

**REPORT OF SURVEY ON PARTICIPATION IN
GAMBLING ACTIVITIES AMONG SINGAPORE
RESIDENTS, 2011**



**NATIONAL COUNCIL ON PROBLEM GAMBLING
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This report summarizes the findings from the 2011 survey on participation in gambling activities among Singapore Residents. This is the third survey conducted on participation in gambling activities among Singapore Residents, following similar studies conducted in 2005 and 2008.

OBJECTIVES OF SURVEY

2. The objectives of this survey are to:
 - a. Assess the extent and pattern of gambling among adult Singapore residents; and
 - b. Ascertain the prevalence of problem gambling and profile of problem gamblers.
3. Details of the survey methodology are provided in Annex A.

GAMBLING PATTERNS

4. Similar to the survey in 2008, respondents in the 2011 survey who had participated in at least one form of gambling in the last 12 months were classified as gamblers.

Overall Gambling Participation

5. In the 2011 survey, 47% of Singapore residents aged 18 and above reported that they have participated in at least one form of gambling activity in the last 12 months, compared to 54% in the survey in 2008. The seven percentage point decrease was statistically significant and hence unlikely due to random fluctuations of gambling participation rate over time.

Gambling Participation by Demographic Groups

6. Relatively higher gambling participation rates were found among the following groups (for more details, see Annex B, Table B1):
 - a. Chinese (57%)
 - b. Male (55%)
 - c. Residents aged 40 to 59 years (54%)
 - d. Residents with PSLE and below educational qualification (52%)
 - e. Residents with average monthly personal income of \$4,000 and above (61%)

Gambling Participation by Type of Gambling Activities

7. Similar to the study in 2008, the 2011 survey found that the most popular types of gambling activities were 4D (38%), Toto (28%), Singapore Sweep (16%) and Social Gambling (13%) (see Annex B, Table B2).

Betting Amounts

8. The median monthly betting amount on games in 2011 was \$40, down from \$100 in 2008. However, the average monthly betting amount was higher at \$212, compared to \$176 in 2008 (see [Annex B, Table B3](#)). Similar to 2008, the monthly average betting amount in 2011 was generally higher for those with higher personal incomes than those with lower personal incomes (see [Annex B, Table B4](#)).

9. The results show that most Singapore Residents were gambling with a lower amount in 2011 as compared to 2008, with a large majority indicating an average monthly betting amount of \$100 or less. However, the proportion who gambled with large amounts (i.e. average monthly betting amount of more than \$1,000), while remaining small, has increased in 2011 compared to 2008. This has contributed to the increase in the overall average monthly betting amount for the population.

Starting Age and Gambling Activity

10. In 2011, 59% of the respondents who have ever gambled stated that they started to gamble at the age of 24 or younger, which was a statistically significant decrease of sixteen percentage points from 75% in 2008. About 56% of the respondents in the 2011 survey stated that they started to gamble regularly (at least once a week) before they turned 30 years old, which is a statistically significant decrease of thirteen percentage points from 69% in 2008 (see [Annex B, Table B5](#)). Similar to the 2008 survey, the 2011 survey found that most started with 4D and social gambling (see [Annex B, Table B6](#)).

PERCEPTION TOWARDS VARIOUS GAMBLING FORMS

11. Similar to the survey in 2008, the 2011 survey found that overall the majority of respondents regarded the various forms of gambling as gambling activities rather than leisure activities. The perceptions of the various forms of gambling as gambling activities versus leisure activities were generally similar between the 2011 and 2008 surveys. However, the proportions of gamblers who regard jackpot machines and table games as leisure activities have decreased by nine to twelve percentage points from 2008 to 2011. Similar to the survey in 2008, the 2011 survey found that gamblers were more likely than non-gamblers to regard the softer forms of games (i.e., 4D, Toto, Singapore Sweep, Social Gambling) as leisure activities (see [Annex B, Table B7](#)).

PROBABLE PATHOLOGICAL AND PROBLEM GAMBLING

12. Probable pathological and problem gamblers were detected based on their responses to screening questions on an internationally established diagnostic tool (which was also used in previous MCYS surveys) designed with the DSM-IV screening criteria (see [Annex C](#)). Pathological gambling represents a more severe form of gambling addiction compared to problem gambling.

Probable Pathological & Problem Gambling Rates

13. The 2011 survey found that between 1.0% and 1.7% of the respondents may be classified as probable pathological gamblers. In terms of a single point estimate, the proportion of respondents classified as probable pathological gamblers is 1.4% in the 2011 survey, compared to 1.2% in 2008. The change was likely due to random fluctuations of the probable pathological gambling rate over time (see [Annex B, Table B8](#)).

14. The 2011 survey found that between 0.9% and 1.6% of the respondents may be classified in the less severe category of probable problem gamblers. In terms of a single point estimate, the proportion of respondents classified in this category is 1.2%, compared to 1.7% in 2008. Similarly, the change from 1.7% in 2008 to 1.2% in 2011 was likely due to random fluctuations of the probable problem gambling rate over time (see [Annex B, Table B8](#)).

Profile of Probable Pathological Gamblers

15. Slightly higher prevalence of probable pathological gambling rate was found among residents with the following profiles (see [Annex B, Table B9](#)):

- a. Male (2.1%)
- b. Chinese (1.6%)
- c. Those aged 18 to 29 years (1.6%) and 40 to 49 years (1.8%)
- d. Those with “O” level/ ITE/ VITB education (2.2%)
- e. Those with monthly personal income of \$2,000-\$2,999 (1.9%) and \$4,000 & above (1.7%)

16. The median and average monthly betting amounts among probable pathological gamblers were higher in 2011 (median: \$581; average: \$1,713) as compared to 2008 (median: \$450; average: \$619), and these amounts were higher than that for all gamblers (median: \$40; average: \$212) (see [Annex B, Table B10](#)).

17. The 2011 survey found that 68% of probable pathological gamblers were frequent gamblers (i.e. having gambled at least once a week), compared to 43% for all gamblers. This pattern of results was similar to the findings in the 2008 survey, although the proportions of frequent gamblers (among probable pathological gamblers and among all gamblers) in the 2011 survey were lower compared to 2008 (see [Annex B, Table B11](#)).

18. In the 2011 survey, 53% of probable pathological gamblers indicated that they started gambling regularly at the age of below 30 years old, down from 100% in 2008. About 5% of the probable pathological gamblers in 2011 started regular gambling below 18 years old, down from 18% in 2008 (see [Annex B, Table B12](#)).

SELF-CONTROL IN GAMBLING

19. The 2011 survey included items that assessed the gambler’s self-control in gambling, by asking the gambler whether he gambled more than he had planned to, in terms of having gambled for a longer period of time, with more money and more frequently than he had planned to. The proportion of gamblers with poor self-control in gambling was highest

among gamblers who had participated in online gambling, table games, jackpot machines, horse racing and sports betting (see Annex B, Table B13).

20. Frequent gamblers were more likely than non-frequent gamblers to have poor self-control in gambling (see Annex B, Table B14). Probable pathological gamblers (PPGs) were much more likely than non-PPG gamblers to have poor self-control in gambling (see Annex B, Table B15).

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SURVEY METHODOLOGY

Sampling and Data Weighting

A probability disproportionate stratified sampling method was used to select the subjects. From a sampling frame of residents' addresses, a randomly selected sample of 3,315 Singapore residents was interviewed using a structured questionnaire between May 2011 and August 2011. The minority ethnic groups were over-sampled to allow for meaningful analysis. The survey achieved a response rate of 81%, thus ensuring that the results were representative. Post-survey weightings were applied based on corresponding cohort proportions from published resident figures by the Department of Statistics as of 2011.

Questionnaire Design

2. The survey was conducted via face-to-face interviews. The screening questions to detect probable pathological and problem (PPG) gamblers, which were identical to those in previous MCYS surveys, were based on diagnostic criteria in the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV) developed by the American Psychiatric Association (APA). The same diagnostic criteria were used in similar studies in Hong Kong, Macau and the United States.

Qualifications and Mitigating Factors

3. Given that the main instrument used in the study is a survey, we can only capture "self-professed" behaviour rather than actual behaviour. Social desirability may also undermine the gambling and problem gambling participation as the survey touched on sensitive gambling habits and family relations. To mitigate this, surveyors were asked to assure interviewees about the strict confidentiality of individual responses at two prescribed junctures of each interview.

4. A statistical test on the reliability of the PPG screening tool revealed that the screening questions were internally consistent (Cronbach's alpha of 0.86).

Table B1 – Gambling Participation Rates, by Demographic Groups (%) in the last 12 months

	2008	2011
Overall	54	47
Ethnicity		
Chinese	62	57
Malay	22	6
Indian	36	25
Gender		
Male	60	55
Female	49	40
Age Group (Years)		
18 to 29	42	32
30 to 39	57	49
40 to 49	64	54
50 to 59	60	54
60 and above	43	48
Highest Education Level		
PSLE and below	61	52
GCE 'O' Level/ITE/VITB	52	51
GCE 'A' Level/Polytechnic	51	50
University Degree and above	52	41
Monthly Personal Income (\$)		
No Income	43	36
1-999	60	43
1,000 – 1,999	66	46
2,000 – 2,999	62	51
3,000 – 3,999	56	49
4,000 and above	56	61
Marital Status		
Never Married	46	38
Married with no children	64	52
Married with children	57	51
Divorced/Separated/Widowed	42	55
Religion		
Taoism	66	65
Buddhism	65	63
No Religion	62	56
Christianity	47	42
Hinduism	42	29
Islam	21	6

Table B2 – Gambling Participation Rates, by Type of Games (%) in the last 12 months

Types of Games	2008	2011
All Games	54	47
4D	47	38
TOTO	33	28
Social Gambling	23	13
Singapore Sweep	17	16
Sports Betting	9	2
Jackpot Machines in Local Casinos (IRs)	NA	3
Jackpot Machines in Local Clubs	8	2
Jackpot Machines in Cruises/Outside Singapore		3
Table Games in Local Casinos (IRs)	NA	4
Table Games in Cruises/Outside Singapore	9	4
Horse Betting	6	1
Online Gambling	1	1

Table B3 – Median and Average Monthly Betting Amount (\$) in last 12 months

	2008	2011
Median Monthly Betting Amount	\$100	\$40
Average Monthly Betting Amount	\$176	\$212

Table B4 – Average Monthly Betting Amount (last 12 months), by Monthly Personal Income (%)

Monthly Personal Income	Average Betting Amount per month					
	\$100 and below	\$101 - \$300	\$301 - \$500	\$501 - \$1,000	More than \$1,000	Total
No Income	81 (62)	11 (33)	4 (3)	3 (2)	2 (0)	100 (100)
\$1-\$999	85 (79)	11 (21)	0 (0)	2 (0)	2 (0)	100 (100)
\$1,000-\$1,999	81 (51)	13 (31)	2 (12)	2 (5)	2 (0.8)	100 (100)
\$2,000-\$2,999	70 (45)	18 (32)	7 (11)	3 (10)	3 (1)	100 (100)
\$3,000-\$3,999	67 (39)	12 (39)	10 (5)	6 (10)	5 (8)	100 (100)
\$4,000 and above	63 (39)	16 (39)	9 (5)	5 (10)	7 (8)	100 (100)

Note: Percentages for the 2008 survey in brackets. Figures may not add up to 100% due to rounding off error.

Table B5 – Starting Age of First Gambling Participation and First Regular (i.e. at least once a week) Gambling Participation (%)

Starting Age of Gambling	2008		2011	
	First Gambling Participation (%)	First Regular Gambling Participation (%)	First Gambling Participation (%)	First Regular Gambling Participation (%)
Below 18 Years	24	3	14	4
18-24	51	36	45	33
25-29	10	30	16	19
30-39	10	23	16	26
40-49	3	7	6	13
50-59	2	2	3	4
60 and above	0.1	0.2	0	1

Note: Figures may not add up to 100% due to rounding off error.

**Table B6 – First Gambling Activity and First Regular (i.e., at least once a week)
Gambling Activity (%)**

Types of Games	2008		2011	
	First Gambling Participation (%)	First Regular Gambling Participation (%)	First Gambling Participation (%)	First Regular Gambling Participation (%)
4D	48	71	61	75
Social Gambling	36	11	22	11
TOTO	6	6	8	6
Singapore Sweep	2	0.7	2	0.6
Sports Betting	6	9	2	2
Horse Betting	0.3	2	0.4	1.4
Jackpot Machines in Local Casinos (IRs)	NA	NA	0.2	0
Jackpot Machines in Local Clubs	0.4	0	0.5	0
Jackpot Machines in Cruises/Outside Singapore	0.7	0	0.9	0
Table Games in Local Casinos (IRs)	NA	NA	1.2	2.3
Table Games in Cruises/Outside Singapore	1	0	1.8	1.3
Online Gambling	0	0.7	0.3	0

Note: Figures may not add up to 100% due to rounding off error.

Table B7 – Perception of Various Gambling Forms as “Leisure” Activities

Types of Games	All respondents		Gamblers		Non-Gamblers	
	2008 (%)	2011 (%)	2008 (%)	2011 (%)	2008 (%)	2011 (%)
Online Gambling	7	10	8	11	5	9
Horse Betting	13	10	19	11	6	8
Table Games in Casinos (local/cruises/outside Singapore)	15	10	21	12	8	8
Sports Betting	19	15	25	17	12	14
Jackpot Machines in Casinos (local/cruises/outside Singapore)	23	17	30	18	13	12
Jackpot Machines in Local Clubs	24	18	31	22	15	15
4D	49	43	59	58	39	30
TOTO	49	45	58	59	39	31
Singapore Sweep	51	49	59	64	42	35
Social Gambling	54	50	60	62	46	39

Non-Gamblers: Did not participate in gambling activities in the last 12 months.

Table B8 – Prevalence of Probable Pathological and Problem Gambling

	2008	2011
Probable Pathological Gambling	1.2 (0.7% to 1.6%)	1.4 (1.0% to 1.7%)
Probable Problem Gambling	1.7 (1.1% to 2.2%)	1.2 (0.9% to 1.6%)
Total – last 12 months	2.9 (2.1% to 3.5%)	2.6 (2.0% to 3.1%)

Notes: Figures in brackets refer to confidence interval at 95% level. The analyses showed that the changes in rates from 2008 to 2011 were due to random fluctuations of the respective rates over time.

Table B9 – Prevalence of Probable Pathological Gambling, by Demographic Groups

Profiles	Probable Pathological Gamblers (%)	
	2008	2011
Ethnicity		
Chinese	1.4	1.6
Malay	0.4	0*
Indian	0.5	0.7
Gender		
Male	1.7	2.1
Female	0.6	0.6
Age Group (Years)		
18 to 29	0.4	1.6
30 to 39	1.4	0.9
40 to 49	1.5	1.8
50 to 59	1.7	1.5
60 and above	0.9	0.5
Highest Education Level		
PSLE and below	0.9	0.6
GCE 'O' Level/ITE/VITB	2.4	2.2
GCE 'A' Level/Polytechnic	0.4	1.4
University Degree and above	0*	0.6
Monthly Personal Income (\$)		
No Income	0.8	0.8
1-999	0*	0.5
1,000 – 1,999	2.3	1.5
2,000 – 2,999	2.1	1.9
3,000 – 3,999	1.1	1.4
4,000 and above	0*	1.7
Marital Status		
Never Married	0.7	1.7
Married with no children	1.6	2.6
Married with children	1.4	1.0
Divorced/Separated/Widowed	0*	1.8
Religion		
Taoism	2.0	1.2
Buddhism	1.7	1.2
No Religion	1.5	2.1
Christianity	0.8	2.1
Hinduism	0.6	1.3
Islam	0*	0*

Note: An asterisk (*) indicates that none detected as probable pathological gamblers in the sample.

Table B10 – Median and Average Monthly Betting Amount in Gambling Activities, among Probable Pathological Gamblers

	Among All Gamblers		Among Probable Pathological Gamblers	
	2008	2011	2008	2011
Median Monthly Betting Amount	\$100	\$40	\$450	\$581
Average Monthly Betting Amount	\$176	\$212	\$619	\$1,713

Note: Figures to be interpreted with caution due to small sample size for probable pathological gamblers.

Table B11 – Frequency of Gambling Participation (%), among Probable Pathological Gamblers

	Among All Gamblers (%)		Among Probable Pathological Gamblers (%)	
	2008	2011	2008	2011
Non-Frequent Gamblers (Gambled less than once a week in last 12 months)	29	57	0	32
Frequent Gamblers (Gambled at least once a week in last 12 months)	71	43	100	68

Note: Percentages to be interpreted with caution due to small sample size for probable pathological gamblers.

Table B12 – Starting Age of First Regular (i.e. at least once a week) Gambling Participation, among Probable Pathological Gamblers

Starting Age of First Regular Gambling Participation	Among All Gamblers (%)		Among Probable Pathological Gamblers (%)	
	2008	2011	2008	2011
Below 18 Years	3	4	18	5
18-24	36	33	71	38
25-29	30	19	12	10
30-39	23	26	0	25
40-49	7	13	0	23
50-59	2	4	0	0
60 and above	0.2	1	0	0

Notes: Figures may not add up to 100% due to rounding off errors. Percentages to be interpreted with caution due to small sample size for probable pathological gamblers.

Table B13 – Poor Self-Control in Gambling (%), among Gamblers who have Participated in Specific Gambling Activities

Among gamblers who have participated in ...	% who gambled for a longer period of time than had planned to	% who gambled with more money than had planned to	% who gambled more frequently than had planned to
TOTO	4.6	4.7	3.8
4D	4.9	4.8	3.8
Singapore Sweep	6.2	5.4	4.8
Social Gambling	8.9	7.7	5.1
Sports Betting	11.8	10.5	10.5
Horse Racing	21.3	14.9	0.0
Jackpot Machines in Local Casinos (IRs)	19.1	14.4	10.1
Jackpot Machines in Local Clubs	9.8	11.5	13.1
Jackpot Machines in Cruises/Outside Singapore	13.0	12.0	5.4
Table Games in Local Casinos (IRs)	26.5	23.5	21.3
Table Games in Cruises/Outside Singapore	17.2	16.5	11.2
Online Gambling	30.4	33.3	29.2
Among All Gamblers	5.0	5.1	4.0

Note: A higher percentage indicates poorer self-control in gambling.

**Table B14 – Poor Self-Control in Gambling (%), among
Non-Frequent Gamblers and Frequent Gamblers**

	Type of Gamblers (by Gambling Frequency)		Among All Gamblers
	Non-Frequent Gamblers (less than once a week)	Frequent Gamblers (at least once a week)	
Gambled for a longer period of time than had planned to	3.6	6.9	5.0
Gambled with more money than had planned to	4.3	6.2	5.1
Gambled more frequently than had planned to	2.4	5.1	4.0

Note: A higher percentage indicates poorer self-control in gambling.

**Table B15 – Poor Self-Control in Gambling (%), among
Probable Pathological Gamblers**

	Type of Gamblers (by PPG)		Among All Gamblers
	Non-PPG Gamblers	Probable Pathological Gamblers	
Gambled for a longer period of time than had planned to	1.8	75.6	5.0
Gambled with more money than had planned to	1.9	71.1	5.1
Gambled more frequently than had planned to	1.7	55.6	4.0

Note: A higher percentage indicates poorer self-control in gambling. Percentages to be interpreted with caution due to small sample size for probable pathological gamblers.

**PROBABLE PROBLEM AND PATHOLOGICAL GAMBLING
SCREENING CRITERIA**

The diagnostic criteria (see Table C) in the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV) was developed by the American Psychiatric Association (APA).

Table C – DSM-IV Diagnostic Criteria for Problem and Pathological Gambling

Preoccupation	Is preoccupied with gambling (e.g. preoccupied with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble).
Tolerance	Needs to gamble with increasing amounts of money in order to achieve the desired excitement.
Withdrawal	Is restless or irritable when attempting to cut down or stop gambling.
Escape	Gambles as a way of escaping from problems or relieving dysphoric mood (e.g. feelings of depression, guilt, anxiety or depression).
Chasing	After losing money gambling, often returns another day in order to get even (“chasing one’s losses”).
Lying	Lies to family members, therapists, or others to conceal the extent of involvement with gambling.
Loss of control	Has made repeated unsuccessful efforts to control, cut back, or stop gambling.
Illegal acts	Has committed illegal acts (e.g. forgery, fraud, theft or embezzlement) in order to finance gambling.
Risked significant relationship	Has jeopardised or lost a significant relationship, job, or educational or career opportunity because of gambling.
Bailout	Has relied on others to provide money to relieve a desperate financial situation caused by gambling.