



A GUIDE TO AUSTRALASIA'S GAMBLING INDUSTRIES

Facts, Figures and Statistics

CHAPTER TEN

Problem Gambling Prevalence

2015/16

A Guide to Australasia's Gambling Industries

Published and Prepared by the Australasian Gaming Council (AGC).



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Chapter 10

Problem Gambling Prevalence

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Version Control

Version	Date	Explanation
2015-16 (2.0)	May 2017	2015-16 Edition - Updated data for Northern Territory.
2015-16 (3.0)	July 2018	2015-16 Edition - Updated with new information for Queensland and Tasmania, and international updates for Nova Scotia and Great Britain.

DEFINITIONS OF PROBLEM GAMBLING

In 2004, Australian and State/Territory Government Ministers agreed to the implementation of a National Gambling Research Program.

One priority within the program was to develop a national approach throughout Australia to the definition of problem gambling.

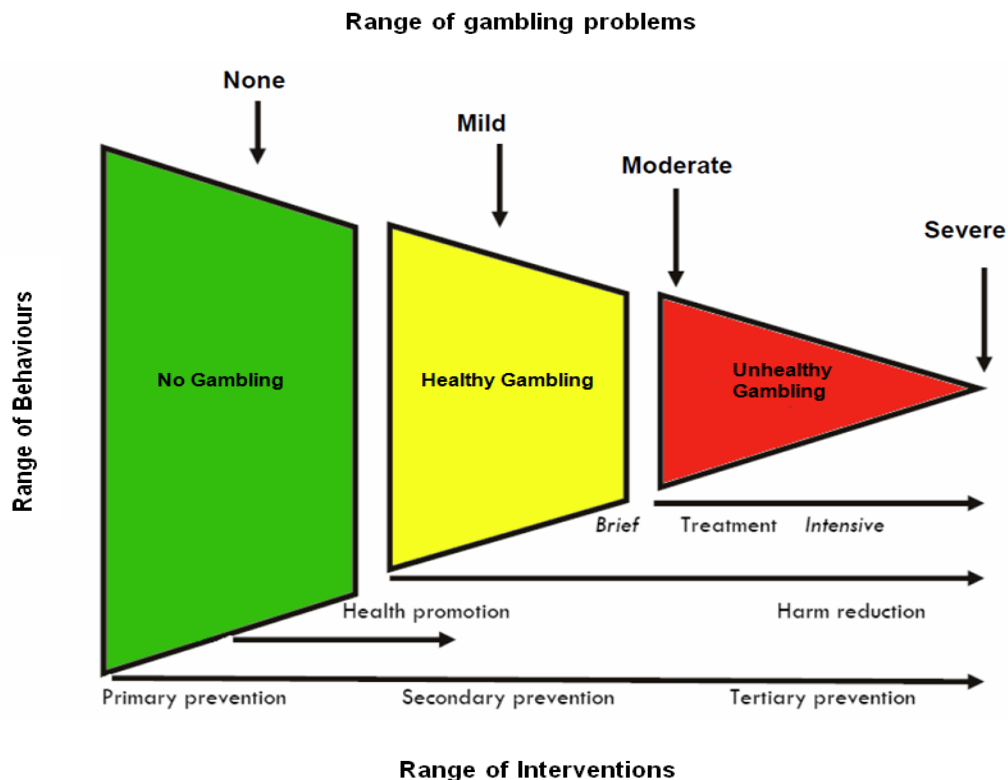
The first research project to be commissioned by Gambling Research Australia (GRA) - *Problem Gambling and Harm: Towards a National Definition* - recommended that the following public health definition of problem gambling be adopted as the national definition:

“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.”

The GRA definition of problem gambling, conceptualising and addressing problem gambling within a public health paradigm, has since become the approach most widely accepted in Australia and New Zealand.¹

A public health approach rests on shared responsibility for population health, from individuals and community groups to businesses, corporations and governments at all levels.²

Figure 10-1 Korn and Schaffer: Public Health Framework for Gambling (1999)



Source: Korn, D. and Schaffer, H. (1999) *Gambling and the Health of the Public: Adopting a Public Health Perspective*, *Journal of Gambling Studies*, Volume 15, Number 4, 1999.

¹ See for example SACOSS Information Paper (2008) *The Use of Public Health Models for Gambling Help Services*.

² Victorian Responsible Gambling Foundation (2015) *Using a Public Health Approach in the Prevention of Gambling Related Harm*.

Internationally, while problem gambling is often defined in a similar public health paradigm, it may also be defined through varied approaches and models - giving rise to a range of descriptions, the most common of which are compulsive gambling, pathological gambling and problem gambling.

Problem gambling has also been described as existing on a continuum upon which individuals may move from recreational gambling to varying degrees of risk and problem severity. The trajectory of problem gambling is not always clear³ and problems can arise and increase, reduce, resolve or re-occur over time.

Research has documented a range of people affected by gambling problems, a range of problems experienced, and differing pathways to the experience of problems associated with gambling. As the Problem Gambling Institute of Ontario advises:

Not all people who gamble excessively are alike, nor are the problems they face. People with gambling problems are found in all age groups, income groups, cultures and jobs. Some people develop gambling problems suddenly, others over many years. There are many reasons why a gambling problem may develop. For example, some people develop problems when they try to win back money they have lost, or because they like to be "in the action." Others have many life stresses that make gambling a welcome relief. Problem gambling is not just about losing money. Gambling problems can affect a person's whole life. ⁴

There are a number of indicators that someone may be experiencing problems with gambling. As the Victorian Responsible Gambling Foundation advises, these can include when someone:

- Gambles to avoid dealing with problems or disappointments
- Skips work or study to gamble
- Spends more time gambling than with family and friends
- Thinks about gambling every day
- Gambles to win money, not just for fun
- Gambles to win back money lost by gambling
- Feels depressed because of gambling
- Lies or keep secrets about gambling
- Borrows money to gamble
- Argues with family and friends about gambling or to have an excuse to go out and gamble
- Gambles for longer periods of time than originally planned
- Gambles until every dollar is gone
- Loses sleep due to thinking about gambling
- Does not pay bills and uses the money for gambling instead
- Tries to stop gambling, but can't.
- Becomes moody when trying to stop or cut down on gambling
- Needs to increase the excitement of gambling by placing bigger bets
- Breaks the law to get money to gamble⁵

For anyone who is concerned about their own, or someone else's gambling, there are a number of [help services](#) throughout Australia and New Zealand dedicated to assisting anyone worried about, experiencing, or affected by, problems with gambling.

These services are free and confidential.

Help can be reached 24/7 via **telephone (AU: 1800 858 858 or NZ: 0800 654 655)** and also **online (AU: <http://www.gamblinghelponline.org.au> or NZ: <http://www.gamblinghelpline.co.nz>)**

³ See for example Productivity Commission (1999) *Australia's Gambling Industries, Report No. 10*, AusInfo, Canberra; LaBrie, R., Schaffer, J., Nelson, S. & Gebauer, L. (2009) *Gambling Problem Symptom Patterns and Stability Across Individual and Timeframe*. Psychology of Addictive Behaviours Vol 23, No 3 523-533.

⁴ Problem Gambling Institute of Ontario (2016) *Gambling 101: What is Problem Gambling*, <https://www.problemgambling.ca/EN/AboutGamblingandProblemGambling/Pages/InformationAboutProblemGambling.aspx>

⁵ Victorian Responsible Gambling Foundation, <https://www.responsiblegambling.vic.gov.au/getting-help/signs-of-a-problem/how-can-you-tell-take-the-test>

PROBLEM GAMBLING SCREENS

Problem gambling is often measured using screens – tested and validated questions that relate to gambling behaviours and beliefs that are administered to survey populations or used within a treatment assessment context.

There are numerous screens worldwide that have been developed to identify the extent of prevalence within the community and/or to assess the severity of an individual's gambling problem.

Some of the screening tools in Australia and New Zealand include:

- The Canadian Problem Gambling Index and Problem Gambling Severity Index (CPGI/PGSI);
- The Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-V);
- The South Oaks Gambling Screen (SOGS); and
- The Victorian Gambling Screen (VGS)

Identified in the 2004 GRA study and echoed in the 2010 Productivity Commission Report was a need for a consistent measurement tool to allow comparisons across states and territories in Australia and across time.

Currently the commonly used measurement tool for population level research into problem gambling prevalence in Australia is the Canadian Problem Gambling Index (CPGI), a component of which is the nine item Problem Gambling Severity Index (PGSI).

The South Oaks Gambling Screen (SOGS), no longer in use in Australia prevalence studies, has been to be used in some earlier studies and later to allow for comparisons with previous studies and both the SOGS and the Diagnostic and Statistical Manual of Mental Disorders Criteria (DSM) are also accepted as useful tools for counselling and assessment purposes.

Canadian Problem Gambling Index (CPGI) and Problem Gambling Severity Index (PGSI)

The Canadian Problem Gambling Index (the 'CPGI', which includes a component of nine questions developed to assess problem gambling, the 'PGSI') was developed to measure the extent of problem gambling in general population surveys.

The PGSI makes a distinction between non-problem gambling, those at low and moderate risk of developing problems and those with severe problems.⁶

The CPGI also provides indicators of the social and environmental context of gambling and problem gambling.⁷

⁶ Wiebe, J., Single, E. and Falkowski-Ham A. (2001) *Measuring Gambling and Problem Gambling in Ontario*, Canadian Centre on Substance Abuse, Responsible Gambling Council (Ontario).

⁷ Ferris, J and Wynne, H (2001) *The Canadian Problem Gambling Index: Draft – User Manual*.

Table 10-1 CPGI Questions

1.	How often did you bet or spend money on (list of activities: daily, weekly, monthly, yearly)?
2.	Would you please try and tell me the number of hours or minutes you normally spend each time on ()?
3.	How much money, not including winnings, do you normally spend on this activity in a month?
4.	What is the largest amount of money you ever gambled on this activity in any one day?
5.	Have you bet more than you could afford to lose?
6.	Have you bet or spent more money than you wanted on gambling?
7.	Have you needed to gamble with larger amounts of money to get the same feeling of excitement?
8.	When you gambled, did you go back another day to win back the money you lost?
9.	Have you borrowed money or sold anything to get money to gamble?
10.	Have you lied to family members to hide your gambling?
11.	Have you felt that you might have a problem with gambling?
12.	Have you wanted to stop betting money or gambling, but didn't think you could (NOT SCORED)
13.	Has gambling caused you any health problems, including stress or anxiety?
14.	Have people criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?
15.	Has your gambling caused any financial problems for you or your household?
16.	Have you felt guilty about the way you gamble or what happens when you gamble?
17.	After losing many times in a row, you are more likely to win?
18.	You could win more if you used a certain system or strategy?
19.	Do you remember a big win when you first started gambling?
20.	Do you remember a big loss when you first started gambling?
21.	Has anyone in your family ever had a gambling problem?
22.	Has anyone in your family ever had an alcohol or drug problem?
23.	In the last 12 months, have you used alcohol while gambling?
24.	In the last 12 months, have you gambled under the influence of alcohol or drugs?
25.	In the last 12 months, have you felt you might have an alcohol problem?
26.	If something painful happened in your life did you have the urge to gamble?
27.	If something painful happened in your life did you have the urge to have a drink?
28.	If something painful happened in your life did you have the urge to use drugs or medication?
29.	Have you been under a doctor's care because of physical or emotional problems brought on by stress?
30.	Have you felt seriously depressed?
31.	Have you seriously thought about or attempted suicide as a result of your gambling?

Source: Ferris, J., and Wynne, H. (2001) *The Canadian Problem Gambling Index: Draft – User Manual*.

Table 10-2 PGSI Component⁸

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

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

Scoring:

0 = Never;

1 = Sometimes;

2 = Most of the time;

3 = Almost always.

Table 10-3 PGSI Cut-Off Scores

Non-gambling	No score
Non-problem gambler	0
Low risk gambler	Between 1 and 2.5
Moderate risk gambler	Between 3 and 7.5
Problem gambler	Between 8 and 27

Amended use of the CPGI/PGSI in Australia

While the CPGI/PGSI screen has been validated and is widely accepted as the best measure of population prevalence available, criticisms of the screen have been made.⁹ Concerns have also been evinced by the screen authors that some Australian jurisdictions have chosen to apply the screen in a manner which has varied its scoring categories and that amending the instrument may have affected results achieved.¹⁰

The Productivity Commission found in 2010 that use of an amended CPGI (as evidenced in some Australian prevalence surveys) is most likely to have overstated the population of gamblers in the combined moderate risk and problem gambling groups – albeit probably not to a policy significant degree.¹¹

⁸ Delfabbro, P. (2011) AGR 5: *Australasian Gambling Review*, South Australian Independent Gambling Authority pp 93-94.

⁹ Ibid

¹⁰ Productivity Commission (2010) *Gambling*, Report No 50, Canberra pp 5.11-5.12.

¹¹ Ibid

Diagnostic and Statistical Manual of Mental Disorders (DSM-IV and DSM-V)

Problem gambling has been recognised in the Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association in both the 4th and 5th editions (DSM-IV and DSM-V).

The DSM criteria were originally developed in a clinical setting. In developing the DSM-IV criteria, 222 self-identified pathological gamblers and 104 substance abusers who gambled socially tested the individual items. Items that best differentiated between pathological and non-pathological gamblers were analysed.¹²

The DSM-V was released in May 2013 and included some changes to disorders grouped as substance and addicted related disorders – as well as changes to some of the criteria.

The DSM-V includes gambling disorders as the sole condition in a new DSM category on behavioural addictions.

This new term and its location in the new manual reflect research findings that gambling disorder is similar to substance-related disorders in clinical expression, brain origin, comorbidity, physiology, and treatment.¹³

Table 10-2 DSM-IV Diagnostic Criteria

1.	Is preoccupied with gambling (eg. preoccupied with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble)
2.	Needs to gamble with increasing amounts of money in order to achieve the desired excitement
3.	Has repeated unsuccessful efforts to control, cut back or stop gambling
4.	Is restless or irritable when attempting to cut down or stop gambling
5.	Gambles as a way of escaping from problems or relieving a dysphoric mood (eg. feelings of helplessness, guilt, anxiety, depression)
6.	After losing money gambling, often returns another day to get even (chasing losses)
7.	Lies to family members, therapists or others to conceal the extent of involvement with gambling
8.	Has committed illegal acts such as forgery, fraud, theft or embezzlement to finance gambling
9.	Has jeopardised or lost a significant relationship, job or educational career opportunity because of gambling
10.	Relies on others to provide money to relieve a desperate financial situation caused by gambling

Source: American Psychiatric Association (1994) *Diagnostic and Statistical Manual of Mental Disorders*. 4th ed. Washington, D.C.: American Psychiatric Association, 1994:615-18.

Persistent and maladaptive gambling behaviour is indicated in the DSM-IV by **five** (or more) of the listed criteria.

The diagnosis is not made if the gambling behaviour is better accounted for by a manic episode.

¹² Gerstein, D., Murphy, S., Toce, M., Hoffmann, J., Palmer, A., Johnson, R., Larison, C., Chuchro, L., Bard, A., Engelman, L., Hill, M. A., Buie, T., Volberg, R., Harwood, H., Tucker, A., Christiansen, E., Cummings, W., & Sinclair, S. (1999). *Gambling Impact and Behaviour Study: Report to the National Gambling Impact Study Commission*, Chicago: National Opinion Research Center.

¹³ American Psychiatric Association (2013) *Substance Related and Addictive Disorders – Fact Sheet*, <http://www.dsm5.org/documents/substance%20use%20disorder%20fact%20sheet.pdf>

Table 10-3 DSM-V Diagnostic Criteria

1.	Needs to gamble with increasing amounts of money in order to achieve the desired excitement.
2.	Is restless or irritable when attempting to cut down or stop gambling.
3.	Has made repeated unsuccessful efforts to control, cut back, or stop gambling.
4.	Is often preoccupied with gambling (e.g., having persistent thoughts of reliving past gambling experiences, handicapping or planning the next venture, thinking of ways to get money with which to gamble).
5.	Often gambles when feeling distressed (e.g., helpless, guilty, anxious, depressed).
6.	After losing money gambling, often returns another day to get even (“chasing” one’s losses).
7.	Lies to conceal the extent of involvement with gambling.
8.	Has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling.
9.	Relies on others to provide money to relieve desperate financial situations caused by gambling.

Source: Problem Gambling Institute of Ontario, Centre for Addiction and Mental Health (CAMH)
<https://www.problemgambling.ca/EN/ResourcesForProfessionals/Pages/DSM5CriteriaGamblingDisorder.aspx>

DSM-V criteria indicate persistent and recurrent problematic gambling behaviour leading to clinically significant impairment or distress where the individual exhibits **four** (or more) of the listed criteria in a 12-month period and the gambling behaviour is not better explained by a manic episode.

Scoring:

Mild = 4 – 5 criteria met;

Moderate = 6 – 7 criteria met; and

Severe problems are indicated where 8–9 criteria are met.¹⁴

South Oaks Gambling Screen (SOGS)

The South Oaks Gambling Screen (SOGS) was first developed in 1987 to screen for gambling problems in clinical populations of those dealing with alcohol or substance abuse.¹⁵

The focus of this measurement tool is on financial aspects of gambling, including whether gamblers ‘chase’ losses, have problems controlling their gambling, feel guilty about gambling and/or believe that they have a problem.

The SOGS instrument consists of 21 questions about behaviours and was developed as a life-time measure – although modified versions of the screen (such as the SOGS-R and SOGS-M) have been developed to frame questions to more recent time frames (i.e.: the last 6 and 12 months).¹⁶

The SOGS score is obtained by summing responses and can range from 0 to 20.

A cut-off score of 5+ has been identified as indicating ‘problem pathological gambling’ and in Australia this cut-off has been used to indicate problem gambling.¹⁷

¹⁴ Problem Gambling Institute of Ontario, Centre for Addiction and Mental Health (CAMH),
<https://www.problemgambling.ca/EN/ResourcesForProfessionals/Pages/DSM5CriteriaGamblingDisorder.aspx>

¹⁵ Lesieur, H.R. and Blume S.B. (1987) *The South Oaks Gambling Screen: A New Instrument for the Identification of Pathological Gamblers*. American Journal of Psychiatry, 144 (9): 1184-8.

¹⁶ Delfabbro, P. (2011) *AGR 5: Australasian Gambling Review*, South Australian Independent Gambling Authority pp79-84.

¹⁷ Centre for Gambling Research (2004) *Validation of the Victorian Gambling Screen*, Gambling Research Panel.

Table 10-4 SOGS Questions¹⁸

1.	When you gamble, how often do you go back another day to win back money you lost? [a. Never; b. Some of the time (less than half the time) I lost; c. Most of the time I lost; d. Every time I lost]
2.	Have you ever claimed to be winning money gambling but weren't really? In fact you lost? [a. Never or never gamble; b. Yes, less than half the time I lost; c. Yes, most of the time].
3.	Do you feel you have ever had a problem with gambling? [a. No; b. Yes, in the past, but not now; c. Yes].
4.	Did you ever gamble more than you intended to? [Yes, No]
5.	Have people criticised your gambling? [Yes, No]
6.	Have you ever felt guilty about the way you gamble or what happens when you gamble? [Yes, No].
7.	Have you ever felt like you would like to stop gambling, but didn't think you could? [Yes, No].
8.	Have you ever hidden betting slips, lottery tickets, gambling money, or other signs of gambling from your spouse, children or other important people in your life? [Yes, No].
9a.	Have you ever argued with people you live with over how you handle money? [Yes, No: not scored]
9b.	If you answered yes to the previous question: Have money arguments ever centred on your gambling? [Yes, No].
10.	Have you ever borrowed from someone and not paid them back as a result of your gambling? [Yes, No].
11.	Have you ever lost time from work (or school) due to gambling? [Yes, No]
12.	If you borrowed money to gamble or pay gambling debts, who or where did you borrow from? [check 'Yes' or 'No' for each the items that follow].
13.	From household money? [Yes, No]
14.	From your spouse? [Yes, No]
15.	From other relatives or in-laws? [Yes, No].
16.	From banks, loan companies, or credit unions? [Yes, No].
17.	From credit cards [Yes, No].
18.	From loan sharks? [Yes, No].
19.	You cashed in stocks, bonds or other securities? [Yes, No].
20.	You sold personal or family property? [Yes, No].
21.	You borrowed on your checking account (passed bad checks)? [Yes, No].

Scoring**(Yes/No format):**

Q1 (Score 1 if most of the time or every time I lost);

Q2 (Score 1 if less than half the time I lost or yes, most of the time);

Q3 (Score 1 if yes, in the past, but not now or yes.

Ignore question 8a.

For all remaining questions, a score of yes counts as 1 point.

A score of 5 indicates a 'probable pathological gambler', and a 'problem gambler' in Australia

Time-frame:

Original SOGS (Life-time, 'Have you ever...?');

SOGS-R (In the last 6 months....?),

SOGS-M (In the last 12 months?)

¹⁸ Delfabbro, P. (2011) *AGR 5: Australasian Gambling Review*, South Australian Independent Gambling Authority pp79-84.

Multiple-response category: for items with Yes/ No response categories

1=Never,

2=Rarely,

3=Sometimes,

4=Often,

5=Always

Rarely or more often yields 1 point.

Criticisms of the SOGS Screen

The SOGS Screen, despite previous widespread use, has attracted considerable criticisms, particularly in Australia and New Zealand where ongoing concerns resulted in other measures (chiefly the CPGI) becoming the preferred instrument for prevalence research conducted at population level.¹⁹

The SOGS screen has been criticised on several main grounds being chiefly:

1. the inappropriateness of items giving rise to unacceptable numbers of false positives;
2. the lack of validation against a suitable control sample of non-problem regular gamblers;
3. the omission of items related to impaired control;
4. the inappropriateness of a life-time framework; and
5. the lack of inclusion of items relating to the intensity of gambling.²⁰

Victorian Gambling Screen (VGS)

The Victorian Gambling Screen (VGS), commissioned by the Victorian Commission for Gambling and Liquor Regulation (VCGLR), was developed by Ben-Tovim et al in association with Flinders University.

The aim was to “develop a new instrument that could be used in surveys of the general population to assess the extent of problem gambling and for people presenting for problem gambling treatment or assistance in a clinical setting”.²¹

The VGS has not had widespread use Australian prevalence surveys to date – research reviews have noted that it is a well-developed and conceptually coherent scale with many advantages over the SOGS. However more research is required to validate it using larger community and clinical samples.²²

¹⁹ Delfabbro, P. (2011) *AGR 5: Australasian Gambling Review*, South Australian Independent Gambling Authority pp79-84.

²⁰ Ibid

²¹ Ben-Tovim, D., Esterman, A., Tolchard, B., Battersby, M. in association with Flinders Technologies Pty Ltd (2001) *The Victorian Gambling Screen Project Report*, Victorian Casino and Gaming Authority.

²² Delfabbro, P. (2011) *AGR5: Australasian Gambling Review*, South Australian Independent Gambling Authority pp 86-89.

Table 10-5 VGS Questions

1.	Have you felt that after losing you must return as soon as possible to win back any losses?
2.	How often have you lied to others to conceal the extent of your involvement in gambling?
3.	How often have you spent more on gambling than you could afford?
4.	Have you and your partner criticised each other (about gambling)? (HP)
5.	Have you felt guilty about your gambling?
6.	Have you thought you shouldn't gamble or gamble less?
7.	Have you hidden betting slips, and other signs of gambling from your spouse, partner or children or other important people in your life?
8.	How often has anyone close to you complained about your gambling?
9.	How often have you had to borrow money to gamble with?
10.	Has gambling been a good hobby for you? (GE)
11.	Nowadays, when you gamble, is it fun? (GE)
12.	Have you gambled with skill? (GE)
13.	Nowadays, when you gamble, do you feel you are on a slippery slope and can't get up again?
14.	Has your need to gamble been too strong to control?
15.	Has gambling been more important than anything else you might do?
16.	Have you and your spouse put off doing things together because of gambling? (HP)
17.	Has the thought of gambling been constantly on your mind?
18.	Have you lied to yourself about gambling?
19.	Have you gambled in order to escape from worry or trouble?
20.	How often has your gambling made it harder to make money last from one payday to the next?
21.	Has your partner had difficulties trusting you (about gambling)? (HP)

Different components of these questions measure enjoyment of gambling (GE), harm to partner (HP) and harm to self (all other items)

Scoring

Item scoring:

- 0 = Never
- 1 = Rarely,
- 2 = Sometimes,
- 3 = Often,
- 4 = Always

Subscales: (HP = Harm to Partner (range 0 –12), GE = Gambling Enjoyment (range 0—12), All other items Harm to Self (range 0 –60).

Only the Harm to Self scale reliably differentiates between problem gamblers and non-problem gamblers.

Cut-off Score: (21 or higher out of 60 on the Harm to Self item indicates a gambling problem.²³

²³ Delfabbro, P. (2011) *AGR5: Australasian Gambling Review*, South Australian Independent Gambling Authority pp 86-89

PROBLEM GAMBLING PREVALENCE STATISTICS IN AUSTRALIA

National Statistics 1999 – 2009

In 1999, using the SOGS, the Productivity Commission estimated that 2.1% of Australian adults (or approximately 292, 737 adults) had problems associated with their gambling.

In 2009 the Productivity Commission undertook another review of gambling across the nation and conducted a meta-analysis of existing state/territory prevalence survey results from the previous decade.

Results included that at that time an estimated 80,000 - 160,000 Australian adults were suffering severe gambling problems (0.5 - 1.0% of adults).

A further 230,000 and 350,000 people were estimated to fall into a moderate risk group that may make them vulnerable to progression into problem gambling (1.4 – 2.1% of adults).²⁴

In the period 2010/11 Gambling Research Australia (GRA), while undertaking research into Interactive gambling in Australia, also surveyed for prevalence of problem gambling in the Australian population 18+²⁵

State/Territory Statistics 1999 - 2015

In the early years of the last decade Australian studies (including the last national survey of Australian gambling in 1999) commonly used the South Oaks Gambling Screen (SOGS).

The SOGS and the CPGI should not be directly compared.

The CPGI has now been adopted as the principal measure for population prevalence research in Australia.

Most studies completed since 2003-04 have utilised the CPGI/PGSI - at times in combination with the SOGS to facilitate comparability with previous studies.

It should be noted however that comparisons between studies undertaken in Australia post 2003-04 should still only be undertaken with caution.

With the exception of the few national surveys available, prevalence estimates for the Australian states and territories have been derived from surveys undertaken at different times and with some methodological differences. Further, some reported differences in the prevalence results stated may not be statistically significant.

Readers should also note that the prevalence of problem gambling is expressed in the following tables as a % of adults in the state/territory.

²⁴ Productivity Commission (2010) *Gambling*, Report No 50, Canberra, p47.

²⁵ Hing, N., Gainsbury, S., Blaszczynski, A., Wood, R., Lubman, D and Russell, A. (2014) *Interactive Gambling*, Gambling Research Australia.

Prevalence of Problem Gambling in Australia

Table 10-7 Results of state/territory prevalence studies for problem gambling (SOGS 5+) in Australia (1994-2006)

Jurisdiction	Year	Sample	Problem Gambling (% of adults 18+)
Australian Capital Territory	1999	700	2.06
	2001 ²⁶	5,445	1.91
New South Wales	1999 ²⁷	2,600	2.55
Northern Territory	1999	600	1.89
	2006 ²⁸	2000	1.06
Queensland	1999	1,500	1.88
South Australia	1996 ²⁹	1,206	1.2
	1999	1,000	2.45
	2001 ³⁰	6,045	2.0
	2005 ³¹	17,140	1.9
Tasmania	1994 ³²	1,220	0.90
	1996 ³³	1,211	2.97
	1999	800	0.44
	2000 ³³	1,223	0.90
	2005 ³⁴	6,048	1.41
Victoria	1999	2,200	2.14
	2003 ³⁵	8,475	1.12
Western Australia	1999	1,100	0.7
Australia	1999	10,500	2.1

Note: Screens used in individual state/territory studies did make some significant modifications to the SOGS – which prompts care when seeking to differentiate between levels of problem gambling prevalence over time in any jurisdiction or between jurisdictions.

²⁶ Tremayne, Kell; Masterman-Smith, Helen and McMillen, Jan (2001) *Survey of the nature and extent of gambling and problem gambling in the ACT*, Australian Institute for Gambling Research (AIGR).

²⁷ Productivity Commission (1999) *Australia's Gambling Industries*, Report No. 10, AusInfo, Canberra – this reference applies to all 1999 figures.

²⁸ Young, Martin, Abu-Duhou, Ibtisam, Barnes, Tony; Creed, Elizabeth; Morris, Mary; Stevens, Matthew & Tyler, Bill (2006) *Northern Territory Gambling Prevalence Survey 2005*, Charles Darwin University.

²⁹ Delfabbro, P. & Winefield, A. (1996) *Community gambling patterns and the prevalence of gambling-related problems in South Australia: with particular reference to gaming machines*. Adelaide: Department of Family and Community Services.

³⁰ Taylor A., Dal Grande, E., Gill, T., Delfabbro, P., Glenn, V., Goulding, S., Weston, H., Barton, S., Rogers, N., Stanley, A., Blandly, R., Tolchard, B. & Kingston, R. (2001) *Gambling patterns of South Australians and associated health indicators*.

³¹ South Australian Department for Families and Communities (2006) *Gambling Prevalence in South Australia: October to December 2005*.

³² Cited in Roy Morgan Research (2006) *The Fourth Study into the Extent and Impact of Gambling in Tasmania with Particular Reference to Problem Gambling*.

³³ Roy Morgan Research (2001) *The Third Study into the Extent and Impact of Gambling in Tasmania with Particular Reference to Problem Gambling: Follow up to the Baseline Studies Conducted in 1994 and 1996*, Department of Health and Human Services.

³⁴ Roy Morgan Research (2006) *The Fourth Study into the Extent and Impact of Gambling in Tasmania with Particular Reference to Problem Gambling*. Follow up to the Studies Conducted in 1994, 1996 and 2000, Tasmania Gambling Support Bureau.

³⁵ The Centre for Gambling Research, Australian National University (2004) *Validation of the Victorian Gambling Screen*, Prepared for the Gambling Research Panel by The Centre for Gambling Research Australian National University.

Table 10-8 Results of state/territory prevalence studies for problem gambling (CPGI 8+) and moderate risk gambling (CPGI 3+) in Australia (2001-2017)

Jurisdiction	Year	Sample	Problem gambling (% of adults 18+)	Moderate Risk (% of adults 18+)
Australian Capital Territory	2009 ³⁶	5,500	0.5	1.5
	2014 ³⁷	7,068	0.4	1.1
New South Wales	2006 ³⁸	5,029	0.8	1.6
	2008-09 ³⁹	9,408	0.4	1.3
	2011 ⁴⁰	10,000	0.8	2.9
Northern Territory	2005 ⁴¹	2,000	0.64	Not collected
	2015 ⁴²	4,945	0.68	2.90
Queensland	2001 ⁴³	13,082	0.83	2.70
	2003-04 ⁴⁴	30,373	0.55	1.97
	2006-07 ⁴⁵	30,000	0.47	1.8
	2008-09 ⁴⁶	15,000	0.37	1.6
	2011-12 ⁴⁷	15,000	0.48	1.9
South Australia	2016-17 ⁴⁸	15,000	0.51	2.5
	2005 ⁴⁹	17,140	0.40	1.20
Tasmania	2012 ⁵⁰	9,402	0.6	2.5
	2005 ⁵¹	6,048	0.73	1.02
Victoria	2007 ⁵²	4,051	0.54	0.86
	2011 ⁵³	4,300	0.7	1.8
	2013 ⁵⁴	5,000	0.5	1.8
	2017 ⁵⁵	5,000	0.6	1.4
	2003	8,479	0.97	0.91
Western Australia⁵⁹	2008 ⁵⁶	15,000	0.70	2.36
	2014 ⁵⁷	13,554	0.81 ⁵⁸	2.79
Western Australia⁵⁹	N/A	N/A	N/A	N/A

³⁶ Davidson, T. M. & Rodgers, B. (2010) 2009 Survey of the Nature and Extent of Gambling and Problem Gambling in the Australian Capital Territory, ACT Gambling & Racing Commission.

³⁷ Davidson, T., Rodgers, B., Taylor-Rodgers, E., Suomi, A. & Lucas, N. (2015) 2014 Survey on Gambling Health and Wellbeing in the ACT, ACT Gambling and Racing Commission.

³⁸ AC Nielson (2007) Prevalence of Gambling and Problem Gambling in NSW – A Community Survey 2006, NSW Office of Liquor Gaming and Racing.

³⁹ NSW Health (2010) Gambling Module of the NSW Population Health Survey 2008-09.

⁴⁰ Ogilvy Illumination (2012) *Prevalence of Gambling and Problem Gambling in New South Wales*, NSW Office of Liquor, Gaming and Racing.

⁴¹ Charles Darwin University, School for Social and Policy Research and School for Health Sciences (2006) *An Overview of Gambling in the Northern Territory*.

⁴² Stevens, M. (2017) *2015 Northern Territory Gambling Prevalence and Wellbeing Survey Report*, Menzies School of Health Research. Please Note: Methodological differences mean results are not directly comparable with the 2005 report. Please see the original report for further detail.

⁴³ Queensland Government (2002) *The Queensland Household Gambling Survey, 2001*.

⁴⁴ Queensland Government (2006) *The Queensland Household Gambling Survey 2003-04*.

⁴⁵ Queensland Government (2008) *The Queensland Household Gambling Survey 2006-07*.

⁴⁶ Queensland Government (2010) *The Queensland Household Gambling Survey (2008-09)*.

⁴⁷ Queensland Government (2012) *The Queensland Household Gambling Survey (2011-12)*.

⁴⁸ Queensland Government (2018) *The Queensland Household Gambling Survey (2016-17)*.

⁴⁹ South Australian Department for Families and Communities (2006) *Gambling Prevalence in South Australia: October to December 2005*.

⁵⁰ The Social Research Centre (2013) *Gambling Prevalence in South Australia 2012*, SA Office for Problem Gambling.

⁵¹ Roy Morgan Research (2006) *The Fourth Study into the Extent and Impact of Gambling in Tasmania with Particular Reference to Problem Gambling*. Follow up to the Studies Conducted in 1994, 1996 and 2000. Tasmanian Gambling Support Bureau.

⁵² South Australian Centre for Economic Studies (2008) *Social and Economic Impact Study into Gambling in Tasmania*, Department of Treasury and Finance, Tasmania.

⁵³ The Allen Consulting Group, Problem Gambling Research and Treatment Centre and The Social Research Centre (2011) *Social and Economic Impact Study of Gambling in Tasmania*, Tasmanian Government Department of Treasury and Finance.

⁵⁴ ACIL Allen Consulting, The Social Research Centre and The Problem Gambling Research and Treatment Centre (2014) *Third Social and Economic Impact Study of Gambling in Tasmania: Volume 2, 2013 Tasmanian Gambling Prevalence Survey*, Tasmanian Government Department of Treasury and Finance.

⁵⁵ The Allen Consulting Group, Deakin University, Central Queensland University and the Social Research Centre (2017) *Fourth Social and Economic Impact Study of Gambling in Tasmania (2017): Volume 2 Prevalence Survey*, Tasmanian Department of Treasury and Finance, Hobart.

⁵⁶ Schottler Consulting Pty Ltd (2009) *A Study of Gambling in Victoria: Problem Gambling From A Public Health Perspective*, Department of Justice (Victoria).

⁵⁷ Schottler Consulting Pty Ltd (2015) *A Study of Gambling and Health in Victoria*, Victorian Responsible Gambling Foundation and Department of Justice and Regulation.

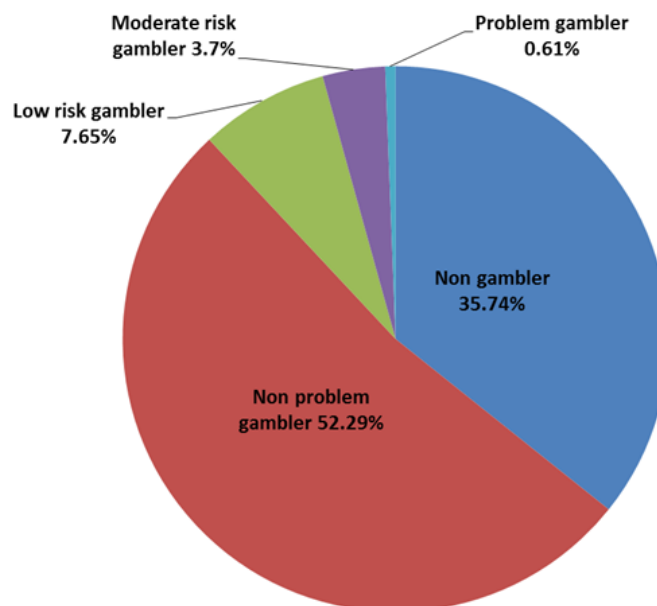
⁵⁸ Please note that results for CPGI 8+ in Victoria in 2014 are not statistically different from those achieved in 2008.

⁵⁹ The CPGI has not been used to date in this jurisdiction.

Jurisdiction	Year	Sample	Problem gambling (% of adults 18+)	Moderate Risk (% of adults 18+)
Australia	2009 ⁶⁰	N/A	0.7%	1.7%
	2011 ⁶¹	15,000	0.61%	3.7%

Since the time of the Productivity Commission's meta-analysis of gambling studies undertaken in 2009 a GRA research report, *Interactive Gambling*,⁶² has also investigated the prevalence of gambling and problem gambling on a national basis.

Figure 10-4 Past Year Prevalence of Problem Gambling in the Australian Population 18+ (2010-11) using the PGSI



Source: Hing, N., Gainsbury, S., Blaszczynski, A., Wood, R., Lubman, D and Russell, A. (2014) *Interactive Gambling*, Gambling Research Australia.

⁶⁰ Productivity Commission 2010, *Gambling, Report No. 50*, Canberra p11 – Please note this figure is the product of a meta-analysis of pre-existing state/territory surveys.

⁶¹ Hing, N., Gainsbury, S., Blaszczynski, A., Wood, R., Lubman, D and Russell, A. (2014) *Interactive Gambling*, Gambling Research Australia.

⁶² Hing, N., Gainsbury, S., Blaszczynski, A., Wood, R., Lubman, D and Russell, A. (2014) *Interactive Gambling*, Gambling Research Australia p 82.

PROBLEM GAMBLING PREVALENCE STATISTICS IN NEW ZEALAND (NZ)

Table 10-9 Problem Gambling Prevalence in New Zealand (1991-2015)

Jurisdiction	Year	Sample	Problem Gambling (% of adults 18+) SOGS-R		Problem Gambling SOGS/LieBet/ DSM-IV	Problem Gambling (CPGI 8+)	Moderate Risk (CPGI 3-7)
			Pathological	Problem			
New Zealand	1991 ⁶³	4,053	1.2%	2.1%			
	1999 ⁶⁴	6,452	0.5%	0.8%			
	2002/03 NZHS ⁶⁵	12,929			1.2% (Pop 15+)		
	2006/07 NZHS ⁶⁶	12,488				0.4% (Pop15+)	1.3% (Pop 15+)
	2011/12 NZHS ⁶⁷	12,000+				0.2% (Pop 15+)	1% (Pop15+)
	2012 ⁶⁸	6,251				0.7% (adults 18+)	1.8% (adults 18+)

Note: The text below explains that survey methodologies and structures have differed significantly over time. Comparisons should only be made with caution.

New Zealand National Prevalence Surveys

A national study of gambling participation and problem gambling was first conducted in New Zealand in 1991 and was the first national prevalence study to use a validated measure of problem gambling (SOGS-R). Another NZ national prevalence study was conducted in 1999 – also using the SOGS-R. Both studies surveyed adults aged 18+

The 2012 Survey *New Zealand National Gambling Prevalence and 12 Month Incidence Study (NGS)* was commissioned by the NZ Ministry of Health and conducted by the Gambling and Addictions Research Centre, Auckland University of Technology. This study, which surveyed 6,251 adults (18+) will form a baseline for further longitudinal work.

New Zealand Health Survey Series (NZHS)

The New Zealand Ministry of Health included questions about gambling prevalence and related health issues as part of the New Zealand Health Survey Series (NZHS) in 2002/03, 2006/07 and 2011/12.

The sample for the NZHS series included those in the population aged 15+ (as opposed to adults 18+).

The *2002/03 New Zealand Health Survey* used an un-validated screen developed specifically for the report (based on the SOGS, the Lie/Bet screen and DSM-IV criteria for problem gambling) prevalence. Rates found are not directly comparable to those of other studies.

Results between the 2006/07 and 2011/12 NZHS surveys (both of which used the CPGI/PGSI) should only be compared with caution. As these studies had overlapping 95% confidence intervals the differences between the results reported are not statistically significant.⁶⁹

⁶³ Abbott, M. and Volberg, R. (1996) *The New Zealand National Survey of Problem and Pathological Gambling*, Department of Internal Affairs.

⁶⁴ Abbott, M. and Volberg, R. (2000) *Taking the Pulse on Gambling and Problem Gambling in New Zealand: A Report on Phase One of the 1999 National Prevalence Survey*, Report Number Three of the New Zealand Gaming Survey, Department of Internal Affairs.

⁶⁵ Mason, K. (2006) *Problem Gambling in New Zealand: Analysis of the 2002/03 New Zealand Health Survey*, New Zealand Ministry of Health.

⁶⁶ Ministry of Health (2009) *A Focus on Problem Gambling Results of the 2006/07 New Zealand Health Survey*, New Zealand Ministry of Health.

⁶⁷ Rossen, F. (2015) *Gambling and Problem Gambling: Results of the 2011/12 New Zealand Health Survey*, New Zealand Ministry of Health.

⁶⁸ Abbott, M., Bellringer, M., Garrett, N., Mundy-McPherson, S. (2014) *New Zealand 2012 National Gambling Study: Gambling Harm and Problem Gambling Report Number Two*, New Zealand Ministry of Health.

⁶⁹ Rossen, F. (2015) *Gambling and Problem Gambling: Results of the 2011/12 New Zealand Health Survey*, New Zealand Ministry of Health p 64.

INTERNATIONAL PROBLEM GAMBLING PREVALENCE STATISTICS

Please note that as the screens used, gambling regulation, the forms of gambling and their availability, are not the same the world over, caution is advised in making comparisons between jurisdictions.

Canada

Data regarding problem gambling prevalence in Canada may be derived from individual *provincial* surveys and/or through Statistics Canada's national survey.

Please note that some Canadian provinces offer a mix of Video Lottery Terminals (VLTs) and Slots.

Table 10-14 Problem Gambling Prevalence Statistics in Canada (CPGI 8+)⁷⁰

Jurisdiction	Prevalence	Year	Type of gaming machines
Alberta ⁷¹	1.3%	2001	Slots, VLTs
Alberta ⁷²	0.9%	2009	
British Columbia	0.4%	2002	Slots
British Columbia ⁷³	0.9%	2007	
British Columbia ⁷⁴	0.7	2014	
Manitoba ⁷⁵	1.1%	2001	Slots, VLTs
Manitoba	1.4%	2006	
Manitoba ⁷⁶	0.8	2013	
New Brunswick ⁷⁷	1.3%	2009	VLTs
New Brunswick ⁷⁸	1.0	2014	
Newfoundland and Labrador ⁷⁹	0.7%	2009	VLTs
Nova Scotia ⁸⁰	0.8%	2003	Slots, VLTs
Nova Scotia	0.9%	2007	
Nova Scotia ⁸¹	0.7%	2013	
Ontario ⁸²	0.3%	2008	Slots
Ontario ⁵⁵	0.6%	2010-11	
Prince Edward Island ⁸³	0.9%	2005	VLTs
Quebec ⁸⁴	0.7%	2009	Slots, VLTs
Quebec ⁵⁵	0.4%	2012	
Saskatchewan ⁵⁵	1.2%	2001	Slots, VLTs
Saskatchewan ⁸⁵	0.2%	2007-08	

⁷⁰ Please note that jurisdictions may have different classifications of problem gambling when using the CPGI. Problem gambling has been represented here as those scoring CPGI 8+.

⁷¹ Smith, G. and Wynne, H. *Measuring Gambling and Problem Gambling in Alberta Using the Canadian Problem Gambling Index*, Prepared for the Alberta Gaming Research Institute.

⁷² Responsible Gambling Council (2014) *Canadian Gambling Digest 2012-2013*, for the Canadian Partnership for Responsible Gambling.

⁷³ British Columbia Ministry of Public Safety and Solicitor General (2008), *British Columbia Problem Gambling Prevalence Study, Final Report*.

⁷⁴ Canadian Partnership for Responsible Gambling (2017) *Gambling Data & Statistics: Problem Gambling Prevalence*,

<http://www.cprg.ca/Digests/ViewCards?mainCellId=1ee32df2-2ea4-e511-97fa-1abbb38a3094>

⁷⁵ Patton, D., Brown, D., Dhaliwal, J., Pankratz, C. and Broszeit, B. (2002) *Gambling Involvement and Problem Gambling in Manitoba*.

⁷⁶ Canadian Partnership for Responsible Gambling (2017) *Gambling Data & Statistics: Problem Gambling Prevalence*,

<http://www.cprg.ca/Digests/ViewCards?mainCellId=1ee32df2-2ea4-e511-97fa-1abbb38a3094>

⁷⁷ Market Quest Research. (2010) *2009 New Brunswick Gambling Prevalence Study*, Department of Health and New Brunswick Lotteries and Gaming Corporation.

⁷⁸ Canadian Partnership for Responsible Gambling (2017) *Gambling Data & Statistics: Problem Gambling Prevalence*,

<http://www.cprg.ca/Digests/ViewCards?mainCellId=1ee32df2-2ea4-e511-97fa-1abbb38a3094>

⁷⁹ MarketQuest Research (2009) *2009 Newfoundland and Labrador Gambling Prevalence Study*, Department of Health and Community Services, Government of Newfoundland and Labrador.

⁸⁰ Nova Scotia Office of Health Promotion (2004) *2003 Nova Scotia Gambling Prevalence Study*, Executive Summary.

⁸¹ Nova Scotia Department of Health and Wellness. (2016). 2013 Nova Scotia Adult Gambling Information Collection Project Technical Report.

⁸² Statistics Canada. (2009) *Canadian Community Health Survey, Cycle 4.1, 2007* [computer file]. Ottawa, Ontario: Author. Health Statistics Division; Statistics Canada. (STC cat. no. 82M0013XCB).

⁸³ Doiron, J. (2006) *Gambling and Problem Gambling in Prince Edward Island*, Prince Edward Island Department of Health.

⁸⁴ Kairouz, S., Nadeau, L., Paradis, C. (2011) Portrait of gambling in Quebec: Prevalence, incidence and trajectories over four years,

<http://dspace.uqalgary.ca/bitstream/1880/48548/1/ENHJEU-QUEBEC%20Report%20-%202028%20April%202011%20-%20Final.pdf>

⁸⁵ Statistics Canada (2009) *Canadian Community Health Survey, Cycle 4.1, 2007*, Ottawa, Ontario. Health Statistics Division; Statistics Canada. (STC cat. no. 82M0013XCB).

United Kingdom (UK)

Until 2010, problem gambling data was collated nationally throughout the UK using the British Gambling Prevalence Survey (BGPS)⁸⁶.

The aims of the BGPS 2010 were to provide data on participation in all forms of gambling in Great Britain, the prevalence of problem gambling, attitudes to gambling and to explore a range of associations with gambling behaviour. Overall, 7,756 people participated in this study.

Results showed that 73% of the adult population (or around 35.5 million adults) **aged 16 and over** participated in some form of gambling in the past year.

In order to provide comparability with previous study results the survey used both the DSM IV and the PGSI to screen participants.

Problem gambling prevalence, as measured by the DSM-IV, was higher in 2010 (0.9%) than in 2007 and 1999 (0.6% for both years); whereas prevalence as measured by the PGSI did not increase significantly between survey years (0.5% in 2007 and 0.7% in 2010).

From 2010 a decision was taken to include questions about gambling participation and problem gambling in various national health surveys instead of commissioning another BGPS study.

A combined report containing results from the latest *Health survey for England (2012)*, the *Scottish health survey (2015)* and the *Welsh problem gambling survey (2015)* was published in 2017: *Gambling Behaviour in Great Britain in 2015: Evidence from England, Scotland and Wales*.⁸⁷

Table 10-15 Problem gambling prevalence in the UK (1999-2015)

Jurisdiction	Year	DSM IV	PGSI
Britain	1999	0.6%	-
Britain	2007	0.6%	0.5%
Britain	2010	0.9%	0.7%
England	2012	0.9%	0.7%
Scotland ⁸⁸	2015		0.7%
Wales ⁸⁹	2015		1.1%
England & Scotland	2012 & 2015	0.5%	0.4%
Great Britain	2015	0.7	0.6

Source: UK Gambling Commission.

⁸⁶ Wardle, H., Moody, A., Spence, S., Orford, J., Volberg, R., Jotangia, D., Griffiths, M., Hussey, D. & Dobbie, F. (2010) *British Gambling Prevalence Survey 2010*, National Centre for Social Research, UK Gambling Commission.

⁸⁷ Conolly, A., Fuller, E., Jones, H., Maplethorpe, N., Sondaal, A., & Wardle, H. (2017) *Gambling Behaviour in Great Britain in 2015: Evidence from England, Scotland and Wales*.

⁸⁸ Problem gambling status has been defined according to either the DSM-IV or the PGSI.

⁸⁹ Problem gambling status has been defined according to either the DSM-IV or the PGSI.

United States of America (US)

Studies conducted across the United States of America (US) have used a number of different screens (NODS, DSM-IV, SOGS, SOGS-R and the CPGI) to estimate the prevalence of problem gambling in the past year adult population. Some studies have also gauged lifetime prevalence scores.

Table 10-16 shows the most recent problem gambling prevalence scores for those US jurisdictions in which standardised prevalence figures for the adult population aged 18+ are now available.⁹⁰

For a full on-line guide to US problem gambling prevalence estimates and studies in all jurisdictions the AGC recommends the Alberta Gaming Research Institute Library Resource for further updates:

<http://abgambinginstitute.ca/resources/reference-sources/prevalence-us>

Table 10-16 Problem gambling prevalence in the United States (standardised rates)

Jurisdiction	Standardised Prevalence Rate	Year
Arizona	1.6%	2002-03
California	1.7%	2005-06
Colorado	2.4%	1997
Connecticut	1.1%	2008
Delaware	0.6%	2000
Florida	1.05%	2001
Georgia	1.4%	2007
Indiana	1.2%	1998
Iowa	0.94%	2011
Kansas	N/A	N/A
Kentucky	1.1%	2008
Louisiana	1.3%	2008
Maryland	1.9%	2010
Massachusetts	2.2%	1989
Michigan	1.6%	2006
Minnesota	2.6%	1990
Mississippi	3.9%	1996
Missouri	N/A	N/A
Montana	3%	1998
Nevada	2.7%	2000-01
New Jersey	2.1%	1988
New Mexico	1.2%	2005-06
New York	1.2%	2005-06
North Carolina	N/A	N/A
North Dakota	1.2%	2000
Ohio	N/A	N/A
Oregon	2.1%	2005
Pennsylvania	N/A	N/A
South Dakota	1.2%	1993
Texas	2.4%	1995
Washington	2.1%	2003-04
Wisconsin	1.3%	1995

Source: Alberta Gaming Research Institute.

⁹⁰ Standardised problem gambling prevalence rates are derived from Williams, R., Volberg, R., and Stevens, R. (2012) The Population Prevalence of Problem Gambling: Methodological influences, standardised rates, jurisdictional differences, and worldwide trends. Report to the Ontario Problem Gambling Research Centre and the Ontario Ministry of Health and Long Term Care.

Worldwide patterns and trends – standardised studies

A summation and analysis of worldwide prevalence studies was completed by Williams, Volberg and Stevens in 2012.

[The Population Prevalence of Problem Gambling: Methodological influences, standardised rates, jurisdictional differences, and worldwide trends](#)⁹¹ presents results based on a meta-analysis of 202 gambling prevalence studies that were conducted between 1975 and 2012.

The authors gathered both published and unpublished studies and examined the impact of methodological differences on obtained problem gambling prevalence rates. This was done by considering factors such as the type of assessment instruments used, the time frame used to assess the presence of problem gambling (past year or lifetime), how the surveys were described to prospective participants, how the surveys were administered (e.g. face-to-face or via telephone), and the threshold criteria that determined when problem gambling questions were asked.

The weighted results were then used to create *standardised* past year prevalence rates for studies.

Comparisons between jurisdictions led to the finding that past year problem gambling rates range from 0.5 to 7.6%, with the average rate across all countries being 2.3%.

The report states that problem gambling rates were generally lowest in Europe, with intermediate rates in North America and Australia, and the highest rates in Asia.

Specifically, the lowest standardised prevalence rates occurred in Denmark, the Netherlands, and Germany; while lower than average rates were seen in Great Britain, South Korea, Iceland, Hungary, Norway, France, and New Zealand.

Average rates occurred in Sweden, Switzerland, Canada, Australia, United States, Estonia, Finland, and Italy; while the highest rates were observed in Singapore, Macau, Hong Kong, and South Africa.

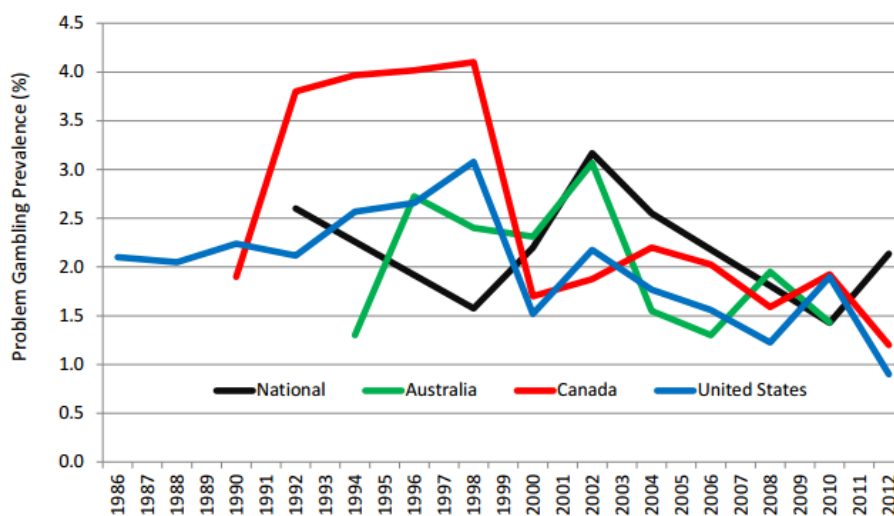
The following graphs are excerpted from the William, Volberg and Stevens report which states that:

In general, Figures 4 and 5 show that problem gambling rates started increasing in North America and Australia beginning in the late 1980s to early 1990s prior to achieving a peak in the late 1990s/early 2000s. This time interval is roughly coincident with the most rapid introduction and expansion of legal gambling opportunities in these countries (particularly electronic gambling machines (EGMs) and casinos) as well as the greatest increase in per capita gambling expenditure. As seen in Figure 6 below, this time period is also coincident with a significant worldwide increase in overall gambling participation. There has been a general worldwide downward trend in both gambling and problem gambling rates beginning in the late 1990s for North America and the early 2000s for Australia and other Nations.⁹²

⁹¹ Williams, R., Volberg, R., and Stevens, R. (2012) *The Population Prevalence of Problem Gambling: Methodological influences, standardised rates, jurisdictional differences, and worldwide trends*, Report to the Ontario Problem Gambling Research Centre and the Ontario Ministry of Health and Long Term Care.

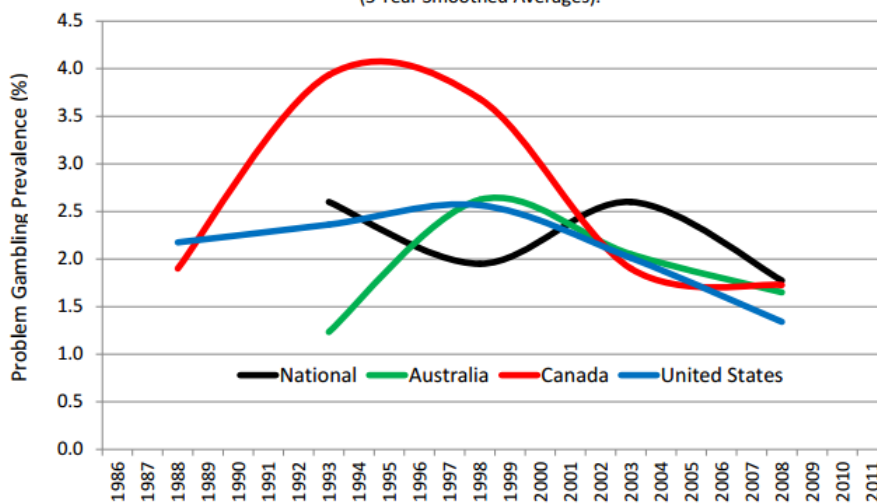
⁹² Williams, R., Volberg, R., and Stevens, R. (2012) *The Population Prevalence of Problem Gambling: Methodological influences, standardised rates, jurisdictional differences, and worldwide trends*, Report to the Ontario Problem Gambling Research Centre and the Ontario Ministry of Health and Long Term Care.pp55-56.

Figure 4. Standardized Problem Gambling Prevalence Rates over Time (2 Year Averages).



Source: Williams, R., Volberg, R., and Stevens, R. (2012) *The Population Prevalence of Problem Gambling: Methodological influences, standardised rates, jurisdictional differences, and worldwide trends*, Report to the Ontario Problem Gambling Research Centre and the Ontario Ministry of Health and Long Term Care.

Figure 5. Standardized Problem Gambling Prevalence Rates over Time (5 Year Smoothed Averages).



Source: Williams, R., Volberg, R., and Stevens, R. (2012) *The Population Prevalence of Problem Gambling: Methodological influences, standardised rates, jurisdictional differences, and worldwide trends*, Report to the Ontario Problem Gambling Research Centre and the Ontario Ministry of Health and Long Term Care.

The report further advises that:

As can be seen in Figures 4 and 5, current rates of problem gambling are now very close or even lower than they were in the late 1980s to early 1990s prior to the main period of gambling expansion. However, it needs to be recognized that almost all of the earliest prevalence studies tended to be conducted coincident with or a few years after the introduction of new form(s) of gambling so as to evaluate the impact of this introduction. Thus, there are very few true 'baselines' that would more unambiguously establish whether current rates of problem gambling are the same as what existed prior to any legal gambling availability.

Considering that gambling availability has steadily increased in most jurisdictions over the past 30 years, these results support both the contention that increased gambling availability is related to increased problem gambling, and the contention that populations tend to adapt over time. Echoing the sentiments of Storer et al. (2009), there are several mechanisms likely responsible for decreasing problem gambling prevalence. They include:

- a) increased population awareness of the potential harms of gambling (creating less susceptibility);
- b) decreased overall population participation in gambling (due to greater wariness as well as the novelty having worn off);
- c) people being removed from the population pool of problem gamblers due to severe adverse consequences deriving from their gambling (e.g., bankruptcy, suicide);
- d) increased industry and/or government efforts to provide gambling more safely, to enact programs to prevent problem gambling, and to provide treatment resources; and
- e) increasing age of the population.⁹³

⁹³ Williams, R., Volberg, R., and Stevens, R. (2012) *The Population Prevalence of Problem Gambling: Methodological influences, standardised rates, jurisdictional differences, and worldwide trends*, Report to the Ontario Problem Gambling Research Centre and the Ontario Ministry of Health and Long Term Care pp 55-56.