

Youth Insights Survey 2010 Methodology Report

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Introduction

The Youth Insights Survey (YIS) 2010 was the third in a series of surveys conducted by the Health Sponsorship Council (HSC). It was carried out in 2006 and 2008, then known as the Year 10 In-depth Survey. Descriptive data from 2006 and 2008 was disseminated through reports (McDuff, 2007, Health Sponsorship Council, 2009). The 2010 YIS topline data will mostly be disseminated through a series of HSC fact sheets. This report provides context to those fact sheets - describing the background of the survey, questionnaire content development, sample design and selection, data collection, response rates, sample characteristics, and data analysis.

Acknowledgements

Thanks to all school staff and students who participated in the YIS. We are indebted to them for their time and contribution to building our understanding of New Zealand young people's knowledge, attitudes, and behaviours around smoking and tobacco and their lifestyles in general.

Thank you to the research agency, Synovate Ltd, who managed recruitment and fieldwork, and collated data, with particular thanks to Nicola Legge, Anna Gurr, Michelle Craik, Jill Roke, and Adrienne Krebs. Acknowledgement is also given to ConsumerLink, who carried out the fieldwork. Thank you also the recruiters and fieldworkers employed by Synovate Ltd and ConsumerLink respectively.

The YIS design was based on that of the Global Youth Tobacco Survey (GYTS), with input from the Centers for Disease Control and Prevention (CDC) Global Tobacco Surveillance System team.

Key HSC staff involved in running and analysing the 2010 YIS were Dr. Rhiannon Newcombe and Danny Tu. The writer is indebted to Kay Haughey, who managed the project till April 2010. Thank you also to other HSC staff who contributed to survey content and to Iain Potter for his strategic guidance. The author is also grateful to Miranda Devlin for her peer review of this report.

The YIS is one survey under the New Zealand Youth Tobacco Monitor (NZYTM) which is run in collaboration with Action on Smoking and Health (ASH). Thank you particularly to Ben Youdan, Dr. Janine Paynter, and Chrissie Urlich at ASH for their contributions.

The HSC administers and manages the YIS component of the NZYTM. The NZYTM Research Coordinating Group provides expert research guidance and advice. Members of the group contributing to the 2010 survey were:

- Prof. Richard Edwards (Professor of Public Health and Head of Department, Department of Public Health, Wellington School of Medicine and Health Science, University of Otago).
- Dr. Judith McCool (Lecturer, Social & Community Health, School of Population Health, Faculty of Medical and Health Sciences, University of Auckland).
- Prof. Rob McGee (Professor, Cancer Society Social and Behavioural Research Unit, Preventative and Social Medicine, Dunedin School of Medicine, University of Otago).
- Dr. Rhiannon Newcombe (Principal Investigator, Tobacco Control Research Unit, HSC).
- Dr. Janine Paynter (Former Researcher/Policy Analyst, ASH).
- Sharon Ponniah (Former Advisor, Tobacco Research, The Quit Group and Ministry of Health Public Health Intelligence, New Zealand).
- Anaru Waa (Former Researcher, Department of Public Health, Wellington School of Medicine and Health Science, University of Otago, and former Researcher, Health Sponsorship Council).

Background

The burden of tobacco use in New Zealand

Tobacco use is the leading preventable cause of premature death in New Zealand. Around five thousand deaths a year are attributable to tobacco-related illness, in a population of just over four million (Minister of Health, 2005). Around one in five New Zealanders (21%) are current smokers (Ministry of Health, 2010).

The cost of tobacco use to the health system and New Zealand society has resulted in the Government health target of “better help for smokers to quit” (Ministry of Health, 2011). The Ministry of Health also aims to reduce smoking initiation and exposure to second-hand smoke (Tobacco Control and Smoking, 2011). Most adults who smoke start the behaviour in their youth, before reaching the age of 18 (Centers for Disease Control and Prevention, 1994). As such, young people are a focus of tobacco control strategies and health promotion in New Zealand.

In 2010, one in ten (10%) 14 and 15-year-old school students reported that they smoked regularly (at least daily, weekly or monthly) (Action on Smoking and Health, 2011). While there has been a reduction in smoking among this age group since 1999, when around three in ten (29%) reported that they smoked regularly, in 2010, two in ten (21%) Māori students of this age reported that they smoked regularly (Action on Smoking and Health, 2011). Continuing to monitor youth attitudes and behaviours is critical to understanding and reaching this audience, and preventing uptake in later adolescent years.

Monitoring youth tobacco use in New Zealand

National adult smoking prevalence data has been routinely collected through the New Zealand Tobacco Use Survey (Ministry of Health, 2006, 2009, 2010) and the Census of Population and Dwellings. In-depth information about tobacco-related knowledge, attitudes and behaviour was collected by the HSC through the Smokefree/AuahiKore Adult Monitor up until 2006 (Health Sponsorship Council, 2006). The continuation of this monitor is now in the form of the tobacco section of HSC’s biennial Health and Lifestyles Survey (HLS), which was first carried out in 2008 (Health Sponsorship Council, 2010, Health Sponsorship Council, 2011).

Information on youth smoking and tobacco control has traditionally been collected and managed by a range of agencies in New Zealand. In 2006, the NZYTM was established to bring three youth surveys, the GYTS, the ASH Year 10 Snapshot Survey, and the YIS, together under one partnership.

The ASH Year 10 Snapshot survey is an annual cross-sectional census of 14 and 15-year-old school students’ smoking prevalence, which achieves high student participation nationwide. Understanding how and why some young people start smoking is a key driver for tobacco research and evaluation. The YIS collects in-depth information on tobacco-related knowledge, attitudes and behaviour, exposure to second-hand smoke and role-modelling of smoking

behaviour, as well as a wide range of information on youth culture, lifestyles, and risk and protective factors related to smoking uptake. The YIS informs and helps to evaluate the HSC's Smokefree/Auahi Kore programme, the wider HSC in terms of its commitment to encouraging New Zealanders to adopt and maintain healthy lifestyles, and the wider tobacco control and youth sectors.

Objectives of the YIS

The YIS was developed to improve the understanding of students' attitudes, knowledge, beliefs and behaviours related to smoking, exposure to role models who smoke, and exposure to second-hand smoke. The survey also aims to build understanding of the social environment of young people in New Zealand, particularly youth culture, sport and extra-curricular activities, media use and connectedness to family, peers, and school.

Ethical approval

The NZYTM project was granted ethical approval from the Ministry of Health's Multiregional Ethics Committee in 2007.

Questionnaire content development

The 2010 YIS questionnaire was developed by the NZYTM RCG to collect high-quality, in-depth information using validated questions. It was also important to maintain comparability with previous surveys, such as the 2006 and 2008 YIS surveys, the Youth Lifestyle Survey (YLS), the GYTS, and the ASH Snapshot Survey. In 2010, four questions on sun safety behaviours were also included. This information will help inform and evaluate HSC's Sun Safety programme.

The YIS 2010 collected data on the following topics listed in Table 1 below. Table 2 shows the number of questions by type of response option. Some questions had multiple lines to respond to. For example, for the one question on peer connectedness, there were three individual questions to respond to within that question.

Table 1: Number of questions per topic areas in the 2010 YIS questionnaire

Topic area	No
Demographics	6
Connectedness (to school, peers, and family) / family rules	5 (15)
Youth culture/lifestyles/interests	9 (15)
Smoking behaviours	10
Access to tobacco	6 (12)
Addiction and cessation	6
Susceptibility of smoking uptake/future smoking	3
Tobacco knowledge	4
Environment/norms	5 (9)
Second-hand smoke exposure	5
Attitudes towards tobacco control/regulation/industry	3 (14)
Attitudes about smoking	1 (14)
Brand/campaign awareness	10 (25)
Total	73 (138)

Table 2: Number of questions per type of question response option in the 2010 YIS questionnaire

Type of response options	No
Single response	38
Multiple response	16
5-point likert scale	2 (5)
Frequency	8 (27)
Agree/disagree	4 (30)
Yes/No	5 (22)
Total	73 (138)

The questionnaire can be found online <http://www.hsc.org.nz/researchpublications.html>.

Sample design and selection

Year 10 students (14 to 15-year-olds) represent a critical age group when smoking behaviour increases rapidly, and this group has been treated as the standard population to monitor youth smoking in New Zealand (Reeder, Waa & Scragg, 2000). All schools (state and private) with Year 10 students were eligible to participate in the YIS. Correspondence schools were excluded from the sample list, primarily to maintain student anonymity. The 2006, 2008, and 2010 YIS surveys employed a two-stage cluster sample design; school selection, then class selection. This method was consistent with the GYTS sample selection procedure, and produced a nationally representative sample of Year 10 students. This procedure involved three steps:

Step one – School sample selection with probability proportional to school enrolment size

A list of all eligible schools with Year 10 students and their total Year 10 enrolments was sent to the CDC in the United States. The CDC selected a random sample of schools with probability of selection proportional to 2009 mid-year roll size, using software developed for work with school-based samples.

Step two – Recruiting schools

All 522 eligible schools in New Zealand were informed of the upcoming NZYTM through a letter sent to school principals. Those schools also selected for the YIS sample list by the CDC were sent a second letter, and principals, or a nominated member of staff, were contacted by phone to explain the survey, its purpose and objectives. Consent forms were sent to schools to be completed and returned. Schools that participated were given a \$50 voucher for Learning Media (an education resource provider) as a small token of appreciation.

Step three – Class selection as a systematic equal probability sample with a random start

For each school that consented, one Year 10 class was randomly selected from a list of all mutually exclusive Year 10 classes. Each eligible student had only one chance to participate and an equal opportunity of selection. All students in a selected Year 10 class were eligible to participate.

Data collection

The 2010 YIS was administered in schools during the third term of the school year (between 19 July and 24 September 2010) by experienced research fieldworkers from ConsumerLink.

A national training session was held for fieldworkers, using discussion and role-plays to build understanding of the survey administration guidelines. Fieldworkers managed the distribution and collection of questionnaires at their allocated schools. Responsibilities when administering the survey included:

- Ensuring adequate student attendance for the survey.
- Explaining the purpose, anonymity and voluntary nature of the survey to students.
- Establishing 'test' conditions in the classroom, and asking students to refrain from talking or interacting while completing the survey.
- Collecting completed surveys from students, and returning surveys to the research company.

One Year 10 class in each school participated in the YIS survey, which took one full class period to complete.

Participants selected responses using a self-administered paper questionnaire booklet. No identifying information was collected from participants to ensure anonymity, however each questionnaire had a unique serial number for tracking during survey administration and data preparation.

Completed questionnaires for the YIS were sent to a research company (Synovate Ltd) for collation, data entry and dataset production. Electronic datasets were submitted to a series of range and consistency checks, and 10% of the data entered by each operator were checked for accuracy.

Response rate

Of the 186 schools in the sample list, 147 participated in the 2010 YIS, giving a school response rate of 79%. One Year 10 class at each school participated in the survey, and 82% of students in the participating schools completed questionnaires for the survey (Table 1). The YIS uses a response rate formula that estimates and accounts for non-response due to student absenteeism, and students who refuse to participate. Overall, the 2010 YIS achieved a 65% response rate.

Table 3: School, student, and overall response rates (RR) for - YIS 2010

School RR		Student RR		Overall RR (%)
Participation (n)	RR (%)	Participation (n)	RR (%)	
147 186	79.0	3174 3885	81.7	64.6

Sample characteristics

The survey collected information from 3,174 students. As shown in Table 2 below, the sample characteristics closely resemble those of the Year 10 student population in New Zealand.

Table 4: Characteristics of 2010 YIS sample population (excluding missing gender and ethnicity)

		Unweighted sample population		National Y10 population*
		n	%	%
Total	Total	3174	100.0	
Gender	Male	1655	47.9	48.4
	Female	1519	52.1	51.6
Age	13 years or younger	24	0.8	
	14 years	2068	65.2	
	15 years	1059	33.4	
	16 years or older	19	0.6	
	No response	4	0.1	
Ethnicity (prioritised)	Māori	639	20.1	22.8
	Pacific	332	10.5	9.3
	Asian	337	10.6	9.1
	Other**	158	5.0	8.5
	NZ European/Pākehā	1708	53.8	50.4

* Source: Information Officer, Data Management Unit, New Zealand Ministry of Education, July 2010.

** 'Other' category includes NZAID/Foreign Fee paying students, and 'European' student categories.

Data analysis

Weighting

Data were weighted to adjust for sample selection (school and class-level), non-response (school, class and student-level), and post-stratification of the sample population relative to the gender and ethnicity distribution of Year 10 students in New Zealand (Ministry of Education Information Officer, 2010). Students who had not given a response to two critical demographic questions (gender and ethnicity) were excluded from the analysis.

The YIS weighting factor (W) uses the following formula:

$$W = W1 * W2 * f1 * f2 * f3 * f4$$

Where:

- W1= the inverse of the probability of selection for each school
- W2= the inverse of the probability of selection of each classroom within each selected school
- f1= a school-level, non-response adjustment calculated by school enrolment size category (small, medium, large); school non-response is calculated within each tertile
- f2= a class-level, non-response adjustment factor calculated for each school
- f3= a student-level, non-response adjustment factor calculated for each class
- f4= a post-stratification factor to adjust the sample gender and ethnicity distributions to those of the national Year 10 student population.

Analysis

Tables

Tables were produced using Stata/IC 11.1 statistical analysis software, presenting weighted proportion estimates, jack knife standard errors, and 95% confidence intervals for each survey question and response category, with response categories aggregated where appropriate. Confidence intervals show the range within which the true value for the population is likely to be. Proportions and 95% confidence intervals were produced for demographic variables as detailed in the next section.

Odds ratios – subgroup differences

To compare differences between groups, logistic regression modelling was used. An odds ratio (and confidence interval range) of less than 1.0 implies that the odds of a given response in the group of interest is statistically significantly lower compared with the referent group. An odds ratio (and confidence interval range) of greater than 1.0 shows that the odds of a given response are statistically significantly higher in the group of interest, compared with the referent group. Where appropriate, confounding variables were identified and controlled for in the logistic regression model, to produce adjusted odds ratios.

Odds ratios – time trends

Time trend analysis is also being conducted, again using logistic regression modelling, with year (2006 or 2008) as the independent variable.

Key demographic variables

The 2010 tables report on response for the total sample and then by key demographic variables. Table 3 indicates how those variables were derived. Analysis on further subgroup differences will be carried out as appropriate.

Table 5. Subgroup variables creation

Subgroup variable	Creation	Levels
Gender	Self identified	Male, Female
Prioritised ethnicity (1)	Multiple responses from list, coded, and prioritised in the order indicated (see Ministry of Health, 2004, for further information on the prioritisation method)	Māori, Pacific, Asian, Other, NZ European
Ethnicity (2)	Multiple responses from list, coded, and categorised as to whether respondent identified as Māori or not	Māori, Non-Māori
Gender by ethnicity	Prioritised ethnicity by gender	Māori male, Māori female, Pacific male, Pacific female, Asian male, Asian female, Other male, Other female, NZ European male, NZ European female
Socio-economic status	School decile used as a measure of each student's SES. Decile 1 to 10 as provided by the Ministry of Education for participating schools reclassified as 1 to 4, 5 to 7, and 8 to 10 (For further information, see How the decile is calculated, 2011).	Low: School decile 1 to 4 Mid: School decile 5 to 7 High: School decile 8 to 10, 'private'
Smoking Status	Determined by answers to the following questions: <i>Have you ever smoked a cigarette, even just a few puffs?</i> <i>How often do you smoke now?</i>	Never smoker (answered 'no' when asked if they had ever smoked) Current smoker (smoked at least once a day, at least once a week, or at least once a month when asked how often they smoked)
Smoking susceptibility	Determined by answers to the following questions: <i>If one of your best friends offered you a cigarette, would you smoke it?</i> <i>At any time during the next year (12 months) do you think you will smoke a cigarette?</i>	Non-susceptible never smoker (answered 'definitely not' to both questions) Susceptible never smoker (answered anything except 'definitely not' to both questions – including non response)
Parental smoking status	Determined by whether respondents answered 'mother' and 'father' when asked <i>which of the following people smoke?</i> ¹	Neither parents (answered that neither 'mother' or 'father' smoked) Single parent (answered that either 'mother' and 'father' smoked) Both parents (answered that both 'mother' or 'father' smoked)

¹ The parental smoking status banner was derived like this for simplicity. This approach is consistent with ASH analysis of parental smoking.

Reporting

In 2006 and 2008, descriptive reports were produced to report on YIS data. For 2010 descriptive data, a series of smaller fact sheets are being produced by topic area. Comparisons by subgroups – smoking status, ethnicity, gender, and other subgroups where appropriate, are presented in the fact sheets. Time trend analysis, where appropriate, is also being conducted and reported on.

Further analysis, reporting, and dissemination will be carried out by the HSC and the RCG in 2011, 2012, and beyond, through a variety of formats such as fact sheets, journal articles, and media articles.

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