

# **Social supply of alcohol to under 18s**

Quantitative research from  
the 2019/20 Alcohol Use in  
New Zealand survey (AUiNZ)

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## Executive Summary

The consumption of alcohol among young people, including those under 18 years of age, is influenced by alcohol availability, affordability, marketing, and social norms. Advice from Te Whatu Ora is that **not drinking alcohol** is the safest option for children and young people under 18-years-old (see <https://www.alcohol.org.nz/wellbeing/whanau-family-health/tamariki-and-mokopuna/> for more information). Young people less than 18 years of age who drink alcohol are at risk of negatively impacting their physical and cognitive development, are at increased risk of developing alcohol-use disorders later in life, and may experience alcohol-related harm.

Previous research has shown that under 18s who drink get the majority of their alcohol from parents/guardians, friends, and others, also known as social supply. Supplying alcohol to young people is not protective and can lead to harmful outcomes.

Understanding social supply behaviours and attitudes towards under 18s drinking is important for reducing the supply of alcohol to them. This research aims to provide updated findings about social supply of alcohol to under 18s, and to address research gaps, such as examining the views of people who socially supply alcohol. In 2020, over half of youth aged 15 to 17 years in Aotearoa New Zealand (Aotearoa) drank alcohol in the last year. The minimum purchase age of alcohol in Aotearoa is 18 years, and previous research has shown that under 18s who drink get the majority of their alcohol from social supply.

The 2019/20 Alcohol Use in New Zealand Survey (AUiNZ) was conducted among adults (18 years of age and older) and asked questions about the social supply of alcohol. This report discusses the quantitative analysis of AUiNZ data. A complementary report explores the qualitative responses from the same sample. See: [Attitudes and behaviours on supplying alcohol to under 18s: Qualitative research from the 2019/20 Alcohol Use in New Zealand survey \(AUiNZ\)](#).

We found the overall proportion of adult respondents who socially supplied alcohol to under 18 year olds was 7%, which is consistent with the New Zealand International Alcohol Control (IAC) study. However, this rises to 34% for parents/guardians with 15-17 year olds, and the majority of social supply behaviour (64%) was among parents/guardians supplying to their own children, and 75% of social suppliers reported being usually present when the alcohol was consumed.

Evidence from Aotearoa and internationally shows that alcohol intake at all ages is influenced by the wider alcohol environment, including alcohol advertising, the price of alcohol, and alcohol outlet density and hours of operation. Children and young people are especially influenced by alcohol marketing and sponsorship, and lower alcohol prices which reduce economic barriers. Lower minimum purchase ages increase consumption of alcohol and social supply among underage drinkers. Addressing these contributors to alcohol intake is consistent with the World Health Organization's (WHO) SAFER initiative and will produce benefits in the social supply of alcohol, drinking among under 18s, and the wider population.

In addition to strategies identified within the SAFER initiative, policies and programmes that specifically target drinking among under 18s and the social supply of alcohol are necessary. Such measures include examining the minimum consumption and purchase ages, and increasing enforcement of existing legal supply legislation. Te Whatu Ora currently works to target parents as influencers, to support communities to change norms around the supply of alcohol and alcohol advertising, and to endorse the low-risk alcohol drinking advice.

## Key Findings

### **1 in 14 adults (7%) reported socially supplying to someone under 18 years in the last year, rising to 34% for parents/guardians of 15–17 year olds**

Those who were more likely to socially supply, after adjusting for gender, age, and/or ethnicity, were:

- 45 to 54-year-olds compared to 34 to 44-year-olds
- those living in rural areas compared to in urban areas
- Māori compared to non-Māori non-Pacific
- those who did not follow the drinking guidelines compared to:
  - those who did follow guidelines and drank in the last week
  - those who did not drink in the last week
  - non-drinkers.

### **The majority of social supply behaviour was among parents/guardians who supplied to their own children or step children (64% of suppliers)**

Three in ten of those who socially supplied (29%) provided alcohol to their other family members and 11% supplied to their own friends.

Respondents with any children in the household were more likely than those without any children in the household to supply alcohol to anyone under 18.

### **Most of those who socially supplied reported being present for the consumption of the alcohol every time they supplied (75%)**

Almost one-fifth were present some of the time (18%), while nearly 6% reported they were never present for the consumption of alcohol that they supplied and 1.5% didn't know.

After adjustments, those more likely to be present every time they supplied were Māori (compared to non-Māori non-Pacific) and those living in medium deprivation areas (compared to low deprivation areas).

### **Under 18 alcohol-related policies were supported by those who socially supplied, and those that did not**

Policies for banning of alcohol sponsorship at sporting, community, and other events that under 18s go to, and banning alcohol promotion from social media were supported by both those who socially supplied alcohol, and those that did not.

However, those who socially supplied were more likely to oppose the banning of alcohol sponsorship at sporting, community, and other events that under 18s go to after adjusting for demographics (22% of those who supplied and 15% of those who hadn't supplied opposed this policy). There was no difference in the level of opposition to banning the promotion of alcohol from social media between those who supplied and those who didn't supply after adjusting for demographics (both around 8%).

### **Compared to people who did not socially supply alcohol, those who did supply believed their friends would approve of supplying to under 18s**

Those who socially supplied were more likely than those who hadn't to believe their friends would approve of them giving alcohol to someone under 18 (13% of those who supplied and 2% of those who hadn't supplied believed their friends would approve).

Those who supplied were also more likely than those who hadn't supplied to believe that some, most, or all of their friends would also socially supply (30% of those who supplied and 5% of those who hadn't supplied thought at least some of their friends would supply).

### **Among all respondents, there was varied support about whether it's a good idea to introduce under 18s to alcohol at home**

Those who socially supplied were more likely to think that it's a good idea to introduce alcohol to under 18s at home than those who hadn't (77% of those who supplied and 41% who hadn't supplied thought it was a good idea). Those who were more likely to think it's a good idea were males compared to females, 18 to 24-year-olds compared to 35 to 44-year-olds, non-Māori non-Pacific compared to Māori and Pacific peoples, and people living in low deprivation areas compared to high deprivation areas.

### **Most people do not think it is okay for under 18s to drink alcohol**

Those who socially supplied were more likely than those who hadn't to think it is okay for under 18s to drink alcohol (46% of those who supplied and 19% of those who hadn't supplied thought it was okay).

Those more likely to think that it is okay for under 18s to drink alcohol were males compared to females, younger age groups (18 to 34-year-olds) compared to 35 to 44-year-olds, and non-Māori non-Pacific compared to Māori and Pacific peoples.

Nearly a quarter of social suppliers (23%) did not think that it was okay for under 18s to drink alcohol. A further 31% of social suppliers neither agreed nor disagreed with the statement.

## Source

The findings are based on analysis from the 2019/20 Alcohol Use in New Zealand (AUiNZ) survey. The 2019/20 AUiNZ is a nationwide alcohol monitoring survey with a sample of 4,545 Aotearoa adults age 18 years and over managed by Te Whatu Ora. More detail on the method can be found in section 2 of this report.

## Glossary

General abbreviations	
ABAS	Attitudes and Behaviour towards Alcohol Survey
AUiNZ	Alcohol Use in New Zealand Survey
IAC	International Alcohol Control study
Statistical notations and definitions	
Base	The respondents included in the analysis.
$n$	Sample size
Ninety-five percent confidence intervals (95% CI)	95% CI are used to represent the sample error for estimates. A 95% CI means that if repeated samples were taken and the 95% CI was computed for each sample, 95% of the intervals would contain the true value.
$p$ value	The $p$ value for a statistical test is the probability of getting the observed test result (or a more extreme result), if there is really no difference. The usual convention of interpreting test results with $p$ values below 0.05% as statistically significant was followed.
Ref	Reference group is a group to which an individual or another group is compared.
RR	Relative Risk (or Risk Ratio) is a ratio of the probability of an event occurring in the exposed group versus the probability of the event occurring in the non-exposed group. Values of RR can be interpreted as follows: <ul style="list-style-type: none"> <li>• <math>RR = 1</math> means that exposure does not affect the event</li> <li>• <math>RR &lt; 1</math> means that the risk of the event is decreased by the exposure</li> <li>• <math>RR &gt; 1</math> means that the risk of the event is increased by the exposure</li> </ul>
Social supply	Supply of alcohol by parents/guardian, friends and others to under 18s.
Last-week drinkers	Those who had a drink in the last week.
Non-last-week drinkers	Those who had a drink in the last 12 months but not in the last week.
Non-drinkers	Those who did not have a drink in the last 12 months.

# 1. Introduction

## 1.1 What we know about social supply to under 18s

The consumption of alcohol among young people, including those under 18 years of age, is influenced by alcohol availability, affordability, marketing, and social norms. Advice from Te Whatu Ora is that not drinking alcohol is the safest option for children and young people under 18 years (Te Whatu Ora, n.d.). While drinking carries harm at any age, young people under 18 years are at risk of experiencing adverse effects on their physical and cognitive development. They are also at increased risk of developing alcohol-use disorders later in life, and of experiencing alcohol-related harm (Boden & Fergusson, 2011; Feldstein Ewing et al., 2014; Health Promotion Agency, 2020; Jackson et al., 2014).

It is an offence in Aotearoa to supply alcohol to a minor except if the person is a parent or guardian of the minor, or believes they have the express consent of the parent or guardian of the minor. The alcohol must also be supplied in a responsible manner, such as supervising the consumption. While there are limits on the supply of alcohol to young people, it is not an offence in Aotearoa for a minor to drink alcohol unless it is in a public place. The legislation for the sale and supply of alcohol in Aotearoa was updated in December 2013 to include 'express' consent and supplying in a responsible manner (New Zealand Parliament, 2013). Express consent may include a personal conversation, an email or a text message where there is good reason to believe this is genuine (Ministry of Justice, 2020). In this report, the supply of alcohol by parents/guardians, friends, and others to under 18s is referred to as social supply.

In 2018, the Aotearoa arm of the International Alcohol Control study (IAC) looked at the patterns of social supply over time, with the intent of tracking behavioural changes after the updated legislation. The study found that 8.3% of 16 to 65-year-olds in 2013, and 6.4% in 2015 (the difference between survey years was not statistically different), had supplied alcohol at least once to under 18s. In 2013 and 2015, around 45% of these social suppliers provided alcohol to their children. In 2015, one-fifth of social suppliers (22%) supplied to friends under 18, a decrease from 30.4% in 2013. There was a slight increase in the supplier supervising those they supplied to (Huckle & Romeo, 2018).

Among individuals under 18, 58% of New Zealanders aged 15 to 17 years drank alcohol in the last year (Ministry of Health, 2020). The Youth19 Rangatahi Smart Survey of secondary school students found 9% had drank alcohol in the last month in 2019. Drinking increased with age: 18% of those 17-years-old and over reported drinking alcohol in the last month, compared to 12% of 16-year-olds, 8% of 15-year-olds and under 3% of 14-years-old and under (Fleming et al., 2020). The 2013/14 and 2015/16 Attitudes and Behaviour towards Alcohol Survey (ABAS) found that the majority of 15 to 17-year-olds who consumed alcohol in the past year were supplied by their parents (59%), and one-quarter (26%) were supplied by friends aged 18 years and older (Health Promotion Agency, 2017).



We know that attitudes and behaviours around supplying alcohol to under 18s vary across a continuum from not supplying at all, supplying due to pressure, supplying with conditions, to freely supplying alcohol. A qualitative study by UMR found that for some parents, certain conditions needed to be met in order for them to supply alcohol, such as parents being present to monitor and supervise, drinking with family and trusted adults, or as part of a special occasion. Meanwhile, other parents would not be comfortable supplying alcohol in most circumstances. This report indicated that some parents felt that giving alcohol to under 18s was an opportunity to model good behaviour and to prepare teenagers on how to treat alcohol. The vast majority of parents said they would not supply to younger teenagers (12 to 14-years-old; UMR Research Limited, 2016).

## 1.2 Research objectives

Based on Alcohol Use in New Zealand Survey (AUiNZ) data, this report seeks to provide updated findings about social supply to under 18s and to address research gaps, such as examining the views of people who socially supply alcohol. The report explores the act of social supply of alcohol to under 18s and the supervision of consumption. It also looks into attitudes to policy and social interventions as well as social norms around supplying alcohol. Finally, it looks at the attitudes to under 18s drinking and introducing alcohol in the home.

A complementary report explores the qualitative responses from the same sample. See: [Attitudes and behaviours on supplying alcohol to under 18s: Qualitative research from the 2019/20 Alcohol Use in New Zealand survey \(AUiNZ\)](#).

## 2. Methods

### 2.1 Survey

The AUiNZ is a nationwide alcohol monitoring survey, with data collection carried out in 2019/2020. Potential respondents were randomly selected from the Electoral Roll and asked to complete the survey either online or on paper. The survey covers alcohol consumption and behaviours, attitudes and beliefs about drinking, and experiences of short-term harm from alcohol.

A full description of the methodology and questionnaire can be found on the Te Whatu Ora website <https://www.hpa.org.nz/our-work/research/publications> (Nielsen, 2021a, 2021b). The questionnaire and survey methodology were assessed by the Ministry of Social Development Research Ethics Panel.

## 2.2 Variables

Nine outcome measures were examined: socially supplying alcohol in the last 12 months, who alcohol was supplied to, supplier's presence when alcohol was consumed, expected behaviour of friends (two measures), support for policies related to under 18s (two measures) and views on supplying of alcohol to under 18s (two measures). The outcome measures were analysed by independent variables: gender, age, ethnicity, socioeconomic status, urban rural groups, and whether they followed low-risk alcohol drinking advice. Some outcome measures were also analysed by social supply behaviour. See Appendix 1 and Appendix 2 for more information about the variables used in the survey and this report.

## 2.3 Analysis

The 2019/20 AUiNZ was conducted among a sample of 4,545 Aotearoa adults aged 18 years and over. The sample included 2,826 NZ European/Other, 1,285 Māori, 116 Pacific peoples, and 318 Asian (defined using prioritised ethnicity; see Appendix 3, Table 1). Unadjusted and adjusted risk-ratios were calculated using quasi-Poisson regression with a logarithm link function. Where applicable, adjusted risk-ratios were controlled for gender, prioritised ethnicity, and age group. Refused or missing responses were excluded from analyses. See Appendix 3 for more information about the analysis used in this report.

## 3. Findings

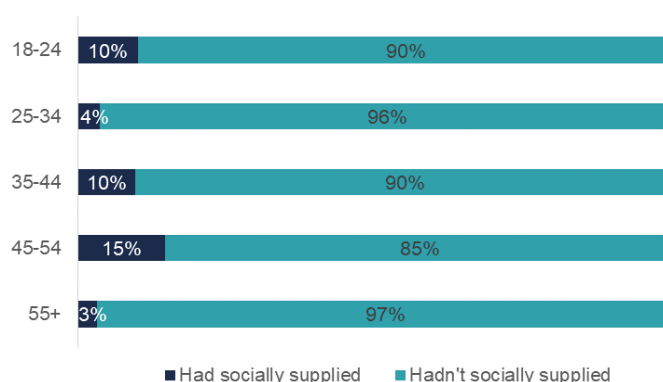
### 3.1 Social supply behaviour

#### 3.1.1 Around 1 in 14 adults supplied alcohol to under 18s in the last year

In the last year, 7% of adults had given one or more alcoholic drinks to someone under the age of 18 years. This was consistent with the New Zealand IAC (8.3% of 16 to 65-year-olds in 2013 and 6.4% in 2015; Huckle & Romeo, 2018). The 2013 result is considered the baseline from before the introduction of the new legislation.

Fifteen percent of those aged 45 to 54 years and 10% of both 35 to 44-year-olds and 18 to 24-year-olds supplied alcohol to under 18s. See Figure 1 below and Appendix 4, Table 2.

Figure 1 Social supply behaviour by age group



Base: All respondents who answered about social supply; n=4,516

Of all respondents with children in the household, one-third (34%) of those with children 15 to 17-years-old, 12% with children five to 14 years and 6% with children aged under five-years-old socially supplied to someone aged under 18 years.

After adjusting for demographics, those more likely to socially supply alcohol to under 18s were:

- 45 to 54-year-olds (1.4 times as likely as 34 to 44-year-olds)
- those in rural areas (1.3 times as likely as those in urban areas)
- Māori (1.4 times as likely as non-Māori non-Pacific).

Those who were less likely to socially supply alcohol to under 18s were:

- 25 to 34-year-olds and 55 years and older (0.38 and 0.30 times as likely as 34 to 44-year-olds, respectively)
- last-week drinkers who followed the low-risk alcohol drinking advice; non-last-week drinkers; and non-drinkers (0.64, 0.59, and 0.23 times as likely as last-week drinkers who hadn't followed the low-risk alcohol drinking advice, respectively).

Respondents with children in the household were almost five times as likely as those with no children in the household to supply alcohol.

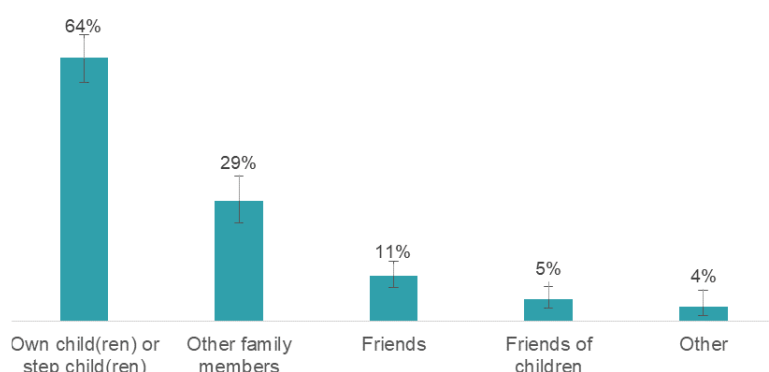
After adjusting for differences in demographics, respondents of certain ages were more likely to supply to different people. Those aged 35 to 54 years and 55 years and over were more likely than younger people aged 18 to 34 years to supply to their own children. Those aged 18 to 34 years were more likely than the older age groups to supply to their friends.

### 3.1.2 The majority of social supply behaviour was among parents/guardians supplying their own children

Over 6 in 10 of those who socially supplied provided alcohol to their own children or step children (64%, see Table 3). This was higher than the IAC where around 45% of those who socially supplied provided alcohol to their children in 2013 and 2015 (Huckle & Romeo, 2018).

About 3 in 10 of those who socially supplied provided alcohol to other family members (29%; siblings, cousins, nieces or nephews) and one in ten supplied to friends (11%; see Figure 2). The proportion of those supplying to friends was lower in the current study than the 2013 (30%) and 2015 (22%) IAC, indicating a potential decreasing trend (Huckle & Romeo, 2018). While there doesn't seem to be a strong influence of the legislation on the proportion of social supply, this may indicate that who is being supplied has shifted.

Figure 2 Those who socially supplied by who they supplied alcohol to (could choose more than one)



Base: Those who socially supplied alcohol to someone under 18 in the last year:  $n=375$

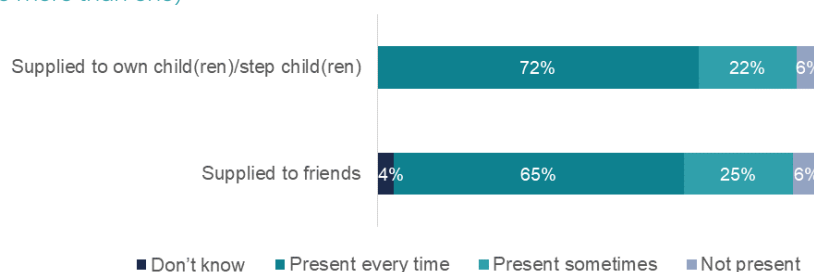
### 3.1.3 Most of those who supplied alcohol reported being present for consumption

Three in four of those who socially supplied reported being present for the consumption of the alcohol every time they supplied (75%, see Table 4), while almost one in five reported being present some of the time (18%). Nearly 6% of social suppliers were not present for consumption and a small percentage didn't know (1.5%). The UMR study found that some parents would only be okay with under 18s drinking if certain conditions were met, such as parental monitoring and supervision (UMR Research Limited, 2016). Supervision of consumption is a suggested part of supplying alcohol to minors (New Zealand Parliament, 2013).

After adjustments, those more likely to be present every time they supplied were Māori (1.2 times as likely as non-Māori non-Pacific) and those living in medium deprivation areas (1.2 times as likely as those in low deprivation areas).

The pattern of being present at least some of the time was relatively consistent across those who supplied to their own children and those who supplied to their friends (see Figure 3).

Figure 3 Those who socially supplied level of presence for consumption by who they supplied alcohol to (could choose more than one)



Base: Those who supplied to own children/step children:  $n=208$ ; those who supplied to friends:  $n=61$

For those who supplied to friends, the IAC found in 2013 that 63% always supervised the consumption of alcohol supplied, which rose to 79% in 2015. Differences between the IAC and the AUINZ (where 65% were present every time) could be due to how the question was asked. IAC asked how often the specific person supplied was supervised, whereas AUINZ asked how often respondents supervised those they supplied overall (Huckle & Romeo, 2018).

## 3.2 Attitudes to policy and social norms of who socially supplied

### 3.2.1 The social supply of alcohol was associated with less support for an under 18 alcohol-related policy

Respondents were asked about their level of support for policies that may impact under 18 alcohol consumption: banning alcohol sponsorship of events where under 18s may be present and banning promotion of alcohol on social media platforms.

Among those who had and hadn't socially supplied, similar proportions of respondents expressed **support** for these policies; support of banning alcohol sponsorship (socially supplied: 56% supported; had not socially supplied: 63% supported, see Table 5); support of social media bans (socially supplied: 73% supported; did not socially supplied: 77% supported).

Those who had supplied were 1.5 times as likely as those who hadn't supplied to **oppose** banning alcohol sponsorship at sporting, community, and other events that under 18s go to (socially supplied: 22% opposed; had not socially supplied: 15% opposed). Those who had and hadn't supplied reported similar levels of opposition to banning the promotion of alcohol from social media (socially supplied: 11% opposed; did not socially supplied: 7% opposed).

A recent study using the same survey data found that those aged 25 and older were more likely to support policies banning the use of alcohol advertisements and sponsorships (Aron & Allen, 2021). This suggests there might be limited understanding of the pervasiveness and impact of alcohol marketing and sponsorship on behaviour, especially among some age groups.

### 3.2.2 Compared to people who did not socially supply, those who did believed their friends would approve of supplying to under 18s

Respondents were asked whether their closest friends would approve or disapprove of them giving one or more drinks to someone under 18. Those who socially supplied were 8.5 times as likely as those who hadn't supplied to believe their friends would approve (13% of those who had supplied and 2% of those who hadn't supplied believed their friends would approve, see Table 6).

Respondents were also asked to think about what their friends usually do, and choose how many would give one or more drinks to under 18s. Those who socially supplied were 5.2 times as likely as those who hadn't supplied to believe that some, most, or all of their friends would give one or more drinks to under 18s (30% of those who had supplied and 5% of those who hadn't supplied believed at least some of their friends would supply, see Table 7).

These findings may indicate that people's behaviours can be affected by social norms. These social norms include the perceived acceptability of a behaviour and estimated proportion of a behaviour. Social norms can influence behaviours of people, and behaviours can influence social norms (Ajzen, 1991). As this is a cross-sectional study, we cannot determine the direction of the influence, although several international studies have found that alcohol norms are associated with drinking behaviour (Beck & Treiman, 1996; Halim et al., 2012).

### 3.3 Attitudes to under 18s drinking

#### 3.3.1 Among all respondents, there was varied support about whether it's a good idea to introduce under 18s to alcohol at home

Less than half of all respondents agreed with the statement "it's a good idea to introduce under 18-year-olds to alcohol at home" (44%, see Figure 4), while 32% disagreed and 25% were neutral (neither agreed nor disagreed; see Table 8). After adjustments, males were 1.2 times as likely as females to think that it's a good idea to introduce under 18s to alcohol at home<sup>1</sup>. Other groups more likely to think it's a good idea to introduce alcohol at home were:

- 18 to 24-year-olds (1.2 times as likely than 35 to 44-year-olds).
- non-Māori non-Pacific (1.1 times as likely as Māori and almost 1.9 times as likely as Pacific peoples<sup>2</sup>).
- those living in low deprivation areas (1.2 times as likely as those high deprivation areas<sup>3</sup>).
- those living in rural areas (around 1.2 times as likely as those in urban areas<sup>4</sup>).

Those who socially supplied were nearly 1.8 times as likely as those who hadn't supplied to think introducing alcohol at home to under 18s was a good idea (77% who supplied and 41% who hadn't supplied thought it was a good idea).

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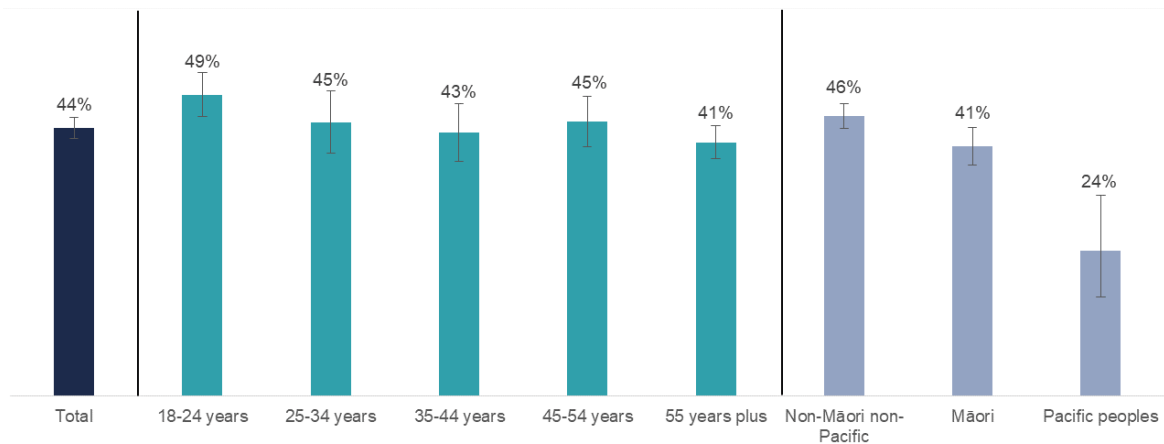
1 Males, reference females: adjusted RR= 1.16, CI= (1.08-1.25),  $p<.001$

2 Non-Māori non-Pacific, reference Māori: adjusted RR= 1.14, CI= (1.05-1.24),  $p<.01$ ; reference Pacific peoples: adjusted RR= 1.94, CI= (1.39-2.71),  $p<.001$

3 Low deprivation areas, reference high deprivation areas: adjusted RR= 1.2, CI=(1.08-1.33),  $p<.01$

4 Rural areas, reference urban areas: adjusted RR= 1.18, CI=(1.09-1.28),  $p<.001$

Figure 4 Agreement with the statement “It’s a good idea to introduce under 18-year-olds to alcohol at home”, by age group, ethnicity



Base: All respondents who answered the question;  $n=4,494$

The UMR study found that parents might have several reasons for introducing alcohol in the home (UMR Research Limited, 2016). One reason was supplying with the intent to educate, which suggested that many parents believed that introducing alcohol at home was protective. However, the evidence indicates that introducing any alcohol to under 18s at home is not protective against future risky drinking patterns or harms. Several literature reviews have found that adolescents whose parents supply or allow them to start drinking at home are more likely to have increased alcohol use and alcohol harm (Health Promotion Agency, 2020; Mattick et al., 2018; Yap et al., 2017). Even offering small amounts of alcohol to children, such as a sip, could lead to negative outcomes and increased alcohol use later in life (Jackson et al., 2015; Kaynak et al., 2014).

### 3.3.2 Half of respondents did not think under 18s should drink alcohol

Respondents were asked whether they agreed or disagreed with the statement “it’s okay for under 18s to drink alcohol”. Half of all respondents (52%) disagreed, 21% agreed, and the remaining 27% were neutral (neither agreed nor disagreed; see Table 9). This is supported by findings from a previous study that found that half (49%) of people agreed that it would be wrong for an adult to give beers to a 16-year-old at a party (Health Promotion Agency, 2017).

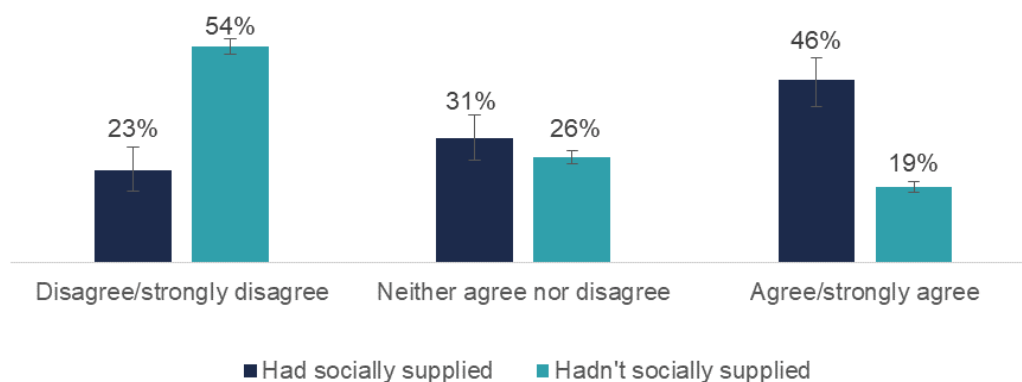
Those who socially supplied were 2.2 times as likely as those who hadn’t socially supplied to think that it’s okay for under 18s to drink alcohol (46% of those who supplied and 19% of those who hadn’t supplied thought it was okay; see Figure 5).

Differences in agreement were seen across demographics. Those more likely to think it's okay for under 18s to drink were:

- males (1.3 times<sup>5</sup> as likely as females)
- younger age groups (18 to 24-year-olds were 1.5 times and 25 to 34-year-olds were 1.3 times as likely as 35 to 44-year-olds)
- Non-Māori non-Pacific (1.2 times as likely as Māori and 2.2 times as likely as Pacific peoples<sup>6</sup>)
- those living in low deprivation areas (1.2 times as likely as those living in medium or high deprivation areas<sup>7</sup>)
- last-week drinkers who hadn't followed the low-risk drinking advice for adults (1.4 times as likely as both last-week drinkers who had followed the advice and non-last-week drinkers and 2.3 times as likely as non-drinkers<sup>8</sup>).

Nearly a quarter of those who supplied (23%) did not think that it's okay for under 18s to drink (see Figure 5).

Figure 5 Level of agreement with the statement 'It's okay for under 18s to drink alcohol' by social supply behaviour



Base: Suppliers:  $n=374$ , Not Suppliers:  $n=4,035$

5 Males, reference females: adjusted RR=1.33, CI= (1.17-1.50),  $p<.001$

6 Non-Māori non-Pacific, reference Māori: adjusted RR= 1.23, CI= (1.06-1.43),  $p<.01$ ; reference Pacific peoples: adjusted RR= 2.16, CI= (1.31-3.56),  $p<.01$

7 Low deprivation area, reference medium deprivation area: adjusted RR= 1.19 CI=(1.03-1.37),  $p<.05$ ; reference high deprivation area: adjusted RR= 1.20, CI= (1.02-1.42),  $p<.05$

8 Low deprivation area, reference medium deprivation area: adjusted RR= 1.19 CI=(1.03-1.37),  $p<.05$ ; reference high deprivation area: adjusted RR= 1.20, CI= (1.02-1.42),  $p<.05$



There is evidence that parental drinking behaviours and favourable attitudes about alcohol use are associated with under 18s' drinking behaviour (Rossow et al., 2016). Adolescent drinking behaviour has been found to be influenced by parental factors such as modelling of alcohol use and attitudes towards alcohol, as well as the level of monitoring (Ryan et al., 2011). Parents who do not follow the low-risk drinking advice are not only more likely to socially supply but also more likely to agree with the acceptability of under 18s drinking (Rossow et al., 2016; Ryan et al., 2011). This suggests that attitudes towards the acceptability of drinking were associated with suppliers' own risky drinking behaviour (Health Promotion Agency, 2017).

## 4. Discussion

The current study provides information about social supply of alcohol by adults to under 18s, and social norms and attitudes related to under 18s drinking in Aotearoa. We found the proportion of those who were socially supplying was 7%, which is consistent with the New Zealand IAC study. The majority of social supply behaviour (64%) was among parents/guardians supplying to their own children, and 75% of social suppliers reported being usually present when the alcohol was consumed.

Findings around what people thought their friends were doing may indicate that social supply behaviours can be affected by social norms. There may also be limited understanding of the pervasiveness and impact of alcohol marketing and sponsorship on behaviour, especially among some age groups. We found that social suppliers were more likely than non-social suppliers to think that it is okay for under 18s to drink alcohol and to think that it was a good idea to introduce alcohol in the home.

### 4.1 Limitations

The study had some limitations. First, the data were self-reported and there could be a social desirability bias. Even though the study was confidential, respondents could have adjusted their responses to fit what they believed would be socially desirable, such as under-reporting social supply. Second, the study did not differentiate the frequency, amount, and strength of alcohol supplied. Third, we could only determine if people were not following the low-risk alcohol drinking advice if they had a drink in the last week and completed the diary. Fourth, the survey initially had a lower response rate than expected from non-drinkers. Communication about participation was redesigned part way through to encourage more non-drinkers to take part. In the final survey results, 83% of respondents (aged 18 and older) were past-year drinkers. This is comparable to the New Zealand Health Survey 2019/20, which identified 81.5% of respondents aged 15 years and older as past-year drinkers (Ministry of Health, 2020). Finally, the use of the Electoral Roll as the sampling frame excludes those not enrolled. The Electoral Roll includes approximately 87% of the eligible population of those 18 and over.

## 4.2 Strengths

This survey included a boosted Māori sample, improving the precision of Māori results. Results for Māori were weighted to be representative of the Māori population, then combined with the rest of the sample. Another strength is that this survey contributes to limited but growing research of social supply from the point of view of suppliers. Previous research was often from the under 18s' point of view. Finally, this study uses a different measure of harm (following the low-risk alcohol drinking advice versus hazardous drinking from the AUDIT tool) that highlights that harmful alcohol use is more prevalent than previously reported. The current study found 38% were drinking above the low-risk drinking advice, almost double the proportion identified as hazardous drinkers (21%) by the New Zealand Health Survey 2019/20 (Ministry of Health, 2020).

## 5. Implications

Advice from Te Whatu Ora is that not drinking alcohol is the safest option for children and young people under 18 years (see <https://www.alcohol.org.nz/wellbeing/whanau-family-health/tamariki-and-mokopuna/> for more information). While drinking alcohol carries harm at any age, young people aged under 18 are at risk of experiencing adverse effects on their physical and cognitive development. Youth are also at increased risk of developing alcohol-use disorders later in life and of experiencing alcohol-related harm.

Evidence from Aotearoa and internationally shows that alcohol intake at all ages is influenced by the wider alcohol environment, including alcohol advertising, the price of alcohol, and alcohol outlet density and hours of operation. Children and young people are especially influenced by alcohol marketing and sponsorship, and lower alcohol prices which reduce economic barriers. Lower minimum purchase ages increase consumption and social supply among underage drinkers. Addressing these contributors to alcohol intake is consistent with the World Health Organization's (WHO) SAFER initiative and will produce benefits in the social supply of alcohol, drinking among under 18s, and the wider population (World Health Organization, n.d.). Te Whatu Ora's Health Promotion Unit works to advocate for policy change to embed these initiatives in Aotearoa.

In addition to strategies identified within the SAFER initiative, policies and programmes that specifically target drinking among under 18s and the social supply of alcohol are necessary. Such measures include examining the minimum consumption and purchase ages, and increasing enforcement of existing legal supply legislation. Te Whatu Ora currently works to target parents as influencers, to support communities to change norms around the supply of alcohol and alcohol advertising, and to endorse the low-risk alcohol drinking advice.

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## Appendix 1: Independent variables

<b>Gender</b>	Three options were provided: male, female, and gender diverse. For analysis purposes, gender diverse individuals were included within the total population sample, but not in the gender specific analyses due to small numbers.
<b>Age</b>	Imputed from the Electoral Roll. The following age groups were used for analysis: 18 to 24-year-olds, 25 to 34-year-olds, 35 to 44-year-olds, 45 to 54-year-olds, and 55 years or more. Condensed age groups of 18 to 34-year-olds, 35 to 54-year-olds, and 55 years and older were used when exploring some parental behaviours.
<b>Prioritised ethnicity groups</b>	Each participant was allocated to a single ethnic group based on the ethnicities they identified with, in the prioritisation order of Māori, Pacific peoples, Asian, and NZ European/Other.
<b>Equity ethnic groups</b>	More than one ethnicity can be selected for each participant. Those who belong to both Māori and Pacific peoples are counted in both groups. The 'non Māori non Pacific' group is a total count of only of those who identify as neither Māori nor Pacific peoples.
<b>Socioeconomic status (New Zealand Deprivation Index (NZDep))</b>	The NZDep is compiled and released by the University of Otago. It is an area-based measure of socioeconomic deprivation in Aotearoa and assigned based on electoral roll information. For analysis purposes, deprivation levels are grouped into low deprivation (1 to 3), medium deprivation (4 to 7) and high deprivation (8 to 10).
<b>Urban rural groups</b>	<p>Urban rural groups were created using the Urban Rural 2020 classification, which is a statistical geography that classifies Aotearoa into areas that share common urban or rural characteristics (Stats NZ, 2019).</p> <p>Urban areas are statistically defined areas with no administrative or legal basis. They are characterised by high population density with many built environment features where people and buildings are located close together for residential, cultural, productive, trade, and social purposes. Rural areas represent land-based areas outside urban areas.</p>
<b>Low-risk alcohol drinking advice<sup>9</sup></b>	<p>This was developed by a committee of experts, informed by research literature reviews and studies conducted by Dr Jürgen Rehm and colleagues, peer reviewed by international experts and informed by consultation (Te Hīringa Hauora/Health Promotion Agency, n.d.). Adults following the low-risk alcohol drinking advice meet the following three elements of drinking advice:</p> <ul style="list-style-type: none"> <li>• Drink no more than two standard drinks a day for women and three standard drinks a day for men.</li> <li>• Drink no more than 10 standard drinks a week for women and no more than 15 standard drinks a week for men.</li> <li>• Have at least two alcohol-free days per week.</li> </ul> <p>In the current study, following the advice could only be determined of those who had a drink in the last week</p>

9 See <https://www.alcohol.org.nz/help-advice/advice-on-alcohol/low-risk-alcohol-drinking-advice> for more information about the low-risk drinking advice.

## Appendix 2: Selected questions from AUINZ<sup>10</sup>

### C2\_02

Thinking about what your friends usually do, how many would...give one or more drinks to young people under the age of 18 years?

*Please circle one answer.*

(None of them, Very few of them, Some of them, Most of them, All of them, Don't know)<sup>11</sup>

### C3\_02

Now, thinking about the friends closest to you, would they approve or disapprove of you... giving one or more drinks to young people under the age of 18 years?

*Please circle one answer.*

(None of them, Very few of them, Some of them, Most of them, All of them, Don't know)<sup>12</sup>

### D3\_05

There are a number of things that could be done to try and reduce problem drinking. To what extent would you support or oppose.... banning alcohol sponsorship at sporting, community and other events that under 18-year-olds go to?

*Please circle one answer.*

(Strongly oppose, Oppose, Neither oppose nor support, Support, Strongly support)<sup>13</sup>

### D3\_06

There are a number of things that could be done to try and reduce problem drinking. To what extent would you support or oppose... banning the promotion of alcohol from social media that under 18-year-olds use?

*Please circle one answer.*

(Strongly oppose, Oppose, Neither oppose nor support, Support, Strongly support)<sup>13</sup>

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10 To see the full questionnaire, go to <https://www.hpa.org.nz/research-library/research-publications/alcohol-use-in-new-zealand-survey-auinz-2019-20-questionnaire>.

11 Categories were combined into None, A few, Some/most/all of them for analysis.

12 Combined into Disapprove (Strongly disapprove or disapprove), Neither disapprove or approve, Approve (Strongly approve or approve).

13 Combined into Oppose (Strongly oppose/oppose), Neither oppose nor support, Support (Strongly support/support)

**D4\_01**

How much do you agree or disagree with... it's ok for under 18-year-olds to drink alcohol

*Please circle one answer.*

(Strongly oppose, Oppose, Neither oppose nor support, Support, Strongly support)<sup>14</sup>

**D4\_02**

How much do you agree or disagree with... It's a good idea to introduce under 18-year-olds to drinking alcohol in the home

*Please circle one answer.*

(Strongly oppose, Oppose, Neither oppose nor support, Support, Strongly support)<sup>14</sup>

**D5**

In the last 12 months, have you given one or more drinks to anyone under the age of 18 years?

*Please circle one answer.*

(Yes, No, Can't recall)

**D6**

And in the last 12 months, was this to...

*Please circle all that apply.*

(Your own child(ren) or step child(ren), Your other family members (eg, siblings, nieces, nephews, cousins), Friends of your children, Your friends, Other)

**D7**

And were you present when the alcohol was consumed?

*Please circle one answer.*

(Yes, every time; Yes, sometimes; No; Can't recall/don't know)

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<sup>14</sup> Combined into Disagree (Strongly disagree/disagree), Neither disagree nor agree, Agree (Strongly agree/agree)

## Appendix 3: Analysis details

Analyses were performed using R Studio 4.0.2. Results for Māori were weighted to be representative of the Māori population aged 18 and over by gender and age. These results were then combined with the rest of the sample to be representative of the Aotearoa population aged 18 and over by gender, age, region and ethnicity. Weighting was based on the proportions in the population using the Stats NZ 2018 Census results. We applied replicated weights using Taylor Linearisation. Responses were considered for descriptive statistics and were analysed by age, gender, ethnicity, socioeconomic status, urban rural groups and whether they followed low-risk alcohol drinking advice. Refused/missing responses were excluded from analyses.

To measure the strength of association between dependent and independent variables, unadjusted and adjusted risk-ratios were calculated using the exponential form of the coefficients from a quasi-Poisson regression model with a logarithm link function. Where appropriate, adjusted risk-ratios were controlled for gender, prioritised ethnicity, and age group. Only significant differences ( $p < .05$ ) between groups are reported. The figures indicate the sample size for that particular question ('base').

The sample consists of 4,545 New Zealanders aged 18 years and over. The sample had an unweighted response rate of 26.5%. The unweighted and weighted sample characteristics for the 2019/20 AUiNZ are outlined in Table 1.



Table 1 Sample characteristics for AUiNZ 2019/20

Demographics	Unweighted count	Unweighted %	Weighted %
Total	4,545	100%	100%
<b>Gender</b>			
Male	1,958	43%	49%
Female	2,532	56%	51%
Gender diverse	25	<1%	<1%
Not answered	30	<1%	<1%
<b>Age group</b>			
18-24 years	930	20%	12%
25-34 years	523	12%	18%
35-44 years	605	13%	17%
45-54 years	764	17%	18%
55 years and over	1,723	38%	36%
<b>Ethnicity (prioritised)</b>			
Māori	1,285	28%	13%
Pacific peoples	116	3%	6%
Asian	318	7%	15%
New Zealand European/Other	2,826	62%	66%
<b>New Zealand Deprivation Index</b>			
Low deprivation (1-3)	1,455	32%	33%
Medium deprivation (4-7)	1,721	38%	39%
High deprivation (8-10)	1,369	30%	28%

Appendix 4: Data tables

Table 2 Proportions and risk ratios for those who gave one or more drinks to anyone under the age of 18 years in the last 12 months (socially supplied alcohol) by selected characteristics

Selected characteristics	Sample size (n)	Socially supplied alcohol to anyone under the age of 18 years in the last 12 months					
		%	95% Confidence interval (CI)	Unadjusted Risk Ratio (RR)	95% CI	Adjusted RR	95% CI
Total	4516	7.3	(6.4 – 8.2)				
Age group							
18–24 years	929	10.1	(8.1 – 12.6)	1.04	(0.74 – 1.47)	1.00	(0.71 – 1.40)
25–34 years	522	3.7	(2.2 – 5.9)	<b>0.38***</b>	(0.22 – 0.65)	<b>0.38***</b>	(0.22 – 0.65)
35–44 years	602	9.7	(7.3 – 12.6)	1 (Reference)		1 (Ref)	
45–54 years	761	14.7	(12.0 – 17.7)	<b>1.51*</b>	(1.09 – 2.09)	<b>1.41*</b>	(1.03 – 1.95)
55 years and over	1702	3.2	(2.4 – 4.2)	<b>0.33***</b>	(0.22 – 0.48)	<b>0.30***</b>	(0.21 – 0.44)
Gender							
Male	1952	7.1	(5.8 – 8.5)	1 (Ref)		1 (Ref)	
Female	2530	7.4	(6.4 – 8.6)	1.06	(0.83 – 1.34)	1.06	(0.84 – 1.33)
Ethnicity							
Māori	1281	10.8	(9.0 – 12.9)	<b>1.57***</b>	(1.26 – 1.96)	<b>1.44**</b>	(1.15 – 1.78)
Pacific peoples	181	4.9	(2.0 – 9.6)	0.71	(0.35 – 1.44)	0.67	(0.33 – 1.37)
Non-Māori non-Pacific	3120	6.9	(6.0 – 7.9)	1 (Ref)		1 (Ref)	
Deprivation group							
Low (1–3)	1448	8.6	(7.0 – 10.4)	1 (Ref)		1 (Ref)	
Medium (4–7)	1710	6.2	(5.0 – 7.5)	<b>0.72*</b>	(0.55 – 0.94)	0.77	(0.59 – 1.00)
High (8–10)	1358	7.2	(5.6 – 9.0)	0.84	(0.62 – 1.12)	0.88	(0.66 – 1.19)
Children in household							
Zero children under 18 years	2802	2.9	(2.3 – 3.7)	1 (Ref)		1 (Ref)	
One or more children under 18 years	1640	14.0	(12.2 – 16.0)	<b>4.80***</b>	(3.68 – 6.25)	<b>4.66***</b>	(3.40 – 6.39)
Under 5 years*	541	5.7	(3.6 – 8.5)				
5 to 14 years*	1015	12.0	(9.9 – 14.4)				
15 to 17 years*	563	33.9	(29.3 – 38.8)				
Urban/rural groups							
Urban areas	3684	6.8	(5.9 – 7.7)	1 (Ref)		1 (Ref)	
Rural areas	832	9.7	(7.6 – 12.2)	<b>1.44**</b>	(1.10 – 1.87)	<b>1.29*</b>	(1.00 – 1.66)
Whether followed daily drinking advice							
Above daily advice	1660	11.4	(9.7 – 13.2)	<b>1.90***</b>	(1.33 – 2.72)	<b>1.67**</b>	(1.18 – 2.36)
At/below daily advice	748	6.0	(4.2 – 8.2)	1 (Ref)		1 (Ref)	
Whether followed weekly drinking advice							
Above weekly advice	826	12.4	(10.0 – 15.2)	<b>1.52**</b>	(1.16 – 2.00)	<b>1.50**</b>	(1.15 – 1.96)
At/below weekly advice	1582	8.2	(6.8 – 9.8)	1 (Ref)		1 (Ref)	
Whether followed alcohol-free days drinking advice							
Above alcohol-free days advice	349	7.2	(4.7 – 10.3)	0.71	(0.48 – 1.06)	0.92	(0.62 – 1.37)
At/below alcohol-free days advice	2059	10.0	(8.6 – 11.6)	1 (Ref)		1 (Ref)	
Whether followed low-risk drinking advice (met all three elements)							
Had NOT followed the advice (last-week drinker)	1727	11.0	(9.4 – 12.7)	1 (Ref)		1 (Ref)	
Had followed the advice (last-week drinker)	681	6.4	(4.5 – 8.9)	<b>0.59**</b>	(0.41 – 0.84)	<b>0.64*</b>	(0.45 – 0.91)
Non-last-week drinker	1328	6.1	(4.7 – 7.7)	<b>0.56***</b>	(0.42 – 0.74)	<b>0.59***</b>	(0.44 – 0.77)
Non-drinker	697	2.1	(1.2 – 3.6)	<b>0.20***</b>	(0.11 – 0.34)	<b>0.23***</b>	(0.13 – 0.42)

Note:

a. Statistically significant results as  $p < .05$  are in bold. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

b. Adjusted risk-ratios were calculated using a quasi-Poisson regression model adjusted by gender, prioritised ethnicity, and age group where appropriate.

c. Respondents who reported they ‘can’t recall’ if they socially supplied were included in the analysis while those who refused/had a missing response were excluded.

d. Whether the alcohol guidelines were followed is only available for last-week drinkers. Non-last-week drinkers and non-drinkers were included in analysis for all guidelines.

\* Multiple age groups could be chosen in a household

Table 3 Proportions and adjusted risk ratios of those who socially supplied by who they supplied alcohol to, by selected characteristics

Selected characteristics	Sample size (n)	%	95% Confidence interval (CI)	Adjusted Risk Ratio (RR)	95% CI
Supplied to their own child(ren) / step child(ren)					
Total	375	63.6	(57.7 - 69.3)		
Age group					
18-34 years	125	10.0	(4.0 - 20.0)	1 (Ref)	
35-54 years	188	90.1	(83.9 - 94.6)	<b>8.20***</b>	(4.01 - 16.78)
55 years and over	62	55.3	(40.7 - 69.2)	<b>4.84***</b>	(2.27 - 10.35)
Children in household					
Zero children under 18 years	106	19.3	(10.4 - 31.3)	1 (Ref)	
One or more children under 18 years	265	77.5	(71.1 - 83.0)	<b>2.65***</b>	(1.63 - 4.29)
Deprivation group					
Low (1-3)	136	74.7	(66.4 - 81.9)	1 (Ref)	
Medium (4-7)	127	63.6	(53.7 - 72.8)	<b>0.89*</b>	(0.79 - 0.99)
High (8-10)	112	47.6	(35.8 - 59.7)	0.84	(0.70 - 1.02)
Supplied to other family members					
Total	375	29.1	(23.7 - 35.0)		
Age group					
18-34 years	125	57.4	(45.6 - 68.7)	1 (Ref)	
35-54 years	188	13.7	(7.8 - 21.6)	<b>0.30***</b>	(0.18 - 0.51)
55 years and over	62	39.3	(26.1 - 53.7)	0.96	(0.60 - 1.52)
Children in household					
Zero children under 18 years	106	47.9	(36.0 - 60.0)	1 (Ref)	
One or more children under 18 years	265	23.6	(17.6 - 30.5)	0.75	(0.51 - 1.11)
Deprivation group					
Low (1-3)	136	19.8	(12.3 - 29.3)	1 (Ref)	
Medium (4-7)	127		(19.6 - 37.5)	1.25	(0.79 - 1.99)
High (8-10)	112	44.2	(32.4 - 56.5)	1.33	(0.77 - 2.30)
Supplied to friends of their children					
Total	375	5.4	(3.2 - 8.4)		
Age group					
18-34 years	125	2.2	(0.3 - 7.9)	1 (Ref)	
35-54 years	188	6.0	(3.1 - 10.2)	3.47	(0.97 - 12.42)
55 years and over	62	8.8	(2.6 - 20.6)	<b>5.52*</b>	(1.31 - 23.30)
Children in household					
Zero children under 18 years	106	-	-	1 (Ref)	-
One or more children under 18 years	265	6.9	(4.1 - 10.9)	-	-
Deprivation group					
Low (1-3)	136	5.2	(2.1 - 10.2)	1 (Ref)	
Medium (4-7)	127	8.9	(4.1 - 16.2)	1.35	(0.51 - 3.56)
High (8-10)	112	-	-	-	-
Supplied to their own friends					
Total	375	11.1	(8.2 - 14.5)		
Age group					
18-34 years	125	35.1	(25.5 - 45.6)	1 (Ref)	
35-54 years	188	1.7	(0.3 - 4.9)	<b>0.04***</b>	(0.01 - 0.12)
55 years and over	62	5.6	(1.0 - 16.1)	<b>0.12***</b>	(0.04 - 0.38)
Children in household					
Zero children under 18 years	106	30.0	(20.7 - 40.7)	1 (Ref)	
One or more children under 18 years	265	5.0	(2.9 - 8.0)	<b>0.44*</b>	(0.23 - 0.83)
Deprivation group					
Low (1-3)	136	11.4	(6.8 - 17.7)	1 (Ref)	
Medium (4-7)	127	12.5	(7.5 - 19.1)	1.11	(0.69 - 1.79)
High (8-10)	112	8.8	(4.5 - 15.3)	1.10	(0.53 - 2.32)

Note:

a. Statistically significant results as  $p < .05$  are in bold. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

b. Adjusted risk-ratios were calculated using a quasi-Poisson regression model adjusted by gender, prioritised ethnicity, and age group where appropriate.

c. Dash (-) indicates statistic was suppressed due to insufficient number of events (numerator $<5$ ) or small sample size (denominator $<30$ ).

d. The above outcome variables are not mutually exclusive (respondents were allowed to select multiple responses).

e. Respondents who reported they ‘can’t recall’ if they socially supplied were included in the analysis while those who refused/had a missing response were excluded.

Table 4 Proportions and adjusted risk ratios for those who socially supplied by whether they were present for consumption of the alcohol supplied, by selected characteristics (including to whom they supplied alcohol)

Selected characteristics	Sample size (n)	Present for consumption of the alcohol supplied					
		Present every time		Present sometimes		Present none of the time	
		% (95% CI)	Adjusted RR (95% CI)	% (95% CI)	Adjusted RR (95% CI)	% (95% CI)	Adjusted RR (95% CI)
Total	375	74.9 (69.2 – 80.0)		18.0 (13.6 – 22.8)		5.7 (3.2 – 9.4)	
Age group							
18–34 years	125	75.5 (64.3 – 84.6)	1 (Ref)	11.7	1 (Ref)	7.1 (3.4 – 13.0)	1 (Ref)
35–54 years	188	72.9 (64.8 – 80.0)	1.02 (0.86 – 1.19)	20.9 (14.7 – 28.3)	1.55 (0.89 – 2.69)	6.2 (2.5 – 12.3)	0.65 (0.27 – 1.58)
55 years and over	62	81.6 (68.1 – 91.2)	1.16 (0.96 – 1.40)	16.7 (7.6 – 30.0)	1.12 (0.52 – 2.39)	–	–
Gender							
Male	151	74.3 (65.1 – 82.2)	1 (Ref)	19.7 (13.0 – 28.0)	1 (Ref)	2.8 (0.9 – 6.6)	1 (Ref)
Female	221	72.9 (64.8 – 80.0)	1.02 (0.86 – 1.19)	20.9 (14.7 – 28.3)	1.55 (0.89 – 2.69)	6.2 (2.5 – 12.3)	0.65 (0.27 – 1.58)
Ethnicity							
Māori	137	82.0 (73.9 – 88.5)	<b>1.16* (1.01 – 1.32)</b>	15.1 (9.0 – 23.0)	0.85 (0.50 – 1.44)	2.9 (0.9 – 6.9)	<b>0.36* (0.13 – 0.98)</b>
Pacific peoples	12	–	–	–	–	–	–
Non-Māori non-Pacific	232	71.9 (64.9 – 78.3)	1 (Ref)	19.4 (14.1 – 25.5)	1 (Ref)	6.7 (3.5 – 11.4)	1 (Ref)
Deprivation group							
Low (1–3)	136	65.4 (55.4 – 74.4)	1 (Ref)	26.6 (18.4 – 36.3)	1 (Ref)	7.6 (3.6 – 13.7)	1 (Ref)
Medium (4–7)	127	80.2 (70.7 – 87.7)	<b>1.20* (1.00 – 1.43)</b>	12.8 (7.4 – 20.2)	<b>0.47** (0.27 – 0.80)</b>	6.3 (1.6 – 15.7)	0.94 (0.38 – 2.31)
High (8–10)	112	82.4 (70.3 – 91.0)	1.20 (1.00 – 1.43)	11.2 (5.5 – 19.7)	0.56 (0.28 – 1.09)	2.4 (0.4 – 7.4)	0.30 (0.06 – 1.38)
Children in household							
Zero children under 18 years	106	74.5 (60.9 – 85.4)	1 (Ref)	11.7 (6.1 – 19.9)	1 (Ref)	7.5 (1.6–20.0)	1 (Ref)
One or more children under 18 years	265	74.7 (68.2 – 80.4)	1.02 (0.84 – 1.25)	20.1 (14.8 – 26.2)	1.81 (0.93 – 3.54)	5.3 (2.8 – 8.9)	0.73 (0.23 – 2.30)
To whom they supplied alcohol*							
Own child(ren)/stepchild(ren)	208	72.2 (64.6 – 79.0)		22.1 (16.1 – 29.2)		5.6 (2.3 – 11.2)	
Other family members	125	88.1 (81.6 – 92.9)		8.7 (4.7 – 14.6)		3.2 (1.1 – 6.9)	
Friends of their children	21	–		–		–	
Their own friends	61	65.4 (50.4 – 78.4)		24.6 (13.1 – 39.5)		6.4 (1.9 – 15.0)	

Note:

a. Statistically significant results as  $p < .05$  are in bold. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

b. Adjusted risk-ratios were calculated using a quasi-Poisson regression model adjusted by gender, prioritised ethnicity, and age group where appropriate.

c. Dash (–) indicates statistic was suppressed due to insufficient number of events (numerator<5) or small sample size (denominator<30).

d. Percentages may not add up to 100 as respondents who reported they 'Don't know' for the above outcome variable were included in the analysis but have not been reported.

e. Respondents who reported they 'can't recall' if they socially supplied were included in the analysis while those who refused/had a missing response were excluded.

Table 5 Proportions and adjusted risk ratios of the level of support for policies regarding alcohol and young people, by social supply behaviour

Social supply behaviour	Sample size (n)	Oppose			Neither oppose nor support			Support		
		%	95% CI	RR (95% CI)	%	95% CI	RR (95% CI)	%	95% CI	RR (95% CI)
Banning promotion of alcohol on social media platforms										
Total	4473	7.7	(6.8 - 8.6)		16.4	(15.2 - 17.7)		75.9	(74.4 - 77.4)	
Social supply behaviour in last year										
Socially supplied	373	10.9	(7.5 - 15.3)	1.42 (0.98 - 2.06)	16.5	(12.3 - 21.3)	1.00 (0.76-1.32)	72.6	(66.9 - 77.8)	0.96 (0.89 - 1.03)
Did not socially supply	4025	7.3	(6.4 - 8.3)	1 (Ref)	16.0	(14.7 - 17.4)	1 (Ref)	76.7	(75.1 - 78.2)	1 (Ref)
Banning alcohol sponsorship of events where under 18-year-olds may be present										
Total	4468	15.5	(14.3 - 16.8)		22.5	(21.0 - 24.0)		62.0	(60.3 - 63.7)	
Social supply behaviour in last year										
Socially supplied	372	22.3	(17.3 - 27.9)	1.45** (1.13 - 1.86)	21.7	(16.8 - 27.2)	0.91 (0.71-1.17)	56.1	(60.3 - 63.7)	0.92 (0.82 - 1.03)
Socially supplied	4022	14.8	(13.6 - 16.2)	1 (Ref)	22.3	(20.7 - 23.8)	1 (Ref)	62.9	(61.1 - 64.7)	1 (Ref)

Note:

a. Statistically significant results as  $p<0.05$  are in bold. \* $p<0.05$ ; \*\* $p<0.01$ ; \*\*\* $p<0.001$

b. Adjusted risk-ratios were calculated using a quasi-Poisson regression model adjusted by gender, prioritised ethnicity, and age group where appropriate.

c. Percentages may not add up to 100 as respondents who reported they 'Don't know' for the above outcome variable were included in the analysis but have not been reported.

d. Respondents who reported they 'can't recall' if they socially supplied were included in the analysis while those who refused/had a missing response were excluded.

Table 6 Proportions and adjusted risk ratios of whether they think their friends would approve of them giving one or more drinks to someone under 18, by social supply behaviour

Social supply behaviour	Sample size (n)	Whether their closest friends would approve or disapprove of them giving one or more drinks to young people under the age of 18 years								
		Disapprove			Neither disapprove or approve			Approve		
		%	95% CI	RR (95% CI)	%	95% CI	RR (95% CI)	%	95% CI	RR (95% CI)
Total	4476	70.1	(68.5 - 71.7)		17.1	(15.9 - 18.5)		2.5	(2.0 - 3.1)	
Social supply behaviour in last year										
Socially supplied	372	31.5	(25.8 - 37.6)	<b>0.44*** (0.36 - 0.52)</b>	48.9	(42.8 - 55.1)	<b>2.95*** (2.53 - 3.45)</b>	13.0	(9.2 - 17.7)	<b>8.46*** (5.31 - 13.46)</b>
Hadn't socially supplied	4014	73.7	(72.1 - 75.3)	1 (Ref)	14.3	(13.0 - 15.6)	1 (Ref)	1.5	(1.1 - 2.0)	1 (Ref)

Note:

a. Statistically significant results as  $p<0.05$  are in bold. \* $p<0.05$ ; \*\* $p<0.01$ ; \*\*\* $p<0.001$

b. Adjusted risk-ratios were calculated using a quasi-Poisson regression model adjusted by gender, prioritised ethnicity, and age group where appropriate.

c. Percentages may not add up to 100 as respondents who reported they 'Don't know' for the above outcome variable were included in the analysis but have not been reported.

d. Respondents who reported they 'can't recall' if they socially supplied were included in the analysis while those who refused/had a missing response were excluded.

Table 7 Proportions and adjusted risk ratios of the amount of their friends they think would give one or more drinks to under 18s, by social supply behaviour

Social supply behaviour	Sample size (n)	How many of their friends they think would give one or more drinks to young people under the age of 18 years								
		None of their friends			A few of their friends			Some / most/ all of their friends		
		%	95% CI	RR (95% CI)	%	95% CI	RR (95% CI)	%	95% CI	RR (95% CI)
Total	4473	60.8	(59.1 - 62.5)		16.8	(15.6 - 18.1)		7.0	(6.2 - 7.9)	
Social supply behaviour in last year										
Socially supplied	369	24.2	(19.0 - 30.1)	<b>0.39*** (0.31 - 0.49)</b>	38.1	(32.2 - 44.3)	<b>2.21*** (1.85 - 2.65)</b>	30.2	(24.9 - 36.1)	<b>5.16*** (4.02 - 6.62)</b>
Hadn't socially supplied	4013	64.3	(62.6 - 66.1)	1 (Ref)	15.0	(13.7 - 16.3)	1 (Ref)	4.9	(4.1 - 5.7)	1 (Ref)

Note:

a. Statistically significant results as  $p<0.05$  are in bold. \* $p<0.05$ ; \*\* $p<0.01$ ; \*\*\* $p<0.001$

b. Adjusted risk-ratios were calculated using a quasi-Poisson regression model adjusted by gender, prioritised ethnicity, and age group where appropriate.

c. Percentages may not add up to 100 as respondents who reported they 'Don't know' for the above outcome variable were included in the analysis but have not been reported.

d. Respondents who reported they 'can't recall' if they socially supplied were included in the analysis while those who refused/had a missing response were excluded.

Table 8 Proportions and adjusted risk ratios of those who disagreed, neither agreed nor disagreed, and agreed to the statement “It’s a good idea to introduce 18-year-olds to drinking alcohol in the home” by selected characteristics

Selected characteristics	Sample size (n)	Agreement level to “It’s a good idea to introduce 18 year olds to drinking alcohol in the home”								
		None of their friends			A few of their friends			Some / most/ all of their friends		
		%	95% CI	RR (95% CI)	%	95% CI	RR (95% CI)	%	95% CI	RR (95% CI)
Total	4494	31.6	(29.9 – 33.3)		24.6	(23.2 – 26.2)		43.8	(42.0 – 45.5)	
Social supply behaviour in last year										
Socially supplied	373	5.9	(3.7 – 9.0)	<b>0.20*** (0.13 – 0.30)</b>	17.6	(13.2 – 22.6)	<b>0.68** (0.52 – 0.89)</b>	76.5	(71.1 – 81.4)	<b>1.76*** (1.61 – 1.92)</b>
Did not socially supply	4046	33.8	(32.0 – 35.7)	1 (Ref)	25.1	(23.5 – 26.7)	1 (Ref)	41.1	(39.3 – 42.9)	1 (Ref)
Age group										
18–24 years	929	26.4	(23.2 – 29.8)	0.86 (0.71 – 1.02)	24.3	(21.2 – 27.6)	0.92 (0.75 – 1.13)	49.2	(45.6 – 52.9)	<b>1.15* (1.02 – 1.30)</b>
25–34 years	522	31.1	(26.2 – 36.3)	0.95 (0.79 – 1.15)	24.2	(20.1 – 28.7)	0.93 (0.74 – 1.18)	44.7	(39.7 – 49.8)	1.08 (0.94 – 1.24)
35–44 years	601	31.6	(27.0 – 36.5)	1 (Ref)	25.9	(21.9 – 30.3)	1 (Ref)	42.5	(37.8 – 47.2)	1 (Ref)
45–54 years	762	32.1	(28.1 – 36.3)	1.18 (0.98 – 1.41)	23.1	(19.8 – 26.6)	0.88 (0.71 – 1.08)	44.8	(40.7 – 49.0)	0.96 (0.84 – 1.09)
55 years and over	1680	33.4	(30.8 – 36.1)	<b>1.33*** (1.14 – 1.55)</b>	25.1	(22.8 – 27.5)	0.95 (0.79 – 1.14)	41.4	(38.8 – 44.1)	<b>0.85** (0.75 – 0.95)</b>
Gender										
Male	1942	30.6	(28.0 – 33.3)	1 (Ref)	22.5	(20.3 – 24.7)	1 (Ref)	46.9	(44.3 – 49.6)	1 (Ref)
Female	2517	32.8	(30.5 – 35.1)	1.08 (0.97 – 1.19)	26.6	(24.5 – 28.7)	<b>1.18** (1.04 – 1.33)</b>	40.7	(38.4 – 43.0)	<b>0.86*** (0.80 – 0.93)</b>
Ethnicity										
Māori	1273	30.4	(27.6 – 33.2)	1.03 (0.92 – 1.15)	28.8	(26.0 – 31.7)	<b>1.21** (1.07 – 1.36)</b>	40.8	(37.8 – 43.9)	<b>0.88** (0.80 – 0.95)</b>
Pacific peoples	177	50.0	(40.5 – 59.5)	<b>1.67*** (1.37 – 2.03)</b>	26.2	(18.6 – 35.0)	1.11 (0.82 – 1.51)	23.8	(16.2 – 32.8)	<b>0.52*** (0.37 – 0.72)</b>
Non-Māori non-Pacific	3108	30.3	(28.4 – 32.3)	1 (Ref)	24.0	(22.3 – 25.7)	1 (Ref)	45.7	(43.7 – 47.7)	1 (Ref)
Ethnicity										
Low (1–3)	1447	28.0	(25.2 – 30.9)	1 (Ref)	25.5	(22.9 – 28.2)	1 (Ref)	46.5	(43.5 – 49.5)	1 (Ref)
Medium (4–7)	1700	29.4	(26.7 – 32.2)	1.04 (0.92 – 1.18)	23.8	(21.5 – 26.3)	0.93 (0.80 – 1.07)	46.8	(44.0 – 49.6)	1.01 (0.93 – 1.10)
High (8–10)	1347	39.2	(35.7 – 42.7)	<b>1.32*** (1.16 – 1.50)</b>	24.8	(22.0 – 27.7)	0.93 (0.79 – 1.09)	36.1	(32.9 – 39.3)	<b>0.83** (0.75 – 0.93)</b>
Urban/Rural groups										
Urban areas	3665	33.4	(31.5 – 35.4)	1 (Ref)	25.1	(23.5 – 26.8)	1 (Ref)	41.4	(39.5 – 43.3)	1 (Ref)
Rural areas	829	22.4	(19.3 – 25.8)	<b>0.83* (0.72 – 0.97)</b>	22.2	(19 – 25.6)	<b>0.85* (0.72 – 1.00)</b>	55.4	(51.4 – 59.3)	<b>1.18*** (1.09–1.28)</b>
Children in household										
Zero children under 18 years	2787	29.9	(27.9 – 32.1)	1 (Ref)	24.9	(23.0 – 26.8)	1 (Ref)	45.2	(43.0 – 47.4)	1 (Ref)
One or more children under 18 years	1635	34.0	(31.1 – 37.0)	1.12 (0.99 – 1.25)	24.2	(21.8 – 26.8)	0.95 (0.82 – 1.10)	41.8	(38.9 – 44.7)	0.95 (0.87 – 1.04)
Whether followed low-risk drinking advice (met all three elements)										
Had NOT followed the advice (last-week drinker)	1721	19.9	(17.7 – 22.3)	1 (Ref)	23.7	(21.4 – 26.2)	1 (Ref)	56.3	(53.5 – 59.1)	1 (Ref)
Had followed the advice (last-week drinker)	680	25.9	(22.1 – 30.1)	<b>1.21* (1.01 – 1.45)</b>	25.3	(21.5 – 29.3)	1.10 (0.92 – 1.31)	48.8	(44.4 – 53.3)	<b>0.90* (0.81 – 0.99)</b>
Non-last-week drinker	1323	34.4	(31.1 – 37.8)	<b>1.54*** (1.33 – 1.78)</b>	26.8	(23.9 – 29.7)	1.12 (0.97 – 1.30)	38.8	(35.7 – 42.1)	<b>0.76*** (0.69 – 0.83)</b>
Non –drinker	689	58.6	(54.0 – 63.1)	<b>2.26*** (1.95 – 2.61)</b>	21.6	(18.1 – 25.5)	0.94 (0.77 – 1.14)	19.8	(16.4 – 23.5)	<b>0.43*** (0.36 – 0.52)</b>

Note:

a. Statistically significant results as  $p < .05$  are in bold. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

b. Adjusted risk-ratios were calculated using a quasi-Poisson regression model adjusted by gender, prioritised ethnicity, and age group where appropriate.

c. Percentages may not add up to 100 as respondents who reported they ‘Don’t know’ for the above outcome variable were included in the analysis but have not been reported.

d. Respondents who reported they ‘can’t recall’ if they socially supplied were included in the analysis while those who refused/had a missing response were excluded.

e. Whether the alcohol guidelines were followed is only available for last-week drinkers. Non-last-week drinkers and non-drinkers were included in analysis for all guidelines.

Table 9 Proportion and adjusted risk ratios of those who disagreed, neither agreed nor disagreed, and agreed to the statement “It’s okay for under 18s to drink alcohol” by selected characteristics

Selected characteristics	Sample size (n)	Agreement level to “It’s okay for under 18s to drink alcohol”								
		Disagree			Neither agree nor disagree			Agree		
		%	95% CI	Adjusted RR (95% CI)	%	95% CI	Adjusted RR (95% CI)	%	95% CI	Adjusted RR (95% CI)
Total	4485	51.7	(49.9 – 53.4)		27.0	(25.5 – 28.6)		21.3	(19.9 – 22.8)	
Social supply behaviour in last year										
Socially supplied	374	23.3	(18.1 – 29.2)	<b>0.46*** (0.37 – 0.58)</b>	31.3	(25.8 – 37.2)	<b>1.10 (0.91 – 1.32)</b>	45.4	(39.3 – 51.6)	<b>2.21*** (1.90 – 2.58)</b>
Did not socially supply	4035	54.4	(52.6 – 56.3)	1 (Ref)	26.5	(24.9 – 28.1)	1 (Ref)	19.1	(17.7 – 20.5)	1 (Ref)
Age group										
18–24 years	928	37.9	(34.4 – 41.6)	<b>0.78*** (0.69 – 0.88)</b>	31.3	(28.0 – 34.7)	1.00 (0.84 – 1.19)	30.7	(27.5 – 34.2)	<b>1.52*** (1.25 – 1.85)</b>
25–34 years	522	46.6	(41.5 – 51.8)	0.93 (0.81 – 1.06)	27.4	(23.1 – 32.1)	0.90 (0.74 – 1.11)	26.0	(21.8 – 30.6)	<b>1.33* (1.06 – 1.68)</b>
35–44 years	600	49.6	(44.8 – 54.5)	1 (Ref)	30.4	(26.2 – 34.9)	1 (Ref)	20.0	(16.6 – 23.7)	1 (Ref)
45–54 years	762	53.7	(49.5 – 57.8)	<b>1.17** (1.05 – 1.31)</b>	25.0	(21.7 – 28.5)	<b>0.77** (0.64 – 0.93)</b>	21.3	(18.1 – 24.8)	0.96 (0.77 – 1.20)
55 years and over	1673	59.1	(56.5 – 61.8)	<b>1.33*** (1.21 – 1.47)</b>	24.6	(22.4 – 27.0)	<b>0.75** (0.64 – 0.89)</b>	16.2	(14.3 – 18.3)	<b>0.70** (0.57 – 0.86)</b>
Gender										
Male	1941	48.6	(45.9 – 51.3)	1 (Ref)	27.0	(24.8 – 29.4)	1 (Ref)	24.4	(22.2 – 26.7)	1 (Ref)
Female	2509	54.9	(52.5 – 57.2)	<b>1.13*** (1.06 – 1.20)</b>	26.8	(24.8 – 28.9)	0.99 (0.88 – 1.10)	18.3	(16.6 – 20.1)	<b>0.75*** (0.66 – 0.86)</b>
Ethnicity										
Māori	1275	47.1	(44.0 – 50.2)	0.95 (0.88 – 1.03)	33.3	(30.4 – 36.3)	<b>1.26*** (1.13 – 1.41)</b>	19.6	(17.1 – 22.3)	<b>0.81** (0.70 – 0.94)</b>
Pacific peoples	180	60.5	(51.0 – 69.4)	<b>1.21* (1.04 – 1.41)</b>	28.5	(20.4 – 37.7)	1.09 (0.81 – 1.46)	11.0	(6.1 – 17.8)	<b>0.46** (0.28 – 0.76)</b>
Non-Māori non-Pacific	3095	51.7	(49.7 – 53.7)	1 (Ref)	25.9	(24.2 – 27.6)	1 (Ref)	22.4	(20.8 – 24.0)	1 (Ref)
Deprivation group										
Low (1–3)	1438	49.6	(46.5 – 52.6)	1 (Ref)	26.1	(23.5 – 28.8)	1 (Ref)	24.3	(21.9 – 26.9)	1 (Ref)
Medium (4–7)	1701	50.6	(47.8 – 53.5)	1.02 (0.95 – 1.10)	28.9	(26.4 – 31.5)	1.10 (0.97 – 1.25)	20.5	(18.3 – 22.8)	<b>0.84* (0.73 – 0.97)</b>
High (8–10)	1346	55.7	(52.3 – 59.0)	<b>1.12** (1.03 – 1.22)</b>	25.4	(22.7 – 28.3)	0.93 (0.80 – 1.09)	18.9	(16.4 – 21.6)	<b>0.83* (0.70 – 0.98)</b>
Urban/Rural groups										
Urban areas	3660	53.6	(51.6 – 55.5)	1 (Ref)	26.1	(24.4 – 27.8)	1 (Ref)	20.3	(18.8 – 21.9)	1 (Ref)
Rural areas	825	42.1	(38.2 – 46.0)	<b>0.85*** (0.77–0.94)</b>	31.6	(27.9 – 35.4)	1.14 (0.99–1.30)	26.3	(22.8 – 30.1)	1.16 (1.00–1.34)
Children in household										
Zero children under 18 years	2781	51.5	(49.3 – 53.7)	1 (Ref)	26.7	(24.9 – 28.7)	1 (Ref)	21.8	(20.0 – 23.6)	1 (Ref)
One or more children under 18 years	1636	51.4	(48.4 – 54.4)	1.04 (0.96 – 1.12)	27.9	(25.3 – 30.6)	0.98 (0.86 – 1.11)	20.7	(18.5 – 23.1)	0.94 (0.81 – 1.10)
Whether followed low-risk drinking advice (met all three elements)										
Had NOT followed the advice (last-week drinker)	1716	40.1	(37.4 – 42.9)	1 (Ref)	31.2	(28.7 – 33.8)	1 (Ref)	28.7	(26.2 – 31.2)	1 (Ref)
Had followed the advice (last-week drinker)	678	48.2	(43.8 – 52.7)	<b>1.14* (1.02 – 1.27)</b>	31.6	(27.4 – 36.0)	1.08 (0.93 – 1.26)	20.2	(16.9 – 23.8)	<b>0.73** (0.61 – 0.88)</b>
Non-last-week drinker	1316	55.2	(51.9 – 58.6)	<b>1.32*** (1.20 – 1.44)</b>	25.7	(22.9 – 28.6)	<b>0.85* (0.74 – 0.97)</b>	19.1	(16.6 – 21.8)	<b>0.73*** (0.62 – 0.85)</b>
Non -drinker	695	74.9	(71.0 – 78.6)	<b>1.61*** (1.47 – 1.75)</b>	15.0	(12.3 – 18.1)	<b>0.55*** (0.45 – 0.68)</b>	10.1	(7.5 – 13.1)	<b>0.44*** (0.34 – 0.58)</b>

Note:

a. Statistically significant results as  $p < .05$  are in bold. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

b. Adjusted risk-ratios were calculated using a quasi-Poisson regression model adjusted by gender, prioritised ethnicity, and age group where appropriate.

c. Percentages may not add up to 100 as respondents who reported they ‘Don’t know’ for the above outcome variable were included in the analysis but have not been reported.

d. Respondents who reported they ‘can’t recall’ if they socially supplied were included in the analysis while those who refused/had a missing response were excluded.

e. Whether the alcohol guidelines were followed is only available for last-week drinkers. Non-last-week drinkers and non-drinkers were included in analysis for all guidelines.