek? (select all that apply)

- ❑ Consulted a GP (1)
- ❑ Consulted a counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Contacted a Helpline (5)
- ❑ Online Counselling Service (6)
- ❑ Medication (7)
- ❑ Other (please specify) (8) _____

Over the last 12 months, would you say your general hopefulness for the future decreased?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

Would you say your general hopefulness decreased...

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ considerably (3)
- ❍ totally (4)

Would you say the decrease in general hopefulness was at all caused by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

To what extent would you say your decrease in hopefulness was caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of this?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

What kind of help did you seek? (select all that apply)

- ❑ Consulted a GP (1)
- ❑ Consulted a counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Contacted a Helpline (5)
- ❑ Online Counselling Service (6)
- ❑ Medication (7)
- ❑ Other (please specify) (8) _____

Over the last 12 months, would you say the level of control that you feel you have over your life decreased?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

Would you say the control that you have over your life has decreased...

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ considerably (3)
- ❍ totally (4)

Would you say the decrease in control over your life was at all caused by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

To what extent would you say the decrease in control over your life was caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of this?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

What kind of help did you seek? (select all that apply)

- ❑ Consulted a GP (1)
- ❑ Consulted a counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Contacted a Helpline (5)
- ❑ Online Counselling Service (6)
- ❑ Medication (7)
- ❑ Other (please specify) (8) _____

Over the last 12 months, would you say your self respect has decreased?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

Would you say your self-respect has decreased...

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ considerably (3)
- ❍ totally (4)

Would you say that the decrease in self-respect was caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

To what extent would you say the decrease in your self-respect was caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of this?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

What kind of help did you seek? (select all that apply)

- ❑ Consulted a GP (1)
- ❑ Consulted a counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Contacted a Helpline (5)
- ❑ Online Counselling Service (6)
- ❑ Medication (7)
- ❑ Other (please specify) (8) _____

Over the last 12 months, would you say the amount you worry has increased?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To End of Block

Would you say the amount you worry increased...

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ considerably (3)
- ❍ totally (4)

Was the increase in worry caused at all by your family member's gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To End of Block

To what extent would you say your increase in worry was caused by your family member's gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of this?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To End of Block

What kind of help did you seek? (select all that apply)

- ❑ Consulted a GP (1)
- ❑ Consulted a counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Contacted a Helpline (5)
- ❑ Online Counselling Service (6)
- ❑ Medication (7)
- ❑ Other (please specify) (8) _____

Thank you! This completes our survey. We appreciate your time and effort to participate in this important study.

HARMS STUDY 3 – GAMBLER ONLINE SURVEY

Thank you for choosing the community harms survey for gamblers. To complete this survey you need to be aged 18 and over and have gambled at least once in the last twelve months. We truly appreciate you taking the time and effort to take part in this important research. The study will assist the NSW Office of Liquor, Gaming and Racing to better understand the impact of gambling on NSW residents. The survey will take between about 10 and 20 minutes depending on your answers. Participation is voluntary and you can stop at any time you wish. All responses are confidential and anonymous and it is extremely important that you answer the questions as honestly as possible. On the following page you will find a Participant Information Statement explaining important details and terms of the study. We ask that you read through these carefully before beginning the survey. Note that by submitting a completed survey you indicate your consent to participate in this study. Please click on the arrow below (right) to continue.

Are you aged 18 years or older?

- ❍ Yes (1)
- ❍ No (2)

If No Is Selected, Then Skip To End of Block

Have you gambled at least once in the last 12 months? (Not including lotteries or scratch cards)

- ❍ Yes (1)
- ❍ No (2)

If No Is Selected, Then Skip To End of Block

Participant Information Statement

(1) What is the study about?

You are invited to participate in a study that is attempting to evaluate the types and severity of harm that are associated with all forms of gambling. We also wish to find out which professional services a gambler or a member of their family use when they experience harms as a result of excessive gambling.

(2) Who is carrying out the study?

Professor Alex Blaszczynski, Ms. Kirsten Shannon, and Dr. Fadi Anjoul of the Gambling Treatment Clinic are conducting the study.

(3) What does the study involve?

You will be asked to complete an online questionnaire asking about your gambling behaviour, the types and severity of harm caused by excessive gambling, and if you have used any professional services to help you overcome the harms being experienced by you or a family member.

(4) How much time will the study take?

The questionnaire at the first session should take approximately 15-20 minutes to complete.

(5) Can I withdraw from the study?

Being in this study is completely voluntary and you are not under any obligation to complete the questionnaire. You can withdraw at any time without affecting your relationship with The University of Sydney or the researchers. However, once submitted your questionnaire cannot be withdrawn because we will not be able to identify which responses are yours.

(6) Will anyone else know the results?

All aspects of the study, including results, will be strictly confidential and only the researchers will have access to information on participants A report of the study may be submitted for publication or presented at conferences, but individual participants will not be identifiable in such a report.

(7) Will the study benefit me?

It is unlikely that the study will benefit you directly. However this study may provide you with information on the possible harms and help-seeking behaviour associated with excessive gambling.

(8) Can I tell other people about the study?

Yes, you can tell anyone you like about the study.

(9) What if I require further information about the study or my involvement in it?

When you have read this information, Alex Blaszczynski, Kirsten Shannon or Fadi Anjoul, will discuss it with you further and answer any questions you may have. If you would like to know more at any stage, please feel free to contact Kirsten Shannon, Clinic Manager, Ph: 9036 9335; email: Kirsten.shannon@sydney.edu.au

(10) What if I have a complaint or any concerns?
Any person with concerns or complaints about the conduct of a research study can contact The Manager, Human Ethics Administration, University of Sydney on +61 2 8627 8176 (Telephone); +61 2 8627 8177 (Facsimile) or ro.humanethics@sydney.edu.au (Email). Please click on the arrow below (right) to begin the survey.

Demographics
First we are going to ask you some questions about your current personal circumstances. Please answer each question as accurately and honestly as you can. What is your gender?

- ❍ Male (1)
- ❍ Female (2)

What is your age?

If What is your age? Is Less Than 18, Then Skip To End of Block

Including yourself, how many people aged 18 years or older usually live in your household?

And how many people under age 18 usually live here?

What is the suburb/postcode of your usual place of residence?

What is your current relationship status?

- ❍ Married (1)
- ❍ living with partner/de facto (2)
- ❍ Widowed (3)
- ❍ Divorced or separated (4)
- ❍ Never married (5)

Please indicate which of the following best describes your household.

- ❍ Single person (1)
- ❍ Single parent family with child/children (2)
- ❍ Couple with child/children (3)
- ❍ Couple with no child/children (4)
- ❍ Group household (5)
- ❍ Other (6) _____

What is your highest educational qualification?

- ❍ No schooling (1)
- ❍ Did not complete primary school (2)
- ❍ Completed primary school (3)
- ❍ Less than year 10 (4)
- ❍ Year 10 or equivalent (5)
- ❍ Year 12 or equivalent (6)
- ❍ A trade or technical certificate or diploma (7)
- ❍ University or college degree (8)
- ❍ Postgraduate qualifications (9)

Please select one of the following that best describes what you currently do.

- ❍ Work full-time (1)
- ❍ Work part-time (2)
- ❍ Unemployed/ looking for work (3)
- ❍ Full-time student (4)
- ❍ Part-time student (5)
- ❍ Self-employed (6)
- ❍ Full-time home duties (7)
- ❍ Disability or other (not aged) pension (8)
- ❍ Retired (9)
- ❍ Other (10) _____

In which country were you born?

- ❍ Australia (1)
- ❍ England (2)
- ❍ New Zealand (3)
- ❍ Italy (4)
- ❍ Vietnam (5)
- ❍ India (6)
- ❍ Scotland (7)
- ❍ Other (specify) (8) _____

Do you identify as an Aboriginal and/or Torres Strait Islander?

- ❍ No (1)
- ❍ Yes, Aboriginal (2)
- ❍ Yes, Torres Strait islander (3)
- ❍ Yes, both Aboriginal and Torres Strait islander (4)

Which of the following categories best describes your total household income for the last 12 months?

- ❍ Less than $20,000 (1)
- ❍ Between $20,000 and $49,999 (2)
- ❍ Between $50,000 and $79,999 (3)
- ❍ Between $80,000 and $109,999 (4)
- ❍ Between $110,000 and $149,999 (5)
- ❍ $150,000 or more (6)
- ❍ Prefer not to say (8)
- ❍ Don't know (7)

We are now going to ask you some questions about your gambling activities. In the last 12 months have you, either at a venue, by phone or via the Internet… (please select all that apply)

- ❑ Played electronic gaming machines, also called pokies (1)
- ❑ Bet on sports (2)
- ❑ Bet on horse, greyhound or harness races (3)
- ❑ Played bingo (4)
- ❑ Played keno (5)
- ❑ Played poker or games of skill for money, such as, backgammon, mah-jong (not including casino table games) (6)
- ❑ Played casino table games (7)
- ❑ Other (specify) (8) _____

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Played electronic gaming machines, also called pokies? Is Selected

Over the last 12 months, how often have you usually played gaming machines, including card machines and other gaming machines e.g. pokies?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Played electronic gaming machines, also called pokies? Is Selected

Over the last 12 months, roughly how much money did you spend on gaming machines in a typical MONTH? ($)

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Bet on sports? Is Selected

Over the last 12 months, how often have you usually bet on sporting events through a TAB, TOTE, betting operator or bookie?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Bet on sports? Is Selected

Over the last 12 months, roughly how much money did you spend on sports betting in a typical MONTH? ($)

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Bet on horse, greyhound or harness races? Is Selected

Over the last 12 months, how often have you usually bet on horse, dog, or harness races through a TAB, TOTE, betting operator or bookie including both in-person and online?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Bet on horse, greyhound or harness races? Is Selected

Over the last 12 months, roughly how much money did you spend on horse, dog, harness race betting in a typical MONTH? ($)

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Played bingo? Is Selected

Over the last 12 months, how often have you usually played bingo for money?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Played bingo? Is Selected

Over the last 12 months, roughly how much money did you spend on bingo in a typical MONTH? ($)

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Played keno? Is Selected

Over the last 12 months, how often have you usually played keno (excluding electronic keno on gaming machines)?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Played keno? Is Selected

Over the last 12 months, roughly how much money did you spend on keno in a typical MONTH? ($)

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Played poker or games of skill for money, such as, backgammon, mah-jong (not including casino table games)? Is Selected

Over the last 12 months, how often have you usually played poker (cards) for money or games of skill for money, such as, backgammon, mah-jong (not including casino table games)?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Played poker or games of skill for money, such as, backgammon, mah-jong (not including casino table games)? Is Selected

Over the last 12 months, roughly how much money did you spend on poker or games of skill in a typical MONTH? ($)

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Played casino table games? Is Selected

Over the last 12 months, how often have you usually played casino table games (not including poker) such as blackjack, roulette, craps, or baccarat?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Played casino table games? Is Selected

Over the last 12 months, roughly how much money did you spend on these casino table games in a typical MONTH? ($)

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Other (specify) Is Selected

Over the last 12 months, how often have you usually gambled on ${insert form}?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If In the last 12 months have you, either at a venue, by phone or via the Internet... (Please tick a... Other (specify) Is Selected

Over the last 12 months, roughly how much money did you spend on ${insert form} in a typical MONTH? ($)

Thinking about the past 12 months, roughly how much money did you spend on all types of gambling in a typical MONTH? ($)

PGSI

Some of the next questions may not apply to you, but please try to be as accurate as possible. Thinking about the last 12 months.

	Never (1)	Sometimes (2)	Most of the time (3)	Almost always (4)
Have you bet more than you could really afford to lose? (1)	❍	❍	❍	❍
Have you needed to gamble with larger amounts of money to get the same feeling of excitement? (2)	❍	❍	❍	❍
When you gambled, did you go back another day to try to win back the money you lost? (3)	❍	❍	❍	❍
Have you borrowed money or sold anything to get money to gamble? (4)	❍	❍	❍	❍
Have you felt that you might have a problem with gambling? (5)	❍	❍	❍	❍
Has gambling caused you any health problems, including stress or anxiety? (6)	❍	❍	❍	❍
Have people criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true? (7)	❍	❍	❍	❍
Has your gambling caused any financial problems for you or your household? (8)	❍	❍	❍	❍
Have you felt guilty about the way you gamble or what happens when you gamble? (9)	❍	❍	❍	❍

PROBLEMS

Which type of gambling has contributed MOST to any problems you may have experienced from your gambling?

- ❍ Played electronic gaming machines, also called pokies (1)
- ❍ Bet on a sporting event (2)
- ❍ Bet on horse/ greyhound/ harness races (3)
- ❍ Played bingo (4)
- ❍ Played keno (5)
- ❍ Played poker or games of skill for money, such as, backgammon, mah-jong, puzzles, board games, arcade games (not including casino table games) (6)
- ❍ Played casino table games (7)
- ❍ Other (specify) (8) _____
- ❍ NONE - Don't have any problems with gambling (9)

Answer If Which type of gambling has contributed MOST to any problems you may have experienced from your ga... NONE - Don't have any problems with gambling Is Not Selected

Which type of gambling has contributed the SECOND MOST to any problems you may have experienced from your gambling?

- ❍ Played electronic gaming machines, also called pokies (1)
- ❍ Bet on a sporting event (2)
- ❍ Bet on horse/ greyhound/ harness races (3)
- ❍ Played bingo (4)
- ❍ Played keno (5)
- ❍ Played poker or games of skill for money, such as, backgammon, mah-jong, puzzles, board games, arcade games (not including casino table games) (6)
- ❍ Played casino table games (7)
- ❍ Other (specify) (8) _____
- ❍ NONE - No second most gambling type (9)

Answer If Which type of gambling has contributed the SECOND MOST to any problems you may have experienced f... NONE - No second most gambling type Is Not Selected And Which type of gambling has contributed MOST to any problems you may have experienced from your gambling? NONE - Don't have any problems with gambling Is Not Selected

Which type of gambling has contributed the THIRD MOST to any problems you may have experienced from your gambling?

- ❍ Played electronic gaming machines, also called pokies (1)
- ❍ Bet on a sporting event (2)
- ❍ Bet on horse/ greyhound/ harness races (3)
- ❍ Played bingo (4)
- ❍ Played keno (5)
- ❍ Played poker or games of skill for money, such as, backgammon, mah-jong, puzzles, board games, arcade games (not including casino table games) (6)
- ❍ Played casino table games (7)
- ❍ Other (specify) (8) _____
- ❍ NONE - No third most (9)

The next question refers the different ways you might access gambling. When you gamble, do you use a…

- ❑ Computer or laptop (1)
- ❑ Mobile or smart phone (2)
- ❑ Other portable device (3)
- ❑ Interactive television (4)
- ❑ Land-based or venue-based gambling (5)
- ❑ Betting via telephone (6)
- ❑ Other (specify) (7) _____

Of these, which has contributed MOST to any difficulties you may have experienced from your gambling?

- ❍ Computer or laptop (1)
- ❍ Mobile or smart phone (2)
- ❍ Other portable device (3)
- ❍ Interactive television (4)
- ❍ Land-based or venue-based gambling (5)
- ❍ Betting via telephone (6)
- ❍ Other (specify) (7) _____
- ❍ NONE - Don't have any problems with gambling (8)

Answer If Of these, which has contributed MOST to any difficulties you may have experienced from your gambling? None - Don't have any problems with gambling Is Not Selected

Which has contributed SECOND MOST to any difficulties you may have experienced from your gambling?

- ❍ Computer or laptop (1)
- ❍ Mobile or smart phone (2)
- ❍ Other portable device (3)
- ❍ Interactive television (4)
- ❍ Land-based or venue-based gambling (5)
- ❍ Betting via telephone (6)
- ❍ Other (specify) (7) _____
- ❍ NONE – No second in importance (8)

Answer If Which has contributed SECOND MOST to any difficulties you may have experienced from your gambling? NONE – No second in importance Is Not Selected And Of these, which has contributed MOST to any difficulties you may have experienced from your gambl... NONE - Don't have any problems with gambling Is Not Selected

Which has contributed THIRD MOST to any difficulties you may have experienced from your gambling?

- ❍ Computer or laptop (1)
- ❍ Mobile or smart phone (2)
- ❍ Other portable device (3)
- ❍ Interactive television (4)
- ❍ Land-based or venue-based gambling (5)
- ❍ Betting via telephone (6)
- ❍ Other (specify) (7) _____
- ❍ NONE – No third in importance (8)

Have you ever thought that you needed help in relation to your gambling?

- ❍ Yes (1)
- ❍ No (2)

If Yes Is Selected, Then Skip To End of Block

HELP SEEKING

Have you ever sought help in relation to your gambling from any of the following sources? (please select all that apply)

- ❑ Face-to-face from a specialist gambling counsellor (1)
- ❑ From online or email gambling counselling (2)
- ❑ Face-to-face from a non-gambling specialist, like a doctor, psychologist or psychiatrist (3)
- ❑ Face-to-face from a financial, legal or other advisor (4)
- ❑ From a gambling helpline (5)
- ❑ From a residential treatment program (6)
- ❑ From a face-to-face support group, such as Gamblers Anonymous or Pokies Anonymous (7)
- ❑ From an online support group or discussion board, such as an Internet forum (8)
- ❑ From family or friends (9)
- ❑ By excluding yourself from a land-based gambling venue or outlet (10)
- ❑ By excluding yourself from a gambling website or online gambling operator (11)
- ❑ Through self-help strategies, such as by budgeting, limiting access to money for gambling, avoiding gaming venues, taking up other activities (12)
- ❑ Other (specify) (13) _____
- ❑ Have NOT sought help in relation to my gambling (14)

Answer If Have you ever sought help in relation to your gambling from any of the following sources? Face-to-face from a specialist gambling counsellor Is Selected

Thinking about the past 12 months, in total about how many times have you had face-to-face contact with a specialist gambling counsellor in relation to your gambling?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If Have you ever sought help in relation to your gambling from any of the following sources? From online or email gambling counselling Is Selected

Thinking about the past 12 months, in total about how many times have you had online or email contact with a gambling counsellor in relation to your gambling?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If Have you ever sought help in relation to your gambling from any of the following sources? Face-to-face from a financial, legal or other advisor Is Selected

Thinking about the past 12 months, in total about how many times have you had contact with a non-gambling specialist, like a doctor, psychologist or psychiatrist in relation to your gambling?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If Have you ever sought help in relation to your gambling from any of the following sources? Face-to-face from a financial, legal or other advisor Is Selected

Thinking about the past 12 months, in total about how many times have you had contact with a financial, legal or other advisor in relation to your gambling?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If Have you ever sought help in relation to your gambling from any of the following sources? From a gambling helpline Is Selected

Thinking about the past 12 months, in total about how many times have you had contact with gambling helpline in relation to your gambling?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If Have you ever sought help in relation to your gambling from any of the following sources? From a residential treatment program Is Selected

Thinking about the past 12 months, in total about how many times have you had contact with a residential treatment program in relation to your gambling?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If Have you ever sought help in relation to your gambling from any of the following sources? From a face-to-face support group, such as Gamblers Anonymous or Pokies Anonymous Is Selected

Thinking about the past 12 months, in total about how many times have you had contact with a face-to-face support group, such as Gamblers Anonymous or Pokies Anonymous in relation to your gambling?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If Have you ever sought help in relation to your gambling from any of the following sources? From an online support group or discussion board, such as an Internet forum Is Selected

Thinking about the past 12 months, in total about how many times have you had contact with an online support group or discussion board, such as an Internet forum in relation to your gambling?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If Have you ever sought help in relation to your gambling from any of the following sources? From family or friends Is Selected

Thinking about the past 12 months, in total about how many times have you had contact with family or friends in relation to your gambling?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If Have you ever sought help in relation to your gambling from any of the following sources? Other (specify Is Selected

Thinking about the past 12 months, in total about how many times have you had contact with a ${insert response} in relation to your gambling?

	Enter number (1)
Times per week OR (1)	_____
Times per month OR (2)	_____
Times per year (3)	_____

Answer If Have you ever sought help in relation to your gambling from any of the following sources? (please select all that apply) Face-to-face from a specialist gambling counsellor Is Selected And Have you ever sought help in relation to your gambling from any of the following sources? (please select all that apply) From online or email gambling counselling Is Selected And Have you ever sought help in relation to your gambling from any of the following sources? (please select all that apply) Face-to-face from a non-gambling specialist, like a doctor, psychologist or psychiatrist Is Selected And Have you ever sought help in relation to your gambling from any of the following sources? (please select all that apply) Face-to-face from a financial, legal or other advisor Is Selected And Have you ever sought help in relation to your gambling from any of the following sources? (please select all that apply) From a gambling helpline Is Selected And Have you ever sought help in relation to your gambling from any of the following sources? (please select all that apply) From a residential treatment program Is Selected

In total, about how many times have you had contact with all professional help services in relation to your gambling?

We would like to ask some questions about different areas of your life that may have been affected by your gambling. Not all of the questions will apply to you but we need to ask the same questions of everyone.

GAMBLING EFFECTS SCALE

SECTION A: HEALTH

Over the last 12 months, have you had sleeping problems?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you smo...

Would you say that your sleeping problems were...

- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ severe (4)

Were your sleeping problems caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you smo...

To what extent were your sleeping problems caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help for your sleeping problems?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you smo...

What kind of help did you seek? (select all that apply)

- ❑ General Practitioner (1)
- ❑ Sleep Specialist (2)
- ❑ Counsellor (3)
- ❑ Psychiatrist/ psychologist (funded by medicare) (4)
- ❑ Psychiatrist/ psychologist (funded by another source, please specify) (5) _____
- ❑ Hospital/ Sleep clinic (6)
- ❑ Medication (e.g. sleeping pills or other drugs to aid sleep) (7)
- ❑ Contacted a Helpline (8)
- ❑ Online Counselling Service (9)
- ❑ Other (please specify) (10) _____

Over the last 12 months, have you smoked, taken up smoking, or increased the number of cigarettes you smoke?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

Would you say that your smoking, taking up, or increase in smoking has been a...

- ❍ minor change (1)
- ❍ moderate change (2)
- ❍ major change (3)
- ❍ Serious change (4)

Was your smoking, taking up, or increase in smoking caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

To what extent was your smoking, taking up, or increase in smoking caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help for your smoking?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

What kind of help did you seek?

- ❍ General Practitioner (1)
- ❍ Counsellor (2)
- ❍ Psychiatrist/ psychologist (funded by medicare) (3)
- ❍ Psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❍ Hospital (5)
- ❍ Medication (e.g. nicotine gum/patches) (6)
- ❍ Contacted a Helpline (7)
- ❍ Online Counselling Service (8)
- ❍ Other (please specify) (9) _____

Over the last 12 months, have you had any issues with alcohol?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

Would you say your alcohol issue(s) was...

- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ Serious (4)

Was your alcohol issue(s) caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

To what extent was your alcohol issue(s) caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help for your alcohol issue(s)?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

What kind of help did you seek?

- ❍ General Practitioner (1)
- ❍ Counsellor (2)
- ❍ Psychiatrist/ psychologist (funded by medicare) (3)
- ❍ Psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❍ Hospital/ rehabilitation centre (5)
- ❍ Medication (e.g. drugs to reduce withdrawal) (6)
- ❍ Crisis accommodation (at a shelter or rehab clinic, not private accommodation) (7)
- ❍ Contacted a Helpline (8)
- ❍ Online Counselling Service (9)
- ❍ Other (please specify) (10) _____

Over the last 12 months, have you had any issues with prescription or illicit drugs?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

Would you say your drug issue(s) was...

- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Was your drug issue(s) caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

To what extent was your drug issue(s) caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help for your drug issue(s)?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you had...

What kind of help did you seek?

- ❍ General Practitioner (1)
- ❍ Counsellor (2)
- ❍ Psychiatrist/ psychologist (funded by medicare) (3)
- ❍ Psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❍ Hospital/ rehabilitation centre (5)
- ❍ Medication (e.g. drugs to reduce withdrawal) (6)
- ❍ Crisis accommodation (at a shelter or rehab clinic, not private accommodation) (7)
- ❍ Contacted a Helpline (8)
- ❍ Online Counselling Service (9)
- ❍ Other (please specify) (10) _____

Over the last 12 months, have you had any other health problems?

- ❍ No (1)
- ❍ Yes (please specify) (2) _____

If No Is Selected, Then Skip To SECTION B: LEISURENext we are going t...

Would you say your health problems were...
- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ Severe (4)

Were your health problems caused at all by your gambling?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION B: LEISURENext we are going t...

To what extent were your health problems caused by your gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help for your health problems?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION B: LEISURENext we are going t...

What kind of help did you seek? (Select all that apply)
- ❑ General Practitioner (1)
- ❑ Counsellor (2)
- ❑ Psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Hospital (5)
- ❑ Medication (6)
- ❑ Contacted a Helpline (7)
- ❑ Online Counselling Service (8)
- ❑ Other (please specify) (9) _____

SECTION B: LEISURE

Next we are going to ask some questions about your leisure activities. Over the last 12 months, has the number of times you go out for non-gambling entertainment decreased?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, has the numb...

Over the last 12 months, has the number of times you go out for non-gambling entertainment decreased...

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ strongly (3)
- ❍ totally (4)

Was the reduction in entertainment outings caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, has the numb...

To what extent was the reduction in entertainment outings caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Over the last 12 months, has the number of times you holiday or travel decreased?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have any of ...

Over the last 12 months, has the number of times you holiday or travel decreased...

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ strongly (3)
- ❍ totally (4)

Was the reduction in holiday and travel at all caused by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have any of ...

To what extent was the reduction in holiday and travel caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Over the last 12 months, have any of your other leisure activities decreased?

- ❍ No (1)
- ❍ Yes (please specify) (2) _____

If No Is Selected, Then Skip To SECTION C: CRITICAL EVENTS In this ...

Over the last 12 months, has your other leisure activity decreased...

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ strongly (3)
- ❍ totally (4)

Was the reduction in your other leisure activity caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION C: CRITICAL EVENTS In this ...

To what extent was the reduction in your other leisure activity caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

SECTION C: CRITICAL EVENTS

In this next section of the survey we will ask about critical events in your life. Many of these questions are quite personal but we hope you will answer them as honestly as you can. Please be reassured that all answers are confidential and anonymous.

Over the last 12 months, have you gotten a divorce or separated from a live-in, defacto or long-term relationship?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you dec...

Was the divorce or separation caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you dec...

To what extent was the divorce or separation caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek external intervention or incur costs as a result of your divorce or separation?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you dec...

What kind of help did you seek or what costs did you incur? (circle all that apply)

- ❑ Consulted a Lawyer (1)
- ❑ Consulted Marriage/ relationship counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Paid for divorce court proceedings (5)
- ❑ Paid for the cost of custody proceedings (6)
- ❑ Lost out on settlement costs (7)
- ❑ Stayed at crisis accommodation (a shelter not a friend's or family members house) (8)
- ❑ Medication (9)
- ❑ Contacted a Helpline (10)
- ❑ Online Counselling Service (11)
- ❑ Other (please specify) (12) _____

Over the last 12 months, have you declared bankruptcy?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you los...

Was the bankruptcy caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you los...

To what extent was the bankruptcy caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek external intervention as a result of your bankruptcy?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you los...

What kind of help did you seek or what costs did you incur? (circle all that apply)

- ❑ Consulted a Lawyer (1)
- ❑ Consulted a financial counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Attended court (5)
- ❑ Lost a house (6)
- ❑ Lost other assets (7)
- ❑ Stayed at crisis accommodation (a shelter not a friend's or family members house) (8)
- ❑ Contacted a Helpline (9)
- ❑ Online Counselling Service (10)
- ❑ Other (please specify) (11) _____

Over the last 12 months, have you lost your job?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you com...

Was the job loss caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you com...

To what extent was the job loss caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help or incur any costs as a result of your job loss?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you com...

What kind of help did you seek and/or what costs did you incur? (select all that apply)

- ❑ Consulted an employment provider/ agency (1)
- ❑ Accessed welfare payments (2)
- ❑ Was unemployed for more than 1 month (3)
- ❑ Re-training/ re-skilling (4)
- ❑ Consulted a counsellor (5)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (6)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (7) _____
- ❑ Contacted a Helpline (8)
- ❑ Online Counselling Service (9)
- ❑ Other (please specify) (10) _____

Over the last 12 months, have you committed any illegal acts that resulted or could have resulted in incarceration?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you los...

Were the illegal activities motivated/caused by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you los...

To what extent were the illegal activities motivated/caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did the illegal activities result in some action against you?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you los...

What kind of action? (select all that apply)

- ❑ Consulted a self-funded lawyer (1)
- ❑ Consulted a government funded/ community lawyer (2)
- ❑ Charged by the police (3)
- ❑ Attended court (4)
- ❑ Went to gaol (5)
- ❑ Other (please specify) (6) _____

Over the last 12 months, have you lost a place of residence or lost personal items through eviction or default on payment?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you del...

Was losing your place of residence caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you del...

To what extent was losing your place of residence caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of losing your place of residence?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you del...

What kind of help? (select all that apply)

- ❑ Stayed at crisis accommodation (a shelter not a friend's or family members place) (1)
- ❑ Used commissioned housing (2)
- ❑ Stayed at a friend or family member's place (3)
- ❑ Other (please specify) (4) _____

Over the last 12 months, have you deliberately inflicted serious physical injury upon yourself (i.e., self harm)?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you att...

Was the deliberately inflicted serious physical injury at all caused by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you att...

To what extent was the deliberately inflicted injury caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of your deliberately inflicted serious physical injury?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you att...

What kind of help did you receive (select all that apply)

- ❑ Consulted a GP (1)
- ❑ Consulted a counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Went to a hospital emergency department (5)
- ❑ Stayed at a hospital (6)
- ❑ Surgery (7)
- ❑ Medication (8)
- ❑ Police (9)
- ❑ Crisis accommodation (a psychiatric clinic or shelter not a friend's or family members house) (10)
- ❑ Contacted a Helpline (11)
- ❑ Online Counselling Service (12)
- ❑ Other (please specify) (13) _____

Over the last 12 months, have you attempted suicide?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

Was your suicide attempt caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

To what extent was your suicide attempt caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of your suicide attempt?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

What kind of help did you receive (circle all that apply)

- ❑ Consulted a GP (1)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (3) _____
- ❑ Went to a hospital emergency department (4)
- ❑ Stayed at a hospital (5)
- ❑ Crisis accommodation (a psychiatric clinic or shelter not a friend's or family members house) (6)
- ❑ Police (7)
- ❑ Medication (8)
- ❑ Contacted a Helpline (9)
- ❑ Online Counselling Service (10)
- ❑ Other (please specify) (11) _____

Over the last 12 months, have you experienced any other critical events not already asked about?

- ❍ No (1)
- ❍ Yes (please specify) (2) _____

If No Is Selected, Then Skip To SECTION D: SOCIAL Next we will ask ...

Was the critical event caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION D: SOCIAL Next we will ask ...

To what extent was the critical event caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did the critical event require external intervention?

- ❍ No (1)
- ❍ Yes (please list the type of help required) (2) _____

SECTION D: SOCIAL

Next we will ask you some questions about your social situation.

Over the last 12 months, have you been in a relationship?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Some people who have difficulties aro...

Over the last 12 months, have you experienced problems with your relationship?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Some people who have difficulties aro...

Would you say that the relationship problems were...
- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Were the relationship problems caused at all by your gambling?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Some people who have difficulties aro...

To what extent were the relationship problems caused by your gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did the relationship problems necessitate external intervention for either you or your partner?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Some people who have difficulties aro...

What kind of external intervention occurred? (select all that apply)

- ❑ Consulted a lawyer (1)
- ❑ Marriage/ relationship counsellor (2)
- ❑ Consulted a counsellor (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (4)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (5) _____
- ❑ Contacted a Helpline (6)
- ❑ Online Counselling Service (7)
- ❑ Stayed in crisis accommodation (a shelter not a friend's or family members house) (8)
- ❑ Contacted the police (9)
- ❑ Medication (10)
- ❑ Other (please specify) (11) _____

Some people who have difficulties around gambling have said they don't always look after their children as well as they would like to. Do you have any children?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

Thinking about the past 12 months, have you felt sometimes that you haven't provided the level of care for your children you should or would have liked to?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

To what degree was the level of care you provided for your children below what you should or would have liked it to be?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ strongly (3)
- ❍ totally (4)

Was the lower level of care provided a consequence of your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

To what extent was the lower level of care a consequence of your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did the lower level of care provided result in external intervention?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

What kind of external intervention occurred? (select all that apply)

- ❑ Paid carer was employed (1)
- ❑ Day care used (2)
- ❑ Friends/ relatives cared for child (3)
- ❑ School intervened (4)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (5)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (6) _____
- ❑ Children consulted a psychiatrist/ psychologist (funded by medicare) (7)
- ❑ Children consulted a psychiatrist/ psychologist (funded by another source, please specify) (8) _____
- ❑ Police involved (9)
- ❑ Department of Community Services (10)
- ❑ Other (please specify) (11) _____

Over the last 12 months, have you experienced difficulties in your relationships with your friends or acquaintances?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

Would you say that the problems with your friends/ acquaintances were...

- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Were the problems with your friends/ acquaintances caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

To what extent were the problems with friends/acquaintances caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did the problems between you and your friend/ acquaintance result in external intervention?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

What kind of external intervention was sought? (select all that apply)

- ❑ Consulted a Counsellor (1)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (3) _____
- ❑ Contacted a Helpline (4)
- ❑ Online Counselling Service (5)
- ❑ Consulted a lawyer (6)
- ❑ Contacted the police (7)
- ❑ Medication (8)
- ❑ Other (please specify) (9) _____

Over the last 12 months, have you experienced any other social problem not previously mentioned?

- ❍ No (1)
- ❍ Yes (please specify) (2) _____

If No Is Selected, Then Skip To SECTION E: EMPLOYMENT & EDUCATION N...

Would you say that the social problems were...

- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Were the social problems caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION E: EMPLOYMENT & EDUCATION N...

To what extent were the social problems caused by your gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of these social problems?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION E: EMPLOYMENT & EDUCATION N...

What kind of help did you seek? (select all that apply)
- ❑ Consulted a lawyer (1)
- ❑ Consulted a counsellor (2)
- ❑ Consulted a counsellor (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (4)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (5) _____
- ❑ Contacted a Helpline (6)
- ❑ Online Counselling Service (7)
- ❑ Contacted the police (8)
- ❑ Medication (9)
- ❑ Other (please specify) (10) _____

SECTION E: EMPLOYMENT & EDUCATION

Now we're going to ask you some questions about your employment and education.
Over the last 12 months, have you been employed?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you bee...

Over the last 12 months, have you experienced problems at work?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you bee...

Would you say that your work problems were...
- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Were your work problems caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you bee...

To what extent were the work problems caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

What were some of the consequences of your work problems? (select all that apply)

- ❑ Worked slower/ less productively (1)
- ❑ Took time off work (2)
- ❑ Was demoted (3)
- ❑ Lost your job (4)
- ❑ Disciplinary Action was taken against me (5)
- ❑ Consulted the work Counsellor/ Psychologist (6)
- ❑ Consulted a counsellor privately (7)
- ❑ Consulted a counsellor (8)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (9)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (10) _____
- ❑ Contacted a Helpline (11)
- ❑ Online Counselling Service (12)
- ❑ Other (please specify) (13) _____

Over the last 12 months, have you been enrolled in a formal course of study?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

Over the last 12 months, have you experienced educational problems?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

Would you say that the educational problems were...

- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Were your educational problems caused at all by your gambling?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you exp...

To what extent were the educational problems caused by your gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

What were some of the consequences of your educational problems? (select all that apply)
- ❑ Dropped out of or deferred a whole course/ institution (1)
- ❑ Dropped out or deferred from part of a course (e.g. a subject) (2)
- ❑ Failed a course (3)
- ❑ Missed lectures and assignments (4)
- ❑ Received lower marks than previously (5)
- ❑ Applied for work extensions/ special consideration (6)
- ❑ Consulted a counsellor (7)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (8)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (9) _____
- ❑ Contacted a Helpline (10)
- ❑ Online Counselling Service (11)
- ❑ Other (please specify) (12) _____

Over the last 12 months, have you experienced any other employment/educational problems not previously mentioned?
- ❍ No (1)
- ❍ Yes (please specify) (2) _____

If No Is Selected, Then Skip To SECTION F: FINANCIAL Next I'm going...

Would you say that the employment/educational problems were...
- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Were your employment/educational problems caused at all by your gambling?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION F: FINANCIAL Next I'm going...

To what extent were the employment/educational problems caused by your gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Were there any consequences of your employment/educational problems and/or did the problems require external intervention?
- ❍ No (1)
- ❍ Yes (please list the consequences/ interventions) (2) _____

SECTION F: FINANCIAL

Next I'm going to ask you some financial questions. Again, please be assured that all responses are confidential and cannot be linked to you in any way.

Over the last 12 months, have you saved less money than you should or would have liked to?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you acq...

How much less money did you save than you should or would have liked to?
- ❍ slightly less (1)
- ❍ moderately less (2)
- ❍ much less (3)
- ❍ very much less (4)

Were your reduced savings a consequence of your gambling?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you acq...

To what extent were your reduced savings a consequence of your gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did your reduced savings require any external assistance?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you acq...

What kind of external assistance? (select all that apply)

- ❑ Financial counsellor/Creditline (1)
- ❑ Bank/credit union/building society (2)
- ❑ Debt consolidation company (3)
- ❑ Loan sharks (4)
- ❑ Social services (5)
- ❑ Friend or relative (6)
- ❑ Lawyer (7)
- ❑ Other (please specify) (8) _____

Over the last 12 months, have you acquired new debts?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you bee...

Would you say that the new debt was...

- ❍ small (1)
- ❍ moderate (2)
- ❍ large (3)
- ❍ very large (4)

Was your new debt a consequence of your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you bee...

To what extent was the new debt a consequence of your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek external assistance for your new debts?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, have you bee...

What kind of external assistance? (select all that apply)

- ❑ Financial counsellor/Creditline (1)
- ❑ Bank/credit union/building society (2)
- ❑ Debt consolidation company (3)
- ❑ Loan sharks (4)
- ❑ Social services (5)
- ❑ Friend or relative (6)
- ❑ Lawyer (7)
- ❑ Other (please specify) (8) _____

Over the last 12 months, have you been reported to a Credit Reporting Agency (CRA) for failing to make a payment?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 month...

Was your being reported at all a consequence of your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 month...

To what extent was your being reported to a CRA a consequence of your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did your being reported to a CRA require external assistance?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 month...

What kind of external assistance? (select all that apply)

- ❑ Financial counsellor/Creditline (1)
- ❑ Bank/credit union/building society (2)
- ❑ Debt consolidation company (3)
- ❑ Loan sharks (4)
- ❑ Social services (5)
- ❑ Friend or relative (6)
- ❑ Lawyer (7)
- ❑ Other (please specify) (8) _____

Over the last 12 months, have you experienced any other financial problems not previously mentioned?

- ❍ No (1)
- ❍ Yes (please specify) (2) _____

If No Is Selected, Then Skip To SECTION G: PSYCHOLOGICAL HARM Next...

Would you say that your financial problems were...

- ❍ minor (1)
- ❍ moderate (2)
- ❍ major (3)
- ❍ serious (4)

Were the financial problems you experienced at all caused by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION G: PSYCHOLOGICAL HARM Next...

To what extent were your financial problems caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did the financial problems require external assistance?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To SECTION G: PSYCHOLOGICAL HARM Next...

What kind of external assistance? (select all that apply)

- ❑ Financial counsellor/Creditline (1)
- ❑ Bank/credit union/building society (2)
- ❑ Debt consolidation company (3)
- ❑ Loan sharks (4)
- ❑ Social services (5)
- ❑ Friend or relative (6)
- ❑ Lawyer (7)
- ❑ Other (please specify) (8) _____

SECTION G: PSYCHOLOGICAL HARM

Next I'm going to ask you some questions about your mood or how you've been feeling.

Over the last 12 months, would you say your level of happiness has decreased?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

Would you say your level of happiness decreased...
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ considerably (3)
- ❍ totally (4)

Would you say the decrease in happiness was at all caused by your gambling?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

To what extent would you say your decrease in happiness was caused by your gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of this?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

What kind of help did you seek? (select all that apply)
- ❑ Consulted a GP (1)
- ❑ Consulted a counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Contacted a Helpline (5)
- ❑ Online Counselling Service (6)
- ❑ Medication (7)
- ❑ Other (please specify) (8) _____

Over the last 12 months, would you say your general hopefulness for the future decreased?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

Would you say your general hopefulness decreased...

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ considerably (3)
- ❍ totally (4)

Would you say the decrease in general hopefulness was at all caused by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

To what extent would you say your decrease in hopefulness was caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of this?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

What kind of help did you seek? (select all that apply)

- ❑ Consulted a GP (1)
- ❑ Consulted a counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Contacted a Helpline (5)
- ❑ Online Counselling Service (6)
- ❑ Medication (7)
- ❑ Other (please specify) (8) _____

Over the last 12 months, would you say the level of control that you feel you have over your life decreased?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

Would you say the control that you have over your life has decreased...

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ considerably (3)
- ❍ totally (4)

Would you say the decrease in control over your life was at all caused by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

To what extent would you say the decrease in control over your life was caused by your gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of this?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

What kind of help did you seek? (select all that apply)

- ❑ Consulted a GP (1)
- ❑ Consulted a counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Contacted a Helpline (5)
- ❑ Online Counselling Service (6)
- ❑ Medication (7)
- ❑ Other (please specify) (8) _____

Over the last 12 months, would you say your self respect has decreased?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

Would you say your self-respect has decreased...
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ considerably (3)
- ❍ totally (4)

Would you say that the decrease in self-respect was caused at all by your gambling?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

To what extent would you say the decrease in your self-respect was caused by gambling?
- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of this?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To Over the last 12 months, would you sa...

What kind of help did you seek? (select all that apply)
- ❑ Consulted a GP (1)
- ❑ Consulted a counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Contacted a Helpline (5)
- ❑ Online Counselling Service (6)
- ❑ Medication (7)
- ❑ Other (please specify) (8) _____

Over the last 12 months, would you say the amount you worry has increased?
- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To End of Block

Would you say the amount you worry increased...

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ considerably (3)
- ❍ totally (4)

Was the increase in worry caused at all by your gambling?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To End of Block

To what extent would you say your increase in worry was caused by gambling?

- ❍ slightly (1)
- ❍ moderately (2)
- ❍ largely (3)
- ❍ totally (4)

Did you seek help as a result of this?

- ❍ No (1)
- ❍ Yes (2)

If No Is Selected, Then Skip To End of Block

What kind of help did you seek? (select all that apply)

- ❑ Consulted a GP (1)
- ❑ Consulted a counsellor (2)
- ❑ Consulted a psychiatrist/ psychologist (funded by medicare) (3)
- ❑ Consulted a psychiatrist/ psychologist (funded by another source, please specify) (4) _____
- ❑ Contacted a Helpline (5)
- ❑ Online Counselling Service (6)
- ❑ Medication (7)
- ❑ Other (please specify) (8) _____

END OF GES

We're now going to ask you some questions about how you've been feeling over the past 30 days.

	None of the time (1)	A little of the time (2)	Some of the time (3)	Most of the time (4)	All of the time (5)
How often did you feel nervous? (1)	❍	❍	❍	❍	❍
How often did you feel hopeless? (2)	❍	❍	❍	❍	❍
How often did you feel restless or fidgety? (3)	❍	❍	❍	❍	❍
How often did you feel so depressed that nothing could cheer you up? (4)	❍	❍	❍	❍	❍
How often did you feel that everything was an effort? (5)	❍	❍	❍	❍	❍
How often did you feel worthless? (6)	❍	❍	❍	❍	❍

Thank you!

This completes our survey.

We appreciate your time and effort to participate in this important study.

Appendix C:
Gambling Effect scores by problem gambling status for community gamblers

GES by PGSI N = 331 Community Gamblers				
TOTAL_GES				
PGSI_Scores	Main Problem Form	Mean	N	Std. Deviation
Non-Problem (0)	EGM	.0	4	.0
	SPORT	2.00	4	4.00
	TRACK	.0	2	.0
	NONE	.33	99	1.356
	Total	.37	109	1.49
Low Level (1-2)	EGM	1.93	25	5.31
	SPORT	.89	18	2.49
	TRACK	.5	8	.93
	CASINO	1.94	7	3.39
	KENOBINGO	.0	1	
	NONE	2.02	29	9.62
	Total	1.59	88	6.32
Moderate Level (3-7)	EGM	12.08	32	17.69
	SPORT	3.04	10	6.32
	TRACK	3.88	13	7.11
	CASINO	6.30	8	5.38
	NONE	3.67	6	8.98
	Total	7.82	69	13.51
Problem Gambling (8+)	EGM	55.46	29	50.22
	SPORT	21.69	11	24.66
	TRACK	23.37	12	22.93
	CASINO	7.0	10	15.30
	KENO BINGO	2.40	2	3.39
	NONE	.0	1	
	Total	33.88	65	41.726
Total	EGM	22.70	90	38.01
	SPORT	6.81	43	15.40
	TRACK	9.57	35	17.10
	CASINO	5.36	25	10.19
	KENOBINGO	1.60	3	2.77
	NONE	.84	135	4.95
	Total	**8.83**	**331**	**23.40**

Appendix D:
Online ASTERIG

Note: Questionnaire item numbers are not in sequential order as Qualtrics online assigns numbers to items on a skip-logic conditional basis

ASTERIG

Q1 Gender:
- ❍ Male (1)
- ❍ Female (2)

Q2 Age:
- ❍ 18 to 24 (1)
- ❍ 25 to 34 (2)
- ❍ 35 to 44 (3)
- ❍ 45 to 54 (4)
- ❍ 55 to 64 (5)
- ❍ 65 or older (6)

Q3 What country do you live in?
- ❍ Australia (1)
- ❍ Other (2) _____

Answer If What country do you live in? Australia Is Selected
Q27 In which suburb do you live?

Answer If What country do you live in? Australia Is Selected
Q4 What is your postcode?

Q5 Which of the following would best describe your profession?
- ❍ Gambling operator/venue staff (1)
- ❍ Researcher (2)

Answer If Which of the following would best describe your profession?<o:p></o:p> Click to write Choice 1 Is Selected
Q6 In which gambling field(s) do you work? (Tick all that apply)
- ❑ Gaming machines (clubs, hotels, casinos) (1)
- ❑ Lottery including scratch-its (2)
- ❑ Wagering agencies (TAB, AJC etc.) (3)
- ❑ Online gambling providers (4)
- ❑ Bingo and Keno (5)
- ❑ Sports betting (6)

Q7 How long have you been working in the field of gambling?
- ❍ (1)
- ❍ 1-5 years (2)
- ❍ 6-10 years (3)
- ❍ 11-20 years (4)
- ❍ 20 years + (5)

Q31 Different forms of gambling can be played either online on the internet (i.e., a website or app), or at a physical venue (i.e., land-based casino, hotel or club). The following questions require you to provide responses for both online and venue-based options for each gambling form.

In your opinion, which forms of gambling are associated with a greater risk for harm? Please answer for both online and land-based forms of gambling.

	Not at all risky (108)	Very little risk (109)	Neither risky nor non-risky (110)	Somewhat risky (111)	Significantly risky (112)
Online (1)	❍	❍	❍	❍	❍
Land-based (2)	❍	❍	❍	❍	❍
Online (3)	❍	❍	❍	❍	❍
Land-based (4)	❍	❍	❍	❍	❍
Online (5)	❍	❍	❍	❍	❍
Land-based (6)	❍	❍	❍	❍	❍
Online (7)	❍	❍	❍	❍	❍
Land-based (8)	❍	❍	❍	❍	❍
Online (9)	❍	❍	❍	❍	❍
Land-based (10)	❍	❍	❍	❍	❍
Online (11)	❍	❍	❍	❍	❍
Land-based (12)	❍	❍	❍	❍	❍
Online (13)	❍	❍	❍	❍	❍
Land-based (14)	❍	❍	❍	❍	❍
Online (15)	❍	❍	❍	❍	❍
Land-based (16)	❍	❍	❍	❍	❍

Q32 Which type of harm do you associate with each form of gambling? (Tick all that apply) Please answer for both online and land-based forms of gambling.

	Social (relationship breakdowns, domestic violence) (108)	Legal (crime, court proceedings) (109)	Financial (bankruptcy, debt) (110)	Mental health (depression/ anxiety) (111)	Suicide (ideation, attempts and completed suicide) (112)	Physical health (chronic and lifestyle diseases) (113)	Employment (job loss, loss of productivity) (114)
Online (1)	❑	❑	❑	❑	❑	❑	❑
Land-based (2)	❑	❑	❑	❑	❑	❑	❑
Online (3)	❑	❑	❑	❑	❑	❑	❑
Land-based (4)	❑	❑	❑	❑	❑	❑	❑
Online (5)	❑	❑	❑	❑	❑	❑	❑
Land-based (6)	❑	❑	❑	❑	❑	❑	❑
Online (7)	❑	❑	❑	❑	❑	❑	❑
Land-based (8)	❑	❑	❑	❑	❑	❑	❑
Online (9)	❑	❑	❑	❑	❑	❑	❑
Land-based (10)	❑	❑	❑	❑	❑	❑	❑
Online (11)	❑	❑	❑	❑	❑	❑	❑
Land-based (12)	❑	❑	❑	❑	❑	❑	❑
Online (13)	❑	❑	❑	❑	❑	❑	❑
Land-based (14)	❑	❑	❑	❑	❑	❑	❑
Online (15)	❑	❑	❑	❑	❑	❑	❑
Land-based (16)	❑	❑	❑	❑	❑	❑	❑

Q12 The following questions will ask you about your opinion of the potential risks associated with different forms of gambling. Each question will ask you to use a scale to rate different forms of gambling based on a particular type of risk. Some of the terms used in this part of the survey may be new to you, so a definition of each potential risk has been provided to help clarify what we are asking of you.

Q28 1. Event frequency
Definition: How frequently one can engage in each of the particular forms of gambling.
Q. In your opinion, what would be the event frequency for the following forms of gambling?

	Weekly (134)	>Weekly but < daily (135)	>Daily but < hourly (136)	>Hourly but < every 10 min (137)	>Every 10 min but < every 3 min (138)	>Every 3 min but < every min (139)	>Every minute but <every 15 sec (140)	>Every 15 sec but < every 5 sec (141)	Every 5 sec or more (142)
Online (1)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (2)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Online (3)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (4)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Online (5)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (6)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Online (7)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (8)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Online (9)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (10)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Online (11)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (12)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Online (13)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (14)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Online (15)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (16)	❍	❍	❍	❍	❍	❍	❍	❍	❍

Q42 2. Interval of payback
Definition: Period of time between gambling result and notification of payment or actual receipt of payment.
Q. In your opinion, how long would you have to wait before receiving payment for the following forms of gambling?

	One week (143)	< 1 week but > 1 day (144)	< 1 day but > 1 hour (145)	< 1 hour but > 10 min (146)	< 10 min but > 3 min (147)	< 3 min but > 1 min (148)	< 1 min but > 15 sec (149)	< 15 sec but > 5 sec (150)	Less than 5 sec (151)
Online (1)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (2)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Online (3)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (4)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Online (5)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (6)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Online (7)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (8)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Online (9)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (10)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Online (11)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (12)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Online (13)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (14)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Online (15)	❍	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (16)	❍	❍	❍	❍	❍	❍	❍	❍	❍

Q43 3. Jackpot

Definition: An extraordinary top prize typically in the form of a large amount of money formed by the accumulation of previous bets.

Q. In your opinion, what would the potential jackpot be for each of the following forms of gambling?

	No jackpot (168)	$0 - $99 (169)	$100 - $999 (170)	$1,000 - $9,999 (171)	$10,000 - $49,999 (172)	$50,000 - $99,999 (173)	$100,000 - $999,999 (174)	$1M or more (175)
Online (1)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (2)	❍	❍	❍	❍	❍	❍	❍	❍
Online (3)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (4)	❍	❍	❍	❍	❍	❍	❍	❍
Online (5)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (6)	❍	❍	❍	❍	❍	❍	❍	❍
Online (7)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (8)	❍	❍	❍	❍	❍	❍	❍	❍
Online (9)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (10)	❍	❍	❍	❍	❍	❍	❍	❍
Online (11)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (12)	❍	❍	❍	❍	❍	❍	❍	❍
Online (13)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (14)	❍	❍	❍	❍	❍	❍	❍	❍
Online (15)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (16)	❍	❍	❍	❍	❍	❍	❍	❍

Q44 4. Continuity of playing

Definition: Period of time during which it is possible to gamble without interruption.

Q. In your opinion, how long could each of the following forms of gambling be played without interruption?

	5 min or less (188)	6 to 30 min (189)	31 min to 1 hour (190)	>1 hour to 3 hours (191)	More than 3 hours (192)
Online (1)	❍	❍	❍	❍	❍
Land-based (2)	❍	❍	❍	❍	❍
Online (3)	❍	❍	❍	❍	❍
Land-based (4)	❍	❍	❍	❍	❍
Online (5)	❍	❍	❍	❍	❍
Land-based (6)	❍	❍	❍	❍	❍
Online (7)	❍	❍	❍	❍	❍
Land-based (8)	❍	❍	❍	❍	❍
Online (9)	❍	❍	❍	❍	❍
Land-based (10)	❍	❍	❍	❍	❍
Online (11)	❍	❍	❍	❍	❍
Land-based (12)	❍	❍	❍	❍	❍
Online (13)	❍	❍	❍	❍	❍
Land-based (14)	❍	❍	❍	❍	❍
Online (15)	❍	❍	❍	❍	❍
Land-based (16)	❍	❍	❍	❍	❍

Q46 5. Chance of winning a profit

Definition: The probability of making a profit with each individual stake.

Q. In your opinion, what would be the chance of winning a profit for each of the following forms of gambling?

	0% (198)	> 0% to 0.1% (199)	> 0.1% to 0.5% (200)	> 0.5% to 1% (201)	> 1 % to 5% (202)	> 5% to 10% (203)	> 10% to 25% (204)	> 25% (205)
Online (1)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (2)	❍	❍	❍	❍	❍	❍	❍	❍
Online (3)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (4)	❍	❍	❍	❍	❍	❍	❍	❍
Online (5)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (6)	❍	❍	❍	❍	❍	❍	❍	❍
Online (7)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (8)	❍	❍	❍	❍	❍	❍	❍	❍
Online (9)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (10)	❍	❍	❍	❍	❍	❍	❍	❍
Online (11)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (12)	❍	❍	❍	❍	❍	❍	❍	❍
Online (13)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (14)	❍	❍	❍	❍	❍	❍	❍	❍
Online (15)	❍	❍	❍	❍	❍	❍	❍	❍
Land-based (16)	❍	❍	❍	❍	❍	❍	❍	❍

Q47 6. Availability

Definition: Possibility of accessing gambling opportunities.

Q. In your opinion, what is the availability of each of the following forms of gambling?

	Gambling opportunities within a radius of > 100 km (214)	Gambling opportunities within a radius from 25 km to ≤ 100 km (215)	Gambling opportunities within a radius from 10 km to ≤ 25 km (216)	Gambling opportunities within a radius from 1 km to ≤ 10 km (217)	Gambling opportunities within a radius of ≤ 1 km (218)	Gambling opportunities at home/workplace (219)
Online (1)	❍	❍	❍	❍	❍	❍
Land-based (2)	❍	❍	❍	❍	❍	❍
Online (3)	❍	❍	❍	❍	❍	❍
Land-based (4)	❍	❍	❍	❍	❍	❍
Online (5)	❍	❍	❍	❍	❍	❍
Land-based (6)	❍	❍	❍	❍	❍	❍
Online (7)	❍	❍	❍	❍	❍	❍
Land-based (8)	❍	❍	❍	❍	❍	❍
Online (9)	❍	❍	❍	❍	❍	❍
Land-based (10)	❍	❍	❍	❍	❍	❍
Online (11)	❍	❍	❍	❍	❍	❍
Land-based (12)	❍	❍	❍	❍	❍	❍
Online (13)	❍	❍	❍	❍	❍	❍
Land-based (14)	❍	❍	❍	❍	❍	❍
Online (15)	❍	❍	❍	❍	❍	❍
Land-based (16)	❍	❍	❍	❍	❍	❍

Q48 7. Multiple playing/stake opportunities

Definition: Opportunity to play several stakes at the same time (e.g. betting on several roulette numbers, or multiple credit lines on a poker machine) or to take part in several gambling opportunities at the same time (e.g. playing different poker machines at the same time or playing different online-poker-tables on different screens at the same time).

Q. In your opinion, what would be the multiple playing/stake opportunities for each of the following forms of gambling?

	no multiple playing opportunity and no multiple stake opportunity (226)	multiple playing opportunities OR multiple stake opportunities (227)	multiple playing opportunities AND multiple stake opportunities (228)
Online (1)	❍	❍	❍
Land-based (2)	❍	❍	❍
Online (3)	❍	❍	❍
Land-based (4)	❍	❍	❍
Online (5)	❍	❍	❍
Land-based (6)	❍	❍	❍
Online (7)	❍	❍	❍
Land-based (8)	❍	❍	❍
Online (9)	❍	❍	❍
Land-based (10)	❍	❍	❍
Online (11)	❍	❍	❍
Land-based (12)	❍	❍	❍
Online (13)	❍	❍	❍
Land-based (14)	❍	❍	❍
Online (15)	❍	❍	❍
Land-based (16)	❍	❍	❍

Q49 8. Variable stake amount and limit
Definition: Extent to which 1) gamblers can choose or modify their stake amounts during play, and 2) if that gambling form has a stake limit. For example, 1) initially playing a $1 bet on a poker machine, then increasing the amount to $5 (variable stake), but2) not being able to stake more than $100 on any one bet (limited stake amount).
Q. In your opinion, what would be the variable stake amount and limit for the following forms of gambling?

	no variable (fixed) stake amount (232)	variable stake, limited stake amount (233)	variable stake, unlimited stake amount (234)
Online (1)	❍	❍	❍
Land-based (2)	❍	❍	❍
Online (3)	❍	❍	❍
Land-based (4)	❍	❍	❍
Online (5)	❍	❍	❍
Land-based (6)	❍	❍	❍
Online (7)	❍	❍	❍
Land-based (8)	❍	❍	❍
Online (9)	❍	❍	❍
Land-based (10)	❍	❍	❍
Online (11)	❍	❍	❍
Land-based (12)	❍	❍	❍
Online (13)	❍	❍	❍
Land-based (14)	❍	❍	❍
Online (15)	❍	❍	❍
Land-based (16)	❍	❍	❍

Q50 9. Sensory product design

Definition: Auditory and visual effects.

Q. In your opinion, what would be the sensory product design for each different form of gambling?

	No audio/visual (238)	Auditory OR visual effects exist (239)	BOTH auditory AND visual effects exist (240)
Online (1)	❍	❍	❍
Land-based (2)	❍	❍	❍
Online (3)	❍	❍	❍
Land-based (4)	❍	❍	❍
Online (5)	❍	❍	❍
Land-based (6)	❍	❍	❍
Online (7)	❍	❍	❍
Land-based (8)	❍	❍	❍
Online (9)	❍	❍	❍
Land-based (10)	❍	❍	❍
Online (11)	❍	❍	❍
Land-based (12)	❍	❍	❍
Online (13)	❍	❍	❍
Land-based (14)	❍	❍	❍
Online (15)	❍	❍	❍
Land-based (16)	❍	❍	❍

Q51 10. Near wins

Definition: Occurs when a gambler supposes to almost win on a bet (e.g. the roulette ball landing on the number next to yours).

Q. In your opinion, what would be the near win rating for each of the following forms of gambling?

	No near win (246)	Un-intentionally created, occurring by chance (247)	Intentionally created by supplier/producer, occurring more frequently than random (248)
Online (1)	❍	❍	❍
Land-based (2)	❍	❍	❍
Online (3)	❍	❍	❍
Land-based (4)	❍	❍	❍
Online (5)	❍	❍	❍
Land-based (6)	❍	❍	❍
Online (7)	❍	❍	❍
Land-based (8)	❍	❍	❍
Online (9)	❍	❍	❍
Land-based (10)	❍	❍	❍
Online (11)	❍	❍	❍
Land-based (12)	❍	❍	❍
Online (13)	❍	❍	❍
Land-based (14)	❍	❍	❍
Online (15)	❍	❍	❍
Land-based (16)	❍	❍	❍

Appendix E:
Report on Findings from Online Discussion Boards

socialresearchgroup

a division of marketsolutions

Harm Minimisation Research: Report on findings from online discussion boards

Prepared for

University of Sydney / NSW Office of Liquor, Gambling & Racing

by

Dr Nina Van Dyke

Social Research Group, Market Solutions

March 2015

Ref: 2740

TABLE OF CONTENTS

TABLE OF FIGURES

APPENDIX : Topic Guide

1 EXECUTIVE SUMMARY

1.1 Introduction

The NSW Government was interested in obtaining a comprehensive and up-to-date understanding of the harms that can occur to players of gambling products available in NSW and the level of risk associated with those harms. It was also interested in identifying the range of strategies that may be effective in preventing the development of those harms.

In order to achieve this result, a multi-pronged methodological approach was taken consisting of five studies.

This report presents the findings from the fifth study -- online discussion boards with gambling researchers and counsellors, industry staff who work in the area of responsible gambling, and family and friends of at-risk and problem gamblers.

1.2 Methodology

Online discussion boards are online 'bulletin boards' in which participants can share and discuss information and opinions over a period of days or weeks. This methodology was a particularly appropriate choice for our researcher and industry participants, who live all over the world and thus in different time zones. The format of the boards allowed them to participate at times convenient for them.

Researcher, counsellor and industry staff participants were recruited from lists provided to SRG by the University of Sydney team. Family/friend participants were recruited from a prior SRG gambling study. Counsellors and friends and family were all located in NSW. Researchers and industry staff were located both within Australia and overseas.

Industry staff and friends and family were reimbursed $50 for their participation.

Data were first downloaded into Excel and then coded into themes.

1.3 Findings

1.3.1 Types of harms

The types of harm most associated with gambling difficulties were financial, which then led to harms around loss of time, psychological and mental health, relationships and physical health.

Family and friends focused more than other groups on depression and anxiety, and impact on relationships and family.

Industry participants tended to emphasise co-morbidities – that harms do come from problem gambling but they are tied up with many other problems and issues.

1.3.2 Who is harmed

Most participants agreed that the gambler is harmed the most, followed closely by family, then friends, and then the community.

To that list, participants added 'employers and employees' and 'the industry' as also harmed by problem gambling.

Several industry participants stated that in the early stages of a gambling problem, family may actually be more negatively affected than the gambler, who is in denial; but others argued that the gambler is harmed even if he or she does not realise it.

1.3.3 Harms by product type and gambler demographics

EGMs were singled out as the gambling product known to pose the greatest threat due to its features and availability.

Demographic groups thought to be at greatest risk of harm included: the elderly; those with low income; those from a cultural background in which either gambling is normalised or with high levels of shame around gambling difficulties; recently arrived migrants; and children of adults who are regular gamblers.

Some participants reported men as being more harmed from problem gambling with others arguing women were more harmed.

1.3.4 Risk factors

Many participants discussed multiple, bi-directional, and interacting causal pathways and agreed with the pathways model, or some version of it.

Most-cited risk factors included individual personality variables such as impulse control, an early big win, not understanding the odds, access, and general coping mechanisms.

Family/friends discussed desire to have a lot of money and gambling loyalty programs/promotions as additional risk factors.

1.3.5 Risk factors by product type and gambler demographics

Participants generally agreed that there is a higher degree of risk with products in which one can lose a lot of money quickly, where it is difficult to keep track of how much one is losing, and with games that are highly repetitive.

There was general agreement that EGMs, online gambling and sport betting pose the greatest risk.

Demographic groups thought to be at particular risk included: younger people; older people; those with particular personality traits; those with prior/other addictions; and those socially isolated.

Friends/family added those with access to a lot of money as being at greater risk.

1.3.6 Causality

Most researchers, counsellors and industry participants believe the causal direction goes both ways and then becomes a cycle with each feeding off the other, although many participants argues the causal direction went mostly one way.

Most family/friends said the gambling came first and then the harms.

Most participants said understanding causal direction does matter – mainly for treatment/prevention purposes but also for policy implementation.

1.3.7 Recreational gamblers

Researchers and industry participants in particular stated that there is not a lot of research they know of on responsible gambling, as opposed to problem gambling, and that more should be conducted.

Common protective factors mentioned included:

- good coping skills / problem solving skills / ability to control impulses
- accessibility and conditioning
- wide social networks/life balance
- viewing gambling as just one of many entertainment options.

1.3.8 New and emerging technologies

Participants provided a long list of new and emerging technologies around gambling, with Industry participants seeming to have the most knowledge in this area.

1.3.9 Potential harms from new technologies

Common potential harms discussed included:

- 24/7 access / continuous play
- Social isolation / no interaction with venue staff who might intervene / no one to turn to for help
- Can gamble without others knowing
- Loss of time tracking
- Higher speed; more frequent betting
- Virtual spending if tied directly to online account / credit card with often high limits

Several participants, particularly those from industry, discussed the potential for new technologies to assist in the mitigation of harms from problem gambling.

1.3.10 Strategies to minimise harms

Researchers, counsellors and friends/family mostly focused on restrictions of various sorts along with education; some industry participants were concerned about reducing the enjoyment of recreational gamblers.

Strategies largely fell into five categories:

- providing information/education
- altering or modifying the playing experience
- offering gambler-initiated actions/decisions
- implementing broader regulation / restrictions/changes to venue
- government initiatives/public policy around providing services/research.

1.3.11 Strategies by gambling product

Many of the product-specific strategies were aimed at electronic gaming machines, which were often perceived as the product causing the most harm. This was particularly true of suggestions by researchers, almost all of which were focused on EGMs.

Along with EGMs, participants were most concerned about the possible dangers of Internet gambling and provided a number of suggestions to reduce the risks. However, many also noted the difficulty in implementing many of the changes, both because of the nature of the Internet and also because of the risk of problem gamblers simply switching to offshore Internet sites with few regulations.

After EGMs and Internet gambling, participants were most concerned about sports betting (especially online) and betting on horses and greyhound races. In particular, they recommended either a ban or limit on advertising of sports betting, particularly during general viewing hours and during live sports action.

Participants were generally less concerned about harms from lottery tickets, instant scratchies, Keno, bingo and Housie, and table games at the casinos.

1.4 Discussion and Conclusions

From the online discussion boards with gambling researchers, gambling counsellors, representatives from the gambling industry involved in responsible gambling, and family and friends of at-risk and problem gamblers we find that harm from problem gambling includes financial harms first and foremost, but with numerous other harms following on, including loss of time, and harms to psychological and mental health, relationships and physical health.

Participants expressed most concern with harms from electronic gaming machines, online gambling, and online and real-time sports betting.

A variety of risk factors for problem gambling were discussed, with many participants supporting the pathways modes whereby risk factors and level of risk depend on the individual along with a combination of other factors that can interact to result in problem gambling.

Participants discussed a range of strategies for preventing the development of harms from gambling, including specific recommendations by gambling project.

In particular, participants noted the need for:

- A shift in focus with harm minimisation from problem gamblers to all gamblers
- An overarching and integrated harm minimisation strategy
- A harm minimisation strategy than includes/involves the gambling industry
- A sustained program of research around harm minimisation with a broader range of enquiry
- Consideration of measures that target known risk factors for problem gambling such as social isolation and boredom

Finally, a number of gaps in current knowledge around harm minimisation were noted:

- More research in needed on harms to people other than the gambler
- More longitudinal research is needed in order to understand causality
- More trials of specific strategies are needed, particularly those focused on individual products, in order to understand impacts
- More research is needed with non-clinical samples of problem and at-risk gamblers
- More research is needed with non-problem gamblers in order to understand protective factors
- Greater focus in needed on prevention and early intervention

2 INTRODUCTION

2.1 Background and objectives

The NSW Government was interested in obtaining a comprehensive and up-to-date understanding of the harms that can occur to players of gambling products available in NSW and the level of risk associated with those harms. It was also interested in identifying the range of strategies that may be effective in preventing the development of those harms.

In order to achieve this result, a multi-pronged methodological approach was taken, including a literature review; analysis of CDS data; a telephone survey of gamblers and friends and family of gamblers; focus groups with gambling operators, community and welfare groups, and friends and family of problem gamblers; and online discussion boards with gambling researchers, counsellors who work with problem gamblers, people from the gambling industry who are involved in responsible gambling, and friends and family of problem or at-risk gamblers.

The literature review, analysis of CDS data, and focus groups were led by the team from the University of Sydney. The telephone survey and online discussion boards were led by the Social Research Group (SRG).

This report presents the findings from the online discussion boards.

3 METHODOLOGY

3.1 Overview

Topic Guide Development

- Initial draft developed by SRG
- Revisions by SRG in response to feedback from USyd

Recruitment

- List of researchers, counsellors and industry personnel provided by USyd
- Friends/family of at-risk/PGs recruited from prior SRG gambling study
- Recruitment conducted via phone and email

Conduct of Boards

- Boards conducted 24-30 Nov (Counsellors & Industry); 1-7 Dec (Researchers & Friends/family) + extra week for additional comments
- Moderating / probes / reminder emails / notification when new topics posted
- Total of 110 participants across 4 boards

Analysis and Reporting

- Transcripts downloaded to Excel for coding
- Thematic analysis
- Reporting by topics and major themes

3.2 Rationale

In order to understand harms from problem gambling and harm minimisation it was important to include both qualitative and quantitative data from the perspective of a variety of stakeholders.

Online discussion boards are online 'bulletin boards' in which participants can share and discuss information and opinions over a period of days or weeks.

Online discussion boards have several advantages over traditional face-to-face focus group interviews in addition to saving on travel costs, including:

- Convenience for participants
- Reduced social interference
- Reduced 'group think'
- Greater chance for reflection
- Better control by moderator
- Automatic transcription
- Improved openness due to anonymity

Online discussion boards were a particularly appropriate choice for our researcher and industry participants, who live all over the world and thus in different time zones. The format of the boards allowed them to participate at times convenient for them.

3.3 Recruitment

Lists of researchers, counsellors and industry staff were provided to SRG by the University of Sydney team. A list of friends and family of problem and at-risk gamblers was compiled by SRG from a prior SRG gambling study. They consisted of friends or family members of someone with difficulties around gambling (PGSI score of 3 or higher) living in NSW who said they would be interested in participating in future research. In addition, a snowball sampling approach was used, whereby contacts on our lists were asked if they knew of anyone else who might be interested.

Counsellors and friends and family were all located in NSW. Researchers and industry staff were located both within Australia and overseas.

Overseas contacts were recruited via email; friends and family were recruited via telephone; other Australian contacts were telephoned and/or emailed.

Industry staff and friends and family were reimbursed $50 for their participation.

3.4 Topic Guide Development

The topic guide was developed by SRG with input from the University of Sydney team. Its focus was on the key research questions.

The following topics were included:

- Types of harm
- Who is harmed
- Level of harm
- Risk factors and level of risk
- Degree of risk
- Causal direction of gambling and harms
- Responsible gambling
- New and emerging technologies
- Potential for harm with new technologies
- Most effective strategies to minimise harms
- Strategies by gambling product

A copy of the topic guide is included in the Appendix.

3.5 Discussion Board Set-up and Fieldwork

Social Research Group created and maintained the online discussion boards using the GroupQuality real time research software. Overall the discussion board process included:

- Importing the panels of researchers, counsellors, industry personnel and family and friends of problem or at-risk gamblers willing to participate in the research
- Setting up the topic guide in a format compatible with the discussion board software
- Sending out email invitations and reminders to participants for the discussion boards
- Responding to participant queries regarding technical difficulties
- Editing participant details on request
- Reviewing, editing or changing discussion board research questions
- Ongoing upkeep of discussion topics and monitoring of posts
- Providing responses to posts or probing questions where relevant/necessary
- Notifying participants of board completion
- Downloading data from the discussion board

The Counsellor and Industry Boards ran from 24-30 November 2014; the Researchers and Family/Friends boards ran from 1-7 December 2014. Each board remained open for an additional week to allow participants to make any additional comments. Two moderators ran the boards – Dr Van Dyke, Director of the Social Research group, moderated the Counsellor and Researcher boards; Anna Lethborg, Senior Research Consultant, moderated the Industry and Family/Friends boards.

Participants were first sent an email introducing the purpose of the discussion board and informing them of the basic features of the board.

A new discussion topic was posted daily with no more than five questions posted under a topic on any given day.

Throughout the fieldwork period, participants were sent reminder emails and were updated on any access issues encountered. Participants were sent notifications via email to inform them when new topics were posted on the board.

3.6 Participants

Participants were invited to introduce themselves by providing whatever general information they were comfortable sharing.

The following is an overview of participants:

Researchers

- 24 agreed to participate; 21 active participants
- Country of origin: 8 Australia; 6 Canada; 4 Western Europe/UK; 2 U.S
- Range of years in field -- from quite recent to 30+ years

Counsellors:

- 42 agreed to participate; 33 active participants
- Many problem gambler and/or financial counsellors; one solicitor who represents problem gamblers
- Mix of Sydney and regional/rural

Industry staff:

- 36 agreed to participate; 33 active participants
- Mostly senior people involved in RG (or CSR)
- From Canada (n=15); Australia (n=5); UK (n=2); U.S (n=1)

Friends/family of problem/at-risk gamblers:

- 28 agreed to participate; 23 active participants
- All from NSW; many from Sydney
- Of those who stated, the most common relationship to the gambler was spouse (refer Figure 1).

Figure 1. Relationship of participant to gambler

Relationship to PG	No. participants (who stated)
	n
Husband	5
Wife	4
Friend	2
Partner	2
(and Self)	2
Child	1
Sibling (PG: sister)	1
Sibling (PG: brother)	1
Boyfriend	1
Mother	1

- Of those who stated, the gambling product causing most difficulties for their family member or friend was EGMs (refer to Figure 2).

Figure 2. Gambling product causing most difficulties

Gambling product	No. participants (who stated)
	n
EGMs	7
All (incl. online)	2
Horses	1
Dogs	1
Online specifically	1

3.7 Analysis

Data were first downloaded into Excel and coded into themes.

A thematic analysis approach was taken to the data analysis, combining both deductive and inductive procedures. The discussion topics comprised the major themes, which were already established and hence are deductive; responses to each topic were coded into categories. The categories were determined and refined as coding progressed using an inductive thematic analysis process.

4 FINDINGS

This section of the report discusses the major themes from the online discussion boards. Verbatims are identified by type of participant (researcher; counsellor; industry; family/friend).

4.1 Types of harm most associated with gambling difficulties

Most respondents placed financial harms front and centre, which then lead to other types of harms.

The most common type of harm is financial, with several other harms flowing from financial damage (e.g., relationship problems, stress, depression, anxiety, social, etc.). (Researcher)

Financial harm is usually front-and-centre, including needing to borrow money for items such as food, trying to cover-up an absence of money, having secret accounts or accounts to try and protect money through harder access. As the previous poster says, impacts in one area ripple through into negative impact in other life areas. For example, relationships are affected when a person needs to borrow money from loved ones who know the person has probably gambled their own income. I see relationship impacts, health impacts, financial and psychological impacts as the first tier of concern, with leisure and education a second tier of impact that often doesn't feel as critical. Leisure and education are clearly important but other more pivotal areas seem to take the focus. (Counsellor)

I see harm differing from person to person, but I do think the most common is financial, and then from the stress of that problem other areas in the individual's life start to deteriorate over time. I think once finances have become stressed a player needs to get their money back and so they start spending more time and effort into trying to win back their money, and then continue to further grow their debt and hurt the other areas of their life including their family and friends. (Industry)

From my experience the most common harm would be financial. The other detrimental effects associated with gambling, again in my experience, will be linked to the degree of financial harm. As financial harm increases, the associated harms will emerge and be amplified. (Industry)

He has accumulated debt, then during better times nearly paid it off, then gone downhill and ended up right where he started. Due to his problem, he secretly spent his and my rent money, which resulted in us being evicted, and to attempt to keep a good name for us, my grandparents and I had to pay two thousand back in missed rent. I didn't know this was happening, so I was forced to move without notice. There have been times were he doesn't have money for fuel, to get him to and from work, so has had to rely on us to get him to his job. (Friend/Family)

Lost time was also frequently mentioned:

> *I would agree that the harms of time and money lost are primary at the individual level and likely at the interpersonal level as well. (Researcher)*

> *I believe that most of the harms enumerated are a product of excessive money and/or time spent upon gambling - the ramifications of which then impact across a number of realms in the gamblers life and the lives of those close to them. (Industry)*

> *I've assessed 50+ leading organisations - leading either in their sector and/or location. The two themes which recur in all sectors are (a) financial impact and (b) loss of time i.e. gambling consuming time that should be invested in education, work, relationships and generally life. (Industry)*

> *I find that my husband is constantly consuming huge amounts of time with technology as he utilizes all electronic gadgets (iPhone, iPad) to access betting agencies and place bets. It not only consumes personal time, but time with family and friends and he is constantly leaving the room or conversation to place bets or listen to the races. (Family/friend)*

After financial and time, the most common types of harms discussed included psychological and mental health, relationships and physical health.

> *Common effects of problem gambling exhibited in our (digital) area would be time and money. Based on the self-test we can also identify and note that problem gambling also affects the player's family life and their own well-being. (Industry)*

> *The common ones are relationship, psychological, and financial, though it is dependent on the demographic of the person. (Counsellor)*

> *As stated by others, people are extremely complex and it can be dangerous to generalise. That said, the negative effects of gambling on finances, relationships, and psychological wellbeing is certainly at the forefront of concern for most of my clients. In my opinion, the most damaging effect of all is the shame and self-loathing that often results from the hidden nature of gambling. (Counsellor)*

> *When you don't have enough money for your prescriptions and have no money for social outings and sometimes [not often] go without some food types then your health and lifestyle, both physically and mentally, can at times become difficult. (Family/friend)*

Family/friends participants focused more than other groups on harms to mental health – particularly depression and anxiety, and impact on relationships and family. They also discussed financial harms, but these were not as front and centre as they were for the other groups.

> *I think the two big things are stress and depression. Watching people who are close blow a lot of money leaves them tense and stressed for days afterward. I find this happens to me too. Obviously there are the consequent financial problems too - if borrowing money is required then this creates an extra stress that otherwise wouldn't have happened. (Friend/Family of PG)*

> *My brother's gambling has done a lot of damage on all of these aspects of his life, and his problem has bought this harm onto other members of our family, particularly myself and my grandparents. If he blows a pay, he spends the rest of the day in bed, not eating, not wanting to talk, or go out. It is so hard to see and puts stress on his and our health. It has held him back from special occasions, due to his lack of finances, or because he is too down and guilt-ridden to face us. (Friend/Family of PG)*

> *My husband is having gambling problems, which affect our personal life a lot. We have arguments, fights which indirectly affect my 3yr old son. Many times I have seen my husband borrow money from his friends for gambling. If he wins he returns but if he loses he is not able to return the money. It causes bad impressions and also affects the friendship. (Friend/Family of PG)*

Industry participants were more likely to emphasise co-morbidities – that harms do come from problem gambling but they are tied up with many other problems and issues.

> *Disordered gambling is a very complex, multi-faceted issue. I agree that all of the harms listed are associated with disordered gambling with the most visible probably being financial harm. Most of these harms will be occurring concurrently but are not as visible as the financial effects that become apparent when bills are not being paid. However, some of these issues may already be present aside from a gambling issue and lead to disordered gambling due to a high level of comorbidity amongst disordered gamblers - CONFUSING. For instance, a person with an existing psychological issue could use gambling as an escape which may lead to gambling issues and other harms. (Industry)*

> *I like to look at this issue in terms of inputs and outputs. By inputs, I mean the harm that might cause individuals to seek escape in gambling - such as social (abuse), leisure time (loneliness, lack of a sense of purpose) and psychological. By outputs, I refer to the consequences - most obviously the financial impact but also the withdrawal from other aspects of life, which may include employment, leisure time, social and health. One of the difficulties we face is in trying to split out the harm that is caused by problem gambling compared with the harm that is revealed by problem gambling. (Industry)*

4.2 Who is harmed

Most agreed that the gambler is harmed the most, followed closely by family, then friends, and then the community.

> *The most harm is caused to the gambler himself. Next comes those closest to him be it family or close friends. (Family/friend)*

> *All of those people [the gambler; family of the gambler; friends of the gambler; the broader community] can be impacted by problem gambling and the level of impact is probably in that order. For the problem gambler there is the financial burden and the mental health issues that come from living a lie and being under constant pressure. There is also social isolation as they remove themselves from family and friends due to the shame around their gambling. Their work or study can become impacted when they have difficulty concentrating, miss a lot of work/classes, or start to borrow money from work. For the family there is increased financial burden as bills don't get paid, there isn't money for food or other expenses, and assets are at risk of being lost. There is the stress around not knowing what is happening and what is causing it. There are relationship breakdowns and increased arguments. There is also withdrawal from the gambler. For friends there can be financial burden if the gambler borrows money and doesn't return it. There are broken friendships. There can be increased crime, poverty, and homelessness. Depending on the culture there can also be shame brought upon it. (Counsellor)*

> *In order of most harmed >>- the gambler is usually the most harmed without always realising it, then the direct family, friends next, and then the broader community - the harm is different - the community will usually have less productive citizens that could be using the money to improve things probably more people on the dole, needing more health care resources wasted on these people, the individual will suffer in many ways, health, psychological, finance etc. ..... family with the strain of watching their loved ones dwindle their money away, keep chasing that win, lose their health puffing on smokes at the pokies and sculling down grog diminishing their inhibitions and to ease the pain of loss - all the money spent on those things could have paid for that holiday to Fiji by now or been towards a deposit for a house (Industry)*

> *I think points could be added to the topic list to indicate greater recognition of potential community level harms, e.g. things like crime, community cohesion, what the PC termed community amenity, etc. (Researcher)*

A few participants, however, stated that there are also *benefits* to the community from gambling that should be considered, such as employment and entertainment for recreational gamblers

> *Let's not forget that the gambling industry provides employment for large numbers of people, including ourselves. If it was able to be controlled overnight, then many people would be out of work, country pubs and clubs would close down, and a whole heap of follow on effects. (Counsellor)*

I took part in two surveys in the 90's both funded by the then CCBF which is now the RGF. Roy Morgan was used and both reports should still be available on relevant web sites. On strictly economic grounds the value of gambling to the community in terms of jobs and taxes was overwhelmingly positive by billions. The costs in economic terms again - and we tried to measure divorce, jail time and any negative that could be found was in the mix and gambling was still a plus. Of course even using Price - Waterhouse as we did for the costing all is simple finance. All of us (even the economists!) Agreed that it is hard to put a value on distress that gambling can cause!!! Still the bald figures are there and few communities do not have gambling so it seems part of life - even in those communities where religion may restrict participation. The question is striking the balance and reducing harm. (Counsellor)

Many of the industry participants added 'harm to the industry'.

I would also include the gaming industry as being harmed in the sense that problem gamblers represent a threat to its long-term viability as well as public acceptability. (Industry)

We, as lottery operators, would be harmed as well if our player base was not healthy players. We make money with a great base of healthy players. (Industry)

Where are venue staff in your comments? I deal with/train venue staff on a daily basis. On many occasions they are in tears about customers they want to help stop or temper their gambling, but the customers won't. (Industry)

Several industry participants stated that in the early stages of a gambling problem, family may actually be more negatively affected than the gambler, who is in denial; but others argue that the gambler is harmed even if he or she does not realise it.

Obviously the gambler/gamer if they have a problem. But as with drink and other addictions the family, especially children, may suffer as much if not more particularly if the person with the problem is still "enjoying" themselves without acknowledging, realising the emotional, financial impact they are having. (Industry)

Early in the process, the immediate family can be impacted more than the individual as they could be feeling the effect of the "problem", whether financial, emotional or physical well before the individual realizes or accepts they have a problem. (Industry)

It may be harder on the family than on the gambler him/herself. Gamblers live in denial which creates a mental blockage and a certain kind of person is desensitization to the problem while the family is fully aware of what is happening and suffering the consequences financial and other. (Industry)

Harms to employers and employees were also discussed

It is important to also recognize that an employer or employee is also at risk of harm i.e. non-productive, unexplained absenteeism or late in paying wages etc. (Counsellor)

Having been an expert witness for the defence at numerous trials involving gambling addicts who have committed breach of trust type crimes such as fraud and embezzling, I have observed the impact on the victims of these crimes (e.g. small business owners). The money stolen from these small business owners is generally not recoverable and often seriously jeopardizes the enterprise. (Researcher)

Finally, a number of researchers commented that little is known about the harm of problem gambling to those other than the gambler

I think there is a small amount of literature documenting harms to spouses of problem gamblers, but as I recall the effects have not been completely characterized. (Researcher)

Small literature on this -- I've been trying to convince a student to look at the intergenerational effect of problem gambling. (Researcher)

Gambling harms to the community and particularly to families are very real but are not well considered in most harm minimisation plans. (Researcher)

Systematic research on significant others of problem gamblers is - in my point of view - still in its infancy. (Researcher)

4.3 Whether types or amount of harm differ by types of gambling product, demographics of the gambler, or gambling risk group

Few respondents discussed the issue of whether *types* of harm differ by any of the above factors; instead, most focused on *amount* of harm.

Several insisted that type and/or level of harm is unique to each individual.

> *I think the types of harms are all the same for all the gambling products and also the demographics of the user doesn't matter - all comes down to the individual… (Family/friend)*

> *I think that access is the most important factor. I think that the type of gaming product doesn't have an impact. Yes speed of play (EGMs) is an important factor on how quickly the problem will surface, but not on the problem itself. If a problem gambler has access to races but not to casinos, he'll still have problems. The same thing with demographics. It may take more time for richer people to see a problem with their gambling habits. Of course somebody rich and well educated may lose not only his personal money, but could lose the money of his company, friends, family. The impact could be greater on society. (Industry)*

> *Level of harm is not affected by demographic or the gambling product - its only affected by the individual again and how much they abuse the gambling product (Family/friend)*

> *I would like to add that the level of harm is as unique as the person themselves. What is seen as severe for one person may seem as minimal for another. (Counsellor)*

4.3.1 Types of gambling products

Others felt that harms do indeed differ by type of gambling product, demographics, and/or risk group.

One researcher commented that little is known about whether type or amount of harm differs by gambling project:

> *As far as I know nobody has ever conducted empirical research on the influence of different attributes of games on gambling behaviour. This would really be interesting... (Researcher)*

EGMs were singled out as the gambling project that poses the greatest threat due to its features and availability.

> *The gaming machines definitely attract you to them with the coloured lights and sounds and curiosity to see the features on the different machines. I consider my husband a smart man who works within budget constraints at work and finances but it doesn't stop him from wasting our families money - the more he earns the more he spends!! (Family/friend)*

Most of my clients state that their gambling problems stem from gaming machines, followed by horse racing. Only on rare occasions do I get to see a client who is experiencing difficulties with some other form of gambling. (Counsellor)

In terms of the level of harm of various gambling formats we know that continuous games are more hazardous than non-continuous; non-skilled based gambling where there is no optimal playing strategy is generally more damaging than skill based gambling; and formats that can induce a dissociative state are more dangerous than those that don't. Hence a logical hierarchy of gambling formats ranging from least to most hazardous is: electronic gambling machines, internet gambling, casino table games, bingo, scratch tickets, horse racing, sports betting, lotteries/raffles. (Researcher)

Gaming machines by far present the most risk of harm in my clients, followed by horse/sports betting. (Counsellor)

I believe the type of gambling can cause more harm than others. I had a read through some of the responses already and agree that lottery tickets, Keno or Bingo have harm factors that are a lot less, basically due to the outlay required. Racing being either horses, greyhounds and trots I would put together with table games as a mid-level as people can bet a lot more and chase losses. But in my humble opinion the form of gambling causing the most harm are pokies. A lot of money can be lost by low income earners in a very short time. There are so many pokie venues across Adelaide and they are always half full no matter what time of day it is. (Industry)

Gaming machines appear to have the greater level of harm as they invite the gambler to place a bet and then receive the result a few seconds later, and so continues the cycle. Prompts that congratulate the gambler on a win even if it is less than the bet amount, or a belief that the free spins are actually free, encourages prolonged play (or connection). Clients have reported that they would never place a bet of say $100 on a horse, and yet they will gamble away several hundred on a poker machine. (Counsellor)

However, some participants disagreed that EGMs post a greater level of harm:

Despite claims that machines are more "toxic" than other forms of gambling there is no overwhelming evidence to support this. (Counsellor)

Several participants pointed out that although we know a lot about harms from EGMs, there has been much less focus on other forms of gambling.

Some gambling groups (e.g., EGM players) have been the subject of greater amounts of research than others. (Researcher)

The EGM industry is the one area where staff are trained to be vigilant about problem gambling. Why are these other forms not even on the radar? (Industry)

Agree that more research is needed into other forms of gambling apart from EGMs…. (Researcher)

4.3.2 Demographics of gamblers

Several participants stated that the demographics of gambler are not particularly relevant to level or types of harms and that different demographics are simply attracted to different products.

> *Gambling is a bit ageless if you ask me. People that play pokies in pubs can generally be younger, as they frequent these types of places more often. Internet gamblers might exclude the older, not so technically savvy generations. No matter your education, you can be at risk. Generally problem gamblers can be anyone, anywhere, anytime. (Family/friend)*

> *Demographics may play a role but it could be more to do with what is available to them. (Industry)*

> *There doesn't appear to be any standard demographic, and people from all ages, all forms of education, gender, culture, and background can present at counselling. Potentially anyone is at risk if they don't feel confident in expressing themselves, and saying what it is that they need. (Counsellor)*

> *I'm not convinced about there being a common set of demographic criteria - people of all ages, financial situations, ethnic backgrounds etc. are capable of creating gambling-related harm for themselves and those around them. What I see as common is the need to fill an emptiness in a life with gambling, that leads to an obsession with the act of gambling (time harm) or severe/unsustainable financial losses. (Industry)*

That being said, many participants did discuss various demographic groups that in their experience were likely to experience greater or lesser harms or different types of harms, from gambling.

Several participants said that younger people have a higher prevalence of at-risk gambling but may experience a lower level of harm due to restricted access to lots of money and more time to recover financially.

> *Younger adults tend to have less financial harm, mostly because they have less access to very large sums of money, i.e. retirement savings, ability to access large lines of credit, etc. And will tend to rebound quicker from financial harms. Other harms may need more time. (Industry)*

> *In the same vein, although youth problem gambling prevalence is supposedly twice as high as adult rates, the severity of harms, particularly financial and professional, are probably a lot less than an adults who has built and cultivated numerous relationships that could be broken. (Industry)*

Comments were divided regarding gender differences in terms of harm from problem gambling.

> *Men can tend to be generally more reckless, when gambling, than women. (Counsellor)*
>
> *Research shows that women can be much harder hit than men (Industry)*
>
> *The same ratio of men to women commit offences related to gambling (Counsellor)*
>
> *My experience was more men than women faced the courts. (Counsellor)*
>
> *There is evidence that older women are prone to use gambling excessively due to the empty nest syndrome and lack of meaning and purpose especially later in life when their spouse also passes on. (Counsellor)*

Industry participants in particular focused on the ability of gamblers to pay back gambling debts. They stated that the elderly and those with low education may experience greater harms due to a lack of understanding of betting odds and a being less able to earn back the money they have lost.

> *The effects may be more devastating amongst the elderly as they do not have the ability to recoup funds throughout their working life. (Industry)*
>
> *Given many seniors are on fixed incomes with less time and ability to regenerate lost money, the financial loss may be more devastating than say to a young single adult. (Industry)*
>
> *It can differ by age group and there is more opportunity for recovery the younger someone is, and also possibly less at risk as many younger people won't have access to large amounts of money or the opportunity to take out a second mortgage or other financial means that someone could use to continue gambling later in life. (Industry)*

Cultural background may play a role – both amount of exposure to and acceptance of gambling, and also level of shame around difficulties with gambling.

> *From what I've read, different cultural norms can affect gambling -- for example, one article I read pointed to strong family units in some Asian cultures having a protective effect but fear of shame in these same cultures working to make harms more severe in those experiencing them. (Industry)*
>
> *We know that CALD communities are at high risk of developing serious gambling addiction due to past experiences such as trauma / isolation / acculturation difficulties and a number of other factors. Many find going to the venues as a social outlet where you are amongst other people (coming from extended families this is attractive) but do not have to speak the language not to feel alone. (Counsellor)*

One demographic can play a bigger role -- that is the cultural background of the player. In some cultures gambling is more accepted and practiced than in others. That way the person is more at risk by virtue of having more exposure to gambling from early age. (Industry)

Several participants said that recently arrived migrants are often targeted by the industry and thus may experience greater harms.

Many Vietnamese coming to Australia see the Clubs and Casino as the most accessible venue for entertainment and socialisation. In the early stage those venues seem to be quite cheap to use, few dollars for a beer or a cup of coffee ... are suitable to low-income earners/residents. They started gambling for fun but got hooked into the gambling cycle without any warning and self-realisation. As such, those people who are single, no familial attachment, no extended family to adhere to, are more vulnerable to these venues. These problem gamblers are exploited by "loan sharks" who are often of similar background to provide easy loans at the time the gamblers are most vulnerable, i.e. they want to purchase their loss. (Industry)

I also think culturally there are some disadvantages for new immigrants who maybe we're never exposed to gambling in their own culture or who come from a culture where gambling is part of the norm. (industry)

Some particular populations (groups) are relatively more vulnerable to developing gambling-related problems… for example, those recently arrived migrants, working in the food industry. It is not necessarily they have inherent psychological or biological susceptibility, in some cases they are unfairly targeted by gambling industry. Let's not forget the fatal harm; suicidal and familial acts (concerning Asian families disproportionately) committed by persons affected by gambling disorder. (Industry)

Children brought up in an environment in which gambling is a normal part of everyday life may experience greater harms as adults.

How children are bought up can indoctrinate their view on what is normal. If a parent continually gambles on any type of product, this becomes an accepted norm. (Industry)

One Industry participant said that, in her experience, those with multiple addictions were less harmed because the gambling problem was just one of many they were dealing with.

> *People with multiple problems have experience in dealing with problems. What may be completely devastating for one person may be just another problem to someone else. It is a matter of perception and knowing where to begin to deal with it. We were seeing this in a community where the husbands were working out on oil rigs making a ton of new money and the wives were left at home bored, so some of them turned to VLTs to entertain themselves and got into difficulty. As they had never really experienced any problems or loss of control in the past this was a new experience for them and they were completely ashamed and devastated. A very different experience from someone who has been dealing with multiple problems over the years. They are survivors and this is just one other thing to add to the pile. They may also know what to expect with seeking help, if they have accessed help in the past, so there may be less fear. And possibly less shame. (Industry)*

Several researchers mentioned that quite a bit is known about harm and different demographic groups, but much less is known about why this is the case – what the underlying mechanisms are.

> *We know the what (e.g., situational and structural characteristics) but not much about the why. (Researcher)*

> *We have not made much advancement in our understanding let alone intervention. (Researcher)*

4.3.3 Gambling risk group

Participants who mentioned gambling risk group generally agreed that the higher the risk group the greater the harm. Several also pointed out that many of the definitions of 'at-risk gambling' and 'problem gambling' include level of harm.

> *Gambling risk groups will always have a different and higher level of harm compared to lower risk groups. (Industry)*

> *It is a redundant question to ask whether level of harm differs by problem gambling risk group, which are defined based on levels of harm experienced. (Researcher)*

However, some participants disagreed:

> *I have come to believe that level of harm is individual. What is a high level of harm to one person may be a minor consequence to the other. I think we should divorce this notion from level of problem gambling severity. (Researcher)*

4.4 Risk factors

Participants were asked about risk factors for problem gambling and to rank risk factors from greatest to least risk.

One researcher pointed out the difficulty with knowing whether the various risk factors actually *cause* problem gambling

> *One of the challenges with identifying risk is that most of what we know about risk factors comes from correlational studies and not from cohort studies where causality can be examined more closely. (Researcher)*

Many participants discussed multiple, bi-directional, and interacting causal pathways (and agreed with the pathways model, or some version of it) – that risk factors and levels of risk depend on the individual along with a combination of other factors than can interact to result in problem gambling

> *Risk factors are inherent to the individual and the situation. It could be that an individual is predisposed to addiction issues or an individual is in a particularly vulnerable life situation, such as the death of a loved one, which leads to gambling issues. It's not an easy causality situation that can be listed and ranked. (Industry)*

> *I think the pathways model is very good at explaining the various risks factors [Pathway 1: ecological factors - classical and operant conditioning - habituation – chasing. Pathway 2: same as Pathway 1 plus emotional vulnerability and biological vulnerability. Pathway 3: same as Pathway 2 plus impulsivity traits] (Researcher).*

> *I find it hard to rank risk factors. It depends, I believe, on an interaction of so many different factors - most of which have been comprehensively covered by other folks comments. What I mean is - for example - the young single mum on low income is at risk. She becomes substantially more at risk if bombarded by adverts for online bingo. She is even more at risk if her education was such that her understanding of maths/numbers is low. She is more at risk if she drinks etc. So I worry about ranking risks in a strict 1 highest 10 lowest fashion. I would prefer to identify the top 10 or so - and they have been listed by other contributors - and say they all need addressing because an individual's exposure to them and likely vulnerability (genetic or otherwise) varies. (Industry)*

However, several participants mentioned limitations of this model, including the comment below by a researcher:

> *One thing that has interested me about the pathways is that general population surveys suggest that there are more Pathway 1s than 2s, as anticipated by the model which was written with treatment populations in mind. This suggests that we may be missing a whole group of at risk/problem gamblers who come to gambling purely because of accessibility, cognitive distortions and habituation without any premorbid pathology. They may not be represented in treatment populations and may reflect a large proportion of gamblers who don't have any real premorbid risk factors and, thus, might be missed by traditional screening methods. (Researcher)*

Across all discussion boards, the following were stated as the most important risk factors, with individual personality factors mentioned first, followed by an early big win or chasing the high of winning and not understanding how the games work (refer to Figure 3). However, it must be remembered that industry participants provided the greatest number of responses to this question, as was true of most questions, which may be reflected in the data.

Figure 3. Most important risk factors for problem gambling

Risk factor	No. of responses
	n
Genetics/impulsivity/ability to self-control/reaction to big win/'individual predispositions'	12
Early big win/chasing high payouts	9
Not understanding odds, etc.	9
Access/lots of/increased exposure to gambling	6
Coping mechanism for other issues	5
Mental health/illness/addictions	4
Chasing a loss	4
Boredom/view as only entertainment	3
Early exposure to gambling	2
National economy/need for money	2
Transition from other addictions	1
Enticing games/hard to keep track of time/money	1

Industry participants were particularly likely to mention lack of understanding by gamblers regarding how the games work in terms of the odds, house advantage, believing that skill plays a part in EGM wins, etc.

> *I do think gambling does have a lack of understanding component…-- the concepts of randomness, independent events that give rise to myths about gambling create a challenge in helping people understand how this works. (Industry)*

> *I think that if there was some sort of mandatory instruction about odds, independence of events, house advantage, etc. people would be more immune to things like winning big early in their experience that can hook them up. (Industry)*

Family/Friends participants were unique in identifying desire for a lot of money without working for it/getting rich/wanting to buy lots of things as a risk factor.

> *I think it's the need for more. More, more, more. We are becoming very materialistic, and feel the need to have everything we can't have. I think every time a gambler gambles away their money, it creates even a bigger need for more money, and so the cycle continues and worsens because they need even more than last time to get what they want and need. I think a lot has to do with finances. We need houses, and cars, which a lot of the time requires more money than we have. It can seem like a solution: If I can just double or triple what I have, I can afford to get that car. (Family/friend)*

I do remember my son from a very young age being interested in making money and wanting to be rich. Selling his old toys at the markets, even to his brother. Always taking jobs when still at school, and generally being a hard worker. His father died when he was 12 years old and at eighteen he inherited a substantial amount of money. This started his spending spree; cars, music systems, computers etc. it seems from then on spending money became more important than saving money and this habit has continued. He can't keep money. He tends to try and stop his gambling by buying himself things that he certainly doesn't need, I think believing that he hasn't thrown his money away; but has things that one day he can sell. This fairly new obsession still takes all his money and leaves him destitute. (Family/friend)

My husband earns great money but it feels like it is never enough. So he feels that a win on the races or a football game is a way of not just having fun but to make more money. He feels that the wins are a positive for us but he doesn't think about the losses. He writes them off as small amounts. He doesn't realise that they add up and cost us more than he thinks. (Family/friend)

Family/Friends was also the only group that mentioned promotions by clubs, including loyalty programs, as an important risk factor.

I find that many betting agencies offer promotional deals which influence the decisions my husband makes. If a deal is good, I find that he will join another betting agency to take advantage of the offers available. (Family/friend)

The club she goes to has a lot of promotions , they send her messages on her phone and also monthly magazines. On her phone she has her betting app so it's so handy…. you can't win I don't know what to do anymore (Family/friend)

4.5 Degree of risk by product and demographics

Participants were asked whether degree of risk differs by type of gambling product, demographics of gamblers, or gambling risk group. In general, counsellors focused more on demographics, and industry and family/friends, on type of gambling product.

Researchers had little to say on this topic with several stating that this information is already covered in the academic literature (despite several moderator comments that one of the purposes of the discussion boards was to compare responses amongst the four groups of participants):

> *These answers are all pretty well explored in research. I won't provide a personal opinion or summarise all the available findings here. (Researcher)*

4.5.1 Type of gambling product

Some participants did not think degree of risk varied by gambling product.

> *The risk is inherent to the individual and not the product. If a person is predisposed to a gambling problem, then any gambling is going to pose a risk. In terms of internet gambling being riskier than other types of gambling, I do not believe there is any research evidence to support that claim. (Industry)*

Most, however, agreed that the type of gambling product mattered. Participants generally agreed that there is a higher degree of risk with products in which one can lose a lot of money quickly, where it is difficult to keep track of how much one is losing, and with games that are highly repetitive.

> *The risk is not so much in the game type but its features. As has been said before, the main risk factors for a game are its availability and event frequency. (Industry)*

> *Pokies and keno it is possible to lose more because of the frequency of the games. (Family/friend)*

> *I believe the degree of risk varies depending on the types of gambling products based largely on frequency of play, i.e. a lottery draw that takes place twice a week would have a lower level of risk versus a slot machine at a casino due to the continuity of play. (Industry)*

> *To me, I feel the most harmful are the poker machines as they give you a little win and you get encouraged to keep playing to get a bigger win and then when it takes some more of your money away, you hope that a win will be coming up soon. So then you get another little win and you go on like this. Most of the time it will then take all your money and you put more in, in the hope you will win what you have lost. The Keno, bingo and scratchies are not too dear so I don't think that would be very harmful. (Family/friend)*

Online gambling was cited as particularly risky, given its accessibility, amount and types of marketing, few regulations, anonymity, and ability to hide activity from others. The potential dangers of online gambling are discussed in greater detail in Sections 4.8 and 4.9 (New Technologies).

> *The big, big risk variable here is online. Online outstrips everything else in terms of being able to impact the most vulnerable, at risk players anytime, anywhere via multiple routes with inappropriate messages, offers, incentives etc.; it blurs the line between strictly gambling and gaming and other activities, e.g. watching sport, buying on EBay, when Facebook becomes Face-bookie. It reaches those that might not be considered at risk at times/places when they are more vulnerable. The micro segmenting and marketing that is possible means that everyone is at risk. (Industry)*

> *Maybe more internet gambling if the person is trying to hide the problem from family. (Family/friend)*

> *Yep. Online is the next Tsunami. Not betting on the outcome of a game, but the outcome of a kick, ball, tackle, etc.; hundreds of opportunities per game. (Industry)*

In general, access was seen as a large risk factor.

> *I think access is the major factor. There was a time where you had to go to Vegas or Atlantic City to gamble; now you can do it in a neighbourhood bar, on your computer, tablet and smartphone. (Industry)*

> *My wife plays poker machines. There are poker machines everywhere. When she goes to bingo, if we go out for a meal, etc. (Family/friend)*

> *The risk all depends on the availability of the product and the demand from the individual. (Industry)*

One researcher argued that strategic gambling products may involve lower levels of risk than 'non-strategic' products.

> *Strategic gambling has conceivably different cognitive demands that non-strategic gambling. Poker, for example, may require working memory and mental flexibility (e.g., keeping track of cards played to determine odds of receiving a certain card), emotional self-regulation (bluffing) and complex decision-making (e.g., estimating the worth of their opponents' hands before choosing whether to wager a bet or not). Similarly, sport betting (e.g., horse racing, football) may demand working memory and mental flexibility to calculate odds and likely payouts, and might rely on declarative memory in the application of concrete knowledge (e.g. track record, recent performance, influence of absent players) in determining success probability. In light of the above, one may infer that strategic gamblers differ from non-strategic gamblers on several neuropsychological processes. For instance, Lorains and colleagues (2014, Addiction) have recently shown that "strategic" gamblers took less risk (and at a similar level than non-gambler control participants) than "non-strategic" gamblers on several monetary decision-making tasks. (Researcher)*

Extremely attractive products, such as EGMs with their flashing lights and music, and internet gambling sites with exciting marketing, may pose particular risks.

> *I think out of all those options, Keno and scratchies are of smaller risk factor as they have less advertisements, are found in fewer locations and are much calmer with less flashing lights, commentary and jingles associated with them. (Family/friend)*

> *I think risk varies by the availability of the gambling product - with poker machines being all around you and noises and sounds it is easy to get hooked. I note that there are more gimmicks now to get you in. (Family/friend)*

Finally, sport betting was identified by some participants from Industry as being particularly risky because of the number of bets one can place and large amounts of money one can place on a single bet.

> *The amount of advertising on all forms of sport that includes offering incentives to bet, you no longer need to win, come second, third or fourth and receive your initial stake back. (Industry)*

> *Not betting on the outcome of a game, but the outcome of a kick, ball, tackle, etc.; hundreds of opportunities per game. (Industry)*

4.5.2 Demographics of gamblers

Differences in levels of risk by demographic characteristics were discussed less frequently than differences in risk by product type. Counsellors, however, focused more on demographics than on product type or risk group.

Several participants believed younger people are at greater risk, due to a number of factors including earlier exposure, heavier interaction with electronics, brains that are not yet fully developed, uncertain life goals.

> *As the younger generation seems to have been born with an electronic device attached to their person, I think there may also be an increase in risk for these individuals. (Industry)*

> *Youth who gamble do have a higher degree of risk as they are generally not entirely equipped to make good informed decisions while still developing and fine tuning life skills. (Industry)*

> *Young gamblers who have never learnt the worth/value of money, as yet have no life goals and little motivation, appear to be of the greatest risk. (Counsellor)*

> *The risk is higher with the young segment of players. Kids/youngsters are more susceptible to developing a problem because of the stage of their brain development. (Industry)*

> *I also believe that younger gamblers are a higher risk of developing gambling problems if they have been exposed to it at an early age. (Industry)*

Participants also mentioned older people as being at greater risk.

> *Older gamblers, because they have been problem gamblers for so long can be higher risk. (Counsellor)*

> *I've personally observed old people gambling hard - presumably less worries for them regarding future things they need to spend their money on. (Family/friend)*

Several participants felt risk was higher when gambling was normalised, whether within the family or amongst friends.

> *The other risk factor is peers and family as they can normalise and even encourage the gambling. (Counsellor)*

Other risk factors mentioned included personality variables, other addictions, mental health issues, isolation, loneliness and boredom.

> *I consider high risk groups to be people with an inability to inhibit behaviours, poor impulse control, low self-efficacy and self-esteem, existing and past addictive behaviours, and existing mental health issues. (Counsellor)*

> *On the five personality model extroversion, low conscientiousness (impulsivity) and high neuroticism are often found with obviously variable intensity from individual to individual - no one size fits all! (Counsellor)*

> *I also think boredom is a factor and the wanting to escape something. My husband is busy and I hope he is happy in our relationship but since having young children he has lost friends so he uses it to stimulate himself and pass the time. I imagine it gives him a reason to use his phone, instead of messages etc. (Family/friend)*

Family and friends discussed the risk of having access to a lot of money.

> *From my own experience as my husband's wages have increased so has his gambling habits. Instead of putting that extra money on paying off the home loan it is money available to gamble. My husband's attitude is we never had the money before so we haven't lost anything by gambling it. (Family/friend)*

> *I have found as my husband increases in salary so does the amount of money that becomes available to indulge in gambling. This also jeopardizes the financial security that we can offer our children. Instead of having funds for private education or lavish holidays.....the extra funds are channelled into gambling habits. Life style remains consistent, whereby it could be improved with the use of extra funds. (Family/friend)*

4.6 Causal direction between gambling and harms and whether it matters

Participants were asked whether they believe that in most cases gambling causes the harms, or the harms cause the gambling, and whether understanding causal direction matters.

Figure 4. Causal direction between problem and gambling and whether it matters

	Total	Researchers	Counsellors	Industry	Family/friends
	n	n	n	n	n
Primary causal direction					
Both ways /cyclical	37	8	11	14	4
Gambling causes harms	20	1	4	5	10
Harms cause gambling	17	0	9	6	2
Whether understanding causal direction matters					
Matters	15	4	9	1	1
Does not matter	5	0	1	3	1

Most researchers, counsellors and industry participants believe the causal direction goes both ways and then becomes a cycle with each feeding off the other.

> *As many have said, it goes both ways, depending on the individual (whether or not they present risk factors, or "predispositions") and the context (type of games, exposure, accessibility). And it's cyclical for many problem gamblers. Longitudinal studies would give us a tremendous amount of info and knowledge about direction... Sadly, we don't have any, or only a handful... (Industry)*

> *What I think really matters is a recognition that causal mechanisms are more generative than deterministic, this means looking at the specific contexts and mechanisms that lead to a particular outcome and seeing how this varies for people in different circumstances. Gambling behaviour is hugely complex and varied and, I think, we tend to oversimplify the causal, or even correlational relationships. This means that for some people the harms may cause gambling and for others the gambling causes the harm, the main thing is to understand the different circumstances and contexts in which this happens for different groups of people. (Researcher)*

From my experience it can be both ways. The casual playing of the poker machine or other betting can get people hooked in then that is the cycle of harm. In other circumstances the client's trauma and other issues cause the client to gamble to ease the pain, but as we all know it is a vicious cycle. (Counsellor)

I believe that both are likely to be true - and that it matters greatly. We know that with people who develop gambling addictions, there is often a much deeper issue at large. One problem gambling counsellor I know reports high levels of abuse or loneliness amongst her clients; and I know from other counsellors that gambling is rarely discussed after the initial couple of sessions as the real issues are unearthed. On the other hand, we know that the gambling tends to exacerbate the problems that these individuals started with. (Industry)

Perhaps the flow is multi-directional as harm is not a dichotomy that is caused, or does the causing but instead is fluid and varies in degree of severity depending on the factors. For example, loneliness can be both a consequence and cause of problem gambling… (Researcher)

However, a number of participants disagreed and believe the causal direction goes mostly one way.

Some argued that gambling usually causes the harms:

I believe that most of the harm is caused by the gambling. If players can control their gambling the harms are greatly reduced. Heavy gambling causes greater harms, whereas recreational controlled gambling can have minimal harms. (Counsellor)

I agree that gambling causes harm when someone cannot control their gambling - when you do not know when to stop or get the feeling you cannot stop. Gambling causes harm when you feel bad about your gambling. Gambling has an ability to make both time and money fly. It also has the ability make you think it can solve all your problems. (Industry)

For the players we deal with directly, it seems clear that the biggest issue is that the slot machines cause the harms. We encounter many people who seem to be 'otherwise normal' but who get hooked by the slot machines because of many reasons including great sound and graphics/animations and the fact that they win something on almost every other spin (although many of these 'wins' are net losses such as wagering $1 and 'winning' 30 cents, which is a net loss of 70 cents but is celebrated by the machine as a win). Also, non-wins that are close to wins are also very rewarding for the player - and these are intentionally designed into the game by the manufacturer to increase the entertainment value of the games. (Researcher)

Others believe it is usually the harms/underlying issues that causes the problem gambling.

> *A number of my clients gamble to cover up the pain and trauma in their lives. When the pain and trauma are dealt with the gambling can be controlled. (Counsellor)*

> *I think problem gambling is a symptom of other underlying causal factors. Do heroin or oxycodone cause drug addiction or are some individuals predisposed to developing addictions? (Industry)*

Most family/friends said the gambling came first and then the harms (although after that it became a cycle).

> *I think the gambling comes first. In my husband's case he seemed to be a lot more rational about things and life in general. Since gambling he has lost sight of reality and what his family mean to him. (Family/friend)*

> *I believe gambling comes first. Well, from my experience that is. It was all good in the beginning and the wrong company puts you in this situation. (Family/friend)*

> *I think it is gambling first- the harm is the result of the gambling and the associated behaviour. It's the associated behaviour that impacts on our family. The lack of attention, focus and the frustration he shows if he looses. (Family/friend)*

> *In my friend's case, it was certainly the gambling causing the harms - socially and financially - as previously he had so much going for him. The gambling cycle led to a downward spiral and a great erosion in general wellbeing. Initially gambling was under control but with pressures with work and relationships it just got so much worse. (Family/friend)*

Many fewer participants answered the question about whether understanding causal direction matters. A majority of those who responded said it did matter – mainly for treatment/prevention purposes but also for policy.

> *It matters greatly if our ambition is to address the symptoms and not just the causes. It also matters in terms of how society treats problem gamblers - as people with a genuine health disorder who deserve our sympathy and support or (as is sometimes the case with the press) degenerates who warrant our scorn. (Industry)*

> *[Understanding causal direction] matters because there has been a great deal of focus over the past 20 years on the individual rather than the interaction. (Researcher)*

> *I think it definitely has implications for treatment, but perhaps even more so speaks to the individual clinician's background and training. I was trained in a trauma-informed framework and taught to view addiction (or in this case, problem gambling) as a maladaptive attempt to cope. I agree that gambling causes harm, and this becomes worse over time in a cycle, but first and foremost I see gambling as a symptom of a bigger problem. I guess the differences of opinion about causation will influence treatment approaches. (Counsellor)*

Does it matter? Depends on why we're asking the question. If we're talking about treatment/counselling, then it's important to understand why things are the way they are for that person so that the treatment can be appropriately targeted. If we're asking about it from a research perspective, then it's important to understand what's going on so that we can ask the right questions. If we're legislators or regulators, then it's important so that we can focus our efforts where they are required based on our understanding of what's going on. So yes, I would say it does matter, as long as we realise that there's probably a vicious cycle here for many people. The cycle has to start somewhere... (Researcher)

4.7 Why most gamblers do not become problem gamblers/ experience harms

Participants were asked why they think most gamblers do not become problem gamblers.

Researchers and industry participants in particular stated that there is not a lot of research they know of on responsible gambling, as opposed to problem gambling, and that more should be conducted.

The question of non-harmful gambling is one of the least researched areas in our field, as Rob Williams has recently pointed out. It is striking how little we know about the psychological or social benefits of gambling participation. (Researcher)

I think that more research studies should be conducted among non-problem gamblers to try to determine why they don't experience harm. Perhaps this would lead to strategies to help prevent problems. (Industry)

First I would really like to underline the comment that has already been made i.e. this is an area that really needs more research. I remember that about a year ago Camelot (UK lottery) did some research in this area. It included a review of what had been published and there was very, very little on positive as contrasted to problem gamblers. (Industry)

One of the most common explanations for why most gamblers do not become problem gamblers was good coping skills / problem solving skills / ability to control impulses.

It's because they have some sort of protective factors such as having more emotional regulative functioning, rational thinking, and cognitive control. They can gamble without experiencing harm because they make sure that their gambling does not get out of control. (Counsellor)

People forget that gambling and risk-taking, in a generic sense, are endemic to today's society. We are always/required to make decisions based on uncertainty to obtain some type of advantage. Whenever we are faced with a choice with 2 different outcomes, we are gambling to some extent if we aren't 100% certain of the outcome. This type of thinking and calculating approach makes up a certain mindset that prevents most of us from making bad decisions about gambling. However, there are plenty of cases where people's "emotional sides" take over their rational side and they succumb to excessive gambling. I think these are the more severe cases and tend to be related to some dysfunction in their ability to control themselves. Rationality and objectivity are beside the point. (Industry)

The majority of people gamble without developing or experiencing problems. Some of this is about resilience, the ability to use constructive coping mechanisms, and not turn to gambling to cope with negative emotions. Obviously being able to moderate levels of impulsiveness is important to avoid getting carried away. (Researcher)

Friends and family tended to use the term, 'addiction', when they discussed the differences between recreational and problem gamblers.

Perhaps there is also an addiction aspect to someone's personality as my friend has other addictions and I think addiction may be the bigger problem. (Family/friend)

Gambling is an expression of a person who can't control their addictions. Personally, with zero evidence, I would put $10 on it being a neurochemical kinda thing. Just my 10c. LOL. My partner is a mild gambler but has other addiction-type issues. Other friends who are heavy gamblers are heavy smokers/ drinkers. (Family/friend)

Accessibility and conditioning were mentioned by a number of participants, particularly researchers.

Access and conditioning. Without access there can be no gambling. BF Skinner suggested pigeons could learn to become excellent slot machine gamblers some 50 years ago just through the most basic of conditioning processes. The modern EGM is way more complicated and maybe it takes longer to learn to play. That is, be able to become engaged in the variable ratio reinforcement schedule because it looks more complicated (of course it still is only pecking with intermittent reward). Time therefore is crucial in the conditioning process. Maybe the question is what factors predict will keep playing until they are conditioned? (Researcher)

I completely agree and this is supported by the Pathways model. Without accessibility and conditioning, the habituation, chasing, etc. that lead to problem gambling cannot occur. That being said though, factors such as emotional and social vulnerabilities should not be discounted as the pathway isn't as clear cut as A leads to B which leads to C. (Researcher)

Wide social networks were cited as a protective factor; friends and family in particular spoke about life balance and having good friendships and relationships, a good job, etc.

Reliable and accessible support persons/network when the chips are down (oops!) (Counsellor)

For me, the answer to this topic is being psychologically and emotionally sound and having a good social circle make people less at risk. (Industry)

Well I think they are people who have balance in their lives; perhaps a very satisfying job that they feel contented, friendships that matter and maybe a meaningful relationship. Gambling for people without this can become a way of filling the void and giving some short term satisfaction. (Family/friend)

I agree about the person having balance in their lives. Balance in the form of a satisfying job, genuine friendships and a meaningful relationship. Honestly for my husband I truly believe gambling is a way of filling the void and providing short term satisfaction. (Family/friend)

Participants also discussed the importance of gambling being viewed as simply one of many entertainment and social activity options.

Something that is often forgotten by the industry is that for most people, gambling is a minor activity that takes up very little (or no) attention or money. Likely they don't find it attractive enough (compared to what else life has to offer) to devote enough time/money to expose themselves to anything that could develop into risky behaviour. (Industry)

People can gamble responsibly because gambling is only one among a number of their means of entertainment; and their lifestyle is balanced as they enjoy various aspects of their life, i.e. personal, family and social. Low-income earners often rely on clubs and pubs for their social life and entertainment, and many could be involved in excessive gambling behaviours after a while. (Counsellor)

For many I think it is just their outlook on gambling, which is viewed as an entertainment past time, but not a serious way to spend time or money. (Researcher)

Several counsellors discussed the impact of an early big win -- that lack of such a win seemed to be the norm for people who are recreational gamblers.

Most people do have a gamble but it is of such little consequence whether they win or lose. They don't need to gamble to escape or have excitement as their own lives are generally more balanced. I feel that the impact of early wins and growing up in a family where gambling is part of the culture shapes the gambler. (Counsellor)

I don't know what the research has to say but would be very interested. My guess would be something like the following- No early wins - encultured into a helpful attitude (e.g. you can't win in the long run, fun not income)… (Counsellor)

Industry participants in particular mentioned understanding the odds / not believing in superstitions, etc.

Those non problem gamblers have a clear understanding of how the games work, that there is no way one can control the issue, of most games offered. (Industry)

The vast majority of the adult population gamble for entertainment and do so with a budget and time limit in mind. When these proactive decisions are made in addition to being informed about game mechanics such as prize payout, odds of winning, etc., I would say that players have the foundation to guide their purchase decisions. When players are not adequately informed, they are already somewhat exposed to one of the "harms" that could have potential to cause a gambling problem. (Industry)

Friends and family spoke a lot about willpower – that non-problem gamblers simply have more willpower.

> *Some people aren't interested they have strong willpower or they have seen what it has done to others and they don't want it to happen to them. (Family/friend)*

> *Some people just are not interested in gambling and will never have any temptation to gamble. Others who might go gambling and does not become a problem most probably have willpower to not over gamble and can stop when they wish. (Family/friends)*

> *Perhaps they have a stronger willpower… (Family/friend)*

Family/friends in particular thought recreational gamblers do not believe that they will ever win big and believe that you get money through hard work.

> *I really just agree with the others, I have never won anything, so I don't believe I ever really will. Money never comes easy, it requires hard work and dedication to a particular field. I also reason all of my decisions, and perhaps it is those without the reasoning ability that are subject to this illness. (Family/friend)*

> *Never having won even the lucky door prize or free tickets to the movies I have little interest in gambling 'cause I'm sure not to win. My good fortune must be somewhere else. (Family/friend)*

> *Problem gamblers have in their mind that they will win a major jackpot or prizes if they gamble. (Family/friend)*

> *Some people just don't have the interest. They don't have the NEED to pursue the THRILL of a WIN! Nor do they have the desire to turn pennies into riches. (Family/friend)*

4.8 New and emerging technologies around gambling

Participants were asked about new and emerging technologies around gambling including new products or new ways of providing existing products.

Participants discussed a wide range of technologies/products. Industry participants generally had the most knowledge in this area.

Below is a list of the new and emerging technologies mentioned. Verbatims are provided where they add information or context to the item.

- **Many are simply electronic versions of older gambling products**

  There are some new ways of presenting old games that turn them from relatively harmless paper-based games (bingo and scratch or Nevada lottery tickets) into an electronic form that can be played continuously and therefore have the feel of EGMs. We have looked closely at Video Instant Ticket Vending Machines and electronic Bingo Play on Demand games and we find that playing them is more like slots than their Bingo or Lottery themes might suggest. (Researcher)

- **Mobile/Smartphones and online**

- **Offshore online**

  Gambling offshore via computer is becoming more prevalent. The lure of winning money from an online casino is proving to be too much for some. These products can be anything from poker machines to roulette wheels. (Counsellor)

- **Free/downloadable apps**

  The use of apps and/or mobile-friendly websites is relatively new, only really taking off with the rise of the iOS and Android platforms. I'd argue that they are new ways of accessing existing Internet gambling products, so they're not new products in and of themselves. But since pretty much everyone has a smartphone on them at almost all times these days, a gambler can access it at all times, so a new dimension has been added to an existing product. (Researcher)

- **Constant new products and offering to keep things new and exciting, including more sophisticated and attractive land-based EGMs**

  I am noticing that poker machines are getting far more sophisticated and lots more flashing lights, music etc. to entice people to gamble! (Family/friend)

- **Interactive gambling**

- **Fantasy sports dailies**

  Fantasy sports have been around for a while but only recently have we had dailies, which is definitely a form of gambling though the government doesn't classify it as such. (Researcher)

I'm aware of a growing interest in creating fantasy football teams on the internet whereby there is an entry fee and a prize at the end of the season for the winner? I understand from clients that in signing up to these sites that sometimes they are also provided with a credit on a real time gambling site. (Counsellor)

- **Child-friendly electronic games that mimic gambling (e.g. Candy Crush)**
- **Facebook and other social media games**

New and proving more popular are the social gambling games where you can play for free but then buy extra credits or chips that have no real monetary value. The company Zynga have a heap of them linked with Facebook. (Industry)

- **Virtual reality games**

There is now a 'virtual reality' gaming program that is being developed. It will mean you can go online and pick your local club and visually see yourself enter the venue where you can have a beer have a chat and choose the pokie machine. You can actually put the game on hold go to that club sit on that particular pokie machine and continue playing once you have keyed in your login. (Counsellor)

- **Interactive video games with gambling component**
- **Skill-based games**

We've been seeing in tradeshows that manufacturers are developing games where "skills" may be used to increase your chances of winning. This new trend is oriented towards the generations who prefer games of skill more than games of chance. (Industry)

- **Live sports betting**
- **Interactive TV**
- **Payment through Smartphones / online accounts**
- **Four-digit codes or fingerprints instead of passwords**
- **Increasingly sophisticated screen layouts with easy manoeuvrability between screens**
- **Micro-sport betting (e.g. bets on the results of individual balls in cricket or a single point in tennis)**
- **Sophisticated Internet marketing**
- **Hi-lo bet on the stock market**
- **TV shows that have added a gambling component (e.g. Big Brother and reality style game shows that charge for you to vote for the winner; news programs in the mornings that require a text to enter prize-draws)**

- **Advertising during TV sports programs that encourage people to go online and place bets**

- **Promotions disguised as kids' games/non-gambling**

  The new gambling technologies are disguised and things aimed at kids who are not actually legal age to gamble. Buy a paddle pop - ''lick a prize'' if you are the lucky winner your paddle pop may get you a prize. Drive the kids to spend more in the hope of winning. McDonalds Monopoly - First off they make you buy a whole meal to be eligible to get a chance at a peal your prize monopoly. The game is predominantly a kids game, and kids easily have a associations already with this game. You never really win and keeps drawing them back in the hope to win by the occasional free drink or burger. Download this free mobile app game - these usually have in-app purchases, they make the game just fun enough to keep the kid addicted, but it can be 'funner' all you need to do is just buy this small upgrade/add on to make your world/game better/funner. (Industry)

- **Games specifically developed with appealing cultural content and in other languages targeting specific CALD groups from overseas**

4.9 Potential for harm from new and emerging technologies

Most participants were concerned about potential harms from the new technologies – particularly the easy and constant access, along with potential social isolation and the ability to gamble in secret. However, several participants also discussed some potential benefits, or new opportunities for harm mitigation. This was particularly true of Industry participants, many of whom cited the potential for more sophisticated and effective responsible gambling interventions.

Nevertheless, even most Industry participants worried that the new technologies were more likely to increase, or speed up, problem gambling, rather than decrease it.

Some participants expressed concern that the new technologies may attract new gamblers rather than just shift current gamblers. Others suggested that although the prevalence of problem gambling may not increase, there is concern that the level of harm will deepen. Several participants thought perhaps the new technologies will make problem gamblers harder to identify and make it easier for problem gamblers to gamble.

One researcher commented on the lack of knowledge around new technologies and gambling:

> *A critical problem is the focus on gaming venues and EGM's (or slots etc.). For me the question is, do the findings still stand if you take the gambling out of the venue? We know quite a lot about gambling in venues but not very much about gambling per se…. For example, do we know whether the impact of a near miss is the same in bed at home as it is in a gaming venue? (Researcher)*

Below is a list of potential harms discussed by participants, followed by some opportunities provided by new technologies for harm mitigation. Verbatims are included where they provide additional context.

4.9.1 Potential harms

- **24/7 access / continuous play**

> *I believe that accessibility of online or mobile gambling will have an impact. Yes, these people would gamble regardless, but now they can sneak it on their coffee break at work which could lead to loss of time. This wouldn't impact everyone, more just the high risk groups or problem gamblers. The point is that they would never get that break they need to focus on other aspects of their lives. (Industry)*

> *Well I think the accessibility is the big issue - if you have a gambling addiction having it so easily around you is a negative thing (i.e. now online). Once before you had to go out seeking to gamble - now you can do it at home! (Family/friend)*

> *Going to the pub or club is one thing but now online games bingo etc. I think it is how people get out of control not having to leave the house and losing much more and have 24/7 to gamble day and night no cut off time. (Family/friend)*

- **Social isolation / no interaction with venue staff who might intervene / no one to turn to for help**

  When someone comes to a site they have the staff talk to them and engage them in conversations. Offer to hold chairs for them to get a break like something to eat. Sometimes the staff member may say something small to the patron, like it is completely random, an RG (responsible gambling fact), planting a seed for the person to maybe come back to if it isn't fun anymore. (Industry)

  Being able to gamble in isolation by using computer phone etc. can probably have its own risk and harm factors, it could be easier to hide your problem from a lot of people and maybe it could increase the risk of not knowing how to deal with the problems associated because of that very isolation. (Family/friend)

  I agree that new technologies can contribute to problem gamblers becoming more and more isolated, but through technology you can have real-time interventions, with the potential to be very timely. The issue is the personal interaction is not there due to isolation. At the focus groups run at Discovery Conference last year a player said you can throw all kinds of information at me and that won't register as much as someone actually talking to me and caring about how I am doing (something to that effect - his point was that information alone was not as impactful as having someone talk to you and ask you questions to personalize it). The personal connection was most effective. (Industry)

- **Can gamble without others knowing**

  Smartphones in particular can be brought with people everywhere. As the holidays are coming up it is easy to see how someone could be involved in gambling on their smartphone without being noticed. People around could assume that the individual is sending texts or emails but in fact the person could be gambling. In certain circumstances we are accustomed to seeing people on their phones without even realizing what the person is doing and therefore the gambling may go unnoticed. (Researcher)

- **Loss of time tracking**

- **Higher speed; more frequent betting**

- **Virtual spending if tied directly to online account / credit card with often high limits**

  Also money deposited in a betting account becomes "play money". Not real because it is not coming out of my pocket. I bet $50 at the slots, it comes out of my wallet; I bet $50 on the internet it is only a number and a push of the button. (Industry)

One particular risk for online worth noting is that for most websites, a credit card is required to register and although other payment options to play may exist, the link to a credit card is potentially risky. Wish it were so that banks and credit card companies would offer sensible card limits, but they tend to keep increasing your limit continuously. Credit cards are not difficult to obtain (witness the 3-4 offers I get monthly) and money spend on credit may be money we don't have. Some risk to this. (Industry)

- **Distinctive characteristics of Internet gambling that appear to post additional risk factors (e.g. credit betting, speed of play, ability to gamble on multiple games at once, gambling alone, use of digital money, and prolific targeted promotions)**

- **If vulnerable, total immersion experience of electronic gambling**

Technology isn't only changing how people gamble online, technology is increasingly used in venues. Large solitary terminals can be played that seem very interactive, but actually may reduce social interaction between players as the games are very immersive. This may increase problems for some people. (Researcher)

- **Deeper level of harm**

The increasing availability of gambling may well result in prevalence rates staying constant but harm (depending on how you measure it) deepening. One problem gambling counsellor I know is seeing an increase in professional women seeking treatment - and these women are almost always online gamblers. Again, it seems intuitive that changes in the supply of gambling may affect the incidence of problem gambling by type of customer. (Industry)

When you look at rates of problem gambling over the past 20+ years it is instructive to note that rates have remained stable in spite of the expansion of legal forms and the explosion of technology. Building a neighbourhood bar doesn't create a neighbourhood of alcoholics - it just makes it easier for alcoholics in the neighbourhood to get a drink. Similarly, problem gamblers are already gambling. (Industry)

- **Risk from bots [web robots] playing in poker rooms**

- **Unregulated nature of many offshore sites (e.g. unscrupulous off-shore operators changing odds; no links to gambling help/ no RG strategy; easy to get around age limits, lack of transparency and accurate info)**

While age controls are in place on the regulated gaming sites that have mobile access, it isn't too difficult for someone underage to find an unregulated site that will allow them to enter false information to set up an account to play. Thinking about the popularity of Poker, for example, this game is widely available on unregulated sites where age controls are not always enforced. Poker also crosses over into the social gaming realm which is most concerning as verification of age is even more lenient on social media sites. (Industry)

- **If regulate too heavily domestically, gamblers will just switch to overseas sites**

- **Certain harm minimisation strategies, such as self-exclusion, become almost impossible**

- **Advertising during TV sports programs that encourage people to go online and place bets / grooms young people (particularly males) to gamble**

- **Many of the new social games targeted to young people grooms them for later gambling – exposure and normalisation / desensitisation / blurring of social gaming and gambling —but not all agree**

  For me the biggest potential-underscore "potential" because we don't know yet-is the risk that comes from the blurring that occurs via online and social media. By 'blurring' I mean by convention we draw lines between games played alone for fun, games played with others for fun, games played competitively, games played competitively for non-financial reward (coins to buy stuff), games for real financial reward, gambling with contribution to good causes, gambling linked to sport, pure games of chance etc., etc., etc. This compartmentalisation leads to different regulators, different prof bodies monitoring harm, different research foci and so on. But for the average, let's say 18 year old, all of these are marketed at them, all are accessible via the same devices and very often those targeting these products at the buyer will want them to buy multiple packages, will want them to migrate up the value chain and will often be selling them other things too e.g. social media apps and platforms. I think there is a real need for researchers and regulators to look at the interactions and potential for problems. (Industry)

- **Counsellors see an impact of fewer people seeking F2F counselling, which they believe is detrimental to recovery.**

  The use of mobile phones, computers and webcams is also impacting the counselling service itself. Many services expect a lot of phone counselling or online counselling which is not always as therapeutic and life changing as face to face counselling. This faces a real risk of harm to the counselling services and their availability for problem gamblers. As funding everywhere is reviewed, the counselling service is also under threat of an expectation to do more with less. Phone counselling and online can take less time and that may look attractive to funding bodies yet it is defeating the purpose if they are the only media available for problem gamblers. There will always be a certain group of people who for a variety of reasons require and benefit the most from face to face counselling. And the type of therapy that is best suited for a person should not be rationed. (Counsellor)

- **Micro-bets, which take up a lot of time**

- **Sophisticated marketing / big data marketing**

- **Tech-savvy at greater risk because of more access**

- **Easy to get around restrictions**

- **Anyone attracted to technology and anonymity at greater risk (i.e. young; male, socially isolated)**