

# THE VICTORIAN GAMBLING STUDY

a longitudinal study of  
gambling and public health  
- Wave Two Findings

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*The Victorian Gambling Study: A longitudinal study of gambling and public health - Wave Two Findings*

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**THE VICTORIAN GAMBLING STUDY**  
**WAVE TWO SUMMARY FINDINGS**  
**September 2009 to January 2010**

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## VICTORIAN GAMBLING STUDY - WAVE TWO SUMMARY FINDINGS

### INTRODUCTION

Longitudinal studies follow large numbers of individuals for many years. They are used to explore aetiology (causes of ill health) in the special circumstances being investigated and are an efficient way to identify risk factors operating in a general population.

The Victorian Government is committed to the prevention of, and early intervention in, problem gambling in the community and has funded and supported this longitudinal study of gambling. The study received ethics approval from the Department of Justice Human Research Ethics Committee.

The objectives of the Victorian Gambling Study include estimating the incidence (i.e. new cases) of problem gambling and understanding the transitions in and out of problem gambling, as well as the related risks factors and vulnerabilities. Incidence will provide information about causes and risk factors over time. This will accord an evidence base for prevention and early intervention programs.

In September 2009, the Victorian Government released the report: *A Study of Gambling in Victoria - Problem Gambling from a Public Health Perspective* – an epidemiological study of 15,000 Victorian adults. This research provided a problem gambling prevalence estimate for Victoria as well as information on the gambling behaviour, psychological and physical well being, community connectedness, substance use and leisure activities of Victorian adults.

The epidemiological study was the baseline study, or Wave One, of the longitudinal study. Four waves are proposed for the study. The participants in this first wave were asked for their consent to be re-contacted for subsequent waves of the study. The participants who consented to further research formed the cohort for the Wave Two study.

This report is an overview of the key findings from Wave Two participants who were interviewed one year after the baseline study. A profile of the cohort, its gambling behaviour, health and wellbeing is provided and some preliminary associations based on the changes in the first year are analysed. Where possible, observations are made in relation to the health and wellbeing of gamblers in relation to the Victorian population.

The Wave Two study population is not, nor is it intended to be, a representative sample of the Victorian adult population. Furthermore, findings in this report should be interpreted with caution as they refer only to the 12 month follow up between 2008 and 2009. More waves are needed to confirm any trends, associations or observations made.

Technical information and tables can be found in the Appendices to this report

## METHODOLOGY

Computer Aided Telephone Interviewing (CATI) was used for survey data collection for both waves with Wave One comprising the baseline data for the rest of the study. The collection periods were:

Wave One: July 2008- October 2008  
Wave Two: September 2009- January 2010

The Wave Two survey took approximately 18 minutes to complete.

For each wave of the study, the validated nine item questionnaire (screen), the Problem Gambling Severity Index (PGSI), from the Canadian Problem Gambling Index (CPGI) was used and will be used to classify people into five risk categories. Respondents who indicated that they participated in at least one gambling activity in the past year were screened using the PGSI. A list of the gambling activities can be found in the survey instrument at *Appendix A*. The PGSI classifies people into various risk categories:

- |                         |                                       |
|-------------------------|---------------------------------------|
| • non-gambler           | no gambling reported in the last year |
| • non-problem gambler   | PGSI score of 0                       |
| • low risk gambler      | PGSI score of 1-2                     |
| • moderate risk gambler | PGSI score of 3-7                     |
| • problem gambler       | PGSI score of 8 or higher             |

In addition to the PGSI, discrete, validated measurement instruments were used in both waves to ensure important health and wellbeing measures were examined. These included the Kessler 10 Psychological Distress Scale, key questions on self-reported health, the Gambling Readiness to Change Scale, which measures social capital and community connectedness and the Life Events Scale, which measures significant life events such as death, divorce or marriage.

The Wave Two survey sought additional information of a contextual nature, such as how the Global Financial Crisis affected participants, to provide further insight into possible cause or association between changes to gambling behaviour and personal wellbeing and environment.

Analysis of data from both waves was undertaken using statistical analysis computer programs, Statistical Package for the Social Sciences (SPSS) version 18 and Stata<sup>1</sup>.

### Limitations

This summary report on the findings from the longitudinal study provides an overview of results from Wave Two. In particular, it examines the gambling status and behaviour of the respondents from Wave One to Wave Two and identifies any changes between the two periods. The study population is not a representative sample.

With the exception of estimation of the incidence rate, the data was not weighted so the findings reported refer to the population in the study, not to the broader adult Victorian population.

The findings reported refer to associations only, not to causation. Further waves are needed for trend analysis.

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<sup>1</sup> Analytical techniques used included generalised estimating equations in Stata (binomial family, logit link function and exchangeable correlation matrix) to produce odds ratios and confidence intervals. Where data was primarily cross sectional in nature, logistic regression was used.

## WAVE TWO SAMPLE

### Selection

The public report: *A Study of Gambling in Victoria - Problem Gambling from a Public Health Perspective* is Wave One of the longitudinal study. As part of the survey questionnaire used for this report, each respondent was asked if they would consent to participate in future waves of the (longitudinal) study.

From the 15000 Victorian adults surveyed, 7148 gave consent to be re-contacted.

### Contacting the same respondent

Attempts were made to contact each of the 7148 participants who agreed to be re-contacted. This resulted in 5003 (of the 7148) participants agreeing to take part in Wave Two.

The 2145 decrease in participants was due to telephone lines being disconnected, no answer (on several call backs) or wrong numbers. A copy of the call statistics for Wave Two is provided in *Appendix B*.

### Wave Two Sample Gender and Age Profile

#### Gender

More females (60 per cent) than males participated in the second survey. There were 3007 females and 1996 males in the Wave Two sample.



Figure One: Gender of the Wave Two sample (n=5003)

#### Age profile

It should be noted that the age statistics provided for the Wave Two participants are those that were collected at Wave One. The age question was not included in the Wave Two survey.

Table 1 below is the age summary for the Wave Two participants. There were 1637 people aged between 50-64. This was the largest age group. The smallest age group was the 18-24 year olds, who accounted for 271 people.

**Table 1: Age and Gender (sample of 5003, age as at Wave One)**

Age Range	Males (n)	Females (n)	Total
18-24	122	149	271
25-34	164	324	488
35-49	531	1016	1547
50-64	679	958	1637
65+	500	560	1060
Total	1996	3007	5003

**Wave Two Sample PGSI profile**

Both non-gamblers and gamblers (from all PGSI risk segments) were included in the Wave Two sample. Responses by PGSI segment (Table 2) varied, showing that problem gamblers had the highest rate of participation in the study (75 per cent) while moderate risk gamblers had the lowest participation rate (64 per cent). The overall participation was 70 per cent.

**Table 2: Participation in Wave Two based on the PGSI classification in Wave One (n=5003)**

PGSI risk segment	Agreed to participate in Wave 1 (n)	Actual participation in Wave 2 (n)	Participation Rate %
Non-gambler	1493	1024	69
Non-prob. gambler	5029	3569	71
Low risk	423	274	65
Moderate risk	150	96	64
Problem gambler	53	40	75
<b>Totals</b>	<b>7148</b>	<b>5003</b>	<b>70</b>

**Other demographic profiles**

All other demographic profiles of the 5003 sample - employment, education, income, migration, residence (metropolitan/non-metropolitan) and household information - are included in *Appendix C*.

**Sample comparison to baseline population**

A brief comparison of the characteristics of the 5003 sample and the baseline population of 15000 was undertaken. All demographics were investigated. There were some differences noted between the composition of the two groups and this is provided in *Appendix C*.

The Wave Two study population is not, nor is it intended to be, a representative sample of the Victorian adult population.

**Participation and Attrition**

In longitudinal studies it is critical to maintain the study population in successive waves in order to ensure the study is robust and has sufficient power to detect causal relationships. There was a 70 per cent participation rate in Wave Two: that is, 5003 of 7148 who consented to further research completed the follow-up survey.

Attrition refers to loss of participants (or participant drop-out, non-response) in an experiment or study. Excluding participants who drop out of a study may give biased results.

The attrition rate was 30 per cent: that is, 2145 people were not able to be contacted or did not complete the survey for other reasons.

The table below provides a summary overview of participation in Wave Two.

**Table 3: Summary of participants surveyed in Waves One and Two**

	Wave 1 (n)	Agreed further research (n)	Wave 2 completed surveys (n)	Did not complete Wave 2 surveys (n)
<b>Total population (n)</b>	15000	7148	5003	2145

A detailed analysis was undertaken of the differences between those who consented to further research and completed the survey in comparison to those who consented and did not participate. Statistical tests for significance were used for the analysis and some significant differences were noted.

Gambling participation with some products (table games, Lotto and buying tickets in raffles), health (past and current smoking) and demographics (age, household living arrangements, employment and migration) were all highly significant. This means that there is an association between these variables and Wave Two survey participation.

For example, those who participated in Wave Two tended to be older and tended not to have migrated to Australia in the last five years. The attrition sample, that is, those who agreed but did not participate, has a higher representation of the unemployed, of past and current smokers, of those living in group households (that is, living with people who are not-relations).

Equally the attrition sample included a relatively higher proportion of table game players, of gamblers who did not play Lotto, and did not purchase tickets in raffles, sweeps or other competitions.

The tables can be found in *Appendix D*.

## **FINDINGS**

This section reports on the analysis from 5003 participants who completed surveys in both waves.

### **Incidence**

Incidence is the number of new cases in a population in a given time period. Following the same group of people over time enables the incidence (that is, new cases) of problem gambling to be ascertained. While prevalence tells us how widespread problem gambling is, incidence provides the rate of occurrence of new cases and conveys information about the risk of developing problem gambling.

In order to estimate incidence rates, the Wave two sample (5003) was adjusted to make it more representative of the Victorian adult population. In contrast with other Wave Two results in this study, which were not generalised to the Victorian adult population, weighting was used in the calculation of incidence rates.

### **Twelve-month incidence rate**

In any 12 month period we can expect 0.36 per cent of the Victorian adult population to become problem gamblers. This is known as the incidence rate: an estimate of the rate of occurrence of new cases of problem gambling within the stated period. The rate includes participants who were problem gamblers at some stage prior to the 12 months of the study period and accords with the fluid nature of problem gambling, where gamblers move in and out of risk categories over time.

### **Lifetime problem gambling**

In Wave One all participants who stated that they had ever gambled were asked to complete questions from the NODS CLiP 2 Screen.

The NODS-CLiP 2 is a brief screen that measures lifetime prevalence of pathological gambling and problem gambling using a variant definition. Pathological gambling is a persistent and recurrent, maladaptive gambling behaviour as indicated by five or more behaviours listed in the Diagnostic and Statistical Manual of Mental Disorders (DSM IV).

Although the PGSI and the NODS CLiP2 classify participants using different screens and an examination of lifetime gambling problems is still possible.

The NODS CLiP2 screen classifies people as:

- lifetime pathological gamblers
- lifetime problem gamblers
- lifetime at risk gamblers
- non-problem gambler

### **Twelve-month incidence rate: new versus relapsing problem gamblers**

An analysis of incident cases of problem gambling in the 12 month period was undertaken to estimate how many new problem gamblers had a previous history of problem gambling and how many were first time problem gamblers in Wave Two. This was investigated using the NODS CLiP2 Screen.

Approximately one third of the incidence rate (0.12 per cent) represents problem gamblers without a previous history of problem gambling or pathological gambling over their lifetime. Approximately two-thirds of the incidence rate (0.24 per cent) are problem gamblers with a previous history of problem gambling or pathological gambling.

## TRANSITIONS

Problem gambling, in this study, is defined using the PGSI, which adopts a categorical definition. For example, problem gamblers score from 8 to 27 on the screen, whilst moderate risk gamblers score between 3 and 7. The analysis of transitions in this section refers to the movements from one segment to another, not within segment movements.

One of the objectives of the longitudinal study is to examine the transitions or movements in and out of the problem gambling and other PGSI categories. Increasing risk was defined as moving into a low risk, moderate risk or problem gambling classification. Decreasing risk was defined as moving away from low, moderate or problem gambling states.

Unless otherwise stated, analyses for all transitions were adjusted for age and gender. This means that the effects of such variables are removed as explanatory factors for the transitions.

### Stability and change

A total of 5.6 per cent of gamblers increased their risk segment in the 12 months from 2008 to 2009. This means they moved into the low risk, moderate risk or problem gambling categories. In comparison, 4.3 per cent of gamblers decreased their risk status. This means they moved away from problem gambling, moderate risk or low risk categories.

**Table 4: Transitions between PGSI groups Wave One to Wave Two (n=5003)**

		Wave Two						
		Completed 2009	NG	NPG	LR	MR	PG	Shifted 2009
Wave One	NG	1024	464	526	24	9	1	560
	NPG	3569	240	3131	169	24	5	438
	LR	274	9	144	81	38	2	193
	MR	96	3	20	26	39	8	57
	PG	40	0	2	0	9	29	11
Total		5003	716	3823	300	119	45	1259
			No Movement					
			Transition Up					
			Transitions Down					

#### *PGSI transitions*

The problem gambling and non-problem gambling PGSI classifications were the most stable population groups in terms of transitions. This means they had the least proportion of gamblers move in and out of PGSI classifications. The majority of problem gamblers (72.5 per cent) did not shift PGSI risk categories from Wave One to Wave Two. The majority of non-problem gamblers (87.8 per cent) remained non-problem gamblers in Wave Two.

#### *Problem gambling*

The majority of problem gamblers in Wave One did not shift PGSI segments. Nearly three quarters of men (72 per cent) and women (73.3 per cent) who were problem gamblers in the first survey remained so in the second.

Eleven problem gamblers who were classified as such in Wave One moved out of this risk segment in Wave Two with nine moving into the moderate risk segment and two into the non-problem gambler risk segment.

Of the 45 problem gamblers in Wave Two, 16 people were not classified as problem gamblers by the PGSI in Wave One.

Of these new cases, half (50 per cent) were classified as moderate gamblers in the first survey; two were from the low risk, five from the non-problem gambler and one from the non-gambler risk segments.

#### *Moderate risk*

Of the 96 moderate risk gamblers from Wave One who participated in Wave Two, 39 participants (40.6 per cent) remained moderate risk gamblers. Nearly 46 per cent of female moderate risk gamblers in Wave One remained moderate gamblers in Wave Two, while 36.5 per cent of male moderate risk gamblers in Wave One remained so in Wave Two.

Of the 57 moderate risk gamblers from Wave One who shifted risk segments in Wave Two, over eight per cent moved to the problem gambling risk segment.

Wave Two identified 119 moderate risk gamblers. In Wave One, this same group was identified by the PGSI as:

- 39 moderate risk gamblers
- 38 low risk gamblers
- 24 non-problem gamblers
- 9 problem gamblers
- 9 non-gamblers.

#### *Low risk*

About 30 per cent of low risk gamblers in Wave One remained low risk gamblers in Wave Two. Over half of the low risk gamblers (52 per cent) moved to the non-problem gambling segment. The non-problem gambling PGSI segment has a score of zero.

#### *Non-problem gambling*

Almost 88 per cent of non-problem gamblers in Wave One remained non-problem gamblers in Wave Two. Almost seven per cent became non-gamblers.

Only five per cent moved to higher risk categories in Wave Two with the majority of those moving to the low risk segment.

#### *Non gambling*

Over 45 per cent of non-gamblers in Wave One remained non-gamblers. The majority of non-gamblers (51 per cent) who did shift (that is, who commenced gambling in Wave Two) moved to the non-problem gambling segment.

### **Increasing risk**

In total, 280 of the 5003 respondents (5.6 per cent) increased their gambling risk status from Wave One to Wave Two. A total of 5.1 per cent of women increased their risk while 6.5 per cent of men increased their risk.

Of the participants who moved into the low risk, moderate risk or problem gambling categories in Wave Two, from Wave One, there were:

- 34 non-gamblers (3.3 per cent)
- 198 non-problem gamblers (5.6 per cent)
- 40 low risk gamblers from (14.6 per cent)
- 8 moderate risk gamblers (8.3 per cent).

Taking up a gambling activity since Wave One and moving into a non-problem gambler segment, which has a score of zero, was not included in the increasing risk transition.

### **Decreasing risk**

In total, 213 (4.3 per cent) respondents decreased their risk classification moving away from problem, moderate and low risk states. A total of 4.6 per cent of women decreased their risk while 6.5 per cent of men decreased their risk.

Of those who decreased their risk in Wave Two, from Wave One, there were:

- 153 (55.8 per cent) low risk gamblers
- 49 (51 per cent) moderate risk gamblers
- 11 (27.5 per cent) problem gamblers.

## GENERAL FINDINGS

### Gambling profile

At the completion of Wave 2, the majority of participants were non-problem gamblers, as identified by the PGSI.

In Wave Two there were 45 problem gamblers, 119 moderate risk gamblers, 300 low risk gamblers, 3823 non-problem gamblers and 716 non-gamblers.

**Table 5: PGSI categories of Wave Two participants upon completion of Wave Two surveys (n=5003)**

Non-gambler	Non-problem gambler	Low risk	Moderate risk	Problem	Total (N)
716	3823	300	119	45	5003

There were more females than males in each PGSI segment.

**Table 6: Gender by PGSI segments (n=5003)**

	Males (n)	Females (n)
Problem gambler	19	26
Moderate risk	55	64
Low risk	144	156
Non-problem gambler	1453	2370
Non-gambler	325	391
<b>Total</b>	<b>1996</b>	<b>3007</b>

### Gambling participation

The four most popular gambling activities for all Wave Two participants were:

- buying tickets in raffles, sweeps and other competitions, with nearly 64 per cent of the entire 5003 study population participating in this activity at least once in the last year
- playing Lotto, Powerball and Pools (62.1 per cent)
- playing electronic gaming machines (28.5 per cent)
- racing (horse, harness and greyhound) (27.2 per cent).

Amongst problem gamblers:

- almost 96 per cent played electronic gaming machines in the past year
- nearly 78 per cent also played Lotto, Powerball and Pools.

In the moderate and low risk segments the most popular activity was:

- playing Lotto, Powerball and Pools (84 per cent and 81.3 per cent respectively)

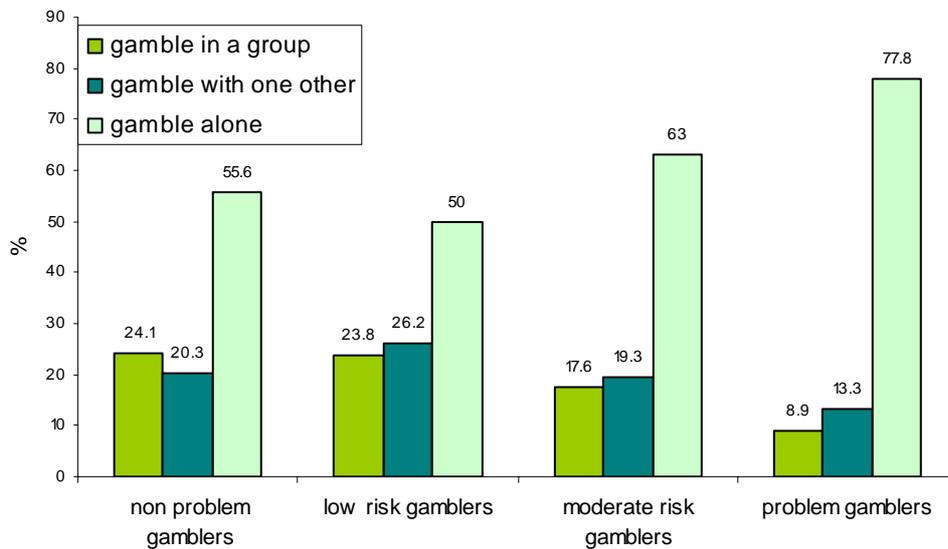
In the non-problem risk segment, the most popular activity was:

- buying tickets in raffles, sweeps and other competitions (74.9 per cent)

## Gambling Behaviour

Although gambling alone was the most popular mode of play amongst all gamblers, problem gamblers prefer to gamble alone more so than gamblers in the other PGSI risk segments.

Nearly 78 per cent of problem gamblers in Wave Two reported that they gambled alone and almost 22 per cent said that they gambled with either one other person or with several people. Non-problem gamblers (over 44 per cent) indicated that they gambled with others and 56 per cent reported gambling alone.



**Figure Two: Gamblers within PGSI segments who gamble alone, with one other person or in groups (n=4229)**

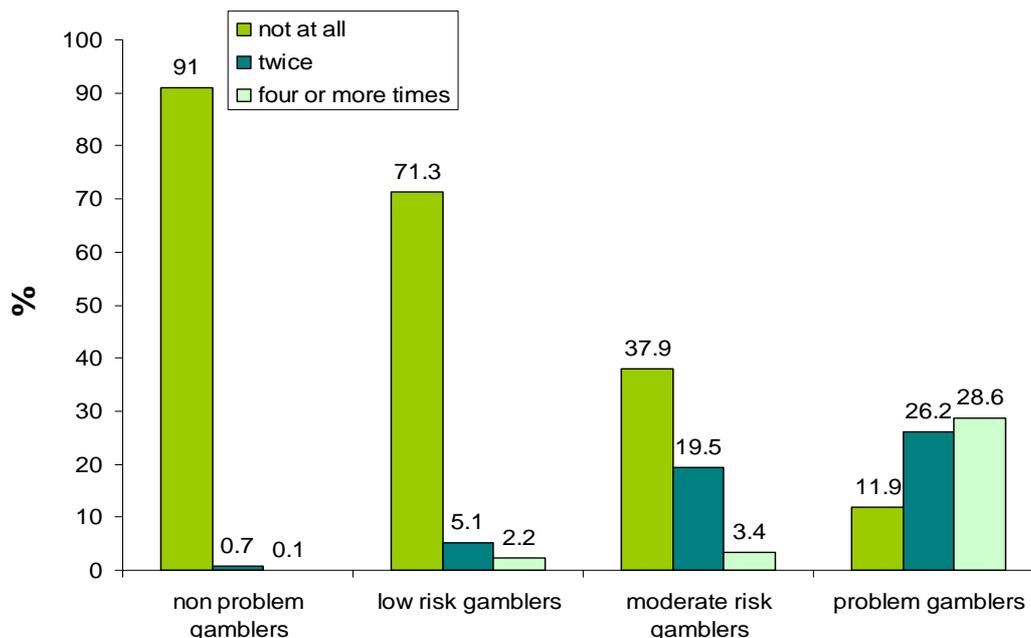
In Wave Two, participants were asked if they had any difficulties associated with their gambling. Approximately half (51 per cent) of the problem gamblers reported difficulties in the past 12 months.

All low risk, moderate risk and problem gamblers were also asked if they had sought help, either informally (through friends or family) or from a help professional. Over one third (35.6 per cent) of problem gamblers, 1.7 per cent of moderate risk gamblers and less than one per cent of low risk gamblers reported seeking help.

Participants who gambled during the 12 month period were asked the number of times during a single gambling session they used their ATM/EFTPOS/credit card to access extra money for gambling. Responses ranged from not at all, once or less than once a session, twice a session, three times a session and four or more than four times a session.

Over 90 per cent of non-problem gamblers did not access ATM/EFTPOS/credit in comparison to 11.9 per cent of problem gamblers. Conversely 28.6 per cent of problem gamblers reported that they accessed ATM/EFTPOS/credit four or more times in one session. Less than one per cent of non-problem gamblers did so. These findings are consistent with the Wave One findings.

For ease of interpretation only results for the lowest number of access times in a single gambling session (not at all), the mid point (twice per session) and the highest (four or more times in a session) are provided in the graph at *Figure Three*.



**Figure Three: Access to ATM/EFTPOS/credit in a single gambling session (not at all, twice, four or more times) by PGSI segments (n=2061)**

## Health status

### *Self-reported health*

Participants in both waves of the longitudinal study were asked to assess their own health. Most participants, with the exception of problem gamblers, indicated their health to be good, very good and excellent. The results in Wave Two are similar to those reported in the annual *Victorian Population Health Survey*<sup>2</sup>.

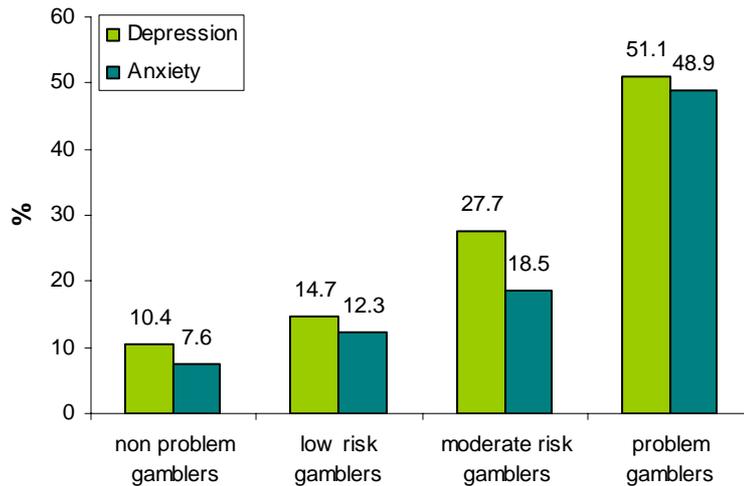
The proportion of adults in the *Victorian Population Health Survey* reporting their health as excellent, very good or good has remained constant between 81 and 84 per cent from 2001 to 2008

In the longitudinal study, over half of the problem gamblers (51 per cent) in the second wave reported their health to be either 'fair' or 'poor'. This compares with 15 per cent of non-problem gamblers.

### *Self-reported depression and anxiety*

Over half (51 per cent) of problem gamblers reported that they had depression whilst only 10.4 per cent of non-problem gamblers reported this condition. Similarly, nearly half (48.9 per cent) of problem gamblers reported anxiety disorders compared with 7.6 per cent of non-problem gamblers.

<sup>2</sup> The Victorian Population Health Survey, published by the Victorian Department of Human Services, is an important component of the surveillance of the health of all Victorians and is undertaken annually. Victorians over the age of eighteen are asked questions via a telephone interview. The Victorian Population Health Survey does not ask specific questions about gambling, but does seek information on the physical and psychological health and wellbeing of Victorians. Many of the same questions were used in both the population and longitudinal surveys. Where direct comparisons are appropriate, observations are noted.



**Figure Four: Self-reported depression and anxiety (n=4287)**

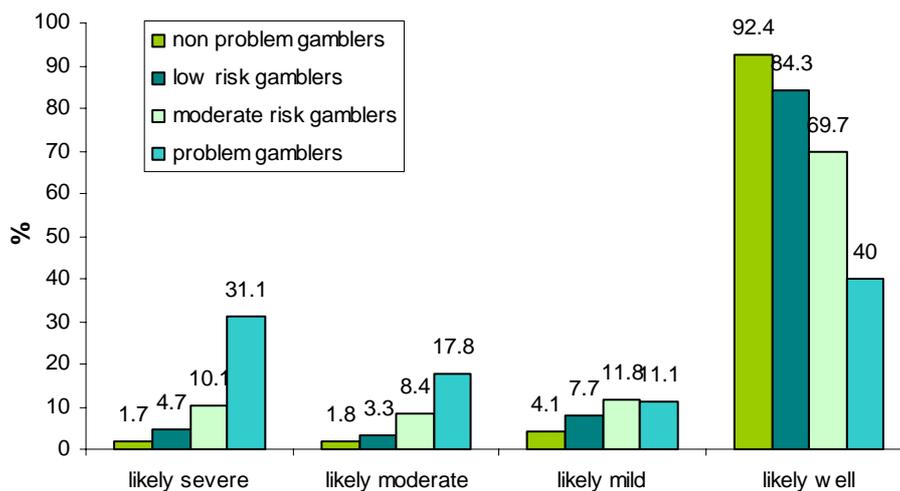
*Psychological distress*

The Kessler 10 is a short measurement scale, containing 10 questions, which estimates general psychological distress. Participants in both waves of the study were asked these questions.

Of all gamblers in Wave Two, 2.5 per cent reported very high levels of psychological distress. Within this group, however, nearly 32 per cent of problem gamblers were likely to have very high levels of psychological distress in comparison to 1.7 per cent of non-problem gamblers.

*The Victorian Population Health Survey 2008* reports the proportion of adults having very high levels of psychological distress on the Kessler 10 as 3.1 per cent.

In Wave Two, only 40 per cent of problem gamblers score as likely to be well on the Kessler 10 compared to 92.4 per cent of non-problem gamblers.

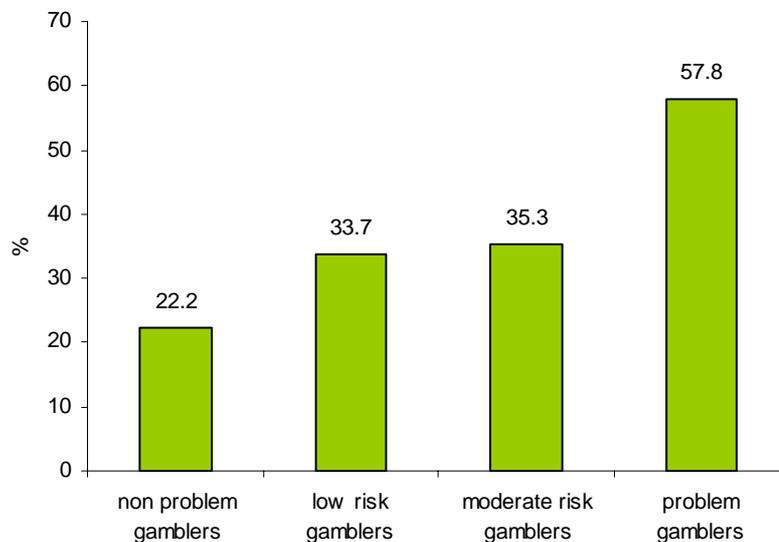


**Figure Five: K10 psychological distress scale by PGSI segments (n=4287)**

*Self-reported smoking*

Participants in both waves were asked questions regarding their smoking behaviour, as part of the health and wellbeing survey. Nearly 58 per cent of problem gamblers reported smoking

in the past 12 months. In contrast, approximately 22 per cent of non-problem gamblers stated that they smoked in the past 12 months.



**Figure Six: Self-reported smoking in past 12 months by PGSI risk segment (n=4287)**

The smoking rate of nearly 58 per cent among problem gamblers is more than double that of the Wave Two gambling population as a whole. A total of 22.8 per cent of all gamblers surveyed reported smoking in the past 12 months.

When looking at the smoking behaviours of problem gamblers, all of the problem gamblers who were smokers in Wave Two were smokers in Wave One.

#### *Self-reported alcohol*

Over 85 per cent of gamblers from all PGSI risk categories reported consuming an alcoholic drink in the past 12 months. In Wave Two, 10 per cent of female problem gamblers report drinking at high risk levels (over 28 drinks per week).

#### **Life events**

As part of the Wave Two study, participants were asked questions about life events. Problem gamblers reported higher rates of several life events. Nearly 43 per cent of problem gamblers reported the death of someone close to them. The average for all gamblers was 29 per cent. Over one third of problem gamblers reported major changes to their financial situation compared to 20.2 per cent of non-problem gamblers. Nearly 50 per cent of problem gamblers reported an increase in arguments with someone close compared to nine per cent of non-problem gamblers.

The survey sought information on the impact of contextual events, such as the impact of the Global Financial Crisis, the Federal Government's Economic Stimulus Package payments and the impact of the Victorian bushfires. This analysis provided no major differences between PGSI categories.

#### **Social Capital**

Approximately 85 per cent of gamblers across all PGSI risk segments reported they could get help from friends and family if needed. This is similar to the Victorian adult population. *The Victorian Population Health Survey 2008* reported that over 80 per cent of Victorian adults

could get help from friends and family if needed.

However less than 45 per cent of problem gamblers in Wave Two reported that they could get help, if needed, from friends, family or neighbours. Less than 32 per cent of problem gamblers felt they were valued by society in comparison to nearly 70 per cent of all gamblers.

## **VARIABLES ASSOCIATED WITH TRANSITIONS**

### **Variables associated with increasing risk-general**

An overall increase in risk is defined as a transition from a non-gambling and non-problem gambling segment to the low risk, the moderate risk or to the problem gambling segment.

A number of variables were found to be associated with an overall increase in PGSI risk segment:

- poor general health
- poor psychological health
- past year smoking
- group households (that is, with non-relatives)
- one-parent families
- speaking a language other than English at home
- year 10 or lower education levels
- betting weekly or greater on horse, harness racing or greyhounds
- troubles with work, boss or superiors and an increase in the number of arguments with someone close.

The extent to which NODS CLIP2 categories were associated with overall increasing risk was analysed. The greater the risk for lifetime pathological gambling, the more likely the respondents were to increase their PGSI score from Wave One to Wave Two.

### **Variables associated with increasing risk co-morbidities**

Findings in Wave One show that many health conditions are significantly associated with problem gambling. In Wave Two it is shown that increasing psychological distress as measured by the Kessler 10 is associated with increasing problem gambling risk. However, increasing psychological distress as measured by the Kessler 10 is also shown to be significantly associated with decreasing risk. This indicates that increasing psychological distress is associated with movement up or down the PGSI risk segments. Psychological distress may be a very dynamic factor in people's lives that may have differing impact on gambling states.

Analyses of the data using logistic regression shows that psychological distress as measured by the Kessler 10, general health (self reported) and past year smoking were all significantly associated with those who increased their risk segment.

### **Variables associated with increasing risk: experience of life events**

Life events are the significant happenings in someone's life such as divorce, marriage or the death of someone close. Two life events measured in the survey were found to be associated with an increase in PGSI risk segment from Wave One to Wave Two. These variables included having troubles with work, boss or superiors and an increase in the number of arguments with someone close. Both were significant.

### **Variables associated with increasing risk to problem gambling**

A number of variables were found to be associated with the transition into the problem gambling segment. The associations were:

- poor general health
- poor psychological health
- playing electronic gaming machines
- betting on table games such as blackjack
- playing keno
- playing scratch tickets

- one-parent families
- being employed as machinery operators/drivers
- having a major illness or injury
- marrying or finding a relationship partner.

Of these variables, the strongest associations with progressing to problem gambling were:

- playing electronic gaming machines
- playing keno.

### **Variables associated with increasing risk to moderate risk**

A number of variables were found to be associated with the transition into the moderate risk segment. The strongest were gambling activities:

- betting on horse, harness or greyhounds weekly or greater
- playing electronic gaming machines
- sports and event betting.

### **Variables associated with increasing risk to either problem gambling or moderate risk gambling**

The PGSI problem gambling and moderate risk categories were combined for this analysis to see which variables were associated with an increase to either segment. The analysis was adjusted for age and gender.

Overall, for the combined risk segments, divorce as a life event was the strongest association.

Other variables associated with an increase from Wave One to Wave Two, to either PGSI segment included:

- being a machinery operator and driver
- playing electronic gaming machines
- betting on horse, harness and greyhound at least weekly
- playing keno
- clinical alcohol abuse.

### **Variables associated with decreasing risk**

A decrease in risk is defined as a transition to a moderate risk, low risk, non-problem or non gambling from a higher risk segment.

The following variables were associated with a decrease:

- life events such as the death of someone close, marriage or finding a new partner, and an increase in the number of arguments with someone close
- health related issues including psychological health, general health, past year smoking and alcohol abuse
- some demographics including education (only University educated and Year 10 or lower), occupation and household type.

In this analysis of Wave One to Wave Two data, no variables were found to be associated with a decrease from the problem gambling segment that were statistically significant.

## Readiness to Change - transitions

All moderate risk gamblers and problem gamblers in Wave One, and all low risk gamblers, moderate risk gamblers and problem gamblers in Wave Two were asked a series of questions about how they feel about their gambling.

The Gambling Readiness to Change scale measures if respondents are at the following stages of change:

- *Pre-contemplation* - not yet thinking about reducing their gambling
- *Contemplation* - actively thinking about their gambling
- *Action* - already actively trying to reduce their gambling

In Wave Two, 28 per cent of problem gamblers were at the action stage, with a similar proportion (32 per cent) of problem gamblers at this stage in the first survey. In Wave Two, 35 per cent of moderate risk gamblers were at the action stage (19 per cent in Wave One).

Further analyses were undertaken on how gamblers in different stages of change transitioned based on their change readiness in Wave One. Gamblers who increased or decreased their PGSI risk segment in the second wave and their readiness to change score were analysed. Only those who answered the questionnaire in full and were either problem or moderate risk gamblers in Wave One were included. There were 136 valid responses. No adjustments for age and gender were made.

Of the 31 moderate risk and problem gamblers in Wave One who were at the action stage, only one (3.2 per cent) increased in PGSI risk segment in Wave Two.

Thirteen (14.9 per cent) gamblers at the action stage in Wave One, decreased their PGSI segment in Wave Two, whilst 18 (58.1 per cent) did not decrease their PGSI segment in Wave Two.

## GLOSSARY

<b>CATI</b>	Computer Assisted Telephone Interviews
<b>CPGI</b>	Canadian Problem Gambling Index. This screen contains questions about gambling participation, behaviour, feelings, experiences and socio-demographic characteristics. Nine of these questions are scored to assess risk of gambling problems and are known as the Problem Gambling Severity Index (PGSI). (Ferris, J & Wynne, H. 2001, <i>The Canadian Problem Gambling Index: user manual</i> , Report to the Canadian Inter-Provincial Task Force on Problem Gambling, Ottawa, ON: Canadian Centre on Substance Abuse).
<b>DSM IV</b>	<i>Diagnostic and Statistical Manual of Mental Disorders</i> Fourth edition, 1994 - American Psychiatric Association.
<b>EGM</b>	Electronic Gaming Machines (poker machines).
<b>Epidemiology</b>	The study of the distribution and determinants of health related states or events in specified populations, and the application of this study to the control of health problems. (John M Last <i>Dictionary of Epidemiology</i> Oxford University Press, 1995).
<b>Incidence</b>	The number of new events, e.g. new cases, in a defined population (John M Last <i>Dictionary of Epidemiology</i> Oxford University Press, 1995).
<b>K10</b>	Kessler 10 - a simple measure (ten questions) of psychological distress.
<b>NODS CLiP 2</b>	<p>The NODS CLiP is a brief screen that measures lifetime prevalence of pathological gambling. The original 3-item NODS-CLiP was developed by Marianna Toce-Gerstein and Rachel Volberg. (Toce-Gerstein, M., &amp; Volberg, R. A. (2003). <i>The NODS-CLiP: A New Brief Screen for Pathological Gambling</i>. Paper presented at the 17th National Conference on Problem Gambling. Louisville, KY. July 17-19, 2003).</p> <p>The five item NODS-CLiP2 used within - developed by Rachel Volberg and Yoku Shaw Taylor - is currently not published.</p>
<b>Prevalence</b>	The number of events, e.g. instances of a given disease or other condition, in a given population at a designated time. When used without qualification, the term usually refers to the situation at a specified point in time (point prevalence). Note that this is a number not a rate. (John M Last <i>Dictionary of Epidemiology</i> Oxford University Press, 1995). <i>Lifetime prevalence</i> - The total number of persons known to have had the disease or attribute for at least part of their lives (John M Last <i>Dictionary of Epidemiology</i> Oxford University Press, 1995) (estimated by NODS CLiP in this study).

<b>Pathological gambling</b>	<p>A persistent and recurrent maladaptive gambling behaviour as indicated by five (or more) behaviours, listed in the DSM IV, and the gambling behaviour cannot be accounted for by a manic episode.</p> <p>Source: <i>Diagnostic and Statistical Manual of Mental Disorders</i> Fourth edition, 1994 - American Psychiatric Association.</p>
<b>PGSI</b>	<p>Problem Gambling Severity Index- 9 questions from the Canadian Problem Gambling Index</p>
<b>Problem gambling</b>	<p>Problem gambling is characterised by difficulties in limiting money and/or time spent on gambling, which leads to adverse consequences for the gambler, others, or for the community (Neal P, DeFabbro P, O'Neil M <i>Problem gambling towards a national definition</i>, 2005 Gambling Research Australia).</p>
<b>Readiness to Change Scale</b>	<p>The Gambling Readiness to Change Scale measures whether a gambler is in a precontemplation stage (not yet thinking about reducing their gambling), contemplation stage (actively thinking to reduce their gambling) or an action stage (already actively trying to reduce their gambling) of behavioural change. The scale was first constructed by Neighbours et al (2002) and was modeled after the alcohol Readiness to Change questionnaire (Rollnick et al 1992), which is based on Prochaska and DiClemente's (1986) stages-of change model.</p>
<b>Risk Segment</b>	<p>The risk status allocated to gamblers who completed the survey as measured by the Problem Gambling Severity Index: non-problem gamblers score 0; low risk gamblers 1-2; moderate risk gamblers 3-7, and problem gamblers 8 or higher.</p>
<b>Statistical Significance</b>	<p>Statistical methods allow an estimate to be made of the probability of the observed or greater degree of association between independent and dependent variables under the null hypothesis. (The null hypothesis states that the results observed in a study, experiment or test are no different from what might have occurred as a result of the operation of chance alone). From this estimate, in a sample of given size, the statistical 'significance' of a result can be stated. Usually the level of statistical significance is stated by the P value.</p>

## **APPENDICES**

### **Appendix A - Survey**

# Victorian Longitudinal Study 2009 - IN FIELD (28-10-09)

Good morning/afternoon/evening. May I speak to [participant name]. Hi [participant name]. This is \_\_\_\_\_ from \_\_\_\_\_ calling on behalf of the State Government of Victoria. In 2008, you may recall that you completed a survey for the Victorian Government, which explored gambling in the community and the health and well-being of Victorians. This was back in [insert survey month] last year.

You also kindly offered to take part in further research. So I'm calling today to ask if you would take part in a further study. We'd like to give you an \$X gift voucher for your participation.

The survey takes between (to be piloted) minutes and explores your life over the past 12 months. It aims to examine how your patterns of health have changed and changes in your participation in gambling. This will be used to develop health and well-being strategies for communities across Victoria.

Would you kindly take part?

1. Yes - happy to take part
2. Yes - call back (specify date/time)
3. No initially - but agreed to re-consider in a few weeks times (SOFT REFUSAL) (specify date/time)
4. No - hard refusal and didn't agree to call back
5. Respondent no longer lives at available numbers > Ask for call back to specific person/number (record)

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If says doesn't gamble - We're very interested in people who don't gamble, as this study is also exploring how the health and well-being of Victorians may be benefitted by not gambling. People who don't gamble may have different lifestyles, so we are interested in learning lessons from you as a non-gambler, who is most likely at low risk for problem gambling.

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If No - We'd really appreciate you taking part. This is one of the world's few studies to explore how gambling and community health and well-being change over time. We hope to understand how to protect people from problem gambling and data will be used to develop strategies for Victorian communities. Because it's so important, there's even a panel of international experts working on the study. So would you please take part? It would be so appreciated.

If No and No - Having people drop out unfortunately decreases the accuracy of the results. Because continued participation is so important, I was wondering whether I may call again in a few weeks time when things are a little more settled.

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If another HH member wants to know reason for the call - For privacy, it's only fair we talk to [participant name] directly. I can assure you though - This is certainly not a sales call.

---

(If Yes) Great. Now before we can begin, we just need to briefly confirm that you agree to take part in the study and understand that:

- Your participation is entirely voluntary
- You can withdraw at any time
- While you don't have to answer all questions, not completing some very important early questions may mean that we are not able to continue your participation in the study - these include the early gambling activity questions
- You are happy for data to be used to examine changes in your health and gambling patterns over time
- You are happy to be contacted for further research (such as in another 12mths or so time)
- Data will be kept for 7 years after study completion and all data at this point will be totally anonymous
- All answers will be kept confidential and your contact details will be stored separately from your answers
- While we are unaware of any risks for people taking part, if useful, we are always happy to refer anyone to counselling

Are you still happy to take part?

1. Yes - agreed fully to all conditions (continue)
2. No

If No - Unfortunately, we can only survey people happy with these assumptions. Do you have any particular concerns? Perhaps we can further clarify issues (Repeat if needed and clarify - always aim for informed consent)

(add notes field)

Unique identifier for matching - RESPONDENT ID

File to record all respondents - including those who didn't take part (plan to analyse patterns of attrition)

SEE DISPOSITION OF RESPONDENTS IN BACK OF SURVEY PLUS RECORD:

(1) Date of CATI interview, (2) Number on which respondent was contacted

ENTER ADDITIONAL DATA AS EXTRA VARIABLES (COLUMNS) TO 2008 EPI DATA FILE MATCHED TO RESPONDENT ID

[ALL]

8. First may I ask, on which of the following activities have you spent any money in the past 12 months...

Prompted activities	(A) Have you spent any money on this in the past 12mths?	(B) If USED - Ask access channel	If USED - (C) How often on average did you take part in [insert activity] in the past 12mths?	If USED - (D) Base
NOTE - If people say Tatts or Tabaret venue, please prompt with - "Could this be considered a club or a pub"? (record or recode accordingly - ie. Recode into Club, Pub or if unknown - record as what was said - eg. Tatts)				
1. Informal private betting for money - like playing cards at home  (Q8_1a09)	1. Yes 2. No	What did you bet for money privately on? (prompt - MULTIPLE RESPONSE) 1. Mahjong 2. Card games (eg. poker, blackjack) 3. Sport results 4. Computer games online/at home <del>5. Computer games at home (offline)</del> 6. Board games 7. Events 97. Other activities (record up to 3)  98. DK 99. Refused  (Q8_1b_1_RECODED09, Q8_1b_2_RECODED09)	_____ times  <i>Private_timespa_ RECODED09</i>  <i>Recorded as below</i>	1. Per week 2. Per month 3. Per year
2. Now excluding private betting...  Playing the pokies or electronic gaming machines  (Q8_2a09)	1. Yes 2. No	Did you play the pokies at: (prompt - MULTIPLE RESPONSE) 1. Victorian Clubs 2. Victorian Pubs 3. Crown casino 4. On a mobile phone 5. Over the internet <del>12. At a TAB/racetrack</del> 95. In other Australian states 96. On a trip overseas 97. Elsewhere (record)  98. DK 99. Refused  (Q8_2b_1_RECODED09, Q8_2b_2_RECODED09, Q8_2b_3_RECODED09, Q8_2b_4_RECODED09, Q8_2b_5_RECODED09)	_____ times  <i>Pokies_timespa_ RECODED09</i>  <i>Recorded as below</i>	1. Per week 2. Per month 3. Per year

Prompted activities	(A) Have you spent any money on this in the past 12mths?	(B) If USED - Ask access channel	If USED - (C) How often on average did you take part in [insert activity] in the past 12mths?	If USED - (D) Base
NOTE - If people say Tatts or Tabaret venue, please prompt with - "Could this be considered a club or a pub"? (record or recode accordingly - ie. Recode into Club, Pub or if unknown - record as what was said - eg. Tatts)				
3. Betting on table games like blackjack, roulette and poker  (Q8_3a09)	1. Yes 2. No	Did you play table games at: (prompt - MULTIPLE RESPONSE) 1. Crown casino 2. On a mobile phone 3. Over the internet 95. In other Australian states 96. On a trip overseas 97. Elsewhere (record)  98. DK 99. Refused  (Q8_3b_1_RECODED09, Q8_3b_2_RECODED09 Q8_3b_3_RECODED09)	_____ times  <i>Table_timespa_ RECODED09</i>  <i>Recorded as below</i>	1. Per week 2. Per month 3. Per year
4. Betting on horse or harness racing or greyhounds - excluding sweeps  (Q8_4a09)	1. Yes 2. No	Did you place your bets at: (prompt - MULTIPLE RESPONSE) 1. Victorian Clubs 2. Victorian Pubs 3. Crown Casino 4. Over the phone 5. Over the internet 6. Off-track with a bookmaker in Victoria 7. Off-track at a Victorian TAB 8. At a Victorian race track 9. On a mobile phone  95. In other Australian states 96. On a trip overseas 97. Elsewhere (record)  98. DK 99. Refused  (Q8_4b_1_RECODED09, Q8_4b_2_RECODED09 Q8_4b_3_RECODED09 Q8_4b_4_RECODED09 Q8_4b_5_RECODED09)	_____ times  <i>Horsedog_timespa_ RECODED09</i>  <i>Recorded as below</i>	1. Per week 2. Per month 3. Per year

Prompted activities	(A) Have you spent any money on this in the past 12mths?	(B) If USED - Ask access channel	If USED - (C) How often on average did you take part in [insert activity] in the past 12mths?	If USED - (D) Base
NOTE - If people say Tatts or Tabaret venue, please prompt with - "Could this be considered a club or a pub"? (record or recode accordingly - ie. Recode into Club, Pub or if unknown - record as what was said - eg. Tatts)				
5. Betting on sports and event results - like on football or other events like TV show results  (Q8_5a09)	1. Yes 2. No	Did you place your bets at: (prompt - MULTIPLE RESPONSE) 1. Victorian Clubs 2. Victorian Pubs 3. Crown Casino 4. Over the phone 5. Over the internet 6. Off-track with a bookmaker in Victoria 7. Off-track at a Victorian TAB 8. At a Victorian race track 9. On a mobile phone 95. In other Australian states 96. On a trip overseas 97. Elsewhere (record)  98. DK 99. Refused  (Q8_5b_1_RECODED09, Q8_5b_2_RECODED09 Q8_5b_3_RECODED09 Q8_5b_4_RECODED09 Q8_5b_5_RECODED09)	_____ times  <i>Coded as below</i>  <i>Sportsevents_timespa_ RECODED09</i>  <i>Recorded as below</i>	1. Per week 2. Per month 3. Per year
6. Keno  (Q8_6a09)	1. Yes 2. No	Where did you play keno? (prompt): (prompt - MULTIPLE RESPONSE) 1. Victorian Clubs 2. Victorian Pubs 3. Crown Casino 4. Over the phone 5. Over the internet 7. Newsagent 9. Tattersalls outlet 95. In other Australian states 96. On a trip overseas 97. Elsewhere (record)  98. DK 99. Refused  (Q8_6b_1_RECODED09, Q8_6b_2_RECODED09 Q8_6b_3_RECODED09 Q8_6b_4_RECODED09 Q8_6b_5_RECODED09)	_____ times  <i>Keno_timespa_ RECODED09</i>  <i>Recorded as below</i>	1. Per week 2. Per month 3. Per year

Prompted activities	(A) Have you spent any money on this in the past 12mths?	(B) If USED - Ask access channel	If USED - (C) How often on average did you take part in [insert activity] in the past 12mths?	If USED - (D) Base
NOTE - If people say Tatts or Tabaret venue, please prompt with - "Could this be considered a club or a pub"? (record or recode accordingly - ie. Recode into Club, Pub or if unknown - record as what was said - eg. Tatts)				
7. Lotto, Powerball, or the Pools  (Q8_7a09)	1. Yes 2. No	Where did you buy your lotto tickets? (prompt - MULTIPLE RESPONSE) 1. Tatts Venue/kiosk 2. Newsagent in Victoria 3. Over the phone 4. Over the internet 5. Work/syndicate 6. Shopping centre/supermarket 7. Chemist/pharmacy 8. Post office 95. In other Australian states 96. On a trip overseas 97. Elsewhere (record)  98. DK 99. Refused  (Q8_7b_1_RECODED09, (Q8_7b_2_RECODED09, (Q8_7b_3_RECODED09, (Q8_7b_4_RECODED09)	How often did you take part in Lotto, Powerball, or the Pools  _____ times  <i>Lotto_timespa_RECODED09</i>  <i>Recorded as below</i>	1. Per week 2. Per month 3. Per year
8. Scratch tickets  (Q8_8a09)	1. Yes 2. No	Where did you buy your scratch tickets? (prompt - MULTIPLE RESPONSE) 1. Tatts Venue/kiosk 2. Newsagent in Victoria 3. Over the phone 4. Over the internet 6. Shopping centre/supermarket 7. Chemist/pharmacy 8. Post office 95. In other Australian states 96. On a trip overseas 97. Elsewhere (record)  98. DK 99. Refused  (Q8_8b_1_RECODED09, (Q8_8b_2_RECODED09, (Q8_8b_3_RECODED09)	_____ times  <i>Scratch_timespa_RECODED09</i>  <i>Recorded as below</i>	1. Per week 2. Per month 3. Per year

Prompted activities	(A) Have you spent any money on this in the past 12mths?	(B) If USED - Ask access channel	If USED - (C) How often on average did you take part in [insert activity] in the past 12mths?	If USED - (D) Base
NOTE - If people say Tatts or Tabaret venue, please prompt with - "Could this be considered a club or a pub"? (record or recode accordingly - ie. Recode into Club, Pub or if unknown - record as what was said - eg. Tatts)				
9. Bingo  (Q8_9a09)	1. Yes 2. No	Where did you play bingo? (prompt - MULTIPLE RESPONSE) 1. At a Victorian club 2. At a Victorian pub 3. With a church in Victoria 4. At a Victorian bingo hall 5. At a general Victorian community hall 6. Over the internet  95. In other Australian states 96. On a trip overseas 97. Elsewhere (record)_____ 98. DK 99. Refused  (Q8_9b_1_09, Q8_9b_2_09, Q8_9b_3_09, Q8_9b_3_09, Q8_9b_5_09)	_____ times  Bingo_timespa_ RECODED09  Recorded as below	1. Per week 2. Per month 3. Per year
10. Competitions where you pay money to enter by phone or leave an SMS to be in a prize draw  (Q8_10a09)	1. Yes 2. No	Did you take part in both...? (prompt - MULTIPLE RESPONSE) 1. Phone-in competitions 2. Competitions where you entered via SMS 3. Both  (Q8_10b_1_09)	_____ times  PhoneSMS_timespa_ RECODED09  Recorded as below	1. Per week 2. Per month 3. Per year
NOTE: Voting who will win a TV show by sending an SMS is a competition (10). Placing a bet on who would win a TV show for fixed odds would be a bet (5)				
11. Buying tickets in raffles, sweeps + other competitions  (Q8_11a09)	1. Yes 2. No	Were the tickets sold at? (prompt - MULTIPLE RESPONSE) 1. Clubs (eg. sports/football club) 2. Pubs 3. Over the internet 4. Over the phone 5. Thru door-to-door sales 6. At a shopping centre 7. At a school 8. At a workplace/office 9. Through the mail 10. At a function 11. At Church 12. From a friend 13. On the street 14. Elsewhere (specify) _____ 15. Hotel 16. Charity/community organisation/hospital  (Q11b_1_RECODED09, Q11b_2_RECODED09 Q11b_3_RECODED09 Q11b_4_RECODED09 Q11b_5_RECODED09)	_____ times  Comp_timespa_ RECODED09  Recorded as below	1. Per week 2. Per month 3. Per year

Prompted activities	(A) Have you spent any money on this in the past 12mths?	(B) If USED - Ask access channel	If USED - (C) How often on average did you take part in [insert activity] in the past 12mths?	If USED - (D) Base
<p align="center"><b>NOTE - If people say Tatts or Tabaret venue, please prompt with - "Could this be considered a club or a pub"? (record or recode accordingly - ie. Recode into Club, Pub or if unknown - record as what was said - eg. Tatts)</b></p>				
<p>12. Have you gambled for money on anything else in the past 12mths? (Note - exclude private betting)</p>	<p>(12i) <u>PREF-CODES</u>  1. Two-up  2. Other (record) _____  3. Nothing    (ALSO leave field for interviewer call notes - so can recode if problems)</p> <p>(12ii) Have you made any short-term speculative investments like day trading in stocks and shares in the past 12mths? (that is, to make quick money, but without any investment strategy or knowing anything about the companies you're trading on)  1. Yes  2. No</p>	<p>Where did you do this? (record)  _____</p> <p>(12iii) If Answers Yes in (12ii)  Were the speculative investments <u>mostly (prompt):</u>  1. Online  2. Thru a broker  3. Both  4. Other (record) _____  98. DK  99. Refused</p>	<p>_____ times</p> <p><i>Twoup_timespa_ RECODED09</i></p> <p><i>Other_timespa_ RECODED09</i></p> <p><i>Recorded as below</i></p>	<p>1. Per week  2. Per month  3. Per year</p>
<p>13. No gambling in the past 12mths</p> <p>No gambling assumed if answers "no" to any of the previous bank of activities.</p> <p>Hence, if yes, to any of previous activities, then person is considered a gambler for the purpose of the study.</p>	<p>1. Yes  2. No</p>	<p>13c. Why have you not gambled in the past 12mths may I ask? (unprompted, multiple responses)</p> <p>1. No reason in particular  2. Waste of money  3. Waste of time  4. Boring/no interest  5. Cannot afford it/No money  6. Cannot smoke  7. Past difficulties/issues with gambling  8. Spouse/partner/other person won't allow it  9. Friends don't gamble  10. Seen gambling harm people/gambling is harmful  11. Other (record) _____  12. Again religion  13. Dont believe in it/don't like it/personal reasons  14. Never win anything/bad luck  15. Have kids/family reasons  16. Illness/can't travel</p> <p><b>IF NO GAMBLING IN THE PAST 12mths &gt;&gt; Go to SECTION CHECKING CONTACT DETAILS at end of survey (NG=non-gamblers)</b></p>		
<p>IF PERSON SAYS 'DON'T KNOW' to activities - TERMINATE AND COUNT AS REFUSAL. THIS DOESN'T GO TOWARDS THE SAMPLE.</p>				

## CODING INSTRUCTIONS:

All gambling activities in Column C to be recoded as follows - please retain syntax to allow accuracy checking:

- .00 = "Not at all"
- 1.00 = "Less than once per month (1-11 times per annum)"
- 2.00 = "One to three times per month (12-36 times per annum)"
- 3.00 = "Nearly once a week to three times per week (37-144 times per annum)"
- 4.00 = "More than three times per week (Over 144 times per annum)"

[ALL]

### Canadian Problem Gambling Severity Index (9 item measure with Queensland scale anchors)

[DUE TO INTERVIEWER HABIT OF USING 1-4, RATHER THAN 0-3 ETC. (A HUMAN FACTOR ISSUE), CAN BE PROGRAMMED AS 1-4 FOR INTERVIEWERS IF NEEDED, THEN IT WILL BE RECODED IN CATI SCRIPT "LIVE" AS INDICATED BELOW (ie. CPGSI segments must be based on 0, 1, 1,2, 3 scoring)

OK thanks for that... The next questions refer to all your gambling in the past 12mths.

CPGI\_1\_09 - Thinking about the past 12 months, how often have you bet more than you could really afford to lose?  
Would you say (PROMPT):

- 0. Never
- 1. Rarely
- 1. Sometimes
- 2. Often
- 3. Always

CPGI\_2\_09 - Thinking about the past 12 months, how often have you needed to gamble with larger amounts of money to get the same feeling of excitement? (PROMPT): WOULD YOU SAY

- 0. Never
- 1. Rarely
- 1. Sometimes
- 2. Often
- 3. Always

CPGI\_3\_09 - Thinking about the past 12 months, WHEN YOU GAMBLED, how often have you gone back another day to try to win back the money you lost? (PROMPT): WOULD YOU SAY

- 0. Never
- 1. Rarely
- 1. Sometimes
- 2. Often
- 3. Always

CPGI\_4\_09 - Thinking about the past 12 months, how often have you borrowed money or sold anything to get money to gamble? (PROMPT) WOULD YOU SAY

- 0. Never
- 1. Rarely
- 1. Sometimes
- 2. Often
- 3. Always

CPGI\_5\_09 - Thinking about the past 12 months, how often have you felt that you might have a problem with gambling? (PROMPT) WOULD YOU SAY

- 0. Never
- 1. Rarely
- 1. Sometimes
- 2. Often
- 3. Always

CPGI\_6\_09 - Thinking about the past 12 months, how often have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true? (PROMPT) WOULD YOU SAY

0. Never
1. Rarely
1. Sometimes
2. Often
3. Always

CPGI\_7\_09 - Thinking about the past 12 months, how often have you felt guilty about the way you gamble, or what happens when you gamble? (PROMPT) WOULD YOU SAY

0. Never
1. Rarely
1. Sometimes
2. Often
3. Always

CPGI\_8\_09 - Thinking about the past 12 months, how often has your gambling caused you any health problems, including stress or anxiety? (PROMPT) WOULD YOU SAY

0. Never
1. Rarely
1. Sometimes
2. Often
3. Always

CPGI\_9\_09 - Thinking about the past 12 months, how often has your gambling caused any financial problems for you or your household? (PROMPT) WOULD YOU SAY

0. Never
1. Rarely
1. Sometimes
2. Often
3. Always

Thank you for that.

9 CPGSI items summed in CATI script using codes displayed:

- 0. Never
- 1. Rarely
- 1. Sometimes
- 2. Often
- 3. Always

4 groups to be formed based on sum of 9 CPGSI items:

- Non-problem gamblers - total score=0 (NP)
- Low risk gamblers - total score=1-2 (LR)
- Moderate risk gamblers - total score=3-7 (MR)
- Problem gamblers - total score=8-27 (PG)

[ALL]

SHIFTS1\_09. Thinking about your life in the past 12mths, would you say that your gambling activity increased, stayed the same or decreased?

1. Increased
2. Stayed the same
3. Decreased

SHIFTS2\_09. What do you believe is the reason your gambling activity has [insert above response] in the past 12mths?

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[LR, MR and PG]

Q60\_09. How much have the following people encouraged you to reduce your gambling in the past 12mths?

2. Friends (1) Not at all (2) A little (3) A lot (98-DK, 99-Refusal, 97- Not applicable)
3. Your relationship partner (1) Not at all (2) A little (3) A lot (98-DK, 99-Refusal, 97- Not applicable)
4. Relatives (1) Not at all (2) A little (3) A lot (98-DK, 99-Refusal, 97- Not applicable)

Q43\_09. Have you had any difficulties related to your gambling in the past 12mths?

1. Yes
2. No

DIFFICULTY\_TYPE. Can you described what happened? \_\_\_\_\_

Q44\_09. (If Q43\_09=1) If 1=not at all and 10=very serious, how would you rate the seriousness of these difficulties in the past 12mths? \_\_\_\_\_

Q53\_09. Have you sought any help for a gambling problem - whether informally from a friend or more formally from a help professional - in the past 12mths?

1. Yes
2. No
98. Don't know
99. Refused

[ALL]

Q9\_09. On which single gambling activity did you spend the most money in the past 12mths? (single response)

(prompt only gambling activities as mentioned in the collective major activity battery in Q8-Column A and select single activity)

- refer the previous SPSS data set from epi to see this question (Q9)
- It should prompt the same activities as played in the past year from Q8 in this year's study (eg. informal private betting, pokies but NOT minor subactivities like Mahjong)

Q15\_09. When you played your highest spend gambling activity over the past 12mths, did you mostly play... (prompt - single)

1. Alone
2. With one other person
3. With several people in a group
98. Don't know
99. Refused

Q16\_09. What are top three main reasons you like to play your main gambling activity?

(prompt 1 to 7 only, but code using all code frames)

1. Social reasons
2. To win money
3. General entertainment
4. Takes your mind off things
5. Relieves stress
6. Boredom
7. Other (record)\_\_\_\_\_

Don't prompt - but code

8. For fun
9. Just felt like it
10. Presents/birthday presents
11. To win prizes
12. To raise money for school/club/local community
13. Raise money for charity/fundraising
14. Habit
98. Don't know
99. Refused

Q22\_09. When people go out, they often bring money to cover food, gambling and other expenses. Roughly how much cash on average did you take with you in the past 12mths when you played your highest spend gambling activity, even if you didn't spend it?

- 0. No money brought at all
- 1. Up to \$20
- 2. \$20-50
- 3. \$50-\$100
- 4. \$100-200
- 5. Over \$200
- 98. Don't know
- 99. Refused

Q23\_09. Do you typically bring any ATM, EFTPOS or CREDIT cards when you go to gamble, even if you don't use them?  
(probe to clarify - SINGLE)

- 1. Brings EFTPOS/ATM card
- 2. Brings a credit card
- 3. Brings both
- 4. Brings no cards
- 98. Don't know
- 99. Refused

Q24\_09.(If uses any cards) How many times during a single gambling session would you use your [insert as appropriate as per last question] > ATM Card/EFTPOS, CREDIT CARD, BOTH ATM/CREDIT CARD] to access extra money for your gambling? \_\_\_\_\_ times per gambling session

- 0. Not at all
- 1. Once or less than once
- 2. Twice
- 3. Three times
- 4. Four or more times
- 98. Don't know
- 99. Refused

ADVERTISING\_09. How often have you seen advertisements, marketing and promotions on gambling products and services in the past month?

- 1. Never
- 2. Rarely
- 3. Sometimes
- 4. Often
- 5. Always

Readiness To Change (RTC) questionnaire - based on Prochaska and DiClemente model (Rollnick et al., 1992)  
[LR, MR and PG]

Q61\_09. The following questions are designed to identify how you personally feel about your gambling right now. Using a scale where 1=strongly disagree and 5=strongly agree (3 is neutral), how much do you agree or disagree with the following..

Gambling Readiness to change (GRTC) scale items (Based on Rollnick et. al, 1992) <sup>a</sup>	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Don't know	Refused
1. I enjoy my gambling, but sometimes I gamble too much (C)	1	2	3	4	5	98	99
2. Sometimes I think I should cut down on my gambling (C)	1	2	3	4	5	98	99
3. It's a waste of time thinking about my gambling (P)	1	2	3	4	5	98	99
4. I have just recently changed my gambling habits (A)	1	2	3	4	5	98	99
5. Anyone can talk about wanting to do something about gambling, but I am actually doing something about it (A)	1	2	3	4	5	98	99

Gambling Readiness to change (GRTC) scale items (Based on Rollnick et. al, 1992) <sup>a</sup>	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Don't know	Refused
6. My gambling is a problem sometimes (C)	1	2	3	4	5	98	99
7. There is no need for me to think about changing my gambling (P)	1	2	3	4	5	98	99
8. I am actually changing my gambling habits right now (A)	1	2	3	4	5	98	99
9. Gambling less would be pointless for me (P)	1	2	3	4	5	98	99

a. An overall composite of readiness to change consists of weighting the precontemplation items (-2), contemplation items (1), and action items (2), and taking the mean of all weighted items. Alternatively, separate scores for precontemplation, contemplation, and action can be derived by taking the mean of the items corresponding to each subscale. A third alternative is to categorize individuals as precontemplators, contemplators, or in the action stage according to their highest subscale score. Slightly adapted to cater to CATI.  
P=Precontemplation, C=Contemplation and A=Action

[NP and LR]

Binge gambling

Q17\_09. On how many days in the past 12mths did you spend a significantly larger than usual amount on gambling, in a shorter than usual period of time? (such as a big spending day on gambling) \_\_\_\_\_ days in past 12mths

[ALL]

Health and well-being

Thanks kindly for that. Now the next questions are about your health and well-being.

Q34\_09. Over the past 12mths, would you say that in general your health has been... (prompt)

1. Excellent
2. Very good
3. Good
4. Fair
5. Poor

Q36\_09. Which of the following health conditions do you currently have?

1. Heart conditions, high blood pressure or high cholesterol (Y/N)
2. Diabetes (Y/N)
3. Cancer (Y/N)
4. Lung conditions including asthma (Y/N)
5. Depression (Y/N)
6. Anxiety disorders (Y/N)
7. Obesity (Y/N)
8. Any other physical or mental health conditions (record) (Y/N)

BP\_09. Have you had your blood pressure checked by either yourself or a doctor or nurse over the past 12 months?

1. Yes
2. No

Q38\_09. The next questions are about how you have been feeling during the past 4wks. During the past 4wks, about how often did you feel...? (prompt items and scale - Would you say...? Start with > All of the time...)

Kessler-10 items <sup>a</sup> (non-specific psychological distress)	None of time	A little of the time	Some of the time	Most of the time	All of the time	Don't know	Refused
1. Tired out for no good reason	1	2	3	4	5	98	99
2. Nervous	1	2	3	4	5	98	99
3. So nervous that nothing could calm you down	1	2	3	4	5	98	99
4. Hopeless	1	2	3	4	5	98	99
5. Restless or fidgety	1	2	3	4	5	98	99
6. So restless that you could not sit still	1	2	3	4	5	98	99
7. Depressed	1	2	3	4	5	98	99
8. That everything was an effort	1	2	3	4	5	98	99
9. So sad that nothing could cheer you up	1	2	3	4	5	98	99
10. Worthless	1	2	3	4	5	98	99

*a. ABS (4817.0.55.001 - Information Paper: Use of the Kessler Psychological Distress Scale in ABS Health Surveys, Australia, 2001) - Each item is scored from 1 for 'none of the time' to 5 for 'all of the time'. Scores for the ten items are then summed, yielding a minimum possible score of 10 and a maximum possible score of 50, with low scores indicating low levels of psychological distress and high scores indicating high levels of psychological distress.*

*Vic Pop Health 2001 Cut-offs based on K-10 - Score 10 - 19 - Likely to be well, 20 - 24 - Likely to have a mild disorder, 25 - 29 - Likely to have a moderate mental disorder, 30 - 50 Likely to have a severe mental disorder.*

Q27\_09. Have you smoked at all in the past 12mths?

1. Yes
2. No

Q28\_09. Do you currently smoke?

1. Yes
2. No

Q29\_09. (If Yes) How many cigarettes do you currently smoke a day on average?

1. Under 5 cigarettes per day
2. 5-10 cigarettes per day
3. 11-20 cigarettes per day
4. 21-30 cigarettes per day
5. 31-40 cigarettes per day
6. Over 40 cigarettes per day

Q31\_09. Have you consumed an alcoholic drink in the past 12mths?

1. Yes
2. No

Q32\_09. (Long term risk) Based on the past 12mths, how many standard alcoholic drinks did you typically consume each week?  
\_\_\_\_\_ drinks per week

VEGIESFRUIT\_09. How many serves of the following do you eat on a daily basis?

(A) Vegetables? \_\_\_\_\_ serves

(B) Fruit? \_\_\_\_\_ serves

(2 serves of fruit and 5 serves of vegies = RDI)

ACTIVITY\_A\_09. In the last week, how many times have you walked continuously, for at least 10 minutes, for recreation, exercise or to get to or from places? \_\_\_\_\_ times (Interviewer: Stress that this must be continuous walking, ie. for at least 10 minutes without stopping)

ACTIVITY\_B\_09. In the last week, how many times did you do any vigorous physical activity which made you breathe harder or puff and pant? (e.g. jogging, cycling, aerobics, competitive tennis) \_\_\_\_\_ times

[ALL]

Life events experienced in the past 12mths

Q25\_09. Now I'd like you to think about things that happened in your life during the past 12mths. Which of the following life events did you experience in the past 12mths?

Life events	Experienced in past 12mths	Life events	Experienced in past 12mths
1. Death of someone close to you	1. Yes 2. No	7. Retirement	1. Yes 2. No
2. Divorce	1. Yes 2. No	8. Pregnancy or new family additions	1. Yes 2. No
3. Legal difficulties	1. Yes 2. No	9. Major change to your financial situation	1. Yes 2. No
4. Major injury or illness to either yourself or someone close to you	1. Yes 2. No	10. Taking on a mortgage, loan or making a big purchase	1. Yes 2. No
5. Marriage or finding a relationship partner	1. Yes 2. No	11. Increase in the number of arguments with someone you are close to	1. Yes 2. No
6. Troubles with your work, boss, or superiors	1. Yes 2. No	12. Major change in living or work conditions (eg. renovations, <b>new job</b> )	1. Yes 2. No

Q26\_09. Did any particular life event trigger an increase in your gambling in the past 12mths, even if only temporarily? (if more than one, record the single biggest trigger) (record as per above code frame as per 2008 epi study) + Other \_\_\_\_\_

\_\_\_\_\_

EVENTS\_09. Using a scale from 1=no impact at all to 5=very large impact, what level of impact have the following events had on you personally in the past 12mths? Let me know if you also these too upsetting to talk about and we can refer you to support. (INSERT LIFE LINE NUMBER)

1. The Victorian Bushfires in early 2009 \_\_\_\_\_

2. The current recession or economic downturn \_\_\_\_\_

STIMI\_09. Did you receive a Kevin Rudd stimulus package payment in the past 12mths?

1. Yes

2. No

STIM2\_09. (If yes to above) Did you increase your gambling spending following receipt of this money?

1. Yes - a lot
2. Yes - a little
3. No - not at all

[ALL]

Social capital

The next questions look at how you feel about the community you live in. Using a scale of definitely, sometimes or not at all, please respond to the following questions.

Items in the Indicators of Community Strength Survey	Yes, definitely	Sometimes	No, Not at all	Don't know	Refused
<b>Ability to get help</b>					
Q39_1_09. Can you get help from friends, family or neighbours when you need it?	1	2	3	98	99
<b>Community attitudes</b>					
VALUED_09. Do you feel valued by society?	1	2	3	98	99

And may I also ask...

Items in the Indicators of Community Strength Survey	Yes	No	Don't know	Refused
<b>Participation</b>				
Q39_2_09. Are you a member of an organised group such as a sports or church group or another community group including those over the internet?	1	3	98	99
COMM_EVENT_09. Have you been involved in any community activities or events in the past 12mths (eg. going to a local hall or community centre, playing a team sport, meet with interest groups or clubs)	1	3	98	99

Q40\_09. Do you like living in your community? (prompt)

1. Definitely
2. Sometimes
3. No - not at all
4. No feeling about it
98. Don't know
99. Refused

[All]

Leisure interests

LEISURE\_09. Finally, we would like to ask you about your leisure activities, hobbies and interests... Apart from gambling, which of the following do you consider as your leisure activities, hobbies or interests?

1. Watching sport - what is your favourite sport? (record) \_\_\_\_\_
2. Playing sport
3. Watching movies/DVDs/videos
4. Watching TV
5. Relaxing/thinking
6. Socialising with friends or family
7. Reading - what do you like to read? (record) \_\_\_\_\_
8. Listening to music/radio
9. Playing a musical instrument
10. Exercise - what is your preferred main type of exercise? (record)
11. Indoor games
12. Internet/email/computers
13. Gardening
14. Restaurants/outside dining
15. Seeing live entertainment/shows
16. Shopping
17. Keeping animals or pets - what sort do you keep? (record) \_\_\_\_\_
18. Do you have any other leisure interests? (record) \_\_\_\_\_

SECTION CHECKING CONTACT DETAILS

Thanks for that. Now before we finish may I just check that I have the most up-to-date telephone numbers for you:

[read them out and edit as needed]

Are there any other numbers we could try in case you move? Such as a mobile or another number?

[add as needed]

Would you be interested in receiving any written information on study findings through the mail or email in the future?

1. Yes - mail preferred
2. Yes - email preferred
2. No

[If Mail preferred] Where could we mail-out written information?

(record First name/Last name and full mail address and read back to confirm)

[If email preferred] Can I have/confirm your email address?

[insert field with last email address or add as appropriate]

## END OF SURVEY

[MR, PG and people with high general psychological distress - Kessler 25 or over]

As part of the study, we offer a contact number for counselling through the Gambler's Help Line - would you be interested in this having number handy for general reference?

1. Yes please - Gambler's Help 1800 858 858
2. No thanks

Thanks for completing the survey. As we'd like to contact you in a further year's time, may I give you either an email or a phone number, so that you can let us know if your contact details change. Which would be easiest for you?

1. Phone number - 03 8682 8698
2. Email - [contact@gamblingstudy.com.au](mailto:contact@gamblingstudy.com.au)

To which mail address, shall we send your gift voucher?

First Name: \_\_\_\_\_ Last name: \_\_\_\_\_

Mail address: \_\_\_\_\_

Suburb/Postcode: \_\_\_\_\_

### VOUCHERS TO BE TRIALLED IF CONSENT RATE DROPS (TO BE CONFIRMED)

Which type of voucher would you most prefer?

1. iTunes voucher
2. Petrol voucher
3. Woolies food voucher
4. Coles/myer voucher or;
5. Would you prefer us to donate the money to the RSPCA for animal welfare

Please note that vouchers will take up to 2mths to process, so please don't contact us until after then if it doesn't arrive.

**+ Add Privacy statement/disclaimer**

CALL TRACKING WITH DAILY UPDATES AS PER EPI STUDY

Call tracking items	AGREED AND THEN REFUSED STUDY CONDITIONS QUESTION	Sample who agreed to research	Survey complete in full	Survey incomplete, but activities + PGSI complete	Survey incomplete - LESS than activities/ PGSI complete	Outright respondent refusal HARD	Respondent refusal SOFT, but agrees to reconsider in a couple of weeks	Household blocks/ refusals (keep ringing and ask for respondent)	Respondent not yet contacted
					Counts as refusal - not counted towards N				
<b>Existing sample who agreed to further research in 2008 (from epi survey) - REPEAT for NG, NP, LR, MR and PGs (% and N)</b>									
Non-gamblers - Male 18-24yrs		x							1. Answering machine 2. Disconnected numbers 3. Fax machine 4. Engaged 5. No answer 6. Away (record return and notes) 7. Sick - minor ailment (ask when can call back) 8. Sick - major ailment (unable to take part at all) 9. Deceased
Non-gamblers - Female 18-24yrs		x							
Non-gamblers - Male 25-34yrs		x							
Non-gamblers - Female 25-34yrs		x							
Non-gamblers - Male 35-44yrs		x							
Non-gamblers - Female 35-44yrs		x							
Non-gamblers - Male 55-64yrs		x							
Non-gamblers - Female 55-64yrs		x							
Non-problem gamblers - All Males		x							
Non-problem gamblers - All Females		x							
Non-problem gamblers - Overall		x							
<b>Multilingual interviews</b>									
Non-english language interviews		x							As above (TO BE STOCKPILED)
<b>Interviewer names (we need to monitor statistical performance carefully to avoid burning sample)</b>									
John Jones		x							As above
Mary Smith etc.		x							

## Appendix B - Call Statistics

Operator Coding	Number by risk for problem gambling						% total contacts (Wave 2)
	Non-problem gamblers	Low risk gamblers	Moderate risk gamblers	Problem gamblers	Non-gamblers	Total N	
Completed	3569	274	96	40	1024	5003	69.99
Disconnected	405	43	19	5	145	617	8.63
Refused	271	30	10	2	89	402	5.62
Not available	109	10	6	0	39	164	2.29
Appointment - Soft	108	8	3	0	23	142	1.99
Answering machine	106	11	4	0	20	141	1.97
No answer	99	6	5	1	29	140	1.96
Wrong number	80	6	2	1	31	120	1.68
Cancelled	60	13	2	0	21	96	1.34
Out of town	68	4	0	0	9	81	1.13
Language barrier	29	6	1	1	28	65	0.91
Abandoned	32	6	0	2	12	52	0.73
Fax	36	0	0	0	3	39	0.55
Busy	22	5	0	1	6	34	0.48
Unwell	10	1	1	0	6	18	0.25
Deaf/Drunk/Senile	10	0	0	0	4	14	0.20
Coffee Break	6	0	0	0	1	7	0.10
Appointment	5	0	1	0	0	6	0.08
Business Number	1	0	0	0	2	3	0.04
Other reason	1	0	0	0	1	2	0.03
Stopped survey	2	0	0	0	0	2	0.03
<b>Total N</b>	<b>5029</b>	<b>423</b>	<b>150</b>	<b>53</b>	<b>1493</b>	<b>7148</b>	<b>100.00</b>

## Appendix C - Demographic Profiles of Wave Two sample

Demographic data was not sought in Wave Two. The following profile of the 5003 participants who completed Wave Two is based on responses to questions asked in the Wave One. Please note that demographic data was not collected in Wave Two hence Wave One information is used in the tables below.

**Wave One Household type by Wave Two PGSI classification**

Type of Household	Non-gamblers	Non-problem gamblers	Low risk gamblers	Moderate risk gamblers	Problem gamblers
Couple with child or children	38.1	45.0	43.3	37.0	22.7
One parent family	8.5	7.9	12.0	8.4	13.6
Other family	3.1	3.1	2.3	6.7	6.8
Couple w/out children	27.9	26.5	22.7	25.2	25.0
Group household (not related)	1.5	1.4	2.7	4.2	4.6
Lone person	20.9	16.0	17.0	18.5	27.3
<b>TOTAL %</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Wave One Education Level by Wave Two PGSI classification**

Education Level	Non-gamblers	Non-problem gamblers	Low risk gamblers	Moderate risk gamblers	Problem gamblers
University	35.0	27.7	20.6	11.3	17.8
TAFE or trade qualification	20.0	22.1	19.6	27.0	17.8
Year 12	15.1	19.7	22.0	20.9	24.4
Year 10 or lower	29.9	30.5	37.8	40.9	40.0
<b>TOTAL %</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Wave One Employment Status by Wave Two PGSI classification**

<b>Employment Status</b>	<b>Non-gamblers</b>	<b>Non-problem gamblers</b>	<b>Low risk gamblers</b>	<b>Moderate risk gamblers</b>	<b>Problem gamblers</b>
Full-time employment	31.4	37.9	38.0	33.6	37.8
Part-time employment	21.9	25.5	25.0	24.4	13.3
Unemployed	3.8	2.4	1.7	5.0	4.4
Not in workforce or away from work	42.9	34.2	35.3	37.0	44.4
<b>TOTAL %</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Wave One Personal Income range by Wave Two PGSI classification**

<b>Personal Income range</b>	<b>Non-gamblers</b>	<b>Non-problem gamblers</b>	<b>Low risk gamblers</b>	<b>Moderate risk gamblers</b>	<b>Problem gamblers</b>
\$0-\$31,199	57.4	49.4	54.5	55.7	56.8
\$31,200-\$51,999	21.9	23.6	22.8	27.8	21.6
\$52,000-\$83,199	14.7	17.5	13.0	12.4	16.2
\$83,200 or higher	6.1	9.5	9.8	4.1	5.4
<b>TOTAL %</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Wave One Residence (metropolitan/non-metropolitan)**

	<b>Number</b>	<b>Per cent</b>
Non Metro	1528	30.5
Metro	3475	69.5
<b>Total</b>	<b>5003</b>	<b>100.0</b>

## Appendix D - Attrition

### Wave One (n=15,000) and Wave Two (n= 5003) Comparison of characteristics

The tables below provide a comparison of the characteristics of the 5003 Wave Two sample and the Wave One sample from which the participants were drawn. All demographics were investigated, as well as gambling participation and health information. Statistical tests for significance were used and the significant differences are noted in the Summary Table.

**Frequency Table**

	Frequency	Percent	Valid Percent	Cumulative Percent
Not participated in wave	9997	66.6	66.6	66.6
Participated in wave	5003	33.4	33.4	100.0
<b>Total (Wave One)</b>	<b>15000</b>	<b>100.0</b>	<b>100.0</b>	

**Summary Table**

Demographics	Pearson Chi-Square
Gender	Not significant, $p > 0.05$
Age	Highly significant, $p < 0.005$
Education	Highly significant, $p < 0.005$
Household	Highly significant, $p < 0.005$
Household Income	Highly significant, $p < 0.005$
Employment status	Highly significant, $p < 0.005$
Personal Income	Significant, $p < 0.05$
Migration	Highly significant, $p < 0.005$
Gambler type (including non-gamblers)	Not significant, $p > 0.05$
Gambler type	Not significant, $p > 0.05$

**Health Table**

Health	Pearson Chi-Square
Smoked in the past 12 months	Not significant, $p > 0.05$
Currently smoke	Not significant, $p > 0.05$
Consumed an alcoholic drink in past 12 months	Significant, $p < 0.05$
Experienced trauma or hardship in post personal background	Significant, $p < 0.05$
Disability	Significant, $p < 0.05$
Kessler category	Not significant, $p > 0.05$
Difficulties related to gambling (ever had)	Highly significant, $p < 0.005$
Difficulties related to gambling (in past 12 months)	Significant, $p < 0.05$

**Gambling Participation Table**

Gambling participation	Pearson Chi-Square
Informal private betting	Not significant, $p > 0.05$
Pokies	Highly significant, $p < 0.005$
Table games	Not significant, $p > 0.05$
Horse/harness racing/greyhounds	Highly significant, $p < 0.005$
Betting on sports or event results	Not significant, $p > 0.05$
Keno	Not significant, $p > 0.05$
Lotto	Highly significant, $p < 0.005$
Scratch tickets	Highly significant, $p < 0.005$
Bingo	Not significant, $p > 0.05$
Phone or SMS competitions	Highly significant, $p < 0.005$
Buying tickets in raffles, sweeps and other competitions	Highly significant, $p < 0.005$

Attrition refers to loss of participants, or participant drop-out, or non-response. In this study there were 7148 who agreed to participate, however, only 5003 individuals completed surveys. There were 2145 individuals who agreed to participate but did not do so. Characteristics comparison between those who agreed to participate and DID respond to Wave Two and those who agreed to participate but did NOT respond to Wave Two. Statistical tests for significance were used and the significant differences are noted in the Summary Table.

**Demographics Table**

Demographics	Pearson Chi-Square
Gender	Not significant, $p > 0.05$
Age	Highly significant, $p < 0.005$
Education	Significant, $p < 0.05$
Household	Highly significant, $p < 0.005$
Household Income	Not significant, $p > 0.05$
Employment status	Highly significant, $p < 0.005$
Personal Income	Not significant, $p > 0.05$
Migration	Highly significant, $p < 0.005$
Gambler type (including non-gamblers)	Not significant, $p > 0.05$
Gambler type	Not significant, $p > 0.05$
NODS CLip2	Not significant, $p > 0.05$

**Health Table**

Health	Pearson Chi-Square
Smoked in the past 12 months	Highly significant, $p < 0.005$
Currently smoke	Highly significant, $p < 0.005$
Consumed an alcoholic drink in past 12 months	Not significant, $p > 0.05$
Experienced trauma or hardship in post personal background	Not significant, $p > 0.05$
Disability	Not significant, $p > 0.05$
Kessler category	Not significant, $p > 0.05$
Difficulties related to gambling (ever had)	Not significant, $p > 0.05$
Difficulties related to gambling (in past 12 months)	Not significant, $p > 0.05$

**Gambling Participation Table**

Gambling participation	Pearson Chi-Square
Informal private betting	Not significant, $p > 0.05$
Pokies	Not significant, $p > 0.05$
Table games	Highly significant, $p < 0.005$
Horse/harness racing/greyhounds	Not significant, $p > 0.05$
Betting on sports or event results	Not significant, $p > 0.05$
Keno	Not significant, $p > 0.05$
Lotto	Highly significant, $p < 0.005$
Scratch tickets	Not significant, $p > 0.05$
Bingo	Not significant, $p > 0.05$
Phone or SMS competitions	Not significant, $p > 0.05$
Buying tickets in raffles, sweeps and other competitions	Highly significant, $p < 0.005$