Barriers to Help

Last year marijuana users were asked if they had ever received help to reduce their level of marijuana use. Six percent in both surveys said they had received help.

Last year marijuana users were also asked if they had wanted help to reduce their marijuana use but not received it. Four percent in 1998, and 3% in 2001, said that they had wanted help to cut down but had not got it. There was a decrease in the number of 20-24 year olds who had wanted help but had not received it, from 7% in 1998 to 1% in 2001, and this was mainly due to a decrease among men aged 20-24 years (from 8% in 1998 to 1% in 2001).

The group of respondents who felt they had not received the help they needed, were then asked which of a list of reasons they thought to be barriers to finding help. They were also given the opportunity to provide their own reasons if they wished. The responses for 1998 and 2001 are listed in Table 7.3. The reason that was most commonly considered to be a barrier to finding help in both surveys was not knowing where to go (cited by about a third of these respondents in both surveys). Other reasons commonly considered to be barriers were, fear of what would happen on contacting the service, too busy, services too expensive, and fear of law/police. There were no significant changes in the perception of these barriers in 2001 compared to 1998. However, there was a trend decrease in the proportion of men who thought social pressure was a barrier to finding help, down from 38% in 1998 to 10% in 2001.

Table 7.3 Reasons for using more marijuana	1998	2001
	%	%
Didn't know where to go	33	32
Social pressure to keep using	28	8
Fear of what would happen on contacting service	23	23
No time / Too busy	20	19
Services too expensive	17	14
Fear of losing friends	15	9
Fear of law / Police	14	29
No local services available	11	10
Tansport problems	7	6
Services weren't ongoing	4	1
Others	18	24

(Percentages are of people who reported using more – each respondent could give more than one reason: n=146, 1998; n=166, 2001)

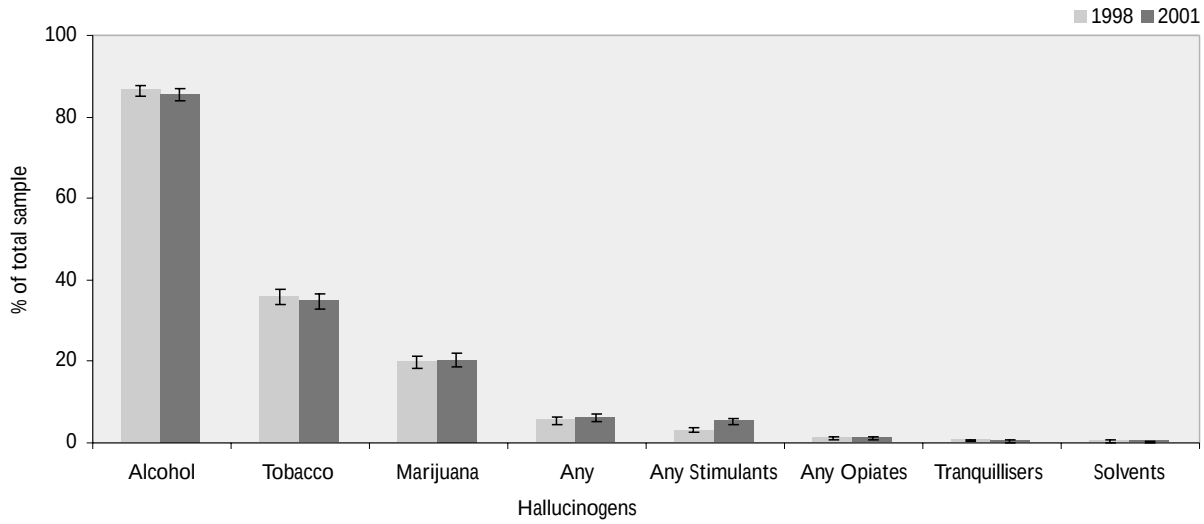
8. OTHER DRUGS

Following the detailed questions on marijuana use and other forms of cannabis, respondents were asked about the use of a list of twenty 'other drugs'. These included different types of stimulants, hallucinogens, and opiates, as well as solvents, tranquillisers, and the use of a needle to inject drugs. A new drug, GHB (gamma-hydroxybutyrate, commonly known as 'fantasy', 'One4b', 'liquid ecstasy'), and a new category of drug, rush (amyl nitrate, butyl nitrate), were added to the list of other drugs in 2001. Previously, rush had been included in the solvents category, but its recent re-emergence as a dance party drug warranted its own category. The use of GHB has only recently emerged. Respondents were asked to provide information only in relation to the recreational use of drugs.

To guard against the possibility of false claims of drug use, a non-existent drug was included in the list of other drugs. In 1998, one respondent from 5,475 claimed to have used the non-existent drug. In 2001, three from 5504 respondents claimed to have used the false drug.

Figure 8.1 shows the proportion of the total sample reporting the use in the last 12 months of all the different drugs in the survey in 1998 and 2001.

Figure 8.1 Proportion of the sample reporting using drugs in the last 12 months, 1998 & 2001



Figures 8.2 and 8.3 present the proportion of men and women by age group who had used any of the 'other drugs' in the last 12 months, excluding the common drugs alcohol, tobacco and marijuana. GHB and rush were excluded from this comparison, as questions about these drugs were not asked in 1998. There was an increase in the number of respondents that had ever tried one of the other drugs, from 22% in 1998 to 25% in 2001. This was reflected in an increase among women from 17% in 1998 to 20% in 2001. There was no change in last year use of the 'other drugs' (9% in 1998, 11% in 2001). However, there was a trend increase in last year use for 20-24 year olds (from 16% to 21%).

Figure 8.2 Proportion of men reporting use of other drug (excluding alcohol, tobacco and marijuana) in the last 12 months by age group, 1998 & 2001

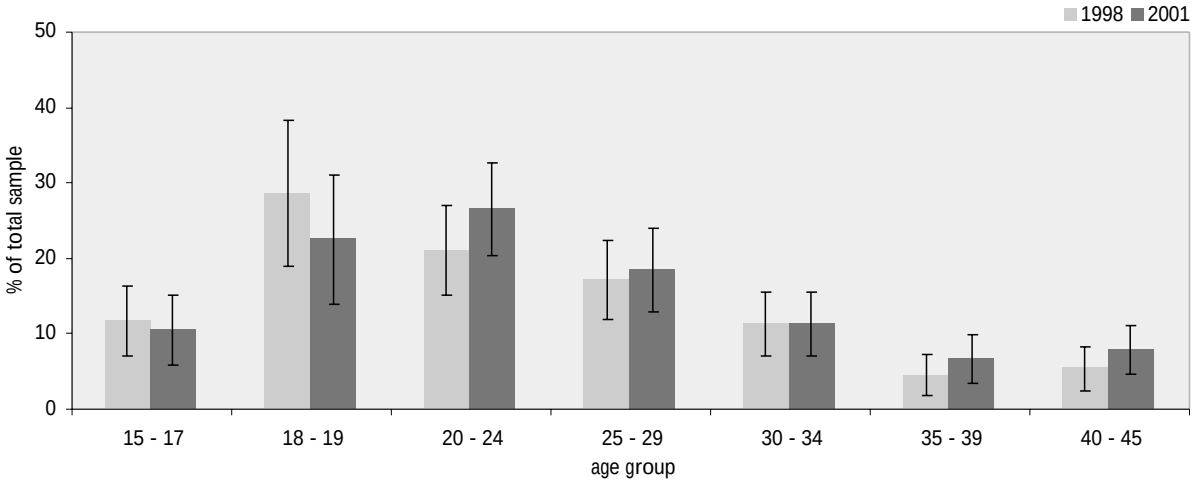
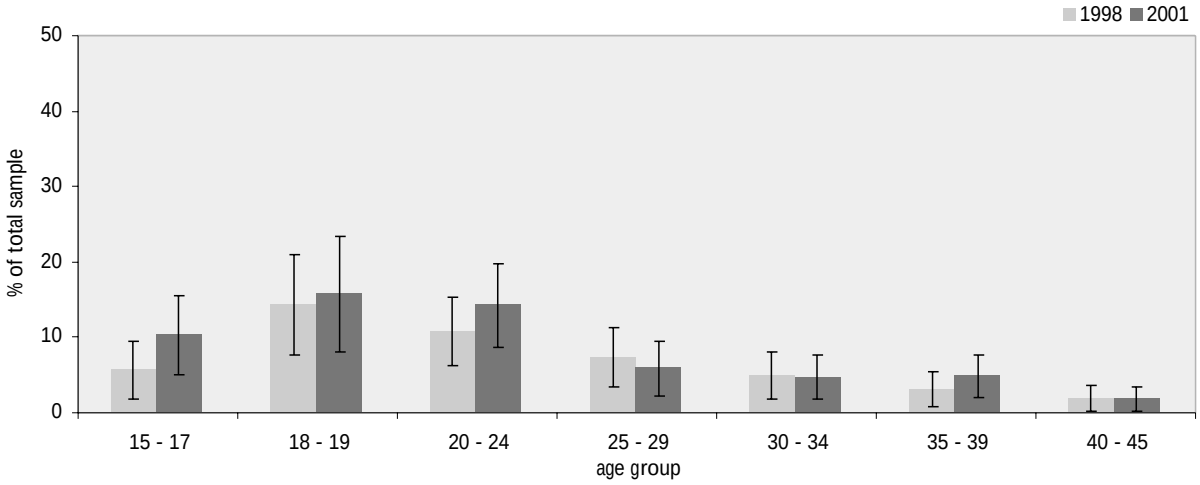


Figure 8.3 Proportion of women reporting use of other drug (excluding alcohol, tobacco and marijuana) in the last 12 months by age group, 1998 & 2001



Hallucinogens

The proportion of the sample that reported ever using 'any hallucinogens' increased significantly between 1998 and 2001, from 12.8% to 15.0% (first line of Table 8.1). 'Any hallucinogen' refers to the use of at least one of the hallucinogenic drugs (i.e. LSD, hallucinogenic mushrooms, ecstasy[9], and other hallucinogens). There was no significant increase in the last year or current use of 'any hallucinogen'.

LSD was the most popular hallucinogenic drug in terms of ever tried in 1998 and 2001, followed by mushrooms, ecstasy and other hallucinogens. There were no significant changes in the use of LSD, mushrooms, or other hallucinogens between the surveys. There was a trend towards fewer current users of LSD and a trend towards more current users of mushrooms.

[9] Ecstasy has both amphetamine and hallucinogenic characteristics (see, Kuhn, C., Swartzwelder, S. & Wilson, W. (1998) *Buzzed: The Straight Facts About the Most Used and Abused Drugs from Alcohol to Ecstacy*. New York: W.W.Norton & Co.)

Table 8.1 illustrates the recent rise of ecstasy (MDMA) in New Zealand. Both last year use and current use of ecstasy more than doubled between 1998 and 2001. Ever used also increased. In 1998, ecstasy was the third most popular hallucinogen in current use, after mushrooms and LSD. By 2001, ecstasy was the most popular hallucinogen in current use.

Increases in last year ecstasy use were found for 20-24 year olds (from 3% in 1998 to 10% in 2001) and for 25-29 year olds (from 3% to 6%).

Table 8.1 Relative usage levels of hallucinogens, 1998 & 2001

	Ever Tried		Used Last Year		Current User	
	1998 %	2001 %	1998 %	2001 %	1998 %	2001 %
Any hallucinogens	12.8	15.0	5.5	6.1	3.6	4.3
LSD	8.8	9.6	3.8	3.2	2.8	2.0
Mushrooms	7.6	8.9	2.2	2.4	1.2	1.8
Ecstasy (MDMA)	3.0	5.4	1.5	3.4	1.0	2.3
Other hallucinogens	2.5	1.8	0.4	0.4	0.3	0.2

(Percentages are of total sample)

Stimulants

The proportion of the sample that reported ever trying 'any stimulants' increased over the two surveys, from 9.0% in 1998 to 12% in 2001 (Table 8.2). There were also increases in last year use and current use of 'any stimulant'. 'Any stimulant' refers to the use of at least one of the stimulant drugs (i.e. cocaine, crack, ice and stimulants). 'Stimulants' refer to amphetamine (commonly known as 'uppers' or 'speed') and methamphetamine (a stronger type of speed commonly known as 'meth' or 'crank'). Increases in last year use of any stimulant were found for those aged 15-17 years old (from 2% to 6%) and 20-24 year olds (from 6% to 11%).

Table 8.2 Relative usage levels of stimulants, 1998 & 2001

	Ever Tried		Used Last Year		Current User	
	1998 %	2001 %	1998 %	2001 %	1998 %	2001 %
Any stimulants	9.0	11.9	3.2	5.3	2.3	3.7
Cocaine	3.6	3.2	0.8	0.6	0.6	0.3
Crack	0.4	0.3	0.1	0.1	0.05	0.01
Ice	0.2	1.3	0.1	0.9	0.04	0.5
Stimulants: Amphetamine/Methamphetamine	7.6	11.0	2.9	5.0	2.2	3.5

(Percentages are of total sample)

There were no changes in ever having tried, last year use, and current use of either cocaine or crack (a smokable form of crystallised cocaine).

Increases were found in ever used, last year use and current use of ice (a pure form of methamphetamine, commonly known as 'pure' or 'burn'). Last year use of ice increased for those aged 20-24 years (from 0% to 2.2%), and particularly reflected use by men aged 20-24 years old (from 0% to 2.9%).

The main contributor to the increase in any stimulants category was amphetamine and methamphetamine ('Stimulants'). Increases in ever used, last year use, and current use of stimulants were found. Again, increases in last year use of 'stimulants' were found for 15-17 year olds (from 1.6% to 5.3%) and 20-24 year olds (6% to 11%).

Opiates

There was no change in the proportion of the sample who had ever tried, used in the last year, or reported current use of any of the opiates between the two surveys (Table 8.3).

Table 8.3 Relative usage levels of opiates, 1998 & 2001

	Ever Tried		Used Last Year		Current User	
	1998	2001	1998	2001	1998	2001
	%	%	%	%	%	%
Any opiates	3.7	4.3	1.2	1.0	0.6	0.6
Heroin	0.9	0.7	0.2	0.1	0.1	0.03
Homebake	1.2	1.5	0.6	0.5	0.2	0.3
Morphine	1.1	1.0	0.4	0.2	0.2	0.06
Poppies	1.8	2.4	0.5	0.3	0.2	0.1
Other opiates	0.8	1.0	0.3	0.3	0.1	0.1

(Percentages are of total sample)

Other drugs and intravenous use

There were no changes in ever used, last year use, or current use of solvents or the use of a needle to inject a drug in 2001 (Table 8.4). There was a decrease in the current use of tranquillisers, reflecting a decrease for men (from 0.8% to 0.2%), but no change in ever used or last year use of the drug. There was a trend towards more having tried kava, but no change in use in last year or current use. There was no change in the number of respondents who reported using a drug not on the list read out to them by the interviewer.

Increases in ever used, last year use, and current use of ketamine (an anaesthetic) were found. Last year use of ketamine for 20-24 year olds increased from 0.2% to 1.8%.

GHB (a sedative) was a new drug added to the list in 2001 and so no comparison exists from 1998. Last year use was most common for men aged 18-19 years (4.4%) and 20-24 years (2.7%), and women 20-24 years old (1.7%).

Rush (a stimulant) was a new category of drug created in 2001 to assess the re-emergence of rush as a dance party drug. Last year use of rush was most common for men (5.9%) and women (2.5%) aged 18-19 years.

Table 8.4 Relative usage levels of other illegal drugs and needles, 1998 & 2001

	Ever Tried		Used Last Year		Current User	
	1998	2001	1998	2001	1998	2001
	%	%	%	%	%	%
Solvents	1.9	2.2	0.4	0.2	0.2	0.1
Tranquillisers	2.3	2.6	0.6	0.4	0.5	0.2
Intravenous use	1.2	0.8	0.2	0.2	0.1	0.1
GHB	n/a	4.7	n/a	0.8	n/a	0.3
Ketamine	0.2	0.7	0.1	0.5	0.0	0.2
Rush	n/a	4.7	n/a	0.9	n/a	0.5
Kava	8.1	9.6	2.8	3.2	1.1	1.5
Other drug	0.7	0.9	0.2	0.2	0.1	0.1

(Percentages are of total sample)

9. MULTIPLE DRUG USE

Multiple use of any drugs

Table 9.1 presents all the combinations of drugs ever tried and used in the last twelve months by respondents in 1998 and 2001.

Only 7% of respondents in each survey had tried no drugs. Less than 1% in both 1998 and 2001 had only tried marijuana or only tried at least one of the other drugs. Only 2.3% in 1998 and 1.8% in 2001 had only tried tobacco. Alcohol was the most common drug tried on its own, at 19% in 1998 and 2001.

The most common combination of drugs tried in both surveys (by about one in four respondents) were alcohol, tobacco and marijuana (25% in 1998 and 23% in 2001), followed by alcohol and tobacco (18% and 17%), and then alcohol, tobacco, marijuana, and at least one of the other drugs (16% and 18%).

Table 9.1 Combination of drugs ever tried and used in the last 12 months, 1998 & 2001

Combinations of drugs	Ever Tried		Used Last Year	
	1998 %	2001 %	1998 %	2001 %
None	7.4	7.5	10.7	11.3
Marijuana	0.3	0.5	0.1	0.2
Tobacco	2.3	1.8	2.0	2.0
Tobacco & Marijuana	1.3	1.8	0.4	0.4
Alcohol	18.9	18.6	45.2	45.4
Alcohol & Marijuana	5.2	5.1	5.2	4.7
Alcohol & Tobacco	17.8	16.6	19.1	18.1
Alcohol & Tobacco & Marijuana	24.6	23.2	7.9	7.5
Other drug	0.2	0.3	0.2	0.2
Marijuana & Other drug	0.1	0.1	0.1	0.1
Tobacco & Other drug	0.1	0.2	0.0	0.1
Tobacco & Marijuana & Other drug	0.8	1.3	0.1	0.3
Alcohol & Other drug	1.2	1.3	1.5	1.5
Alcohol & Marijuana & Other drug	2.2	2.5	1.2	2.1
Alcohol & Tobacco & Other drug	1.8	1.7	1.4	1.1
Alcohol & Tobacco & Marijuana & Other drug)	16.0	17.6	5.0	5.1

In each survey, the sole use of alcohol in the last year was most commonly reported (45% in both 1998 and 2001). Next most popular was alcohol and tobacco (19% and 18%), then no drugs used (11% both surveys), and alcohol, tobacco and marijuana (8% both surveys), and alcohol, tobacco, marijuana and at least one of the other drugs (5% both surveys).

Multiple use of illegal drugs

The proportion of respondents that reported ever having tried three or more illegal drugs (including marijuana) increased from 15% in 1998 to 18% in 2001. GHB and rush were excluded from this comparison, as questions about these drugs were not asked in 1998. There were trend increases for women (from 11% to 14%) and people aged 20-24 years (21% to 27%).

Use of three or more illegal drugs in the last year increased from 6% of the 1998 sample to 8% of the 2001 sample. There was a trend increase in last year use for 20-24 year olds (from 13% in 1998 to 17% in 2001) and 35-39 year olds (from 1% to 4%). Figures 9.1 and 9.2 show use of three or more illegal drugs by age for men and women in the last year. There was a trend increase in last year use by men aged 40-45 years (from 2% to 5%).

Figure 9.1 Proportion of men reporting using 3 or more illegal drugs in the last year by age group, 1998 & 2001

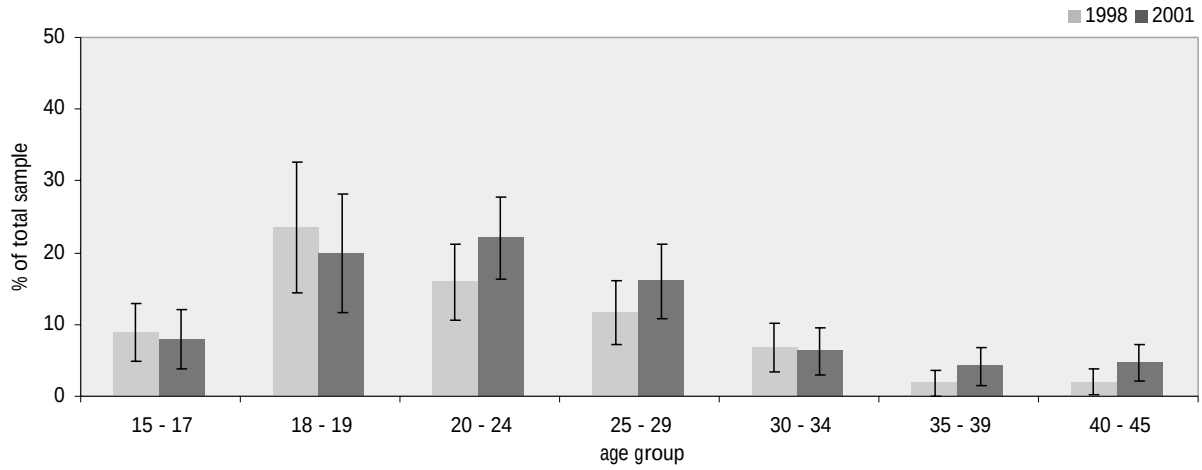
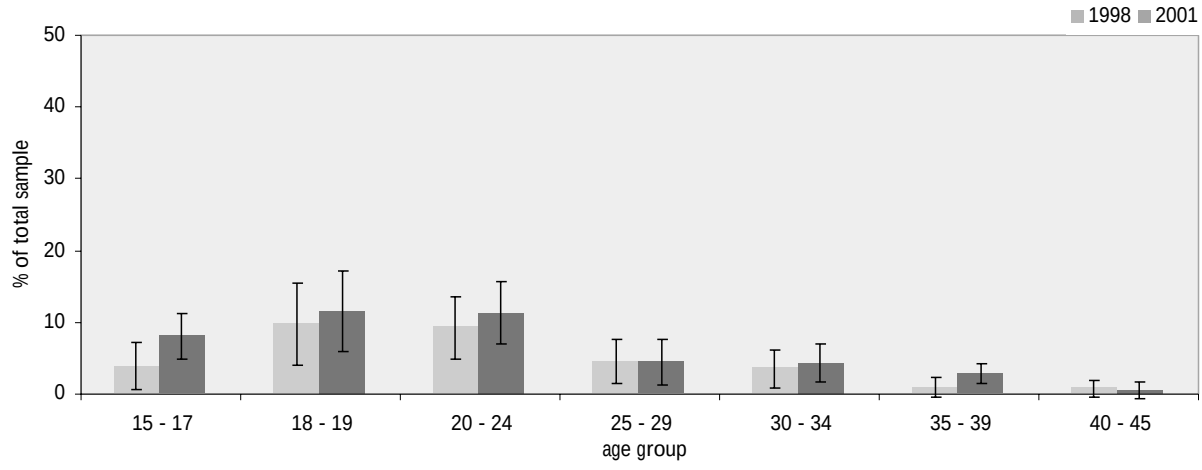


Figure 9.2 Proportion of women reporting using 3 or more illegal drugs in the last year by age group, 1998 & 2001



10. CONCERN ABOUT DRUGS

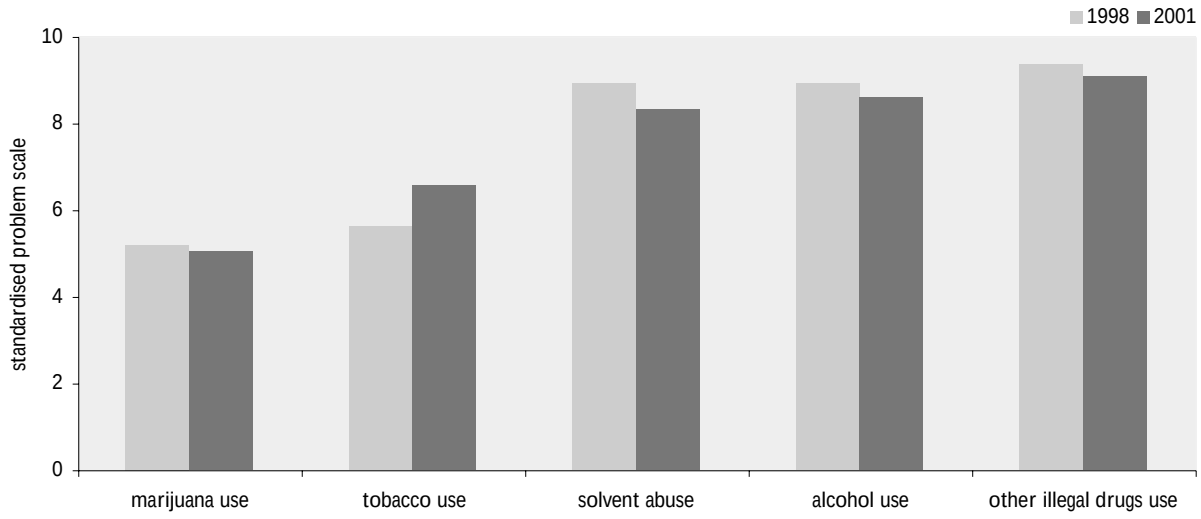
Community concerns

In both 1998 and 2001, all respondents were asked how serious different types of drug use were as community problems. They were asked to rank the scale of the problem from 1 to 10, where 1 is not a problem and 10 is a serious problem. To counter the situation where one person may rate all issues as serious problems, and another rate them as minor problems, each person's responses have been standardised so that the figures better reflect the relative differences within each individual's responses.

Figure 10.1 shows the relative perceived seriousness of tobacco, alcohol, marijuana, other illegal drug use, and solvent abuse, for 1998 and 2001 respectively. There was no change in the overall ranking of the seriousness of these drugs as community problems between the surveys. The drugs of most concern to the community were illegal drugs other than marijuana, alcohol, and solvent abuse. Tobacco was the fourth most serious issue, followed by marijuana.

Between the two surveys, there was an increase in the perception of tobacco as a serious problem and decreases in the perception of other illegal drugs and solvents as serious community problems. Both men and women felt tobacco was a more serious community problem in 2001. Men thought solvents were less of a problem in 2001. There were no significant changes in the perceptions of alcohol and marijuana as community problems from 1998 to 2001.

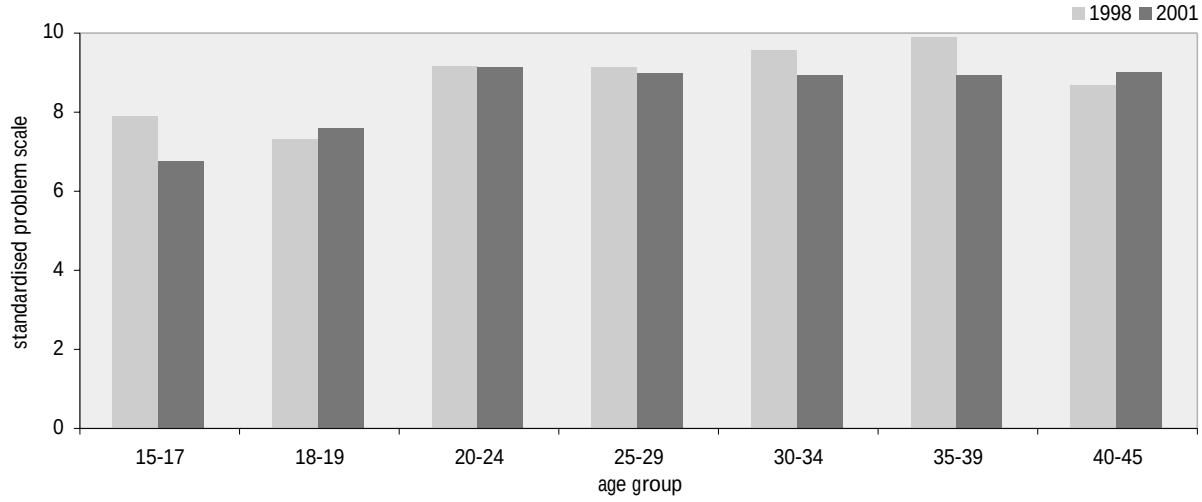
Figure 10.1 Perceived seriousness of drug use as a community problem, 1998 & 2001



Figures 10.2, 10.3 and 10.4 are also standardised scales, and in these cases show community concern among different age groups for alcohol, tobacco and marijuana.

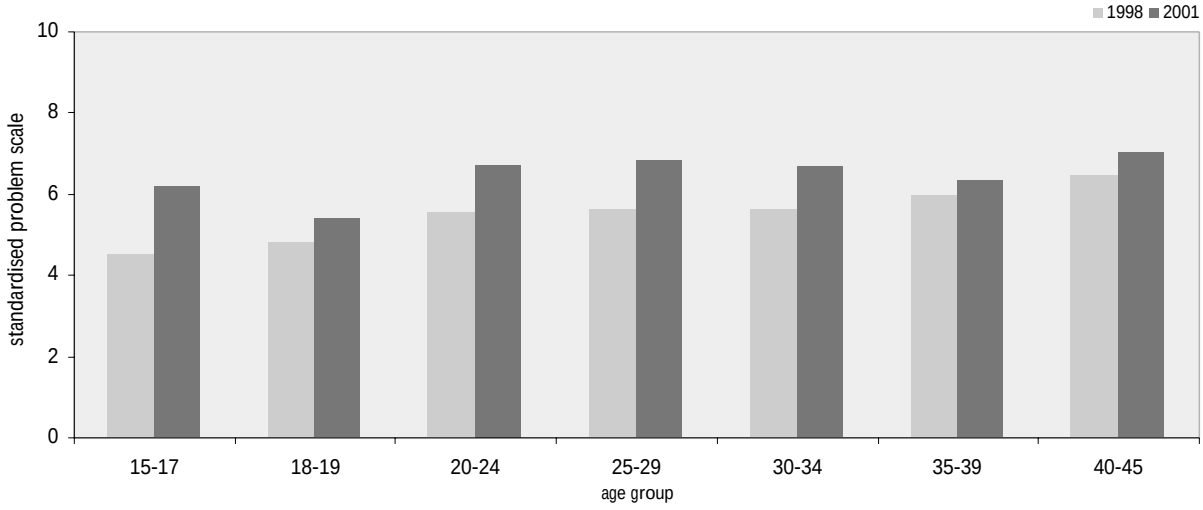
In both 1998 and 2001, alcohol was rated most highly as a community concern by people aged 20 years and over.

Figure 10.2 Perceived seriousness of alcohol use as a community problem by age group, 1998 & 2001



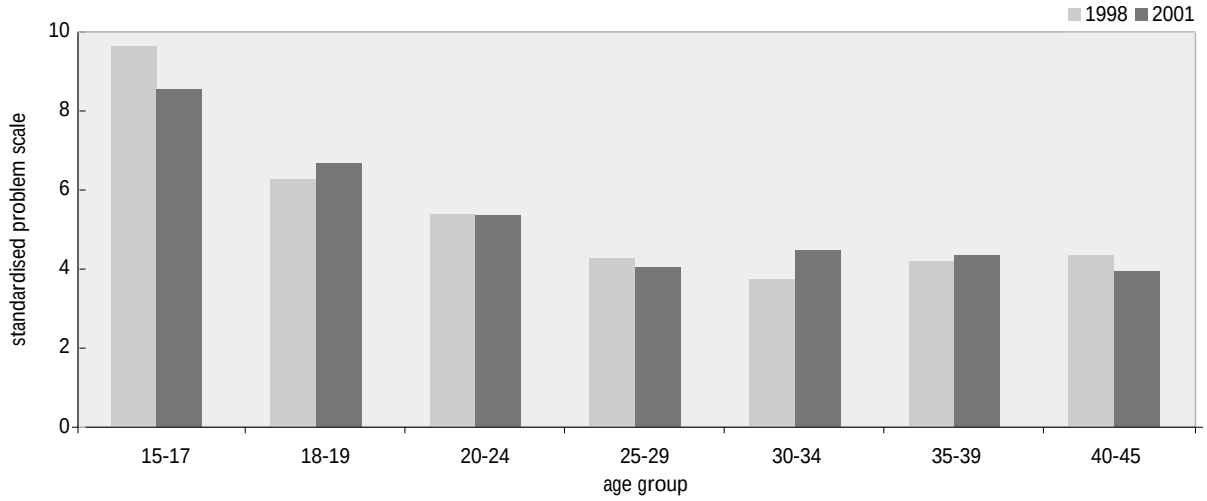
By 2001, perceptions about the seriousness of tobacco as a problem were similar for younger and older age groups.

Figure 10.3 Perceived seriousness of tobacco use as a community problem by age group, 1998 & 2001



With marijuana, levels of concern were highest amongst younger age groups.

Figure 10.4 Perceived seriousness of marijuana use as a community problem by age group, 1998 & 2001



Perception of drug law enforcement against illegal drugs

In 1998 and 2001, all respondents were asked about their views of the current level of enforcement against different types of illegal drug use. Figure 10.5 reveals some changes in the perceptions of drug law enforcement between the two surveys.

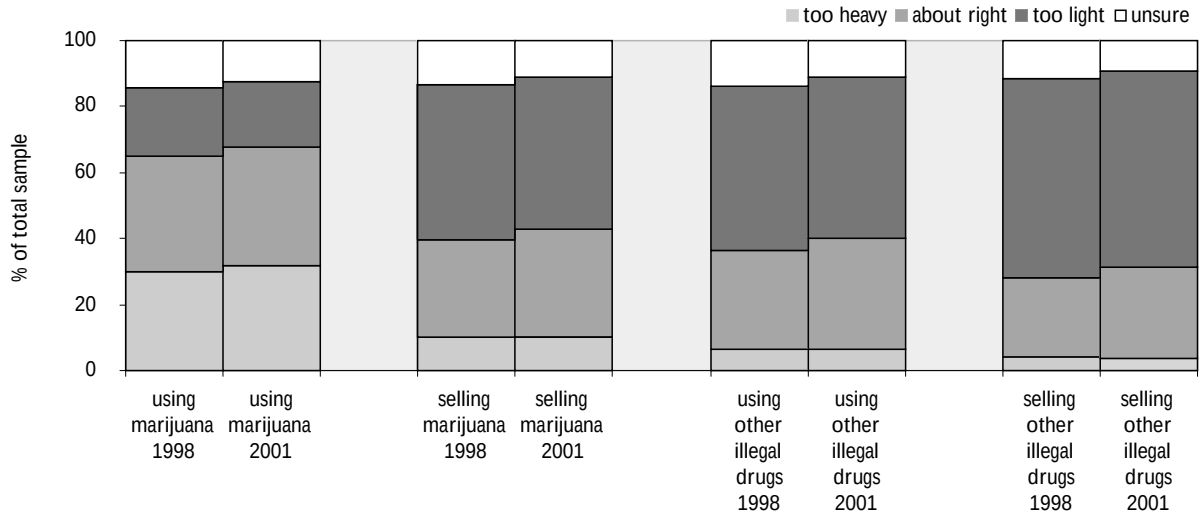
For offences involving the possession of marijuana for personal use, there was a trend to a greater proportion of the sample perceiving these as 'too heavy', from 30% in 1998 to 32% in 2001. There was a corresponding trend decline in the proportion of the sample that was 'unsure', from 14% in 1998 to 12% in 2001. Other responses did not change between the surveys. In 2001, 36% thought they were 'about right' and 20% thought they were 'too light'.

For selling marijuana offences, there was a significant increase in the proportion of the sample who thought enforcement was 'about right', from 30% in 1998 to 33% in 2001. Again, this was reflected in a significant fall in those who were 'unsure', down from 13% in 1998 to 11% in 2001. There was no change in the proportion who thought enforcement was 'too heavy' (10%) and 'too light' (46%).

A similar picture of less people feeling 'unsure' about the enforcement of drug laws emerges with other illicit drugs. Fewer people felt 'unsure' about the level of enforcement against these offences, falling from 14% in 1998 to 11% in 2001. There was a significant increase in the proportion of the sample who thought the laws against the use of other illicit drugs were 'about right', up from 30% in 1998 to 33% in 2001. Other responses did not change. In 2001, 7% felt they were 'too heavy' and 49% 'too light'.

With offences for selling other illegal drugs, there was a significant increase in the proportion of the sample who thought the level of enforcement was 'about right', up from 24% in 1998 to 28% in 2001. There was a corresponding decrease in the proportion who were 'unsure' about the level of enforcement, down from 12% in 1998 to 9% in 2001. There was no change in the proportion who thought enforcement was 'too heavy' (4%) and 'too light' (59%).

Figure 10.5 Perceptions of drug enforcement, 1998 & 2001



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APPENDIX 1: SURVEY METHODOLOGY

This section describes the probability sampling scheme used to select respondents for computer aided telephone interviews, the response rate achieved, comparison of survey results with census populations, possible effects of non-response, and approximate statistical accuracy of survey estimates. The 1998 and 2001 national surveys used the same sampling methodology. The only difference between the surveys is the age range of the 2001 national survey was lowered to 13-45 years, whereas the 1998 national survey and previous regional surveying sampled those aged 15-45 years. This was done to allow future comparisons of the lower age cohorts once another sample of 13-45 year olds was complete. With the present databases, only comparisons in the 15-45 year age range can be made. This report analyses the findings from respondents aged 15-45 year olds in the 1998 and 2001 surveys.

Sampling methods

The survey samples were intended to represent people aged 15-45 years in 1998, and 13-45 years in 2001, who lived in private dwellings with telephones, in New Zealand. Sampling was stratified so that the sample size achieved in an area (stratum) was proportional to its population aged 15-45/13-45 years in the 1996 census conducted by Statistics NZ. People were selected to be interviewed by a two-step random scheme: using random digit dialling to select a household, and then randomly selecting whom to interview within the household.

In the first sampling stage, random-digit dialling, the computer generates telephone numbers, based on a list of working prefixes or exchanges for an area. The surveys used a method for number generation that decreased the number of wasted calls to business or non-working numbers, with each residential number having an equal probability of being included in the sample. The random digit dialling method also included unlisted numbers and people who did not yet have their telephones listed in a directory. Any selected number which was not being answered was called back at least 10 times at differing times of the day over several weeks before it was considered a 'no answer' for response calculation purposes.

With each interview, a check was made of whether the household had a second telephone line. If so, the second number was noted and if necessary, removed from the list of remaining numbers to be called. This prevented the possibility of the same household being selected more than once.

In the second sampling stage, random respondent selection, a list was made of the persons aged 15-45/13-45 years (in respective surveys) usually resident in the household, and one was selected at random by the computer to be the person interviewed in the household. If necessary, this person was interviewed at a later time by appointment. Since only one person was interviewed per household, regardless of how many eligible people there were in the household, the survey analysis made a correction (weighting) for household size, and statistical tests incorporated a 'design effect' where sample error was increased due to this (see later sections).

The weight for the 2001 national survey data was developed to account for both the selection of only one person per household and the lowering of the age range to include 13-14 year olds. The first issue was dealt with in the same way as in the 1998 data set. The second issue is discussed in this appendix in the section on weighting and design effect.

Interviewing methods

The 1998 and 2001 national drug surveys used the CATI (Computer Assisted Telephone Interviewing) method for interviewing. The computer automatically selected which telephone numbers to dial at the appropriate time of day, who to interview, and displayed the questions to ask in the correct order. Within each residential household, one person was chosen to be interviewed, and the computer made the choice randomly. The computer also handled all the administrative details concerning appointments for calling back respondents, including unanswered numbers.

Through the course of each interview, the computer checked that the responses were within the boundaries of possible responses for closed response questions. This process allowed for a greater degree of checking than paper questionnaires. Some questions allowed for unprompted answers, which were categorised according to a pre-set list of responses, or keyed into the computer where an appropriate match on a list could not be made at interview time.

The interviewers all received substantial training in interviewing techniques as well as the use of the CATI system. The interviewers were in close contact throughout the survey with members of the project team. This contributed to a cohesive and responsive working environment, and substantially assisted with asking questions of a sensitive nature, as typified by this survey.

All interviews were conducted from a central interviewing facility. A supervisor, who was present at all times, monitored telephone lines and computer screens to ensure a high degree of quality control, and handled any special problems.

Response rates

People who could not be contacted, or refused to participate in the survey, reduce the ability of the sample to accurately reflect the population. This is a problem encountered in all general population surveys.

There were many calls that did not reach an eligible residence. These included business telephones, households with nobody under 46 years old, non-working numbers, computer lines and fax machines, and large group quarters (such as military barracks and university hostels). These outcomes were not in the sampling frame, and did not enter into the response rate calculation.

The response rate of the surveys is the number of interviews completed as a proportion of the number of telephone numbers with whom contact was attempted who were also part of the survey population. The response rate for the 1998 survey was 79%, and the 2001 survey achieved an 80% response rate, both of which were relatively high for telephone surveys in New Zealand.

Ethical issues

At first contact, each potential respondent was informed that the survey was both confidential and voluntary, and told that 'some of the questions are about alcohol, tobacco and drugs like marijuana.' Computer records of telephone numbers are not part of the final database so that there is no possibility of recontact. Approval for the survey was granted by the University of Auckland Human Subjects Ethics Committee.

Everyone who agreed to take part was informed they could be interviewed by a Maori interviewer if they wished.

Weighting and design effect

In order for a survey sample to accurately represent the population using probability methods, each person in the population must have a known chance of being in the sample. The random sampling design used in the survey meant that each residential telephone in a stratum had an equal chance of being in the sample. However, the probability of a particular person being selected depended on the number of people in the household who were in the age range (15-45/13-45 years) in the respective 1998 and 2001 surveys. The more people that lived in a household, the lower the probability of a person being selected. All the results in this report were weighted by eligible household size, so that the probability of selection for each person in the population was the same.

In the 2001 questionnaire, two questions were added to the demographic section to assist in the calculation of the weight. Respondents were asked how many children aged 13-14 usually lived in their household, and how many people aged 15-45 usually lived in their household. This information was used to develop the weight variable for 2001.

Since the relative contribution of each person to the survey analysis is not equal after the weighting, the statistical precision of the survey is less than might be expected for a simple random sample of the same size. This can be expressed as a 'design effect': the increase in variance after weighting compared to the variance for a simple random sample of the same size. All statistical analyses in this report were adjusted with a design effect of 1.24, which was calculated for the 15-45 year old respondents in the combined data sets of 1998 and 2001.

The effect of household size weighting on survey demographic profiles in 1998 and 2001 (see Table 1 and 2) was to cause small increases in the relative representation of younger age groups, and people of non-European ethnicity, which is consistent with a pattern of younger people, Maori, Pacific Island people and Asian being more likely to be found in larger households.

Comparison of samples with census populations

In the report, all the comparisons are done using the weight factor of respective years. Overall, both the 1998 and 2001 weighted samples are close to population profiles of respective 1996 and 2001 censuses (see Table 1 and Table 2). However, there were some small differences that were probably due to differing telephone availability for age, gender, and ethnic groups.

Both the 1998 and 2001 samples contain a higher proportion of men than the population and this is mainly due to an over-representation of 15-17 year old men. Among women, there is an under-representation of 20-24, 25-29, and 30-34 year olds in the samples.

By ethnic group, in both 1998 and 2001, Pakeha/Europeans are over-represented. Maori/Part Maori are under-represented in the 1998 sample, but slightly over-represented in the 2001 sample. Pacific People are under-represented in both 1998 and 2001.

Some of this may be due to the census data including people without telephones and the way ethnicity is prioritised and categorised in the census compared to the survey. The 1996 census data 'prioritised' counting of multi-ethnic people into the Maori ethnic group while the 1998 survey used a single response ethnicity question. The 2001 census included provision for up to five ethnic categories while the 2001 survey had provision for only two.

Overall, the magnitudes of the differences are fairly slight when it is considered that the census data includes people without telephones. In the 1996 and 2001 censuses, those without telephones were more often found in households of Maori and Pacific Peoples,[10] and in family types such as sole parents with children. In relation to alcohol use, an analysis of a New Zealand telephone survey found that because those without telephones form only a small proportion of the total population, their exclusion had no significant effect on population level data.[11]

[10] In the 1996 Census, 15% of Maori, and at least that proportion of Pacific Island people, did not have access to a telephone. Source: Statistics New Zealand (1997). *Census 1996: Ethnic groups*. Statistics New Zealand, Wellington. Similar results were found in the 2001 Census, with 11% of Maori and 13% of Pacific People with no access to a telephone (www.stats.govt.nz).

[11] Wyllie, A., Black, S., Zhang, J.F., Casswell, S. (1994). 'Sample Frame Bias in Telephone-Based Health Research in New Zealand.' *The New Zealand Statistician* 29,2, 40-53.

Table 1 Age, gender, and ethnicity distribution in the sample survey (1998) & 1996 population census

	Percent		
	Un-weighted sample	Weighted sample	Census 1996
Men	**51.2**	**52.2**	**49.2**
15-17	5.8	7.3	4.8
18-19	2.6	3.3	3.1
20-24	6.2	7.1	8.0
25-29	8.0	7.7	7.8
30-34	9.1	8.4	8.4
35-39	9.6	9.1	8.2
40-45	10.0	9.3	8.9
Women	**48.8**	**47.8**	**50.8**
15-17	4.3	5.5	4.6
18-19	3.3	4.2	3.1
20-24	6.3	6.9	8.1
25-29	7.2	6.7	8.3
30-34	8.5	7.3	7.3
35-39	9.4	8.3	8.3
40-45	9.8	8.9	8.9
Ethnic Group			
European/Pakeha/New Zealander	83.2	80.8	77.0
Maori/Part Maori	8.2	8.9	14.8
Asian	4.8	5.1	5.9
Pacific People	3.3	4.5	5.7
Others	0.5	0.6	0.5
Not specified	0.1	0.1	5.1
Total	100.1	100.0	109.0

Note: Sample totals may not equal 100% due to rounding, and ethnic totals can be more than 100% as a person may belong to more than one ethnic group

Table 2: Age, gender, and ethnicity distribution in the sample survey (2001) & 2001 population census

	Percent		
	Un-weighted sample	Weighted sample	Census 2001
Men	**51.7**	**53.5**	**48.6**
15-17	5.0	6.7	4.9
18-19	2.8	3.5	3.2
20-24	6.8	7.9	7.1
25-29	7.7	7.5	7.1
30-34	9.1	8.3	7.9
35-39	9.5	8.9	8.6
40-45	10.7	10.6	9.9
Women	**48.3**	**46.5**	**51.4**
15-17	3.9	4.9	4.7
18-19	2.7	3.4	3.1
20-24	5.6	5.9	7.3
25-29	7.1	6.3	7.7
30-34	9.0	7.8	8.8
35-39	9.3	8.2	9.3
40-45	10.8	10.0	10.5
Ethnic Groups			
European/Pakeha/New Zealander	85.6	83.4	76.8
Maori/Part Maori	13.9	15.1	14.1
Asian	6.2	6.9	6.4
Pacific People	4.5	5.5	6.2
Others	0.6	0.6	0.7
Not specified	0.3	0.2	4.0
Total	111.1	111.7	108.2

Note: Sample totals may not equal 100% due to rounding, and ethnic totals can be more than 100% as a person may belong to more than one ethnic group

Statistical accuracy and statistical analyses

When the results from a sample are used to predict what happens in the whole population, these estimates are subject to a certain level of error. The size of the error in a survey depends on several factors, including the size of the sample, how firm the results need to be and whether the responses to a question are approximately evenly divided (50% say yes and 50% say no) or an extreme contrast (95% say yes and 1% say no).

All the results were calculated using the weight factor. The statistical tests were conducted at a significance level of 1%. Proportions being commented on as being different are those that produce significant chi-square statistics (2 x 2). This incorporated weighted counts and adjusted the chi-square statistic for the design effect from weighting (a design effect calculated for the whole combined sample of 1998 and 2001 covering the 15-45 age group was used in all the analysis). Kruskal-Wallis non-parametric analysis of variance was used to test differences between means of standardized variables. The average amount of cannabis consumed per person was very skewed. A bootstrap technique was used to test the statistical significance of the difference in consumption in various groups.

For illustrative purposes, some 99% confidence limits about proportions are also shown below. These calculated error limits show boundaries within which the 'true' population proportion lies with 99% certainty. Rather than attach an error value to every number in this report, Table 3 gives approximate sampling errors for particular percentages. Where a comparison is based on a portion of the total sample (e.g. a particular group such as men aged 20-24), then the sample size in the table is based on that group's sample size. That is why values for smaller samples are included.

Table 3 Approximate sample errors at a 99% confidence level with 1.24 design effect

	Percentage giving a particular answer: Yes or No				
Sample size	1% or 99%	5% or 95%	10% or 90%	30% or 70%	50%
100	2.9	6.3	8.6	13.2	14.4
500	1.3	2.8	3.9	5.9	6.4
1000	0.9	2.0	2.7	4.2	4.5
2000	0.6	1.4	1.9	2.9	3.2
5000	0.4	0.9	1.2	1.9	2.0

Example: If 50% of the people in a sample of 1000 said that they have ever smoked, then the confidence limit for the proportion who smoke in the population is 50% plus or minus 4.5%, or between 45.5% and 54.5%.