

Technical report

Groups at risk of at-risk gambling

To ensure maximum benefit from investment, HSC needs to know who our target consumer is. For the problem gambling team this means ensuring that their programme is seen, or heard, or noticed, and understood by at-risk and problem gamblers.

From the 2010 HLS data we can ascertain that during 2010 at least two-thirds (68.8%, 58.4–79.3) of at-risk and problem gamblers saw, heard, or noticed advertising that explained the harm from gambling. Although we cannot verify that these were HSC advertisements, we know that the bulk of this sort of advertising in New Zealand is carried out by HSC.

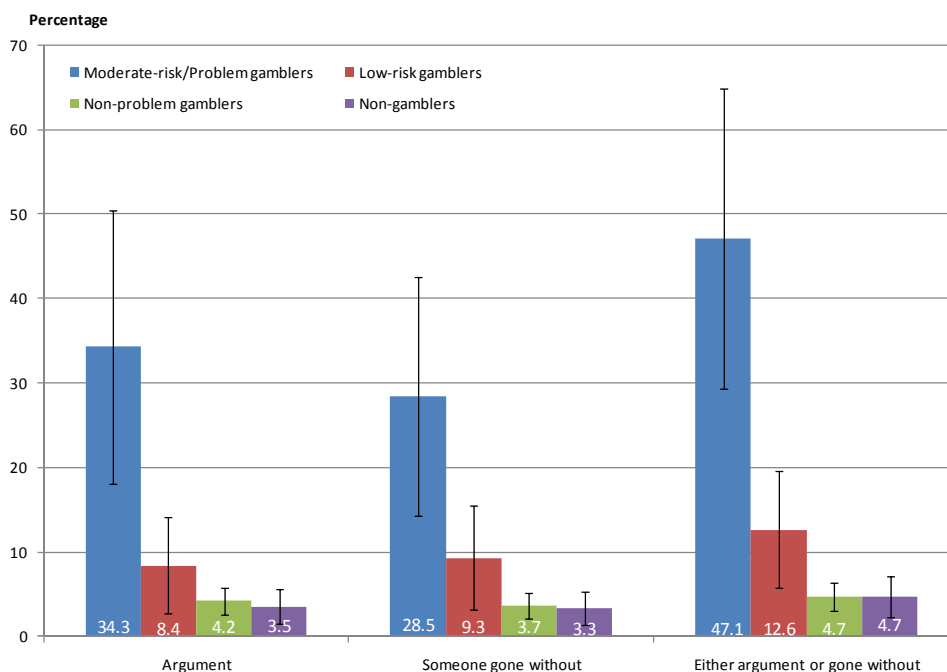
Based on this information we have assumed that HSC advertisements are being seen, heard or noticed by the majority of the target consumers. The next step is to determine whether the target consumers can understand the messages from these advertisements. HSC needs to be sure that the language and portrayal in the advertisements are appropriate for the target consumer. To do this HSC needs to know more specific details about the target consumer.

The purpose of this study is to try and uncover some of this information so that HSC can take this information into account when developing their advertisements and from this the likelihood of the target consumer understanding the messages can be improved and fewer New Zealanders harmed from gambling.

Harm from gambling

At-risk/problem gamblers are more likely to have experienced harm in the past 12 months due to gambling (see Figure 1). Almost a quarter of at-risk/problem gamblers had experienced gambling-related harm in their households from either an argument about time or money spent gambling, or someone having to go without something or bills not being paid because too much was spent on gambling.

Figure 1: Household harm from gambling in the past twelve months, by gambling group, 2010



This study involves building logistic regression models to find which demographic characteristics are significant factors in predicting whether or not someone is a low-risk gambler, as well as whether or not someone is a moderate-risk or problem gambler. These models will be based on data from the 2010 Health and Lifestyles Survey. The gambler categories have been created using the Problem Gambling Severity Index classifications¹.

Assessment of descriptive factors

The first step in the model-creation process is to identify what variables might explain who is at-risk. This can be done by observing descriptive statistics by various potential explanatory factors. Table 1 shows the various factors tested in this process.

Factors that appear to have a significant association with low-risk gambling are ethnic group, smoking status and household size. Neighbourhood deprivation might also be associated with low-risk gambling.

Ethnicity and smoking status are both strongly related to moderate-risk/problem gambling. Moderate-risk/problem gambling is also associated with whether or not people live in high population areas, and may also be associated with where in New Zealand they reside and whether they are a homemaker or not.

These tests reveal that there is some relationship between these factors and at-risk gambling, however they do not provide any information about the nature of that relationship.

Table 1: Variables tested for low-risk and moderate-risk/problem gambling, and p-values for Rao Scott Pearson adjusted chi-square tests

Demographic	Groups	Low-risk model p-value	Moderate-risk/problem model p-value
Gender	Males, Females	0.1690	0.2675
Age	15–24, 25–34, 35–44, 45–54, 55+ years	0.1208	0.9056
Ethnicity	Prioritised Māori, Pacific, Asian, European/Other	0.0164	< 0.0001
Migration	Migrated to NZ in past five years, long-term migrant or born in New Zealand	0.3754	0.2407
Employment status	Full-time, part-time, homemaker, other	0.5422	0.3865
	Homemaker, non-homemaker	0.2118	0.0622
Educational qualifications	No formal qualifications; secondary school; trade, professional, undergraduate; degree/post-graduate	0.9156	0.8735
Residential location	Urban area with a population of at least 10,000 people, minor urban or rural area	0.9992	0.0035
	Auckland, rest of upper North Island, lower North Island, South Island	0.8842	0.0783

¹ Ferris, J. & Wynne, H. (2001). *Canadian Problem Gambling Index: Final report*. Canadian Centre on Substance Abuse.

Socioeconomic status	NZDep2006 deciles: 1-3, 4-7, 8-10	0.0769	0.1255
	Low, medium, high ¹ equivalised household income	0.2133	0.3395
Household composition	1-3 people, 4-5, 6+	0.0023	0.2153
	Single person, couple without children, family with 0–16 year old children, family without 0–16 year old children, other households	0.5483	0.4102
Smoking status	Smoke, past smoker, never smoked	0.0062	<0.0001

Any factors which had a Rao Scott Pearson adjusted Chi-square p-value of less than 0.25, as well as gender, age, ethnicity and neighbourhood deprivation were included in the initial full models.

Adjusted Wald tests were checked to assess the significance of each factor in the model with variables being added and removed one at a time. Potential interactions were also tested.

For the low-risk model only low-risk, non-problem and non-gamblers were included in the analyses. While for the moderate-risk/problem model low-risk gamblers were excluded from the analyses. This means that for each analysis the at-risk group was compared with the non-risk group.

Low-risk gamblers

Table 2 presents the odds ratios of the final low-risk gambling model, these odds can be interpreted to the effect that after adjusting for the other factors presented in the table, people who were within a group represented by one of the factors had higher (or lower) odds of being a low-risk gambler than those in the reference group (represented by odds of 1.00). The factor is significant if the p-value for the adjusted Wald test is less than 0.05.

Table 2: Demographic factors included in logistic regression model for low-risk gambling behaviour, odds ratios and p-value for adjusted Wald test, 2010 HLS

Demographic	Groups	Odds ratio (95% confidence interval)	p-value for adjusted Wald test	Assessment of overall relationship
Gender	Males	1.00	–	None
	Females	0.70 (0.38–1.29)	0.250	
Age	15–24	1.00	–	Moderate
	25–34	3.18 (0.89–11.37)	0.074	
	35–54	4.26 (1.56–11.62)	0.005	
	55+ years	4.02(1.39–11.57)	0.010	
Ethnicity	Māori	1.69 (0.89–3.19)	0.108	None
	Pacific	1.85 (0.89–3.84)	0.098	
	Asian	0.57 (0.11–2.83)	0.494	
	European/Other	1.00	–	
Neighbourhood deprivation	Low (1–3)	1.00	–	None
	Medium (4–7)	1.38 (0.57–3.34)	0.468	
	High (8–10)	2.00 (0.85–4.73)	0.114	
Smoking status	Smoke	2.94 (1.10–7.83)	0.031	Weak
	Past smoker	1.95 (0.83–4.57)	0.127	
	Never smoked	1.00	–	
Household composition	1-3 people	2.54 (1.21–5.33)	0.014	Moderate
	4+	1.00		

Gender, ethnic group and neighbourhood deprivation were not statistically significant factors in predicting low-risk gambling behaviour. However, controlling for these:

- People who were 35 years and over were four times as likely to be in the low-risk gambling group, as those aged 15–24 years.
- Smokers were nearly three times as likely to be low-risk gamblers as never-smokers.
- People who lived by themselves or with just one or two others were two-and-a-half times as likely as those living in houses of four or more people to be low-risk gamblers.

It is important to note that this process has identified groups that are overrepresented among low-risk gamblers, but this does not mean that these groups are the majority of low-risk gamblers. Here are some descriptive statements about the general demographics of low-risk gamblers:

- nearly two out of five (38.8%, 25.6–52.0) are 55 years and over
- nearly three out of four (73.5%, 64.5–82.6) are European/Other ethnicity
- nearly three out of four (72.8%, 59.3–86.3) were born in New Zealand
- two out of three (66.6%, 54.9–78.3) are employed full- or part-time
- almost half (48.4%, 34.1–62.7) have post-secondary school qualifications
- two out of five (43.4%, 29.4–57.4) have a low household equivalised income
- four out of five (81.4%, 72.6–90.2) live by themselves or with just one or two other people
- almost a third (32.2%, 19.2–45.4) are smokers and almost half (47.9%, 33.6–62.1) are past-smokers.

Moderate-risk/Problem gamblers

Table 3 presents the odds ratios of the final moderate-risk/problem gambling model.

Table 3: Demographic factors included in logistic regression model for moderate-risk/problem gambling behaviour, odds ratios and p-value for adjusted Wald test, 2010 HLS

Demographic	Groups	Odds ratio (95% confidence interval)	p-value for adjusted Wald test	Assessment of overall relationship
Gender	Males	1.00	–	None
	Females	0.61 (0.30–1.24)	0.170	
Age	15–24	1.00	–	None
	25–34	0.86 (0.16–4.58)	0.861	
	35–54	1.48 (0.40–5.48)	0.553	
	55+ years	1.81(0.45–7.20)	0.402	
Ethnicity	Māori	6.32 (2.95–13.51)	<0.001	Strong
	Pacific	2.99 (1.16–7.71)	0.024	
	Asian	7.00 (1.69–28.96)	0.007	
	European/Other	1.00	–	
Employment status	Homemaker	1.94 (0.65–5.79)	0.233	None
	non-homemaker	1.00	–	
Smoking status	Smoker	4.26 (1.67–10.90)	0.003	Strong
	Non-smoker	1.00	–	
Residential location	Urban area, 10,000+ pop	3.61 (1.19–10.95)	0.024	Moderate
	Minor urban or rural area	1.00	–	

Gender, age group and whether or not someone was a homemaker were not statistically significant factors in predicting moderate-risk/problem gambling behaviour. However, controlling for these:

- Asian people were seven times as likely to be moderate-risk/problem gamblers as European/Others.
- Māori were over six times as likely to be moderate-risk/problem gamblers as European/Others.
- Pacific peoples were three times as likely to be moderate-risk/problem gamblers as European/Others.
- Smokers were over four times as likely to be moderate-risk/problem gamblers as non-smokers.
- People who lived in moderate or large urban areas were three-and-a-half times as likely to be moderate-risk/problem gamblers as those who lived in small urban or rural areas.

Here are some descriptive statements about the general demographics of moderate-risk/problem gamblers:

- About a third are Māori (35.5%, 20.5–50.6), a third are European/Other (32.2%, 17.2–50.5), and one in four are Asian people (24.5%, 7.1–51.4)
- Over two-thirds were born in New Zealand (69.6%, 49.2–89.9)
- Three out of five are employed either full- or part-time (59.2%, 42.0–76.4)
- Two out of five have a post-secondary school qualification (40.8%, 22.1–61.6)
- More than two out of five live in Auckland (45.9%, 26.6–65.3)
- Almost three out of five live by themselves or with just one or two other people (58.7%, 39.8–77.6)
- Over half (54.5%, 36.7–72.4) are smokers and just under a third (31.8%, 17.4–49.4) are past-smokers.

Conclusion

In terms of advertising to low-risk gamblers it is important HSC's advertisements can be well-understood by adults aged 35 years and over, those who live in smaller households and by smokers, as these people are overrepresented among low-risk gamblers.

From this HSC might decide to have less of a whānau focus in their low-risk focused advertising, but to use language appropriate to mature adults and to consider how smokers process messages.

In terms of advertising to moderate-risk/problem gamblers it is important the HSC's advertisements can be well-understood by Māori, Pacific and Asian people, by smokers and by people who live in well-populated areas, as these groups are overrepresented among moderate-risk/problem gamblers.

The 2010 HLS did not measure personality characteristics or traits and thus, the information gained from this study is limited to demographic characteristics and our knowledge of people from these groups in New Zealand. Because at-risk gamblers are a small proportion of the New Zealand population, and the characteristics able to be measured are very broad, these models do not allow us to predict who is likely to be an at-risk gambler. However, the information obtained through this analysis can provide HSC with information on which groups are more likely to be at-risk gamblers.

About the Survey

The HLS is a nationwide in-home face-to-face survey conducted every two years, starting in 2008. The 2010 HLS consisted of a sample of 1,740 New Zealanders aged 15 years and over, who provided information about their health behaviours and attitudes relating to tobacco, sun safety, healthy eating, gambling, and alcohol.

In 2010, the main sample, with a response rate of 57%, included 1,067 people of European/Other ethnicity, 460 Māori, 326 Pacific peoples and 124 Asian people (total response ethnic groups).

The data have been adjusted (weighted) to ensure they are representative of the New Zealand population.

The sample included 133 (103 weighted) low-risk gamblers and 77 (51 weighted) moderate-risk/problem gamblers. Due to the size of these at-risk groups the number of factors that could be included in the respective logistic regression models was limited.

A full description of the 2010 HLS survey methodology, questionnaire and further HLS publications can be found online at www.hsc.org.nz/researchpublications.html.

About the HSC

The HSC is a crown entity that uses health promotion initiatives to promote health and encourage healthy lifestyles, with a long-term focus on reducing the social, financial and health costs of a number of health behaviours.

Citation

Devlin, M. (2011). *Technical report: Groups at risk of at-risk gambling*. Wellington: Health Sponsorship Council.

Research and Evaluation Unit, HSC
PO Box 2142, Wellington 6011, New Zealand
May 2011