

# New Zealanders' Participation in Gambling

Results from the 2012 Health and Lifestyles Survey

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## REVIEW:

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This report has undergone peer review by Dr Darren Walton, Hannah Booth, Lynzi Armstrong and Rebecca Gray.

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CBG Research Ltd carried out the fieldwork for the 2012 Health and Lifestyles Survey. The fieldwork for the 2006/07 Gaming and Betting Activities Survey, 2008 and 2010 Health and Lifestyles Survey were conducted by the National Research Bureau.

Dr Darren Walton, Hannah Booth, Lynzi Armstrong and Rebecca Gray provided peer review for the report.

The 2012 Health and Lifestyles Survey gambling questionnaire was created through a collaborative design process incorporating feedback from the Health Promotion Agency, Department of Internal Affairs and Ministry of Health.

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# 1. EXECUTIVE SUMMARY

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The Health and Lifestyles Survey 2012 (HLS) is a nationally representative in-home survey monitoring health behaviours and attitudes of New Zealand residents aged 15 years and over. The HLS is managed by the Health Promotion Agency (HPA)<sup>1</sup> and collects information relating to the programme areas the HPA works in, including minimising harm from gambling. The gambling section of the questionnaire was designed to compare with the 2006/07 Gaming and Betting Activities Survey, a benchmark survey carried out prior to the Health Sponsorship Council's development of a national health promotion programme aiming to reduce gambling harm. The results were also comparable with the 2008 and 2010 HLS. Some of the characteristics of particular interest when looking at gambling participation include frequency of participation in continuous and non-continuous forms of gambling and individual risk of gambling problems, as defined by an international problem gambling index.

Overall, around five in seven (70.3%) New Zealanders aged 15 years and older (approximately 2.4 million people) had participated in some form of gambling over the past 12 months. The overall past-year participation rate declined significantly since 2006/2007 from 82.4% to 70.3%, with the significant reduction occurring among Māori and people of European/Other ethnicity. The reduction also occurred among all the age groups, in particular young people aged 15 to 24 years who had the greatest reduction. There was a significant reduction in the following gambling activities: NZ Lotteries products<sup>2</sup>, gaming machines at pubs or clubs, and gambling as a fundraising activity, sweepstakes and making money bets with friends or families. Playing table games at casinos was the only activity that had increased in 2012, from 3% to 7%, however the proportion of people engaging in this activity remains relatively low overall. In 2012 the most commonly reported form of gambling was buying lottery tickets: seven in nine (78.3%) past-year gamblers had purchased a lottery ticket at least once in the past year. Other gambling activities included: one in six (16.4%) adults had bought a TAB tickets (track betting or sports betting); one in seven (13.6%) adults had played gaming machines or pokies at pubs or clubs; one in nine (10.7%) adults had played gaming machines or pokies at one of the six casinos. In 2012, people who had high household equivalised incomes– that is, more money to spend per member of the household – were more likely to participate in gambling than people with low and medium household equivalised incomes. People aged 25 to 44 years and 45 years and over also had a much higher participation rate, compared with people aged 15 to 17 years and 18 to 24 years.

Over the last six years, the decline in the proportion of the people who had gambled in the past year was mainly due to a significant reduction in infrequent gambling (ie, people who participated in gambling activities less than once a week). The weekly participation in purchasing of lottery tickets remained unchanged over time: in 2012 one in five (18.5%) New Zealanders aged 15 years and older (approximately 634,000 people) had bought a lottery ticket on a weekly basis. Males were more likely than females, and older people were more likely than younger people to buy

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<sup>1</sup> The HPA is a New Zealand Crown entity formed in 2012 by the merger of the Health Sponsorship Council (HSC) and the Alcohol Advisory Council (ALAC).

<sup>2</sup> NZ Lotteries products included Lotto, Keno, Bullseye, Strike, Powerball, Big Wednesday, Instant Kiwi and other scratch tickets.

lottery tickets at least once a week. The top three most frequent monthly gambling activities were lottery tickets, Instant Kiwi or scratch tickets and gaming machines at pubs or clubs. Most of the other gambling activities were participated in on a less than monthly basis. People who had participated regularly (ie, weekly or more often) in the continuous forms of gambling activities (eg, pokie machines, sports and racing betting and table games at a casino) were more likely to be at risk of developing gambling problems. This was particularly true in the case of playing gaming machines or pokies at pubs or clubs.

The average number of gambling activities participated in during the previous 12 months was two activities. It has been recognised in previous research that participation in a higher number of different gambling activities was strongly associated with a higher likelihood of gambling problems. The HLS results confirm this observation, with at-risk and problem gamblers participating in an average of four different types of gambling over the previous 12 months. In 2012 the proportions of people participating in two types of gambling activities was significantly lower than in previous years, while the proportions of people who participated in one, three or four or more activities have not changed significantly since 2006.

# CONTENTS

<b>1. Executive Summary .....</b>	<b>3</b>
Contents .....	5
List of tables.....	7
List of figures .....	8
<b>2. Introduction.....</b>	<b>9</b>
2.1 The Health and Lifestyles Survey.....	9
2.2 Gambling and public health.....	9
<b>3. Survey Design and Method .....</b>	<b>11</b>
3.1 Questionnaire content.....	11
3.2 Data collection .....	11
3.3 Sample .....	11
3.4 Weighting.....	12
3.5 Sampling errors .....	12
3.6 Ninety-five percent confidence intervals.....	12
3.7 Margin of error .....	12
3.8 Derived variables .....	13
3.8.1 <i>Ethnicity</i> .....	13
3.8.2 <i>Gambling type</i> .....	13
3.8.3 <i>Neighbourhood socioeconomic deprivation: The New Zealand Index of Socioeconomic Deprivation 2006</i> .....	14
3.8.4 <i>Household Equivalised Income</i> .....	14
3.8.5 <i>Problem Gambling Severity Index (PGSI)</i> .....	14
3.9 Differences between sub-groups.....	15
3.10 How to read the tables .....	15
<b>4. Gambling participation .....</b>	<b>17</b>
4.1 Gambling context.....	17
4.1.1 <i>Objective of report</i> .....	18
4.2 Type of gambling activities done in the previous twelve months.....	19
4.2.1 <i>Past-Year Gambling Participation</i> .....	19
4.2.2 <i>Comparison with previous years: Past-Year Overall Gambling Participation rate</i> .....	20
4.2.3 <i>Participation in each individual gambling activity</i> .....	23

4.2.4	<i>Profile of past-year gamblers</i> .....	25
4.2.5	<i>Comparison with previous years: gambling activities participated in during previous 12 months</i> .....	28
4.3	Frequency of participation in gambling activities, 2012 .....	30
4.3.1	<i>Comparison with previous years: Frequency of engaging in gambling activities</i> .....	32
4.4	Participation in continuous and non-continuous forms of gambling .....	35
4.4.1	<i>Gambling participation type, 2012</i> .....	35
4.4.2	<i>Comparison with previous years: gambling participation types</i> .....	39
4.4.3	<i>Frequency of participation by demographics: Lotto, Big Wednesday and Powerball tickets</i> .....	40
4.4.4	<i>Frequency of gambling participation by demographics: Betting on horse or dog races or sports events</i> .....	42
4.4.5	<i>Frequency of gambling participation by demographics: Buying Instant Kiwi or scratch tickets</i> .....	44
4.4.6	<i>Frequency of gambling participation by demographics: Playing gaming machines or pokies at pubs or clubs</i> .....	46
4.4.7	<i>Problem gambling risk, by monthly participation in four common forms of gambling activity</i> .....	48
4.4.8	<i>Problem gambling risk, by gambling participation frequency</i> .....	49
4.5	Number of activities taken part in during the previous 12 months .....	50
4.5.1	<i>Number of gambling activities, 2012</i> .....	50
4.5.2	<i>Comparison with previous years: number of gambling activities participated in during previous 12 months</i> .....	53
	<b>References</b> .....	<b>54</b>

## LIST OF TABLES

Table 1: Overview of margin of error for gambling activities .....	13
Table 2: Gambling expenditure in the four main sectors, 2006 - 2012.....	17
Table 3: Past-year gambling participation, total population aged 15 years and over (Unadjusted prevalence) .....	19
Table 4: Participation in gambling activities in the previous 12 months, by demographics, 2012.....	26
Table 5: Frequency of participation in gambling activities, 2006/07, 2008, 2010, 2012 .....	33
Table 6: Participation in continuous and non-continuous forms of gambling, total population aged 15 years and over (unadjusted prevalence).....	35
Table 7: Gambling participation type, by demographics, 2012 .....	37
Table 8: Frequency of buying Lottery tickets, by demographics, 2012 .....	40
Table 9: Frequency of betting on horse or dog races or sports events, by demographics, 2012.....	42
Table 10: Frequency of buying Instant Kiwi or scratch tickets, by demographics, 2012.....	44
Table 11: Frequency of playing pokie machines in pubs or clubs, by demographics, 2012 ..	46
Table 12: Risk of problem gambling, by monthly participation in playing pokies in pubs or clubs, sports or racing betting, buying lottery tickets and scratch tickets, 2012.....	48
Table 13: Risk of problem gambling, by gambling participation frequency, 2012.....	49
Table 14: Number of gambling activities participated in during last 12 months, total population aged 15 years and over (unadjusted prevalence), 2012.....	50
Table 15: Number of gambling activities taken part in during previous 12 months, by demographics, 2012.....	51



## LIST OF FIGURES

Figure 1: Past-year gambling participation prevalence rate, 2006/2007, 2008, 2010, 2012..	20
Figure 2: Past-year gambling participation prevalence rate by ethnicity, 2006/2007, 2008, 2010, 2012 .....	21
Figure 3: Past-year gambling participation prevalence rate by age group, 2006/2007, 2008, 2010, 2012 .....	22
Figure 4: Gambling activities participated in during the previous 12 months, 2012.....	24
Figure 5: Past-year gambling participation by type of activity, 2006/07, 2008, 2010, 2012 ...	29
Figure 6: Frequency of participation in gambling activities, among those who had done them in the previous twelve months, 2012 .....	31
Figure 7: Gambling participation types, 2006/07, 2008, 2010 and 2012 .....	39
Figure 8: Number of gambling activities participated in, 2006/07, 2008, 2010 and 2012 .....	53

## 2. INTRODUCTION

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### 2.1 THE HEALTH AND LIFESTYLES SURVEY

The Health and Lifestyles Survey (HLS) is a monitor of the health behaviour and attitudes of New Zealand adults aged 15 years and over. The HLS is managed by the HPA and collects information relating to the programme areas the HPA works in, including minimising harm from gambling. The HLS is carried out every two years, with the first HLS carried out in 2008.

Prior to the 2008 HLS, the Health Sponsorship Council (which later became part of the HPA) undertook a survey to benchmark people's opinion, knowledge and behaviour relating to gambling. This was called the Gaming and Betting Activities Survey (GBAS) and was carried out from December 2006 to May 2007.

Each of these surveys have included between 1,600 and 3,000 adults (aged 15 years and over). Details of the procedures followed to ensure these surveys produced high-quality and robust data can be found in the related methodology reports. These can be accessed at <http://www.hpa.org.nz/research-library/research-publications>

The 2012 HLS included questions relating to tobacco control, healthy eating and sun safety. The 2012 HLS included a comprehensive set of items relating to minimising harm from gambling, to enable comparisons with measures from the 2006/07 GBAS and the two previous HLSs.

This report presents descriptive results showing participation in gambling activities according to the 2012 HLS. Comparable data have been included from the GBAS, the 2008 HLS and 2010 HLS, where this is possible.

### 2.2 GAMBLING AND PUBLIC HEALTH

Gambling in New Zealand is regulated by the Gambling Act 2003. Preventing and minimising the harm caused by gambling is one of the purposes of the Act.

The Ministry of Health is responsible, under the Act, for the prevention and treatment of problem gambling. As part of the Ministry's strategy, the HPA has been contracted to deliver a programme that contributes to the promotion of public health by preventing and minimising the harm from gambling.

The HPA's programme includes a mass media campaign, development of resources to support public health activities and a research and evaluation component. The mass media campaign prompts New Zealanders to be aware of the broad impacts of gambling harm on individuals, families and communities and provides knowledge and tools to enable people to take action to prevent and minimise this harm. The campaign activities were first launched in 2007 and the fourth phase will be launched in 2014.

Results from the GBAS, HLS and other surveys can be used to monitor and evaluate changes and developments in community awareness of gambling harms. These measures can also monitor the

degree to which people are involved in the types of individual, family and community behaviours that the HPA's programme is promoting.

## 3. SURVEY DESIGN AND METHOD

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### 3.1 QUESTIONNAIRE CONTENT

The 2012 HLS questionnaire is available from the HPA website: <http://www.hpa.org.nz/research-library/research-publications/the-2012-health-and-lifestyles-survey-questionnaire>

The gambling section of the 2012 HLS questionnaire contained about 40 questions. The majority of these gambling questions were sourced from the 2006/07 Gaming and Betting Activities Survey and the Department of Internal Affairs' 2005 Gambling Participation and Attitudes Survey to facilitate comparisons with data collected from these surveys previously. The questions have been reviewed and some changes made every year of the survey, to reflect changes in the gambling environment and in the priorities for health promotion programmes relating to gambling harm.

The questionnaire was tested in a pre-survey pilot to assess its length and to ensure that the items were easy to understand and answer.

The gambling section had the largest number of questions of all HPA programmes in the 2010 HLS. In 2012, the number of questions was reduced by approximately half. The extended version of the gambling section (like that of the 2010 HLS) has been considered in the 2014 HLS questionnaire development.

The methodology report for the 2012 Health and Lifestyles Survey (Health Promotion Agency 2013) provides a full description of the survey design, implementation, weighting and analysis. It is available from the HPA website: <http://www.hpa.org.nz/research-library/research-publications/2012-health-and-lifestyles-survey-methodology-report>

### 3.2 DATA COLLECTION

Interviews for the main survey were conducted from 1<sup>st</sup> May to 20<sup>th</sup> August 2012. The survey involved face-to-face interviews in respondents' homes, with a Computer Assisted Personal Interview (CAPI). Show cards with predetermined response categories were used to assist respondents where appropriate. To ensure a good response rate, up to six calls were made at each sampled dwelling, at different times of the day, and on different days of the week, before accepting that dwelling as a non-contact.

The General sample of the 2012 HLS resulted in a response rate of 86.3%. The sample size was 2,672 people (aged 15 years and over), which included 619 Māori, 387 Pacific people, 127 Asian people and 1539 people of European/Other ethnicity (prioritised ethnicity).

### 3.3 SAMPLE

The HLS is a nationwide survey of New Zealand residents aged 15 years and over. Respondents could only be interviewed at their own usual residence, that is, if they were visiting a household

that was selected for inclusion in the HLS they could not be interviewed as part of that household. This process ensured that people did not have a chance of being counted twice.

### 3.4 WEIGHTING

The information in this report incorporates weighted responses (number and percentage) to the questions, among the survey population overall and some sub-groups.

To ensure that no population group is under- or over-represented in estimates from the survey, 'weights' are calculated for every survey participant. The weight can be thought of as the number of people in the population represented by a given survey participant.

Weights are designed to:

- reflect the probabilities of selection of each respondent
- make use of external population benchmarks (typically obtained from a population census) to correct for any discrepancies between the sample and the population benchmarks – this improves the precision of estimates and reduces bias due to non-response.

### 3.5 SAMPLING ERRORS

Sampling error is the error which is the result of collecting information from a subset (sample) of the population, rather than the whole population. The extent of the sampling error depends on the sample size, variability of the characteristic of interest and complex design of the. Sample errors for survey estimates in 2012 HLS were calculated using a replicate method, called the delete-a-group jack-knife method (Kott 1998).

### 3.6 NINETY-FIVE PERCENT CONFIDENCE INTERVALS

95% confidence intervals have been used to represent the sample errors for estimates in this report. It should be noted that the confidence interval is influenced by the sample size of the group. When the sample size is small, the confidence interval becomes wider.

For proportion estimates not close to 0% or 100%, or with large sample sizes (greater than or equal to 30), the normal approximation confidence interval has been used. (ie, the sample error is multiplied by the z-value corresponding to the confidence level and added and subtracted from the estimate giving the upper and lower confidence limits respectively). The Korn and Graubard (1998) method has been used when some of the proportion estimates were very small or large (i.e., normal approximation confidence interval included values outside the range from 0 to 100%), or group which have small sample sizes (less than 30).

### 3.7 MARGIN OF ERROR

The margin of error for a sample of 2,672 is 1.9% at the 95% confidence interval level. In theory, with a sample of 2,672, one can say with 95% certainty that the results have a statistical precision

of plus or minus 1.9% percentage point of what they would be if the entire adult population had been surveyed with complete accuracy. Care should be taken interpreting percentages that are not based on the total sample.

Table 1 shows the margin of error for the main gambling activities discussed in this report.

**Table 1: Overview of margin of error for gambling activities**

<b>Main gambling activities</b>	<b>Number of participants</b>	<b>Margin of error for 95% confidence interval</b>
Lotto	1,520	2.5%
Raffle ticket or casino/fundraising evening	899	3.3%
Instant Kiwi	738	3.6%
Horse or dog race betting	344	5.3%
Pokies at pub or club	317	5.5%
Pokies at Casino	224	6.5%
Sport betting	151	8.0%
Keno or Bullseye	145	8.1%
Housie or Bingo	88	10.4%
<b>All respondents</b>	<b>2,672</b>	<b>1.9%</b>

### 3.8 DERIVED VARIABLES

A number of derived variables have been created for the 2012 HLS data set. The following variables are referred to in this report:

#### 3.8.1 Ethnicity

Ethnicity was calculated using prioritisation in the order of Māori, Pacific peoples, Asian, European/Others. Prioritisation involves each person being allocated to a single ethnic group, based on the ethnicities they have identified with, in the prioritised order of Māori, Pacific peoples, Asian and European/Other (Ministry of Health 2004). For example, if someone identifies as being Chinese and Māori, under the prioritised ethnic group method, they are classified as Māori for the purpose of analysis. The way that the ethnicity data is prioritised means that the group of prioritised European/Other effectively refers to non-Māori, non-Pacific, and non-Asian people. Prioritisation is a method outlined in the *Ethnicity Data Protocols for the Health and Disability Sector* as a useful method for grouping people into independent ethnic groups for analysis (Ministry of Health 2004).

#### 3.8.2 Gambling type

Gambling types are often classified into two categories, those where winnings can be immediately 'reinvested' (for example, gaming machines or pokies) and those where they cannot (for example, lottery tickets). The former referred to as 'continuous' and the latter 'non-continuous' (Abbott and Volberg 1996). For the HLS analysis, respondents' participation in gambling activities in these two groups were combined with their frequency of participation to create four gambling types in the same way they were presented for the 2006/07 Gaming and Betting Activities Survey (National Research Bureau 2007).

- *Non gamblers*: did not participate in any gambling activities in the last 12 months.
- *Infrequent gamblers*: participated in any gambling activities less than once a week.
- *Frequent, non-continuous gamblers*: participated weekly or more often in non-continuous<sup>3</sup> forms of gambling.
- *Frequent, continuous gamblers*: participated weekly or more often in continuous<sup>4</sup> forms of gambling.

### **3.8.3 Neighbourhood socioeconomic deprivation: The New Zealand Index of Socioeconomic Deprivation 2006**

The New Zealand Index of Socioeconomic Deprivation 2006 (NZDep2006) has been linked to the 2012 HLS as a measure of neighbourhood socioeconomic deprivation and a proxy for individual socioeconomic position. The NZDep2006 was created using nine variables<sup>5</sup> from the 2006 Census data, with a decile value calculated for each meshblock (Salmond et al. 2007). For some analyses of the 2012 HLS, these deciles have been grouped, so that deciles 1–3 are referred to as low deprivation, 4-7 as moderate (or mid) deprivation, and 8-10 as high deprivation.

### **3.8.4 Household Equivalised Income**

Respondents were asked to choose an income range that represented their total household income from all sources before tax in the previous 12 months. Household income by itself is not very useful, as a two-person household with a total household income of \$100,000 is likely to be quite different in many characteristics from that of a six-person household with a total household income of \$100,000. To account for these differences, equivalised household incomes were calculated using a revised Jensen Index (Jensen 1988). The revised Jensen Index is a recognised equivalisation index used within New Zealand (Blakely 2002, Ministry of Health 2010) that takes into account the number of adults, the number of children (younger than 18-years-old) and the ages of the children living in the household.

### **3.8.5 Problem Gambling Severity Index (PGSI)**

In addition to the term ‘problem gambler’, the terms ‘low-risk’ and ‘moderate-risk’ are also used to describe a person’s gambling behaviour.

The Problem Gambling Severity Index (PGSI) contains nine questions that are strong predictors of gambling harm (eg, feeling guilty about gambling, having financial difficulties, betting more than one can afford) (Ferris and Wynne 2001).

Respondents are asked whether they have experienced these signs of harm caused by gambling and, if so, whether this happened “sometimes, most of the time or almost always”. They are

<sup>3</sup> Non-continuous forms of gambling include lottery games, going to casino evenings/buying raffle tickets for fundraising, participating in sweepstakes, making bets with family/friends and other gambling activities.

<sup>4</sup> Continuous forms of gambling include playing electronic gaming (pokie) machines, betting on horse or dog races, or sports events, table games at casinos, housie and bingo, mobile phone games for money, online activities for money or prizes through an overseas website.

<sup>5</sup> Receiving a means-tested benefit, low household income, not owning the home you live in, single-parent family, unemployment, no school qualifications, household overcrowding, no access to a telephone and no access to a car (Salmond et al.2007).

allocated from one point for “sometimes” to three points for “almost always”, and can therefore be allocated up to 27 points. Respondents were then classified into the following categories:

1. Non-gamblers (those who did not answer yes to any of the questions about participation in gambling in the last 12 months),
2. Non-problem gamblers (those who had gambled, but answered “no” to all the PGSI questions about experiencing harm),
3. Low-risk gamblers (who got 1 or 2 points according to the PGSI),
4. Moderate-risk gamblers (who got 3-7 points)
5. Problem gamblers (who got 8 or more points).

Because the number of people who were classified as problem gamblers (n=14) was too small to be analysed statistically, moderate-risk and problem gamblers have been combined into one group for the tables in this report. In addition, in some cases low-risk and moderate-risk gambler have been combined into a single group and are referred to as at-risk gamblers.

### 3.9 DIFFERENCES BETWEEN SUB-GROUPS

Differences between sub-groups are noted as “more likely/less likely” when they are proportionally large in relation to the figures described. For ease of reading, terms such as “significant” or “approaching significance” have been left out of the text, however, the differences reported have been assessed for significance using appropriate statistical tests.

When the number of respondents in a sub-group is small (ie, less than 30), any differences between this group and others is not commented on, because results are subject to a very wide margin of error.

Some differences in the tables that appear interesting but not significant have not been reported. While this report cannot cover all differences that may be of interest, the HLS dataset may be made available to other groups for performing more statistical investigation.

### 3.10 HOW TO READ THE TABLES

The figures presented in tables and graphs in this report may not sum to 100% due to rounding. There are also a number of questions – for instance, in this report, the question about participation in different types of gambling – to which respondents could provide multiple responses.

When a space on the table is marked with “-”, this means that respondents in that year were not asked, or did not provide any response to, that particular option.

The numbers in the tables about participation should be read as the proportion of the people of a certain demographic group (shown in the top row) who have participated in a certain gambling activity (shown in the leftmost column). The sample size for each demographic subgroup (that is, the number of respondents in that group) is shown at the bottom of each table.

For example, in this compressed excerpt from the first table:



**Table 4: Participation in gambling activities in the previous 12 months, 2012, by demographics**

Gambling activities (Multiple responses allowed)	Gender		Age group (in years)				Total
	Male	Female	15 - 17	18 - 24	25 - 44	45+	
	%	%	%	%	%	%	%
Lotto	54.2 (50.2 - 58.2)	55.9 (52.6 - 59.3)	2.2 (0.4 - 6.7)	29.6 (21.6 - 37.6)	59.2 (55.1 - 63.3)	63.6 (60.1 - 67.1)	55.1 (52.4 - 57.7)
Did not participate in any activities	32 (28.1 - 36)	27.5 (23.9 - 31.1)	76 (62.4 - 89.6)	42.5 (30.9 - 54)	27.6 (23.7 - 31.4)	23.9 (20.9 - 27)	29.7 (26.8 - 32.6)
Sample size n =	1154	1518	71	260	943	1398	2672

The total sample size is 2672, we can see that of the 1154 males interviewed (shown in the “sample size n=” line under “male” demographic), 54.2% (95% Confidence interval: 50.2 - 58.2) had bought a lottery ticket. Overall, 55.1% (52.4 - 57.7) of New Zealanders aged 15 years and over had bought a lottery ticket, but among those aged 45 or over, 63.6% (60.1 - 67.1) had bought a lottery ticket. 76.0% (62.4 - 89.6) of New Zealanders aged 15-17 year had not participated in any gambling activities. Overall, only 29.7% (26.8 - 32.6) had not participated in any gambling activities.

In order to make a statement about the results in the table, we would first look at the group of interest in the top row (“Of those aged 45 and over”) then look down the page from this line to the percentage shown “63.6 (60.1 - 67.1)” on the horizontal line corresponding to the activity of interest (“Lotto”) and finally the title of the table, for further context (“in the previous 12 months”).

## 4. GAMBLING PARTICIPATION

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### 4.1 GAMBLING CONTEXT

This report presents information about the different types of gambling that New Zealanders have participated in during the previous twelve months and how often they have participated in these different types of gambling.

Gambling activities in New Zealand are classified by the Gambling Act 2003 according to the amount of money spent and the risk of problem gambling associated with each activity. Class 1 represents low-stake, low-risk gambling while Class 4 represents the highest-risk forms of gambling, and is subject to strict licensing criteria. Casino operations and New Zealand Lotteries Commission lotteries are treated as separate classes (DIA 2010a).

The only organisations that are able to conduct remote interactive gambling (such as gambling over the internet) within New Zealand are the New Zealand Racing Board and the New Zealand Lotteries Commission. While it is illegal to advertise overseas gambling in New Zealand, it is not illegal to participate in gambling on an overseas-based website or to gamble on overseas competitions and games.

More information about gambling regulation in New Zealand can be accessed at the Department of Internal Affairs: <http://www.dia.govt.nz>

It is estimated that in recent years New Zealanders have spent around \$2 billion on gambling every year. The overall expenditure in 2011/12 was 3.2 per cent more than the previous year. (Department of Internal Affairs, 2012).

**Table 2: Gambling expenditure in the four main sectors, 2006 – 2012**

<b>Gambling Sectors</b>	<b>2006 \$m</b>	<b>2007 \$m</b>	<b>2008 \$m</b>	<b>2009 \$m</b>	<b>2010 \$m</b>	<b>2011 \$m</b>	<b>2012 \$m</b>
NZ Racing Board (TAB)	258	269	272	269	278	273	286
NZ Lotteries Commission	321	331	346	404	347	405	419
Non-casino gaming machines	906	950	938	889	849	856	854
Casinos	493	469	477	465	454	471	509
<b>Total</b>	<b>1,977</b>	<b>2,020</b>	<b>2,034</b>	<b>2,028</b>	<b>1,928</b>	<b>2,005</b>	<b>2,068</b>

Source: Gambling Expenditure Statistics, Department of Internal Affairs (2012)

Note: The figures are actual dollars (non-inflation adjusted) for gambling operators' financial year-end.

### **4.1.1 Objective of report**

This report presents the key findings from the gambling participation components of the 2012 HLS

The objectives of this report are to:

- Determine the prevalence of past-year gambling participation and frequency of gambling participation in New Zealand, overall and among different population groups.
- Determine the prevalence of different patterns of gambling behaviour among the New Zealand population.
- Examine the differences in gambling participation and frequency between population groups (as defined by gender, age, ethnicity, PGSI, household equivalised income, deprivation index).
- Examine the changes in gambling participation and frequency over time from 2006 to 2012.
- Investigate the relationship between those who are at-risk of gambling problems and the pattern of their gambling behaviour

## 4.2 TYPE OF GAMBLING ACTIVITIES DONE IN THE PREVIOUS TWELVE MONTHS

The following section examines the profile of people who had gambled in the past 12 months. It focuses on general participation in gambling, as well as participation in specific gambling activities. Particularly those activities more widely participated in.

### 4.2.1 Past-Year Gambling Participation

Everyone was asked whether or not they had engaged in a number of gambling activities in the last 12 months.

In 2012, around five in seven New Zealanders aged 15 years and older (70.3%, 95% confidence interval: 67.4% - 73.2%) had taken part at least once in at least one gambling activity in the previous 12 months; approximately 2.4 million people (Table 3).

**Table 3: Past-year gambling participation, total population aged 15 years and over (Unadjusted prevalence)**

<b>Past-year participation (95% CI)</b>		
	<b>Prevalence (%)</b>	<b>Estimated number of people</b>
<b>Total population</b>	70.3 (67.4 - 73.2)	2,405,000 (2,305,500 - 2,503,900)
<b>Gender</b>		
Male	68.0 (64.0 - 71.9)	1,127,000 (1,061,000 - 1,191,900)
Female	72.5 (68.9 - 76.1)	1,278,000 (1,214,600 - 1,341,500)
<b>Age groups</b>		
15-17 years	24.0 (11.9 - 40.2)	30,600 (15,200 - 51,200)
18-24 years	57.5 (46.0 - 69.1)	278,300 (222,500 - 334,300)
25-44 years	72.4 (68.6 - 76.3)	810,500 (767,500 - 853,700)
45+ years	76.1 (73 - 79.1)	1,285,700 (1,234,100 - 1,337,200)
<b>Ethnicity</b>		
Maori	72.1 (67.2 - 77)	291,200 (271,500 - 311,100)
Pacific	64 (53.9 - 74.1)	84,200 (70,900 - 97,500)
Asian	55.5 (41.9 - 69)	88,300 (66,700 - 109,800)
European/Other	71.2 (67.8 - 74.6)	1,941,300 (1,848,100 - 2,033,500)
<b>Household Equivalised Income</b>		
Low	67.3 (61.6 - 73)	571,000 (522,400 - 619,100)
Medium	70.3 (65.6 - 75)	623,300 (581,800 - 665,100)
High	81 (76.9 - 85.2)	728,200 (691,000 - 765,500)
Not stated	61.3 (53.8 - 68.8)	482,500 (423,500 - 541,600)
<b>Deprivation Index</b>		
Low (1-3)	72 (67.2 - 76.8)	667,700 (623,600 - 712,600)
Mid (4-7)	71 (66.7 - 75.2)	1,053,100 (990,000 - 1,116,100)
High (8-10)	67.8 (61.3 - 74.4)	684,100 (618,200 - 750,300)

Key findings in Table 3 include:

- There was no significant difference in overall past-year participation in gambling between males and females. Also no significant differences were found by prioritised ethnicity or socio-economic deprivation.
- Past-year gambling participation was much lower in the younger (aged 15 to 17 years) than in all other age groups. Compared with people aged 18 to 24 years, people aged 25 to 44 years and 45 years and over had a much higher participation rate in the past 12 months.
- Compared with people with low, medium or not stated household equivalised incomes, people with high household equivalised incomes were significantly more likely to have participated in gambling in the past 12 months.

#### 4.2.2 Comparison with previous years: Past-Year Overall Gambling Participation rate

- The overall prevalence of past-year gambling participation in 2012 is significantly lower than the rate in 2006/07, 2008 and 2010 (Figure 1).
- Compared with 2006/07, the greatest reduction of the past-year gambling participation rate occurred among Māori and European/Other (Figure 2).
- Compared with 2006/07, past-year gambling participation had significantly decreased among all the age groups. In particular, people aged 15 to 17 years and 18 to 24 years had greater reduction, compared with people aged 25 to 44 years and 45 years and over (Figure 3).

**Figure 1: Past-year gambling participation prevalence rate, 2006/2007, 2008, 2010, 2012**

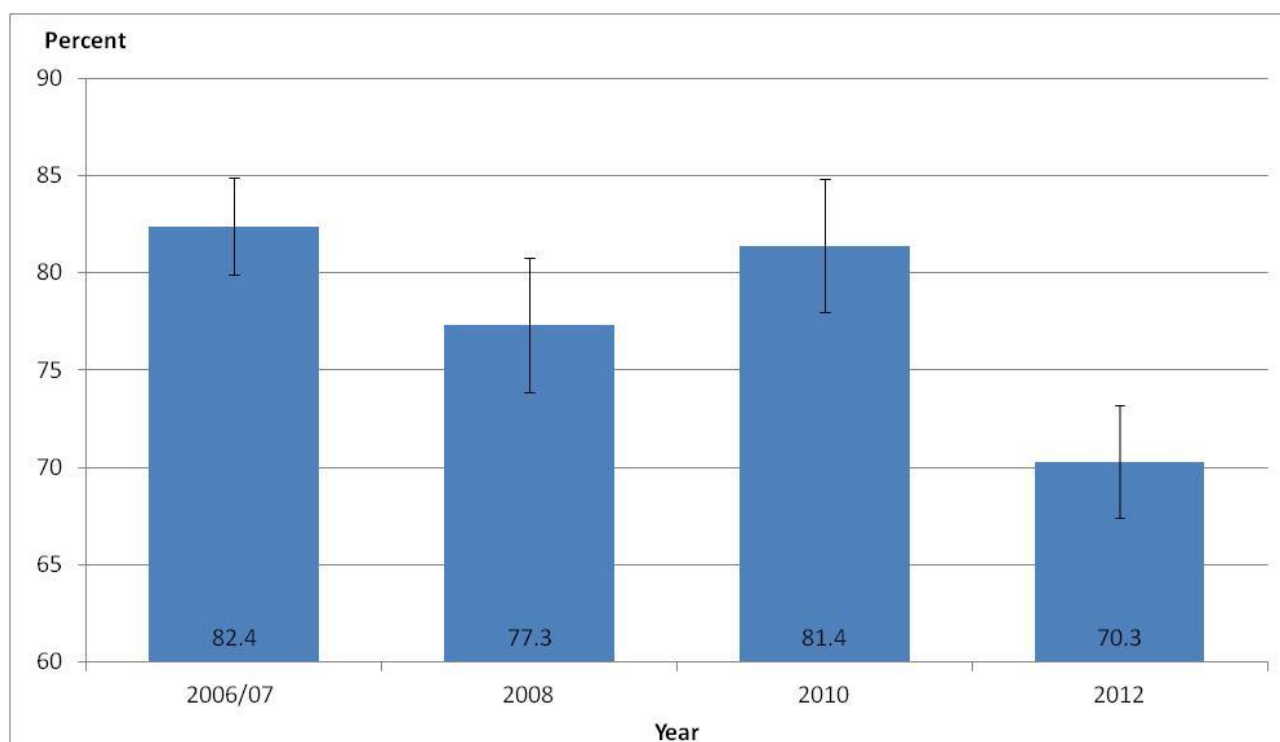


Figure 2: Past-year gambling participation prevalence rate by ethnicity, 2006/2007, 2008, 2010, 2012

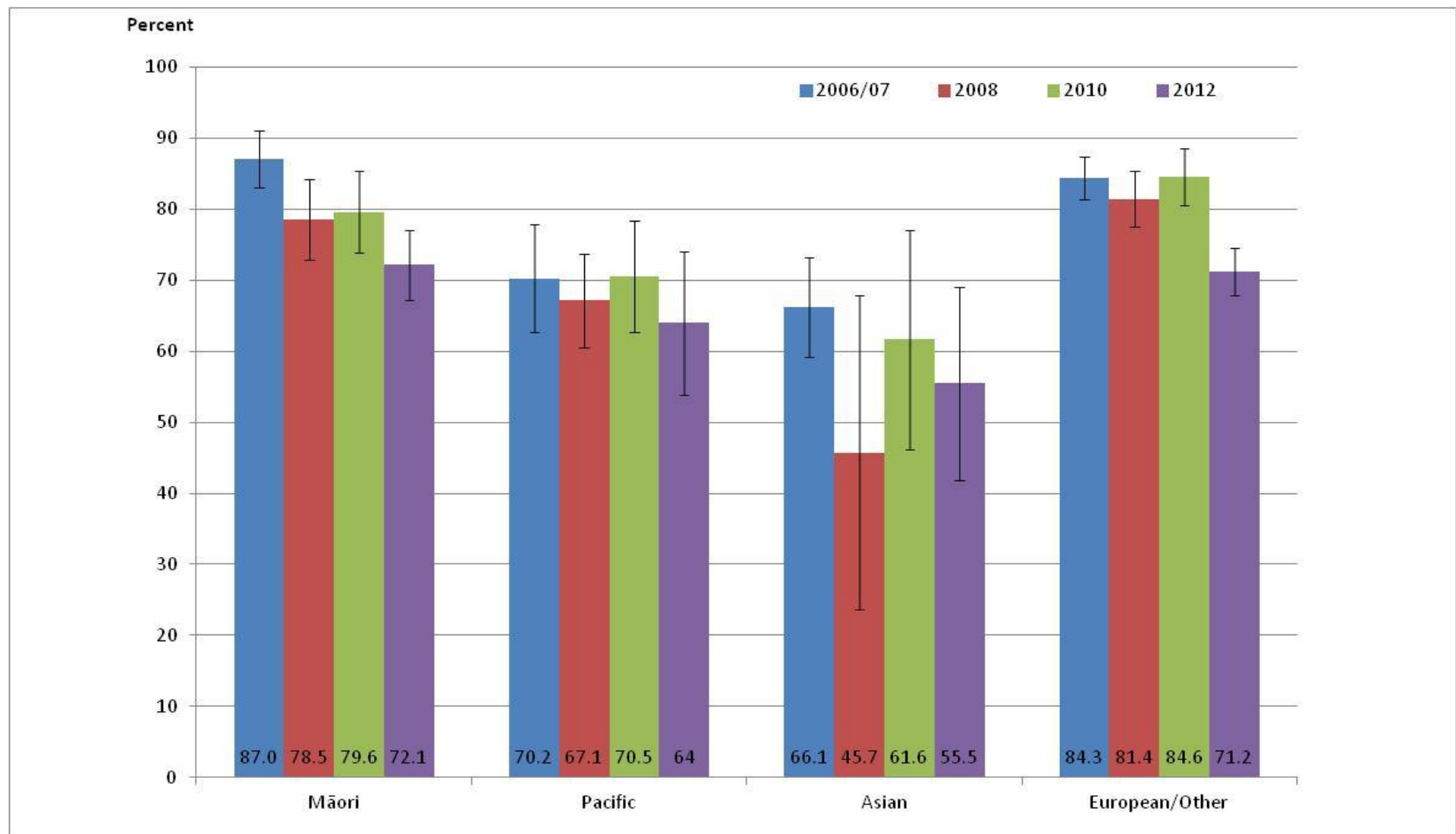
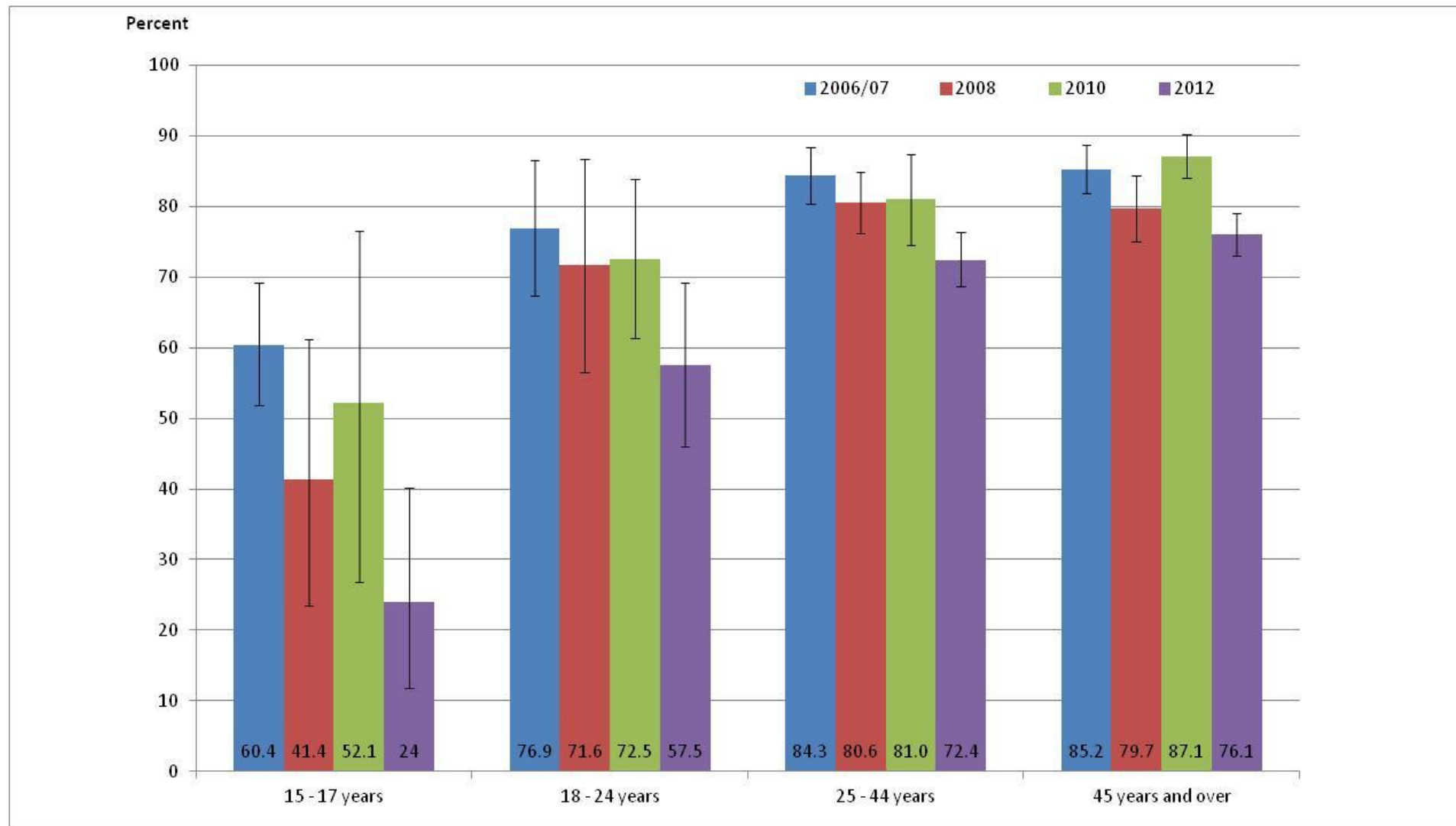


Figure 3: Past-year gambling participation prevalence rate by age group, 2006/2007, 2008, 2010, 2012



### 4.2.3 Participation in each individual gambling activity

As Figure 4 shows, Lotto (including Strike, Powerball and Big Wednesday) continues to be the most common form of gambling activity, with over half (55.1%, 52.4 – 57.7) of New Zealanders aged 15 years and older reported having purchased a lottery ticket in the previous 12 months. Seven in nine (78.3%, 75.6 – 81.1) past-year gamblers had purchased a lottery ticket. Other NZ Lotteries products include Instant Kiwi or scratch tickets (29.5%, 26.2 – 32.8), and Keno or Bullseye tickets (6.8%, 4.6 – 8.9). Overall, three in every five adults had bought a NZ Lotteries product (60.3%, 57.3 – 63.4) in the past 12 months.

One in three (33.9%, 30.9 – 36.9) adults had gone to a gaming or casino evening or bought a raffle ticket for fundraising, sweepstakes with friends or colleagues, or made money bets with family or friends on card games or the like.

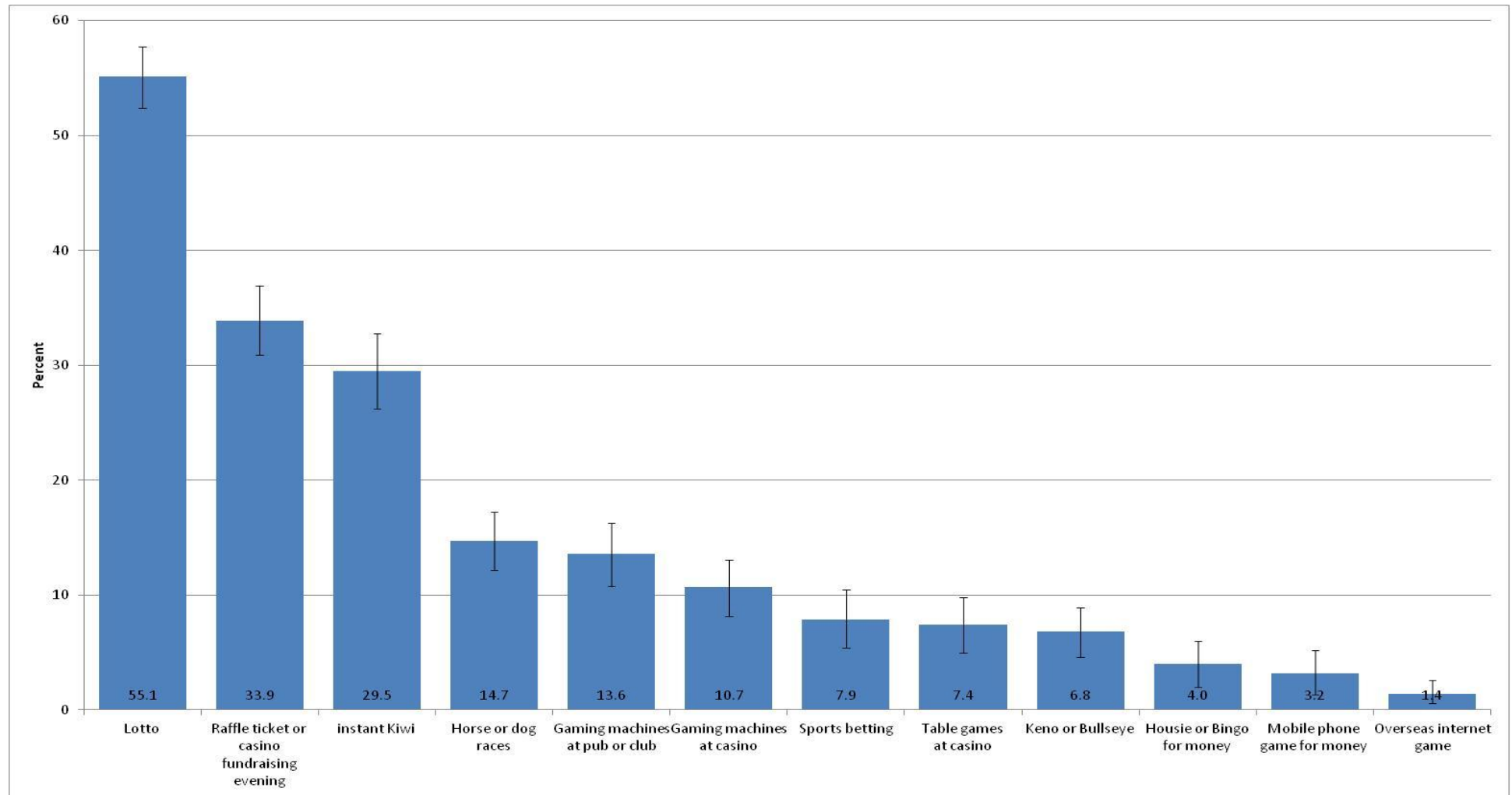
One in seven (13.6%, 10.8 – 16.3) adults had played gaming machines or pokies at a pub or club. One in nine (10.7%, 8.2 – 13.1) adults had played gaming machines or pokies at one of the six casinos. And one in thirteen (7.4%, 5.0 – 9.8) adults had played table games at one of the six casinos.

Other gambling forms participated in included betting on horse or dog races (14.7%, 12.2 – 17.2), betting on sports events (7.9%, 5.4 – 10.5). Overall one in every six (16.4%, 13.6 – 19.2) adults had bought a TAB tickets (track betting or sports betting) in the past 12 months.

Participation in online gambling remains at a low rate. 4.3% (2.8 - 5.7) of adults had used the NZ Lotteries Commission's MyLotto website to buy a lotteries ticket online, or had bet on a horse or dog race or sports event through the NZ Racing Board's TAB website in the previous year. 1.4% (0.6 – 2.6) of adults had gambled online through an overseas website.



Figure 4: Gambling activities participated in during the previous 12 months, 2012



Base=2,672 (all respondents)

Note:

1. 'Lotto' includes Strike, Powerball and Big Wednesday tickets. 'Instant Kiwi' includes other scratch tickets.
2. 'Raffle ticket or casino fundraising evening' category includes sweepstakes with friends or colleagues, bets with family or friends on card games in 2012 HLS.
3. Multiple responses allowed, therefore respondents may be represented in more than one category

#### 4.2.4 Profile of past-year gamblers

Key differences (Table 4) between core demographics can be observed and are reported below. However, some cautions is required when drawing inferences from these observations as the inter-correlations and potential confounding are not represented in this analysis. More complex models of the data are examined by the HPA's Research and Evaluation Unit.

- Males were significantly more likely than females to have bet on horse or dog races and sport event, but less likely to have bought a raffle ticket or gone to a casino fundraising evening or held sweepstakes with friends or colleagues or bets with family or friends on card games.
- People aged 25 and over were significantly more likely than younger people aged 18 to 24 to have bought lottery tickets.
- People aged 45 and over were more likely than younger people aged 18 to 24 to have bought a raffle ticket or gone to a casino fundraising evening or held sweepstakes with friends or colleagues or bets with family or friends on card games.
- People of Māori and European/Other ethnicity and were more likely than Asian peoples to have bought lottery tickets.
- People of Māori and European/Other ethnicity were more likely than Pacific peoples to have bought Instant Kiwi or scratch tickets,
- People of Māori ethnicity were more likely than Pacific peoples to have bet on horse or dog races.
- People of Māori ethnicity were more likely than Pacific peoples and European/Other to have played gaming machines at pub or club.
- People living in low deprivation areas were more likely to have bought lottery tickets, compared with those people living in high deprivation areas.
- Low-risk gamblers were more likely than non-problem gamblers to have played gaming machine at a casino.
- People with a high household equivalised income were more likely to have bought lottery tickets, bought a raffle ticket or gone to a casino fundraising evening, compared with people with a low or medium household equivalised income.
- People with a high household equivalised income were also more likely than people with a low household equivalised income to have bet on horse or dog races, played gaming machines or table game at casinos.

**Table 4: Participation in gambling activities in the previous 12 months, by demographics, 2012**

Gambling activities (Multiple responses allowed)	Gender		Age group (in years)				Prioritised ethnicity				Total
	Male	Female	15 - 17	18 - 24	25 - 44	45+	Māori	Pacific	Asian	European/ Other	
	%	%	%	%	%	%	%	%	%	%	%
Lotto	54.2 (50.2 - 58.2)	55.9 (52.6 - 59.3)	2.2 (0.4 - 6.7)	29.6 (21.6 - 37.6)	59.2 (55.1 - 63.3)	63.6 (60.1 - 67.1)	55 (50.1 - 59.8)	50.9 (43.5 - 58.3)	39.2 (25.8 - 52.6)	56.2 (53.1 - 59.4)	55.1 (52.4 - 57.7)
Raffle ticket or casino fundraising evening	30 (26 - 33.9)	37.5 (33.6 - 41.5)	18.4 (7.8 - 34.2)	25.3 (18.9 - 31.7)	34.6 (29.8 - 39.3)	37 (33 - 41)	38.1 (32.6 - 43.6)	27.4 (19.6 - 35.2)	5.5 (1.6 - 12.9)	35.2 (31.7 - 38.7)	33.9 (30.9 - 36.9)
Instant Kiwi	27.1 (23 - 31.3)	31.8 (27.7 - 35.8)	3.7 (0.7 - 10.8)	36.6 (25.5 - 47.7)	31.7 (27 - 36.5)	28 (24.2 - 31.8)	35.2 (29.7 - 40.6)	19.5 (13.5 - 25.5)	25.6 (12.4 - 43.3)	29.4 (25.6 - 33.2)	29.5 (26.2 - 32.8)
Horse or dog races	18.5 (15.1 - 22)	11.1 (8.3 - 13.8)	0 (0 - 0)	9.3 (5.6 - 14.4)	14.5 (11.1 - 17.9)	17.5 (14 - 21)	14.6 (10.9 - 18.2)	7.8 (4.4 - 12.5)	5.1 (0.9 - 15.6)	15.6 (12.7 - 18.5)	14.7 (12.2 - 17.2)
Gaming machines at pub or club	13.4 (10 - 16.8)	13.7 (10.7 - 16.7)	1.7 (0.2 - 6.2)	19.1 (11 - 27.3)	14.1 (10.8 - 17.4)	12.5 (9.2 - 15.9)	18.4 (14.5 - 22.4)	7.5 (4 - 12.8)	7.6 (1 - 24.1)	13.5 (10.2 - 16.7)	13.6 (10.8 - 16.3)
Gaming machines at casino	11.6 (8.7 - 14.6)	9.7 (6.9 - 12.5)	1 (0 - 5.3)	15 (8.2 - 24.4)	11 (7.9 - 14)	9.9 (6.7 - 13.2)	7.5 (4 - 11.1)	4.6 (2.3 - 8.4)	13.2 (4.1 - 29.3)	11.3 (8.4 - 14.1)	10.7 (8.2 - 13.1)
Sports betting	11.3 (7.3 - 15.3)	4.8 (2.5 - 7.1)	0 (0 - 0)	12.3 (5.4 - 22.9)	7.8 (4.9 - 10.8)	7.4 (4.3 - 10.5)	7.2 (4.2 - 10.2)	2 (0.4 - 5.5)	6.5 (0.6 - 23)	8.4 (5.4 - 11.5)	7.9 (5.4 - 10.5)
Table games at casino	8.2 (5.4 - 11.1)	6.6 (4 - 9.3)	0 (0 - 0)	12 (5.1 - 22.7)	7 (4.3 - 9.8)	6.9 (3.7 - 10.1)	4.1 (2.1 - 7.3)	0.7 (0.2 - 1.8)	12 (3.6 - 27)	8 (5.1 - 10.8)	7.4 (5 - 9.8)
Keno or Bullseye ticket	7.3 (4.7 - 10)	6.2 (3.7 - 8.7)	0 (0 - 0)	6.6 (3.1 - 12)	7.1 (4.3 - 9.8)	7.1 (4 - 10.2)	4.6 (2.7 - 7.4)	4.3 (2 - 8.1)	2.7 (0.5 - 8)	7.4 (4.7 - 10.1)	6.8 (4.6 - 8.9)
Housie or Bingo for money	3.8 (1.6 - 6)	4.2 (1.9 - 6.5)	0.3 (0 - 2.6)	3.5 (0.7 - 9.8)	3 (1.4 - 5.6)	5.1 (2.1 - 8.1)	2.2 (1 - 3.9)	1.4 (0.4 - 3.4)	5.2 (0.2 - 22.9)	4.3 (1.9 - 6.8)	4 (2 - 6)
Game for money on a mobile phone	3 (1.4 - 5.7)	3.4 (1.2 - 5.7)	0 (0 - 0)	2.2 (0.4 - 6.6)	2.6 (1.1 - 5)	4.2 (1.3 - 7.2)	1.5 (0.6 - 3.1)	0 (0 - 0)	0.1 (0 - 0.8)	3.8 (1.4 - 6.3)	3.2 (1.3 - 5.2)
Internet game through overseas website	2.3 (0.9 - 4.7)	0.5 (0.1 - 1.4)	1.2 (0 - 6.6)	4 (1 - 10.7)	2 (0.5 - 5)	0.2 (0.1 - 0.5)	1.1 (0.3 - 2.9)	0.3 (0 - 1)	7 (0.7 - 24.2)	1.1 (0.4 - 2.5)	1.4 (0.6 - 2.6)
<b>Did not participate in any activities</b>	32 (28.1 - 36)	27.5 (23.9 - 31.1)	76 (62.4 - 89.6)	42.5 (30.9 - 54)	27.6 (23.7 - 31.4)	23.9 (20.9 - 27)	27.9 (23 - 32.8)	36 (25.9 - 46.1)	44.5 (31 - 58.1)	28.8 (25.4 - 32.2)	29.7 (26.8 - 32.6)
<b>Sample size n =</b>	1154	1518	71	260	943	1398	619	387	127	1539	2672

Gambling activities (Multiple responses allowed)	PGSI				Household Equivalised Income				Deprivation Index			Total
	Non-gambler	Non-problem gambler	Low-risk gambler	Moderate risk/Problem gambler	Low	Medium	High	Not stated	Low	Mid	High	
	%	%	%	%	%	%	%	%	%	%	%	%
Lotto	0 (0 - 0)	79.2 (76.4 - 81.9)	72.5 (55.7 - 89.3)	81.2 (64.9 - 97.5)	50.8 (45.5 - 56.1)	54.9 (49.6 - 60.1)	66.8 (61.7 - 72)	46.5 (41.5 - 51.6)	59.1 (54.1 - 64.2)	55.7 (51.2 - 60.3)	50.4 (45.1 - 55.6)	55.1 (52.4 - 57.7)
Raffle ticket or casino fundraising evening	0 (0 - 0)	48.9 (44.9 - 52.9)	45.2 (28.6 - 61.8)	36.1 (12.8 - 65.5)	31.6 (26.5 - 36.7)	33.9 (28.7 - 39.2)	44.2 (38.4 - 50.1)	24.4 (19.5 - 29.3)	37 (30.2 - 43.7)	33.2 (28.6 - 37.9)	31.9 (26.9 - 36.9)	33.9 (30.9 - 36.9)
Instant Kiwi	0 (0 - 0)	41.2 (37.2 - 45.3)	60.6 (42.5 - 78.8)	53.9 (29.1 - 77.3)	29 (23.8 - 34.1)	29.8 (24.9 - 34.7)	30.5 (24.7 - 36.3)	28.7 (21.7 - 35.7)	25.9 (19.3 - 32.4)	29.7 (25.2 - 34.3)	32.6 (26.1 - 39.1)	29.5 (26.2 - 32.8)
Horse or dog races	0 (0 - 0)	19.5 (16.1 - 23)	48.1 (29.5 - 66.7)	36.9 (14.4 - 64.6)	13.3 (9.8 - 16.7)	14.7 (10.5 - 18.8)	19.6 (14.4 - 24.9)	10.7 (6.3 - 15)	15.3 (9.8 - 20.8)	14.9 (10.9 - 18.9)	13.8 (10.1 - 17.5)	14.7 (12.2 - 17.2)
Gaming machines at pub or club	0 (0 - 0)	16.6 (13.1 - 20)	55.8 (38.5 - 73.1)	58.9 (35.5 - 82.3)	14.4 (10.2 - 18.5)	13.8 (9.8 - 17.8)	13.8 (8.9 - 18.7)	12.1 (6.2 - 18.1)	12.7 (7.4 - 18)	12.7 (8.8 - 16.6)	15.6 (10.4 - 20.8)	13.6 (10.8 - 16.3)
Gaming machines at casino	0 (0 - 0)	13.3 (10 - 16.6)	42.2 (24.7 - 61.3)	33.4 (9.5 - 66.1)	9 (5.2 - 12.9)	10.9 (7.1 - 14.6)	14.3 (9.5 - 19.2)	8 (3.6 - 12.3)	10.9 (5.7 - 16)	11.1 (7.3 - 15)	9.7 (5.9 - 13.6)	10.7 (8.2 - 13.1)
Sports betting	0 (0 - 0)	10.5 (7.2 - 13.9)	23.2 (10.3 - 41.2)	25.9 (5 - 60.9)	7.4 (4.7 - 10.1)	6.6 (3.5 - 9.8)	10.1 (5.2 - 14.9)	7.6 (2.5 - 16.7)	7 (2.9 - 13.8)	7.9 (4.4 - 11.5)	8.8 (3.7 - 14)	7.9 (5.4 - 10.5)
Table games at casino	0 (0 - 0)	9.8 (6.5 - 13)	23 (8.5 - 44.4)	21 (2.2 - 59.8)	6 (2.7 - 9.3)	8.5 (4.8 - 12.2)	10.2 (5.4 - 15)	4.6 (1.7 - 9.9)	7.5 (3.3 - 14.3)	8.4 (4.7 - 12.1)	5.9 (2.1 - 9.6)	7.4 (5 - 9.8)
Keno or Bullseye ticket	0 (0 - 0)	9.2 (6 - 12.5)	14.3 (4.4 - 31.5)	20.3 (1.8 - 60.2)	6.6 (3.8 - 9.3)	6.4 (3.2 - 9.7)	8.5 (3.9 - 13.2)	5.3 (2.9 - 8.6)	7 (2.8 - 14)	6.9 (3.1 - 10.6)	6.4 (4.2 - 8.5)	6.8 (4.6 - 8.9)
Housie or Bingo for money	0 (0 - 0)	6 (2.9 - 9)	1.4 (0.1 - 5.9)	4.1 (0.6 - 12.8)	4 (1.7 - 6.4)	4.7 (2.2 - 8.7)	4.7 (1.5 - 11)	2.4 (0.8 - 5.7)	4.8 (1.3 - 12)	4.5 (1 - 8.1)	2.4 (1.1 - 4.8)	4 (2 - 6)
Game for money on a mobile phone	0 (0 - 0)	4.9 (1.9 - 7.9)	0.5 (0 - 2.6)	1.3 (0 - 7.1)	3.5 (1.7 - 6.5)	4 (1.7 - 8)	4 (1 - 10.6)	1.2 (0.3 - 3)	4.2 (0.9 - 11.8)	4.3 (0.9 - 7.8)	0.8 (0.3 - 1.6)	3.2 (1.3 - 5.2)
Internet game through overseas website	0 (0 - 0)	1.9 (0.8 - 3.6)	4.5 (0.3 - 18.9)	2 (0.1 - 8.3)	1.4 (0.3 - 3.8)	0.5 (0.1 - 1.7)	1.6 (0.2 - 5.5)	2.1 (0.4 - 6.2)	1.6 (0.2 - 5.4)	0.7 (0.2 - 1.7)	2.2 (0.7 - 5.3)	1.4 (0.6 - 2.6)
<b>Did not participate in any activities</b>	100 (100 - 100)	0 (0 - 0)	0 (0 - 0)	0 (0 - 0)	32.7 (27 - 38.4)	29.7 (25 - 34.4)	19 (14.8 - 23.1)	38.7 (31.2 - 46.2)	28 (23.2 - 32.8)	29 (24.8 - 33.3)	32.2 (25.6 - 38.7)	29.7 (26.8 - 32.6)
<b>Sample size n =</b>	786	1745	72	54	852	658	540	622	538	1046	1088	2672

#### 4.2.5 Comparison with previous years: gambling activities participated in during previous 12 months

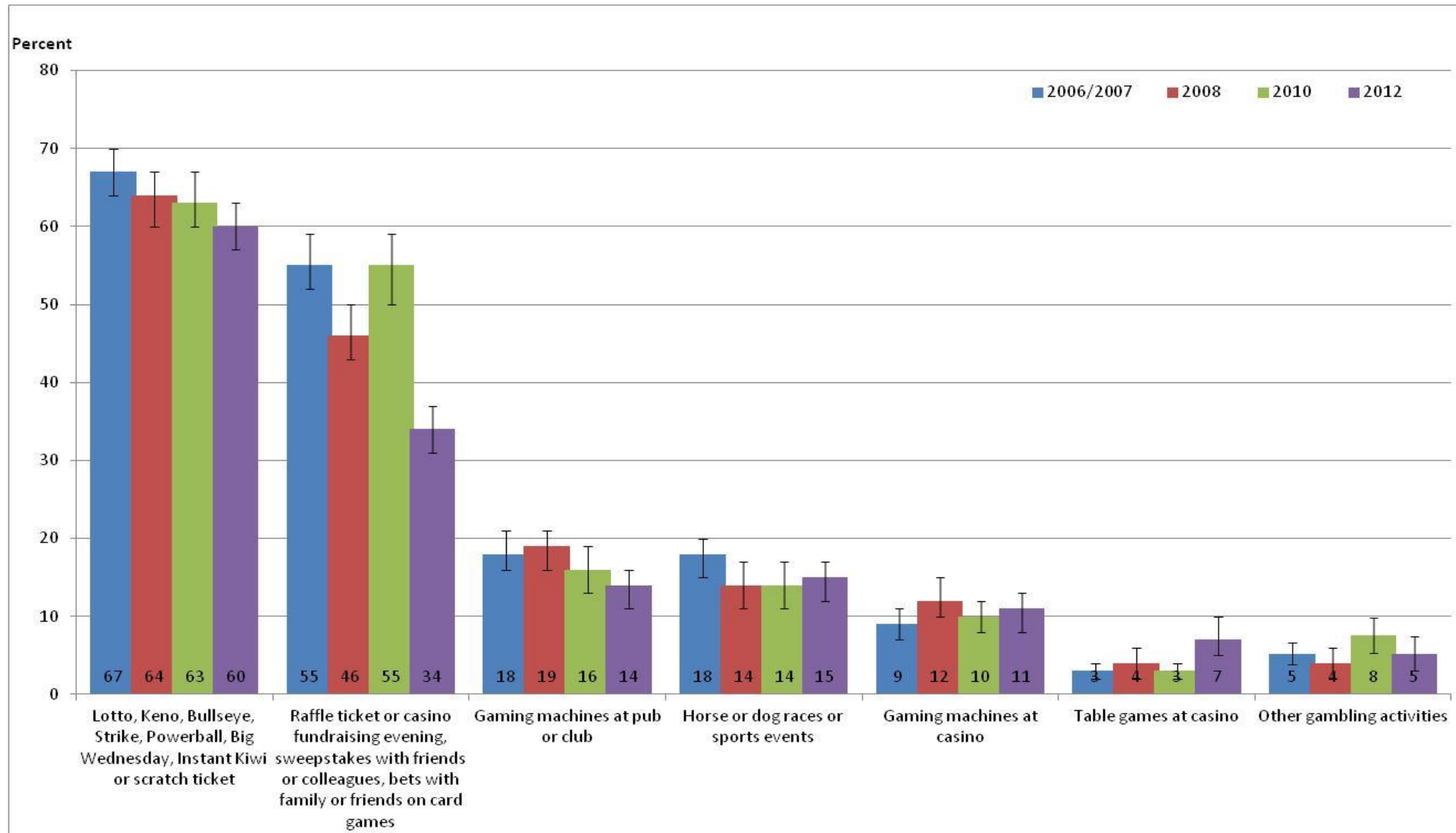
Figure 5 shows the proportions of respondents in the 2006/07 GBAS, 2008 HLS, 2010 HLS and 2012 HLS who participated in each type of gambling activity. Because some questions were asked differently in 2010 and 2012, the wording in this table differs to that in section 4.2.3. For instance, all NZ Lotteries products were asked about as a single category and betting on horse or dog races or sports events were also grouped together. In the past, “bought a raffle ticket or gone to a gaming or casino evening for fundraising”, “sweepstakes with friends or colleagues” and “made money bets with family or friends on card games” were asked separately in the questionnaire, but in 2012 HLS, they were combined together as one question.

- The proportion of people buying raffle tickets or going to a casino evening for fundraising, participating in sweepstakes with friends or colleagues, and making money bets with family or friends on card games had the greatest significant reduction since 2006/2007 from 55% to 34%.
- The proportion of people buying NZ Lotteries products (including Lotto, Keno, Bullseye<sup>6</sup>, Strike, Powerball and Big Wednesday, Instant Kiwi and scratch tickets) had significant drop since 2006/07 from 67% to 60%.
- The proportion of people playing gaming machines or pokies at pub or club had decreased significantly since 2006/07 from 18% to 14%.
- The only gambling activity for which participation rates have gone up is playing table games at casinos; the participation rate has doubled since 2006/07 from 3% to 7%.
- Participation in betting on horse races, dog races or sports events and playing gaming machines at casinos had not changed significantly over time.

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<sup>6</sup> Bullseye is a daily lottery game, launched on 19 October 2009. So it was only included in the 2010 and 2012 HLS.

Figure 5: Past-year gambling participation by type of activity, 2006/07, 2008, 2010, 2012

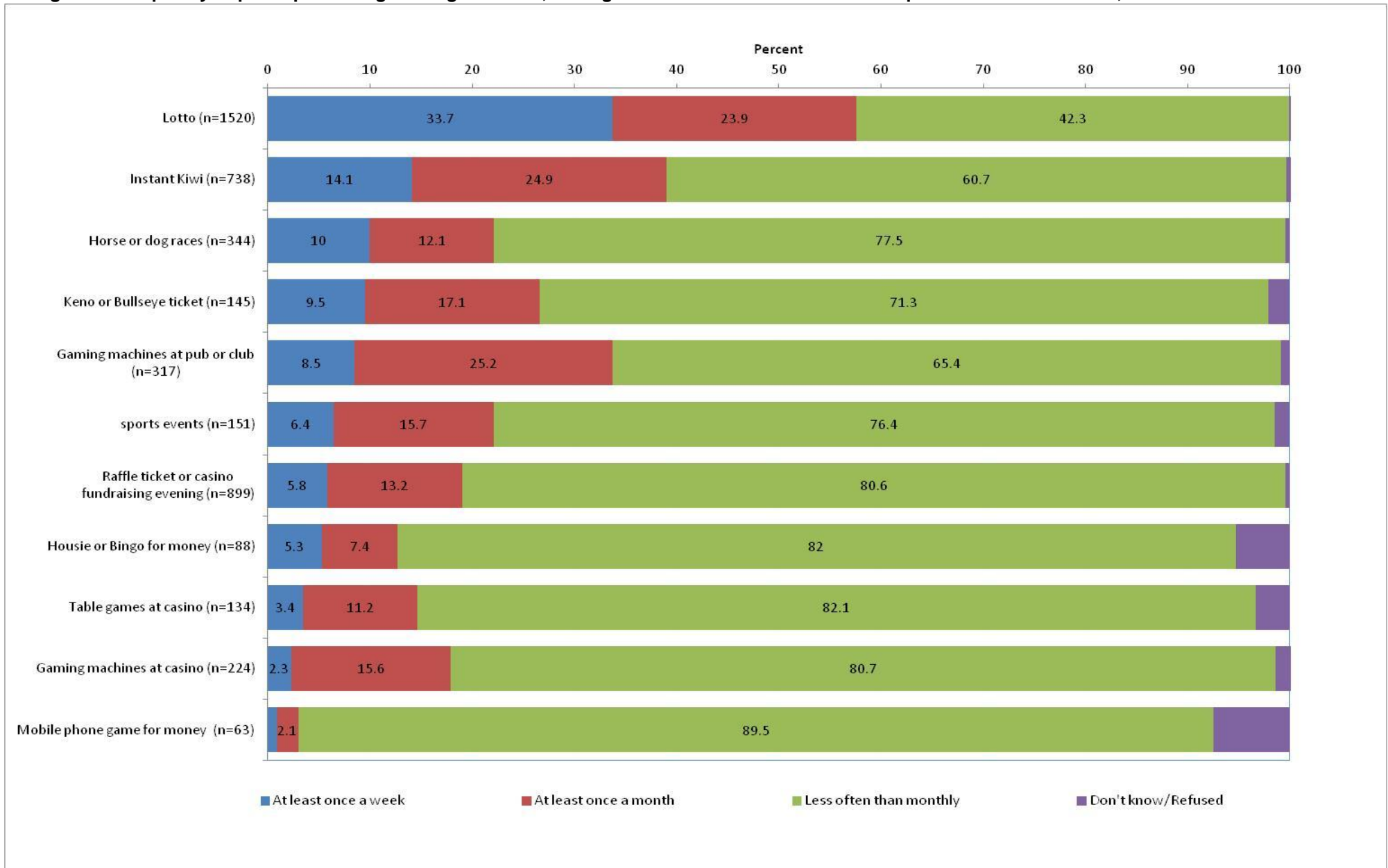


### 4.3 FREQUENCY OF PARTICIPATION IN GAMBLING ACTIVITIES, 2012

People who said that they participated in gambling activities were asked how often they participated in those activities. The top four most frequent weekly gambling activities are Lotto, Instant Kiwi, track betting and Daily Keno.

- Over half (57.5%, 53.5 - 61.6) New Zealanders aged 15 years and older who had bought a lottery tickets did at least once a month, representing an estimated 1,084,000 people. One in three (33.7%, 30.3 – 37.0) had bought a lottery ticket did at least once a week, representing an estimated 634,000 people. One in 28 (3.5%, 2.1 -4.9) had bought a lottery ticket more than once a week, representing an estimated 66,000 people. A small proportion of people (0.3%, 0.1 - 0.9) had bought a lottery ticket almost every day, representing an estimated 6,000 people
- Two out of five (39.0%, 33.7 – 44.2)of those people who bought Instant Kiwi or scratch ticket did so at least monthly, representing an estimated 393,000 people. One in seven (14.1%, 11.1 - 17.1) did so at least weekly, representing an estimated 142,000 people.
- One in three (33.7%, 25.2-42.2) of those people who had played pokies in pubs or clubs did so at least once a month, representing an estimated 464,000 people. (8.5%, 5.2 - 11.8) did so at least weekly, representing an estimated 39,000 people.
- Most other gambling activities were participated in on an occasional basis – less often than monthly – by the majority of participants. The range is from 71.3% to 89.5%.

**Figure 6: Frequency of participation in gambling activities, among those who had done them in the previous twelve months, 2012**





### 4.3.1 Comparison with previous years: Frequency of engaging in gambling activities

Table 5 shows the frequency with which respondents participated in gambling activities, in the categories that are comparable with previous surveys. It shows responses as a proportion of all respondents, that is, including the proportion of those who do not participate in the activity at all.

Key findings in Table 5 include:

- The proportion of people buying NZ Lotteries products<sup>7</sup> less often than monthly have declined significantly from 28.9% to 25.0% over the last 6 years. However, the weekly and monthly participation rate remains unchanged over the year, where the average weekly participation rate over the years is 17.9% and the average monthly participation rate is 18.8%.
- The proportion of people buying raffle tickets or going to a casino evening for fundraising, participating in sweepstakes with friends or colleagues, and making money bets with family or friends on card games had declined significantly across all frequency patterns over the years, in particular with the less regular basis (less often than monthly), where the participation rate declined since 2006/2007 from 45.1% to 12.5%.
- The proportion of people playing gaming machines at pubs or clubs also declined significantly across all frequency patterns over the years.
- The proportion of people playing table games at casinos on a less regular basis (less often than monthly) increased significantly since 2006/2007 from 2.5% to 6.1%; however the overall participation rate remains relatively low.
- Most other gambling activities were participated in less often than monthly and have not changed significantly over time.

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<sup>7</sup> NZ Lotteries products included Lotto, Keno, Bullseye, Strike, Powerball and Big Wednesday, Instant Kiwi and scratch tickets.

**Table 5: Frequency of participation in gambling activities, 2006/07, 2008, 2010, 2012**

Frequency	Year	Lotto, Keno, (Bullseye), Strike, Powerball, Big Wednesday, Instant Kiwi or scratch tickets	Raffle ticket or casino fundraising evening, sweepstakes with friends or colleagues, bets with family or friends on card games	Horse or dog races or sports events	Gaming machines at a pub or club	Housie or Bingo for money	Gaming machines at casinos	Table games at casinos	Internet game for money	Mobile phone game for money
At least once a week	2006/07	17.9 (15.4 - 20.4)	3.3 (2.2 - 4.3)	1.9 (1.1 - 2.6)	2 (1.2 - 2.7)	0.6 (0.3 - 1.1)	0.1 (0 - 0.3)	0 (0 - 0.1)	0 (0 - 0)	0.1 (0 - 0.5)
	2008	15.8 (13.6 - 18)	2.1 (1.1 - 3.1)	2 (1.2 - 2.9)	1.2 (0.6 - 2.1)	0.7 (0.3 - 1.5)	0.2 (0.1 - 0.7)	0.1 (0 - 0.6)	0.4 (0.1 - 1.3)	0.3 (0.1 - 0.9)
	2010	17.9 (15.3 - 20.4)	1.5 (0.9 - 2.2)	1.2 (0.6 - 2.1)	1 (0.6 - 1.5)	0.7 (0.3 - 1.3)	0.4 (0.1 - 1.1)	-	0.4 (0.1 - 1.1)	-
	2012	20.2 (18.2 - 22.2)	1.5 (0.9 - 2.1)	1.5 (0.9 - 2.1)	1.2 (0.7 - 1.6)	0.2 (0.1 - 0.5)	0.2 (0.1 - 0.6)	0.3 (0 - 0.8)	0.1 (0 - 0.3)	0 (0 - 0.1)
At least once a month	2006/07	19.9 (17.2 - 22.7)	6.9 (5.2 - 8.5)	3.2 (2 - 4.4)	4.7 (3.4 - 6)	0.5 (0.1 - 1.3)	0.5 (0.2 - 0.9)	0.2 (0 - 0.4)	0.1 (0 - 0.2)	0.2 (0 - 0.6)
	2008	20.9 (17.9 - 23.9)	9.0 (6.9 - 11.2)	2.5 (1.1 - 3.8)	4.4 (2.8 - 6.1)	0.3 (0.1 - 0.5)	1.4 (0.6 - 2.8)	0.6 (0.1 - 1.5)	-	0.1 (0 - 0.3)
	2010	19 (16.1 - 21.9)	8.3 (6.5 - 10.1)	2 (1 - 3)	4.5 (3.1 - 5.8)	0.3 (0.1 - 0.9)	0.5 (0.2 - 1.2)	0.2 (0 - 0.9)	0.2 (0 - 0.7)	-
	2012	15.3 (13.3 - 17.3)	2.3 (1.3 - 3.4)	2.3 (1.3 - 3.4)	3.4 (2.2 - 4.7)	0.3 (0 - 1.1)	1.7 (0.9 - 2.9)	0.8 (0.3 - 1.9)	0.1 (0 - 0.4)	0.1 (0 - 0.3)
Less often than monthly	2006/07	28.9 (26 - 31.9)	45.1 (41.9 - 48.4)	12.5 (10.1 - 14.8)	11.6 (9.7 - 13.6)	2.2 (1.4 - 3)	8 (6 - 10)	2.5 (1.5 - 3.5)	0.3 (0.1 - 0.8)	1.3 (0.8 - 2.2)
	2008	27 (23.9 - 30.1)	35.3 (31.7 - 38.9)	9.4 (7.4 - 11.5)	13.1 (10.6 - 15.6)	1.5 (0.7 - 2.4)	10.7 (7.9 - 13.5)	3.3 (1.5 - 5)	0.7 (0 - 3.5)	0.3 (0.1 - 1)
	2010	26.4 (23 - 29.8)	45.0 (40.8 - 49.2)	10.7 (8.1 - 13.3)	10.5 (8.1 - 12.9)	1.9 (0.4 - 3.3)	9.1 (6.8 - 11.5)	2.6 (1.4 - 3.8)	1.4 (0.5 - 3.2)	-
	2012	25 (22.1 - 27.9)	12.5 (10.2 - 14.7)	12.5 (10.2 - 14.7)	8.9 (6.7 - 11.1)	3.3 (1.5 - 5.1)	8.6 (6.4 - 10.8)	6.1 (4 - 8.1)	1.2 (0.5 - 2.4)	2.9 (1.1 - 4.7)
Not participated in activity	2006/07	33.2 (30 - 36.4)	44.7 (41.4 - 48.0)	82.4 (79.9 - 85)	81.7 (79.4 - 84.1)	96.7 (95.5 - 97.8)	91.4 (89.4 - 93.5)	97.3 (96.3 - 98.3)	99.6 (99.3 - 99.9)	98.4 (97.7 - 99.1)
	2008	36.3 (32.6 - 40.1)	53.4 (49.6 - 57.4)	86.1 (83.5 - 88.6)	81.3 (78.6 - 84)	97.5 (96.5 - 98.5)	87.7 (84.8 - 90.5)	96.1 (94.2 - 97.9)	98.9 (96.4 - 99.8)	99.3 (98.7 - 99.8)

	<b>2010</b>	36.8 (33.1 - 40.4)	45.1 (40.9 - 49.3)	86.1 (83.3 - 88.9)	84 (81.3 - 86.8)	97.1 (95.6 - 98.7)	90 (87.6 - 92.3)	97.2 (96 - 98.4)	98 (96.7 - 99.3)	-
	<b>2012</b>	39.4 (36.4 - 42.5)	83.6 (80.9 - 86.3)	83.6 (80.9 - 86.3)	86.4 (83.7 - 89.1)	96 (94 - 98)	89.3 (86.9 - 91.8)	92.6 (90.2 - 95)	98.6 (97.7 - 99.5)	96.8 (94.8 - 98.7)

In the following report sections 4.4.3 – 4.4.6, a demographic breakdown is shown for frequency of participation only in those activities with a high enough number of participants to be analysed further: lottery tickets, scratch tickets, horse and dog races and sports betting, and pokies machines at pubs or clubs.

## 4.4 PARTICIPATION IN CONTINUOUS AND NON-CONTINUOUS FORMS OF GAMBLING

### 4.4.1 Gambling participation type, 2012

As noted in section 3.5, all respondents were assigned to a gambling participation group based on the types and frequency of gambling they reported participating in.

- Nearly one in every two (47.4%, 44.2 -50.7) people were “infrequent gamblers” meaning that they participated in any gambling activities less often than once a week, representing an estimated 1,621,700 people.
- One in five (19.8%, 17.7 – 21.8) people were frequent, non-continuous gamblers, meaning that they participated in non-continuous gambling forms (such as buying lottery tickets, going to casino evenings/buying raffle tickets for fundraising) on a weekly basis or more often, representing an estimated 676,600 people.
- One in 33 (3.1%, 2.3 – 3.9) people were frequent, continuous gamblers, meaning that they participated in continuous gambling activities such as betting on races or sports events, playing pokie machines or playing table games at casinos, on a weekly basis or more often, representing an estimated 106,700 people.

**Table 6: Participation in continuous and non-continuous forms of gambling, total population aged 15 years and over (unadjusted prevalence)**

Gambling participation types	Past-year participation (95% CI)		Estimated number of people
	Prevalence (%) for total adults	Prevalence (%) for past-year gamblers	
Non-gambler	29.7 (26.8 - 32.6)	-	1,014,900 (916,500 - 1,114,900)
Infrequent gambler	47.4 (44.2 - 50.7)	67.4 (64.4 - 70.4)	1,621,700 (1,511,600 - 1,733,900)
Frequent, non-continuous gambler	19.8 (17.7 - 21.8)	28.1 (25.2 - 31.1)	676,600 (605,300 - 745,500)
Frequent, continuous gambler	3.1 (2.3 - 3.9)	4.4 (3.3 - 5.6)	106,700 (78,700 - 133,400)

Key findings in Table 7 include:

- Male were more likely than females to be frequent, non-continuous gamblers or continuous gamblers, while females were more likely than males to be infrequent gamblers. This means that generally females were more likely than males to participate in casual gambling activities (i.e. less often than once a week)
- As age goes up, older people were more likely than younger people to be frequent, non-continuous gamblers.
- People aged 45 and over were more likely than younger people to be frequent, continuous gamblers.
- There was a strong association between participation in frequent, continuous gambling activities and being at risk of gambling problems. Table 7 shows that nearly one in five (22.4%) moderate risk and problem gamblers and one in six (17.9%) low-risk gamblers were frequent, continuous gamblers, compared with 3.4% of non-problem gamblers.

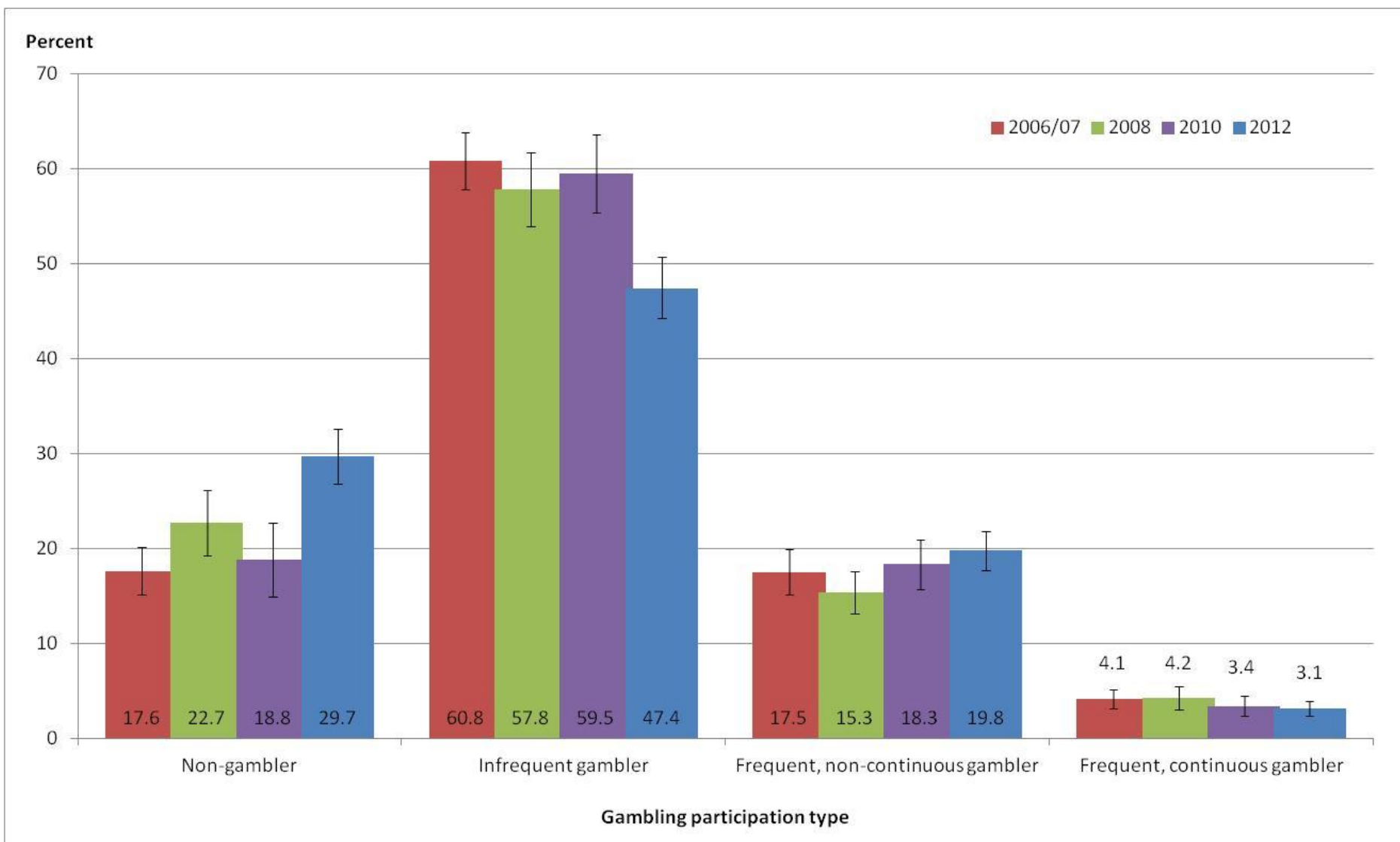
**Table 7: Gambling participation type, by demographics, 2012**

	Gender		Age group (in years)				Prioritised ethnicity				Total
	Male	Female	15 - 17	18 - 24	25 - 44	45+	Māori	Pacific	Asian	European/Other	
	%	%	%	%	%	%	%	%	%	%	
Non-gambler	32 (28 - 36)	27.5 (23.9 - 31.1)	76 (62.4 - 89.6)	42.4 (30.9 - 53.9)	27.6 (23.7 - 31.4)	23.9 (20.9 - 27)	27.9 (23 - 32.8)	36 (25.9 - 46.1)	44.5 (31 - 58.1)	28.8 (25.4 - 32.1)	29.7 (26.8 - 32.6)
Infrequent gambler	41 (36.6 - 45.4)	53.5 (49.6 - 57.3)	21.2 (9.6 - 37.5)	49.9 (37.7 - 62.2)	55.1 (50.5 - 59.8)	43.6 (39.8 - 47.3)	46 (40.9 - 51.1)	37.5 (27.6 - 47.5)	40.3 (25.7 - 54.9)	48.5 (44.9 - 52.2)	47.4 (44.2 - 50.7)
Frequent, non-continuous gambler	22.4 (19.2 - 25.7)	17.3 (14.8 - 19.8)	1.6 (0.2 - 5.9)	6.2 (3.4 - 10.4)	15.9 (12.4 - 19.4)	27.6 (24.5 - 30.7)	22 (17.5 - 26.5)	21.9 (17.2 - 26.7)	15 (6 - 29.2)	19.6 (17.3 - 22)	19.8 (17.7 - 21.8)
Frequent, continuous gambler	4.6 (3.2 - 6)	1.7 (0.9 - 2.5)	1.2 (0 - 6.6)	1.5 (0.3 - 4.3)	1.4 (0.7 - 2.7)	4.8 (3.4 - 6.3)	4.1 (2.2 - 6.1)	4.5 (2.2 - 8.3)	0.2 (0 - 1.1)	3.1 (2.1 - 4)	3.1 (2.3 - 3.9)
<b>Sample size n =</b>	1154	1518	71	260	943	1398	619	387	127	1539	2672

	PGSI				Household Equivalised Income				Deprivation			Total
	Non-gambler %	Non-problem gambler %	Low-risk gambler %	Moderate risk/Problem gambler %	Low %	Medium %	High %	Not stated %	Low 1-3 %	Mid 4-7 %	High 8-10 %	%
Non-gambler	100 (100 - 100)	0 (0 - 0)	0 (0 - 0)	0 (0 - 0)	32.7 (27 - 38.4)	29.7 (25 - 34.4)	19 (14.8 - 23.1)	38.7 (31.1 - 46.2)	28 (23.2 - 32.8)	29 (24.8 - 33.3)	32.1 (25.6 - 38.7)	29.7 (26.8 - 32.6)
Infrequent gambler	0 (0 - 0)	68.4 (65.4 - 71.4)	50.8 (33.1 - 68.3)	49.4 (25.6 - 73.3)	44.6 (38.7 - 50.5)	45.1 (39.6 - 50.6)	55.1 (50 - 60.2)	44.3 (36.4 - 52.2)	48.8 (43.4 - 54.3)	47.5 (43.1 - 52)	45.9 (38.8 - 53.1)	47.4 (44.2 - 50.7)
Frequent, non-continuous gambler	0 (0 - 0)	28.2 (25.2 - 31.3)	31.3 (17.4 - 48.2)	28.3 (11.3 - 51.5)	18.9 (15.1 - 22.7)	22.1 (17.8 - 26.4)	23 (18.1 - 27.8)	14.5 (11.2 - 17.7)	21.4 (16.4 - 26.3)	19.7 (16.5 - 22.8)	18.5 (15 - 22)	19.8 (17.7 - 21.8)
Frequent, continuous gambler	0 (0 - 0)	3.4 (2.3 - 4.5)	17.9 (8.4 - 31.4)	22.4 (11.2 - 37.5)	3.9 (2.2 - 5.5)	3.1 (1.6 - 5.3)	2.9 (1.6 - 5)	2.6 (1.3 - 4.7)	1.7 (0.8 - 3.1)	3.8 (2.3 - 5.3)	3.4 (2.1 - 4.8)	3.1 (2.3 - 3.9)
<b>Sample size n =</b>	786	1745	72	54	852	658	540	622	538	1046	1088	2672

#### 4.4.2 Comparison with previous years: gambling participation types

Compared with previous years, the proportion of people who had not gambled has increased significantly in 2012. Among gamblers, the proportion of infrequent gamblers has dropped significantly in 2012. The proportions of frequent, non-continuous and continuous gamblers have not changed significantly since 2006/2007.





#### 4.4.3 Frequency of participation by demographics: Lotto, Big Wednesday and Powerball tickets

- One in five (18.5%, 16.6 – 20.5) New Zealanders aged 15 years and older had bought lottery tickets at least once a week, representing an estimated 634,000 people.
- Males were more likely than females to buy lottery tickets on a weekly basis, while females were more likely to buy lottery tickets on a monthly basis.
- Older people were more likely than younger people to buy lottery tickets at least once a week.

**Table 8: Frequency of buying Lottery tickets, by demographics, 2012**

	Gender		Age (in years)				Prioritised ethnicity				Total %
	Male %	Female %	15 - 17 %	18 - 24 %	25 - 44 %	45+ %	Māori %	Pacific %	Asian %	European/ Other %	
At least once a week	21.7 (18.6 - 24.7)	15.6 (13.1 - 18)	1.6 (0.2 - 5.9)	3.9 (1.7 - 7.4)	12.8 (9.8 - 15.8)	27.8 (24.7 - 30.9)	19.8 (15.8 - 23.9)	23.1 (18.3 - 27.8)	15 (6 - 29.2)	18.3 (16.1 - 20.6)	18.5 (16.6 - 20.5)
At least once a month	10.4 (8 - 12.7)	15.8 (13.2 - 18.4)	0.3 (0 - 2)	6.1 (3 - 10.9)	17.4 (13.9 - 21)	13.3 (10.8 - 15.8)	11.5 (8.4 - 14.6)	16.6 (11.2 - 22)	11.5 (5.5 - 20.5)	13.3 (11.2 - 15.5)	13.2 (11.4 - 15)
Less often than monthly	22.6 (18.8 - 26.4)	24.3 (21.1 - 27.5)	0.3 (0 - 2.3)	19.6 (11.9 - 27.3)	29.7 (25.2 - 34.1)	22.3 (18.9 - 25.6)	23.6 (19.2 - 28)	11.2 (6 - 16.4)	12.7 (5.7 - 23.2)	24.7 (21.5 - 27.8)	23.5 (20.8 - 26.1)
Not participated in activity	45.4 (41.4 - 49.4)	44.1 (40.8 - 47.4)	97.8 (93.3 - 99.6)	70.4 (62.4 - 78.4)	40.2 (36.1 - 44.2)	36.4 (32.9 - 39.8)	45 (40.2 - 49.9)	49.1 (41.7 - 56.5)	60.8 (47.4 - 74.2)	43.5 (40.4 - 46.6)	44.7 (42.1 - 47.3)
<b>Sample size n =</b>	1154	1518	71	260	943	1398	619	387	127	1539	2672

	PGSI				Household Equivalised Income				Deprivation			Total
	Non-gambler %	Non-problem gambler %	Low-risk gambler %	Moderate-risk/Problem gambler %	Low %	Medium %	High %	Not stated %	Low 1-3 %	Mid 4-7 %	High 8-10 %	%
At least once a week	0 (0 - 0)	26.2 (23.3 - 29.1)	30.7 (16.8 - 44.5)	34.7 (16 - 57.8)	18.4 (14.7 - 22.2)	21.5 (17.3 - 25.8)	20.3 (15.9 - 24.8)	13.2 (9.9 - 16.5)	19.5 (15.2 - 23.9)	19.4 (16.2 - 22.7)	16.3 (13.1 - 19.6)	18.5 (16.6 - 20.5)
At least once a month	0 (0 - 0)	18.8 (16.2 - 21.5)	22.8 (8.6 - 43.9)	10.3 (3.4 - 22.5)	12.1 (8.7 - 15.4)	11 (8.1 - 13.8)	16.8 (12.5 - 21.1)	12.7 (8.9 - 16.4)	15.1 (11 - 19.2)	13 (10.2 - 15.9)	11.6 (8.6 - 14.5)	13.2 (11.4 - 15)
Less often than monthly	0 (0 - 0)	34.3 (30.9 - 37.6)	19 (6.2 - 39.7)	36.1 (10.4 - 69.7)	20.1 (15.9 - 24.2)	22.4 (17.6 - 27.1)	30.3 (25.2 - 35.3)	20.7 (14.8 - 26.5)	25.3 (20 - 30.6)	23 (19.2 - 26.8)	22.5 (17.4 - 27.7)	23.5 (20.8 - 26.1)
Not participated in activity	100 (100 - 100)	20.5 (17.9 - 23.2)	27.5 (12.4 - 47.5)	18.8 (5.8 - 40.4)	49.2 (43.9 - 54.5)	45.1 (39.9 - 50.4)	32.4 (27.3 - 37.4)	53.5 (48.4 - 58.5)	40.1 (35.1 - 45.1)	44.3 (39.8 - 48.7)	49.6 (44.4 - 54.9)	44.7 (42.1 - 47.3)
<b>Sample size n =</b>	786	1745	72	54	852	658	540	622	538	1046	1088	2672

#### 4.4.4 Frequency of gambling participation by demographics: Betting on horse or dog races or sports events

- Males were more likely than females to bet on races or sports events on a weekly or monthly basis.
- People aged 45 and over were more likely than younger people to bet on races or sports events on a weekly basis.
- At-risk<sup>8</sup> and problem gamblers were more likely than non-problem gamblers to bet on races or sports events on a weekly basis.

**Table 9: Frequency of betting on horse or dog races or sports events, by demographics, 2012**

	Gender		Age (in years)				Prioritised ethnicity				Total
	Male %	Female %	15 - 17 %	18 - 24 %	25 - 44 %	45+ %	Māori %	Pacific %	Asian %	European/ Other %	%
At least once a week	3 (1.8 - 4.2)	0.2 (0 - 0.4)	0 (0 - 0)	0.2 (0 - 1.2)	0.8 (0.2 - 2.1)	2.5 (1.5 - 3.5)	0.8 (0.3 - 2)	3.1 (1.1 - 6.7)	0 (0 - 0)	1.6 (1 - 2.5)	1.5 (0.9 - 2.1)
At least once a month	4.4 (2.2 - 6.7)	0.4 (0.1 - 0.9)	0 (0 - 0)	4 (1 - 10.1)	2.6 (1 - 5.5)	1.9 (0.9 - 2.8)	2.1 (0.6 - 5.2)	2.3 (0.8 - 5.1)	7.9 (1 - 25.7)	2.1 (1.1 - 3.6)	2.3 (1.3 - 3.4)
Less often than monthly	14.2 (11 - 17.4)	10.8 (8.2 - 13.4)	0 (0 - 0)	10.3 (5.4 - 17.2)	12.9 (9.7 - 16)	13.8 (10.5 - 17)	12.6 (9.1 - 16)	2.6 (0.7 - 6.5)	2.9 (0.6 - 8.3)	13.5 (10.8 - 16.2)	12.5 (10.2 - 14.7)
Not participated in activity	78.4 (74.1 - 82.7)	88.5 (85.9 - 91.1)	100 (100 - 100)	85.6 (77.6 - 93.5)	83.7 (80 - 87.3)	81.8 (78.4 - 85.1)	84.5 (80.8 - 88.3)	92 (88.2 - 95.8)	89.2 (72.9 - 97.4)	82.7 (79.5 - 86)	83.6 (80.9 - 86.3)
<b>Sample size n =</b>	1154	1518	71	260	943	1398	619	387	127	1539	2672

<sup>8</sup> At-risk gamblers were referred to low-risk and moderate-risk gamblers.

	PGSI				Household Equivalised Income				Deprivation			Total
	Non-gambler	Non-problem gambler	Low-risk gambler	Moderate-risk/ Problem gambler	Low	Medium	High	Not stated	Low 1-3	Mid 4-7	High 8-10	
	%	%	%	%	%	%	%	%	%	%	%	%
At least once a week	0 (0 - 0)	1.7 (1 - 2.7)	10.5 (4 - 21.3)	9.8 (3.4 - 21)	1.7 (0.8 - 3.2)	2.4 (1 - 4.6)	1.3 (0.4 - 2.8)	0.6 (0.2 - 1.5)	0.5 (0.1 - 1.7)	2.3 (1.3 - 3.7)	1.4 (0.6 - 2.6)	1.5 (0.9 - 2.1)
At least once a month	0 (0 - 0)	2.6 (1.4 - 3.9)	11.2 (1.9 - 31.7)	21.5 (2.5 - 59.6)	2.6 (1.3 - 4.6)	1.3 (0.4 - 3.2)	2.3 (0.7 - 5.2)	3.4 (0.8 - 9.3)	1.6 (0.4 - 4.5)	1.5 (0.6 - 2.9)	4.3 (1.9 - 8.3)	2.3 (1.3 - 3.4)
Less often than monthly	0 (0 - 0)	17.4 (14.2 - 20.7)	30.8 (14.6 - 51.4)	11 (3.4 - 24.6)	9.6 (6.7 - 12.5)	11.6 (7.7 - 15.5)	18.5 (13.5 - 23.4)	9.7 (5.5 - 13.8)	14.7 (9.3 - 20.1)	12.3 (8.9 - 15.7)	10.6 (7.3 - 14)	12.5 (10.2 - 14.7)
Not participated in activity	100 (100 - 100)	78.2 (74.7 - 81.7)	47.6 (29.3 - 65.8)	57.6 (33.7 - 81.5)	85.8 (82.4 - 89.3)	84.7 (80.6 - 88.9)	78 (72.6 - 83.4)	86.3 (79.4 - 93.2)	83.1 (77.6 - 88.7)	83.8 (80 - 87.6)	83.8 (78.2 - 89.3)	83.6 (80.9 - 86.3)
<b>Sample size n =</b>	786	1745	72	54	852	658	540	622	538	1046	1088	2672

#### 4.4.5 Frequency of gambling participation by demographics: Buying Instant Kiwi or scratch tickets

- Low-risk gamblers were more likely than non-problem gamblers to buy scratch tickets weekly.

**Table 10: Frequency of buying Instant Kiwi or scratch tickets, by demographics, 2012**

	Gender		Age (in years)				Prioritised ethnicity				Total %
	Male %	Female %	15 - 17 %	18 - 24 %	25 - 44 %	45+ %	Māori %	Pacific %	Asian %	European/ Other %	
At least once a week	4.8 (3.1 - 6.6)	3.9 (2.7 - 5.2)	0.7 (0 - 3.7)	2.8 (1.1 - 5.6)	3.3 (1.5 - 5.1)	5.8 (4.1 - 7.5)	6.7 (4.1 - 9.2)	2.9 (1.1 - 6.1)	0.5 (0 - 2.9)	4.3 (3.1 - 5.6)	4.4 (3.3 - 5.4)
At least once a month	6.9 (4.6 - 9.2)	7.7 (5.7 - 9.8)	0.5 (0 - 3.6)	11.1 (5.8 - 18.7)	8.1 (5.3 - 10.9)	6.3 (4.5 - 8)	8.4 (5.5 - 11.2)	4.3 (2.1 - 7.7)	18.4 (6.4 - 37.5)	6.7 (5 - 8.4)	7.3 (5.8 - 8.9)
Less often than monthly	15.8 (12.6 - 19)	19.9 (16.4 - 23.4)	2.5 (0.2 - 9.9)	22.8 (14.6 - 31)	21 (17 - 24.9)	15.6 (12.6 - 18.7)	20.2 (15.6 - 24.7)	12.3 (7.8 - 16.8)	6.8 (2.6 - 13.9)	18.5 (15.4 - 21.6)	17.9 (15.3 - 20.5)
Not participated in activity	72.4 (68.3 - 76.6)	68.2 (64.3 - 72.2)	96.3 (89.2 - 99.3)	63.4 (52.3 - 74.5)	67.6 (62.9 - 72.4)	72 (68.3 - 75.7)	64.8 (59.4 - 70.3)	80.5 (74.5 - 86.5)	74.4 (59.7 - 89.1)	70.3 (66.5 - 74.1)	70.3 (67 - 73.5)
<b>Sample size n =</b>	1154	1518	71	260	943	1398	619	387	127	1539	2672

	PGSI				Household Equivalised Income				Deprivation			Total
	Non-gambler %	Non-problem gambler %	Low-risk gambler %	Moderate-risk/Problem gambler %	Low %	Medium %	High %	Not stated %	Low 1-3 %	Mid 4-7 %	High 8-10 %	%
At least once a week	0 (0 - 0)	5.7 (4.2 - 7.2)	17.3 (7.8 - 31.1)	10.7 (1.7 - 31.3)	5.6 (3.2 - 7.9)	4.4 (2.5 - 6.3)	4 (2 - 7)	3.6 (2 - 5.7)	4.7 (2.4 - 8.2)	4.1 (2.7 - 5.4)	4.5 (2.9 - 6.1)	4.4 (3.3 - 5.4)
At least once a month	0 (0 - 0)	9.8 (7.7 - 12)	15.4 (4.2 - 35.5)	33.3 (10.3 - 64.4)	7.1 (4.5 - 9.6)	6.6 (4.1 - 9.2)	7.2 (4.2 - 10.2)	8.6 (5.2 - 12)	4.8 (2.6 - 8)	7.3 (5 - 9.6)	9.7 (6.5 - 13)	7.3 (5.8 - 8.9)
Less often than monthly	0 (0 - 0)	25.9 (22.3 - 29.5)	28 (12.6 - 48.4)	9.9 (3.3 - 21.5)	16.1 (12.2 - 20)	18.8 (14.3 - 23.3)	19.9 (14.8 - 25.1)	16.5 (11.4 - 21.7)	17.1 (11.7 - 22.5)	18.1 (14.1 - 22.1)	18.3 (13.8 - 22.9)	17.9 (15.3 - 20.5)
Not participated in activity	100 (100 - 100)	58.4 (54.4 - 62.4)	39.4 (21.8 - 59.2)	46.1 (22.7 - 70.9)	71 (65.9 - 76.2)	70.2 (65.4 - 75)	68.7 (62.9 - 74.5)	71.3 (64.3 - 78.3)	73.4 (66.7 - 80)	70.3 (65.9 - 74.7)	67.4 (60.9 - 73.9)	70.3 (67 - 73.5)
<b>Sample size n =</b>	786	1745	72	54	852	658	540	622	538	1046	1088	2672

#### 4.4.6 Frequency of gambling participation by demographics: Playing gaming machines or pokies at pubs or clubs

- At-risk or problem gamblers were more likely to play pokies in a pub or club on a weekly and monthly basis, compared with non-problem gamblers.

**Table 11: Frequency of playing pokie machines in pubs or clubs, by demographics, 2012**

	Gender		Age (in years)				Prioritised ethnicity				Total %
	Male %	Female %	15 - 17 %	18 - 24 %	25 - 44 %	45+ %	Māori %	Pacific %	Asian %	European/ Other %	
At least once a week	1.5 (0.9 - 2.4)	0.8 (0.4 - 1.4)	0 (0 - 0)	0.6 (0.1 - 2.3)	0.5 (0.2 - 1.1)	1.8 (1 - 2.6)	2.5 (1.2 - 4.5)	1 (0.2 - 3)	0 (0 - 0)	1 (0.6 - 1.6)	1.2 (0.7 - 1.6)
At least once a month	3.3 (1.8 - 5.5)	3.5 (2 - 5)	0 (0 - 0)	8.5 (3.3 - 17.2)	3.6 (1.8 - 5.3)	2.1 (1.2 - 3)	5.3 (2.8 - 8.9)	3.4 (0.9 - 8.7)	7.4 (0.9 - 24.2)	2.9 (1.5 - 4.3)	3.4 (2.2 - 4.7)
Less often than monthly	8.6 (5.8 - 11.3)	9.2 (6.7 - 11.7)	1.7 (0.2 - 6.2)	10.3 (5.8 - 16.7)	9.9 (7 - 12.9)	8.3 (5.3 - 11.4)	10.6 (7.7 - 13.6)	3.1 (1.2 - 6.5)	0 (0 - 0)	9.4 (6.7 - 12.1)	8.9 (6.7 - 11.1)
Not participated in activity	86.6 (83.2 - 90)	86.3 (83.3 - 89.2)	98.3 (93.8 - 99.8)	80.6 (72.5 - 88.8)	85.9 (82.6 - 89.2)	87.5 (84.1 - 90.8)	81.6 (77.6 - 85.5)	92.5 (88.3 - 96.6)	92.4 (75.9 - 99)	86.5 (83.3 - 89.7)	86.4 (83.7 - 89.1)
<b>Sample size n =</b>	1154	1518	71	260	943	1398	619	387	127	1539	2672

	PGSI				Household Equivalised Income				Deprivation			Total
	Non-gambler	Non-problem gambler	Low-risk gambler	Moderate-risk/ Problem gambler	Low	Medium	High	Not stated	Low 1-3	Mid 4-7	High 8-10	
	%	%	%	%	%	%	%	%	%	%	%	%
At least once a week	0 (0 - 0)	1.1 (0.6 - 1.8)	6.1 (1.9 - 14)	14.7 (5.9 - 28.4)	2.1 (1.1 - 3.6)	0.5 (0.1 - 1.3)	1.3 (0.6 - 2.6)	0.7 (0.3 - 1.5)	0.8 (0.2 - 1.9)	0.8 (0.3 - 1.6)	2.1 (1.1 - 3)	1.2 (0.7 - 1.6)
At least once a month	0 (0 - 0)	2.8 (1.6 - 4)	31.5 (15.6 - 51.4)	38 (14.3 - 67)	3.1 (1.4 - 5.7)	2.3 (1.1 - 4.2)	2.8 (1.4 - 5)	5.8 (2.5 - 11.1)	2.2 (0.9 - 4.7)	2.7 (1.5 - 4.6)	5.5 (2.2 - 8.8)	3.4 (2.2 - 4.7)
Less often than monthly	0 (0 - 0)	12.5 (9.2 - 15.7)	18.2 (5.8 - 38.6)	6.2 (1.2 - 17.3)	9.1 (6.1 - 12.2)	11 (7.2 - 14.7)	9.5 (4.8 - 14.2)	5.6 (2.8 - 8.4)	9.7 (4.6 - 14.7)	9 (5.5 - 12.5)	8.1 (5.1 - 11)	8.9 (6.7 - 11.1)
Not participated in activity	100 (100 - 100)	83.4 (79.9 - 86.9)	44.2 (26.9 - 61.5)	41.1 (18.9 - 66.4)	85.5 (81.4 - 89.6)	86.2 (82.2 - 90.2)	86.2 (81.3 - 91.1)	87.9 (81.9 - 93.8)	87.3 (82 - 92.6)	87.2 (83.3 - 91.1)	84.4 (79.2 - 89.6)	86.4 (83.7 - 89.1)
<b>Sample size n =</b>	786	1745	72	54	852	658	540	622	538	1046	1088	2672



#### 4.4.7 Problem gambling risk, by monthly participation in four common forms of gambling activity

Regular participation in continuous forms of gambling is noted as a risk factor for the development of gambling problems (Abbot 2001).

Table 12 shows the proportion of people who participated in gambling activities at least monthly<sup>9</sup> whose PGSI scores classified them as non-problem gamblers, low-risk gamblers and moderate risk or problem gamblers.

- The majority of people who bought lottery tickets (93.1%, 90.9 – 95.4), scratch tickets (86.8%, 81.5 – 92.1), bet on races or sports (72.8%, 54.3-91.2), played pokie machines in pubs or clubs (58.7%, 45.8 -71.7) monthly were non-problem gamblers.
- Two in five (41.3%, 28.3 – 54.2) people who played pokie machines in pubs or clubs at least one a month were at-risk or problem gamblers. One in six (16%, 7.5 – 28.3) were moderate-risk or problem gamblers.
- One in four (27.2%, 8.8 – 45.7) of the people who bet on races or sports at least monthly were at-risk gamblers while one in nine (10.8%, 3.3 – 24.4) were moderate risk or problem gamblers.

These results indicate that regular players of continuous gambling forms such as pokie machines are more likely to be experiencing at-risk and problem gambling than those who participate regularly in non-continuous forms of gambling such as buying lottery tickets.

**Table 12: Risk of problem gambling, by monthly participation in playing pokies in pubs or clubs, sports or racing betting, buying lottery tickets and scratch tickets, 2012**

PGSI	Pokie machines in pubs/clubs	Sports/racing betting	Instant Kiwi/scratch tickets	Lottery tickets	Overall
Non problem gambler	58.7 (45.8 - 71.7)	72.8 (54.3 - 91.2)	86.8 (81.5 - 92.1)	93.1 (90.9 - 95.4)	93.9 (92.3-95.5)
Low risk gambler	25.3 (12.4 - 42.3)	16.5 (7.4 - 29.7)	8.2 (4.3 - 13.9)	5.0 (2.9 - 7.1)	4.2 (2.9-5.5)
Moderate-risk/problem gambler	16.0 (7.5 - 28.3)	10.8 (3.3 - 24.4)	5.0 (1.9 - 10.5)	1.9 (1 - 2.8)	1.9 (1.1-2.7)
<b><i>At-risk and problem gambler</i></b>	<b>41.3</b> <b>(28.3 - 54.2)</b>	<b>27.2</b> <b>(8.8 - 45.7)</b>	<b>13.2</b> <b>(7.9 - 18.5)</b>	<b>6.9</b> <b>(4.6 - 9.1)</b>	<b>6.1</b> <b>(4.5 - 7.7)</b>
<b>Sample size n =</b>	118	95	300	930	1883

<sup>9</sup> The numbers of respondents playing weekly or fortnightly were too small to be analysed.

#### 4.4.8 Problem gambling risk, by gambling participation frequency

All respondents who had participated in at least one of twelve gambling activities during the past year were assigned to a gambling frequency group based on how frequently they had participated. Respondents who had participated in more than one gambling activity were grouped according to their most frequent activity. These groups are mutually exclusive, i.e. a person has been assigned to the “*More than once a week*” group if they bought a lottery ticket more than once a week and also played pokie machines at pubs or clubs once a month.

Table 13 shows the proportion of people who had different gambling participation frequency and whose PGSI scores classified them as non-problem gamblers, low-risk gamblers and moderate risk or problem gamblers.

- The majority of people who gambled more than once a week (82.5%, 74.0 - 91.0), once a week (92.3%, 89.5 – 95.1), once a month (92.2%, 87.3 – 97.1) and less often than monthly (97.4%, 95.7-99.1) were non-problem gamblers.
- One in six (17.5%, 9.0 – 26.0) of the people who gambled more than once a week were at-risk gamblers while one in 16 (6.0%, 1.2 – 10.9) were moderate risk or problem gamblers.

These results indicate that people who participated in gambling more than once a week during the past year are more likely to be experiencing at-risk and problem gambling than those who participate on a less frequent basis, e.g. once a week, once a month or less often than monthly.

**Table 13: Risk of problem gambling, by gambling participation frequency, 2012**

PGSI	Gambling participation frequency (Mutually exclusive)				Overall
	More than once a week	Once a week	Once a month	Less often than monthly	
Non problem gambler	82.5 (74 - 91)	92.3 (89.5 - 95.1)	92.2 (87.3 - 97.1)	97.4 (95.7 - 99.1)	93.9 (92.3-95.5)
Low risk gambler	11.5 (4.2 - 18.7)	5.4 (2.9 - 7.8)	5.5 (1.8 - 9.1)	1.8 (0.3 - 3.2)	4.2 (2.9-5.5)
Moderate-risk/problem gambler	6.0 (1.2 - 10.9)	2.4 (0.9 - 3.8)	2.4 (0.1 - 4.6)	0.8 (0 - 1.8)	1.9 (1.1-2.7)
<b><i>At-risk and problem gambler</i></b>	<b>17.5 (9.0-26.0)</b>	<b>7.7 (4.9-10.5)</b>	<b>7.8 (2.9-12.7)</b>	<b>2.6 (0.9-4.3)</b>	<b>6.1 (4.5 - 7.7)</b>
<b>Sample size n=</b>	138	540	466	739	1883

## 4.5 NUMBER OF ACTIVITIES TAKEN PART IN DURING THE PREVIOUS 12 MONTHS

### 4.5.1 Number of gambling activities, 2012

- Overall, around one in four (24.6%, 22.2 – 27.0) adults had gambled on one activity, and one in five (19.0%, 16.9 – 21.1) had gambled on two activities.
- Almost one in nine (11.7%, 10.1 – 13.3) had taken part in three activities and around one in seven (15.0%, 12.3 – 17.7) had taken part in four or more activities.
- The average number of activities people had participated in during the previous 12 months was 1.9 (1.7 -2.1).

**Table 14: Number of gambling activities participated in during last 12 months, total population aged 15 years and over (unadjusted prevalence), 2012**

Number of gambling activities in last year	Past-year participation (95% CI)		
	Prevalence (%) for total adults	Prevalence (%) for past-year gamblers	Estimated number of people
None	29.7 (26.8 - 32.6)	-	1,014,900 (916,500 - 1,114,900)
1	24.6 (22.2 – 27.0)	35 (31.3 - 38.6)	840,600 (752,800 - 928,300)
2	19.0 (16.9 - 21.1)	27.1 (24.3 - 29.8)	650,900 (584,400 - 716,700)
3	11.7 (10.1 - 13.3)	16.7 (14.5 - 18.8)	400,400 (348,700 - 452,100)
4 or more	15.0 (12.3 - 17.7)	21.3 (17.8 - 24.8)	513,000 (428,100 - 596,400)

- At-risk and problem gamblers were more likely than non-problem gamblers to have participated in four or more gambling activities. Among low-risk gamblers, 58.5% had participated in four or more activities, 41.7% of moderate-risk and problem gamblers had participated in four or more activities, compared with 19.4% of non-problem gamblers.

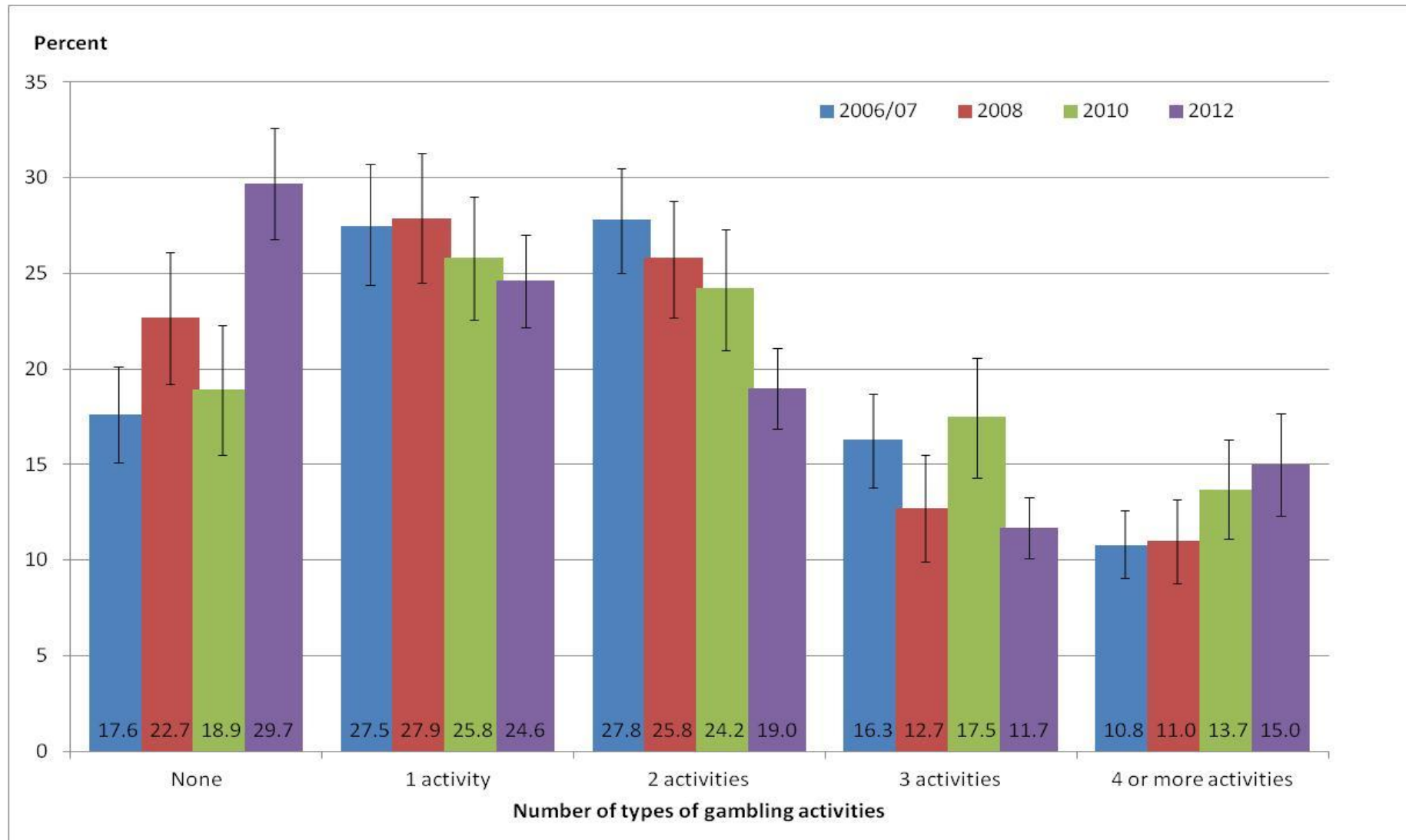
**Table 15: Number of gambling activities taken part in during previous 12 months, by demographics, 2012**

	Gender		Age group (in years)				Prioritised ethnicity				Total %
	Male %	Female %	15 - 17 %	18 - 24 %	25 - 44 %	45+ %	Maori %	Pacific %	Asian %	European/ Other %	
None	32 (28 - 36)	27.5 (23.9 - 31.1)	76 (62.4 - 89.6)	42.4 (30.9 - 53.9)	27.6 (23.7 - 31.4)	23.9 (20.9 - 27)	27.9 (23 - 32.8)	36 (25.9 - 46.1)	44.5 (31 - 58.1)	28.8 (25.4 - 32.1)	29.7 (26.8 - 32.6)
1 activity	23.1 (20.1 - 26)	26 (22.7 - 29.3)	21.2 (9.7 - 37.3)	13.8 (8.8 - 18.8)	25.3 (20.8 - 29.8)	27.5 (24.2 - 30.7)	22.9 (18.3 - 27.5)	30 (22.7 - 37.3)	28.9 (17.8 - 42.3)	24.3 (21.5 - 27.1)	24.6 (22.2 - 27)
2 activities	17.5 (14.8 - 20.1)	20.5 (17.5 - 23.5)	1.2 (0.1 - 4.9)	16.3 (10.1 - 22.6)	19.5 (15.8 - 23.1)	20.9 (17.9 - 23.8)	18.3 (13.9 - 22.6)	18.6 (12.7 - 24.6)	9.2 (3.6 - 18.5)	19.7 (17.3 - 22.2)	19 (16.9 - 21.1)
3 activities	11.6 (9.1 - 14.2)	11.8 (9.7 - 13.9)	1.6 (0.2 - 5.9)	10.6 (6.5 - 16.2)	11 (8.1 - 14)	13.2 (10.9 - 15.5)	14.4 (10.4 - 18.4)	7 (4.1 - 9.9)	3.1 (0.8 - 8.3)	12 (10.1 - 14)	11.7 (10.1 - 13.3)
4 or more activities	15.8 (12.3 - 19.4)	14.2 (11.2 - 17.2)	0 (0 - 0)	16.9 (8.7 - 25)	16.7 (12.9 - 20.4)	14.5 (11.1 - 17.9)	16.5 (12.2 - 20.8)	8.3 (4.9 - 13.1)	14.2 (4.7 - 30.3)	15.1 (12 - 18.3)	15 (12.3 - 17.7)
Mean number of activities	1.9 (1.7 - 2.2)	1.9 (1.6 - 2.1)	0.3 (0.1 - 0.4)	1.8 (1.2 - 2.3)	2 (1.7 - 2.2)	2 (1.7 - 2.3)	1.9 (1.7 - 2.1)	1.3 (1 - 1.5)	1.3 (0.7 - 1.9)	1.9 (1.7 - 2.2)	1.9 (1.7 - 2.1)
<b>Sample size n =</b>	1154	1518	71	260	943	1398	619	387	127	1539	2672

	PGSI				Household Equivalised Income				Deprivation			Total
	Non-gambler	Non-problem gambler	Low-risk gambler	Moderate risk/Problem gambler	Low	Medium	High	Not stated	Low 1-3	Mid 4-7	High 8-10	
	%	%	%	%	%	%	%	%	%	%	%	%
None	100 (100 - 100)	0 (0 - 0)	0 (0 - 0)	0 (0 - 0)	32.7 (27 - 38.4)	29.7 (25 - 34.4)	19 (14.8 - 23.1)	38.7 (31.1 - 46.2)	28 (23.2 - 32.8)	29 (24.8 - 33.3)	32.1 (25.6 - 38.7)	29.7 (26.8 - 32.6)
1 activity	0 (0 - 0)	35.9 (32.1 - 39.8)	9.4 (2.2 - 24.2)	24.7 (7.7 - 50.7)	23.8 (19 - 28.5)	25.5 (21.1 - 29.8)	25.4 (20.6 - 30.3)	23.5 (18.9 - 28.1)	26.4 (20.4 - 32.3)	26 (22.3 - 29.7)	20.9 (17.1 - 24.6)	24.6 (22.2 - 27)
2 activities	0 (0 - 0)	28 (25.1 - 30.9)	11.3 (3.4 - 25.4)	20.6 (8.1 - 39.3)	18.3 (14.4 - 22.2)	18.9 (15.2 - 22.7)	21.8 (17.5 - 26.1)	16.7 (12.6 - 20.9)	17.9 (13.9 - 22)	20.3 (16.7 - 23.8)	18.2 (15 - 21.5)	19 (16.9 - 21.1)
3 activities	0 (0 - 0)	16.7 (14.3 - 19)	20.8 (8.7 - 38.3)	13 (4.7 - 26.7)	11.6 (8.3 - 14.9)	11 (7.8 - 14.2)	14.7 (10.8 - 18.5)	9.3 (5.7 - 12.8)	12.8 (9.5 - 16.2)	10.1 (7.8 - 12.4)	13.1 (9.7 - 16.4)	11.7 (10.1 - 13.3)
4 or more activities	0 (0 - 0)	19.4 (15.9 - 22.9)	58.5 (40.7 - 76.4)	41.7 (17.5 - 69.2)	13.6 (9.3 - 18)	14.9 (10.8 - 19)	19.1 (13.7 - 24.6)	11.9 (6.7 - 17.1)	14.9 (9.3 - 20.4)	14.6 (10.6 - 18.6)	15.7 (10.9 - 20.5)	15 (12.3 - 17.7)
Mean number of activities	0 (0 - 0)	2.6 (2.4 - 2.9)	3.9 (3.3 - 4.6)	3.8 (1.8 - 5.7)	1.8 (1.5 - 2)	1.9 (1.6 - 2.2)	2.3 (1.9 - 2.7)	1.5 (1.2 - 1.9)	1.9 (1.5 - 2.4)	1.9 (1.6 - 2.2)	1.8 (1.5 - 2.1)	1.9 (1.7 - 2.1)
Sample size n =	786	1745	72	54	852	658	540	622	538	1046	1088	2672

#### 4.5.2 Comparison with previous years: number of gambling activities participated in during previous 12 months

Compared with previous years, the proportion of people who had not gambled has increased significantly in 2012. Among gamblers, the number of people who had participated in two types of gambling activities had reduced significantly in 2012. The proportions of people participated in one, three or four more activity have not changed significantly since 2006.



## REFERENCES

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- Abbott, M.W. and Volberg, R.A. 1996. The New Zealand national survey of problem and pathological gambling. *Journal of Gambling Studies* 12(2): 143-160
- Abbott, M.W. 2001. *What do we know about gambling and problem gambling in New Zealand*. Wellington, NZ: Department of Internal Affairs.
- Blakely, T. 2002. *The New Zealand Census-Mortality Study: Socioeconomic inequalities and adult mortality 1991-94*. Wellington: Ministry of Health
- Department of Internal Affairs 2008. *People's Participation in, and Attitudes to, Gambling, 1985-2005*. Wellington: Department of Internal Affairs
- Department of Internal Affairs 2010a. *Gambling Fact Sheet 3: Classes of Gambling*. Accessed from: [http://www.dia.govt.nz/diawebsite.nsf/wpg\\_URL/Services-Casino-and-Non-Casino-Gaming-Fact-Sheets-\(Gambling-Act-2003\)?OpenDocument](http://www.dia.govt.nz/diawebsite.nsf/wpg_URL/Services-Casino-and-Non-Casino-Gaming-Fact-Sheets-(Gambling-Act-2003)?OpenDocument)
- Department of Internal Affairs 2012. *Gambling Expenditure Statistics*. Retrieved from <http://www.dia.govt.nz/Resource-material-Information-We-Provide-Gaming-Statistics#two>
- Ferris, J and Wynne, H. 2001. *The Canadian Problem Gambling Index: Final Report*. Ottawa: Canada
- Health Promotion Agency. 2013. *Methodology report for the 2012 Health and Lifestyles Survey*. Wellington: Health Promotion Agency Research and Evaluation Unit
- Jensen, J. 1988. *Income Equivalences and the Estimation of Family Expenditure on Children*. Wellington: Ministry of Health
- Korn EL, Graubard BI. 1998. Confidence intervals for proportions with small expected number of positive counts estimated from survey data. *Survey Methodology* 24: 193–201.
- Kott PS. 1998. *Using the Delete-a-group Variance Estimator in NASS Surveys* [revised July 2001]. Washington DC: National Agricultural Statistics Service, US Department of Agriculture.
- Ministry of Health 2004. *Ethnicity Data Protocols for the Health and Disability Sector*. Wellington: Ministry of Health
- Ministry of Health 2005. *Preventing and Minimising Gambling Harm: Strategic Plan 2004-2010*. Wellington: Ministry of Health
- Ministry of Health 2010. *Living Standards and Health: New Zealand 2006/07*. Wellington: Ministry of Health
- National Research Bureau 2007. *2006/07 Gaming and Betting Activities Survey: New Zealanders' knowledge, views and experience of gambling and gambling-related harm*. Auckland: National Research Bureau
- Salmond, C. Crampton, P and Atkinson, J. 2007. *NZDep2006 Index of Deprivation*. Wellington: Department of Public Health, University of Otago