ABSTRACT

Introduction: Few studies have undertaken to explore whether people who consume particular alcoholic beverages have a greater tendency to substitute with cheaper alcohol in response to price increases. The aim of this study was to investigate the effect of price increases on alcohol purchasing decisions, specifically the influence on brand and cross-beverage substitution across demographic, drinking level and socio-economic factors.

Method: Data on participants' alcohol purchasing habits and consumption was collected via an online survey, including their reactions to three price increases to alcoholic beverages types previously purchased. Data was analysed using logistic regression, with substitution behaviour the dependent variable, controlling for demographic and socio-economic factors.

Results: Responses to different price increases varied by drinking level, which was consistently and significantly associated with likelihood of substitution behaviour across beverage types. For a 50% increase in price, regardless of whether participants purchased beer, wine, bottled spirits or premixed spirits, drinking at levels which put participants at high risk of short-term harms was associated with a higher likelihood of substitution with cheaper brands or beverage types (OR = 1.729; OR: 1.787 ; OR: 1.729; and OR: 1.729, respectively).

Conclusions: No consistent trends in responses occurred according to respondent characteristics, suggesting that increasing price may be an effective tool to influence purchasing behaviour across the population. Results also suggested that those who drink at levels which put them at high risk of short term harms may be more likely to circumvent price increases by switching to a cheaper product.

Keywords: Alcohol, consumption, beverage, price increase, substitution, cross-beverage substitution, reduced consumption, alcohol-related harms

Introduction

Price control policies are a widely evaluated method of preventing alcohol-related harm at population level (Osterberg, 2012). Research has consistently demonstrated that reducing affordability is an effective tool for reducing alcohol consumption and related harms in the general population (Chikritzhs et al., 2009; Lhachimi et al., 2012; Purshouse, Meier, Brennan, Taylor, & Rafia, 2010; Wagenaar, Salois, & Komro, 2009). Demand for alcohol typically decreases as price increases, with individual variation around elasticity (change in demand relative to change in price), maximum alcohol expenditure on alcohol and breakpoint (the price at which alcohol consumption is reduced to zero) resulting in the effects extending to populations known to be 'at-risk', such as heavy drinkers and young people (Chikritzhs et al., 2009; MacKillop et al., 2010; Murphy, MacKillop, Skidmore, & Pederson, 2009; Osterberg, 2012).

To date, no systematic reviews have specifically examined cross-beverage substitution, but some research suggests that, rather than reducing their overall alcohol consumption, some drinkers may circumvent price increases by substituting a cheaper product for their usual alcoholic beverage (i.e. cross-beverage substitution) (Fogarty, 2006; Gruenewald, Ponicki, Holder, & Romelsjö, 2006).

Contemporary studies into cross-beverage substitution have focused on the effects of the 'alcopops' taxes (taxes on spirit-based ready-to-drink – RTD – beverages) that have been introduced in a number of developed countries in recent years to deter young people from risky consumption of these beverages. These studies have produced conflicting results (Babor et al., 2010). Swiss data suggests that the reduction in the demand for spirit-based alcopops following the introduction of the tax was largely offset by an increase in demand for beer, wine-based alcopops and bottled spirits (Niederer, Korn, Lussmann, & Kolliker, 2008) cited in (Babor et al., 2010). Conversely, there is evidence that the introduction of the Australian alcopops tax resulted in a drop in RTD consumption and a slight increase in beer and spirits consumption, together resulting in an overall reduction in total alcohol consumption (Chikritzhs et al., 2009). In the first full year after the introduction of the alcopops tax in April 2008, there was a 30% fall in sales of premixed beverages and a 1.5% decline in total pure alcohol sales in 2008/09, (Chikritzhs, Allsop, Moodie, & Hall, 2011). Sales of other spirits increased during this period, but the increase in volumes sold accounted for less than half of the decrease in RTD sales (Chikritzhs et al., 2011; Skov et al., 2011). Similarly, Müller and colleagues (2010) found that, in Germany, the alcopops tax resulted in reduced

consumption of alcopops with only partial substitution to spirits. The strength of the design of this study has, however, been questioned (Hall & Chikritzhs, 2011; Wagenaar, 2010b).

While research has shown that associations exist between socio-demographic characteristics, the type of alcoholic beverage consumed, and the consumer behaviours exhibited, less is known about how these factors influence the decision to substitute one beverage for another (Ramful & Zhao, 2008). Some evidence suggests that the choice to substitute one beverage type for a cheaper alternative is affected by drinking patterns: heavy drinkers appear to be more responsive to price increases to their preferred beverage than moderate drinkers (Meier, Purshouse, & Brennan, 2010; Wagenaar, 2010a). Doran and Shakeshaft (Doran & Shakeshaft, 2008) argued that young people *"seem to be price inelastic about their alcohol demand"* (Doran & Shakeshaft, 2008, p. 702), indicating that price increases do not strongly influence their drinking habits. In contrast, Chikritzhs and colleagues (2009) demonstrated that younger consumers' demand for alcohol is price elastic. There is little guidance in the literature about the threshold at which substitution starts, whether substitution is beverage-specific and whether consumers tend to substitute for a cheaper brand of the same type of beverage or for a cheaper beverage type.

Cultural values associated with different beverage types also mediate the effect of price increases (affordability) on the demand for different alcoholic beverages (Osterberg, 2012). Selvanthan and Selvanthan (Selvanathan & Selvanathan, 2005) demonstrated that the demand for beer was less likely to fluctuate in response to price increase in countries where beer is considered a staple good (such as Australia), whereas the demand for spirits, which is considered a luxury item, was more volatile. These findings are supported by a Finnish study (Mangeloja & Pehkonen, 2009) which found that the demand for spirits was highly responsive to price changes, while the demand for beer was least likely to be affected by price change.

As pricing policies are often beverage-specific, understanding the effect of affordability on demand for beverage type can inform evidence-based policy (Naimi, Brewer, Miller, Okoro, & Mehrotra, 2007). This study aims to assess how different price increases affect purchasing intentions of those who usually purchase a particular type of alcoholic beverage, focusing on the potential of price increases to lead to substitution with a cheaper product, and how socio-demographic characteristics and levels of use mediate such intentions.

Methods

Data collection

Data on potential effects of drink-specific price increases on Australian drinkers was collected using an online cross-sectional general population survey. The study was approved by the Curtin University Human Ethics Committee (reference: HR110/2011). The survey was circulated among members of web panel provider Pureprofile in Australian capital cities (Sydney, Melbourne, Perth, Brisbane, Adelaide, Canberra and Hobart) to recruit a national sample of major metropolitan areas. Darwin, the capital city of the Northern Territory (which accounts for less than 1% of the national population), was excluded due to its much higher rates of risky drinking (Australian Institute of Health and Welfare, 2011) and difficulties obtaining a sample conforming to the required quotas. The survey was set up so that there was a spread of age categories and male and female respondents, with a total target sample size of 800 respondents. Quotas were used to ensure that each postcode-level socio-economic quartile (Socio-economic Indexes for Areas or SEIFA (Pink, 2006)) contained an equal proportion of participants. SEIFA is a standardised measure that indicates level of advantage/disadvantage across Australia. Areas that fall within the lowest scoring quartile (quartile 1) are considered most socio-economically disadvantaged, while the 25% highest scoring areas (quartile 4) are considered the most advantaged areas.

Following a pilot study which tested the reliability and validity of the questionnaire, the survey was conducted in May 2012. Participants were questioned about their purchasing behaviour and consumption of alcoholic beverages. This included their usual drink and 'other' drinks they consumed (beer, wine, bottled spirits, premixed spirits, or other drinks, such as cider and liqueurs), as well as types of beverages they purchased for themselves or others. They were then asked how different price increases on a particular type of alcoholic beverage might influence their decision to purchase that product: *"If the price of the [beverage type] you usually purchase increased by the percentages indicated in the table below (i.e. 10%, 25%, 50%), how would this influence your purchasing decision?"* For each price increase, one of five responses to a price change could be chosen: 1) "*I would not change what I bought"*, 2) "*I would buy less of my usual [beverage type]"*, 3) "*I would buy my usual [beverage type] less often"*, 4) "*I would buy a cheaper brand of [beverage type]"* or 5) "*I would buy a different type of alcoholic beverage that is cheaper"*.

Analyses

Frequencies of responses to each price increase by beverage type were tabulated by: age-group, gender, marital status, SEIFA quartile of the postcode of residence (lowest quartile representing the lowest socio-economic status), usual drink (those who usually purchased a product other than beer, wine, bottled spirit or premixed spirits were excluded from the analyses due to the small number and hence lack of power to reliably detect associations) , employment status, household income and drinking level. Drinking level was categorised as low or high risk levels for short-term and long-term harms. In keeping with Australian Drinking Guidelines (National Health and Medical Research Council, 2009), high risk of short-term harms was defined as drinking more than four standard drinks per single occasion; and high risk of long-term harms as drinking more than two standard drinks on any day on average.

To determine whether respondents' socio-demographic or typical drinking behaviours were associated with intended substitution behaviour, logistic regression analyses were applied to each of the four major beverage types (beer, wine, bottled spirits and premixed spirits) at each price increase (10%, 25% and 50%) yielding a total of 12 models. For this analysis responses were aggregated into two categories: i) no substitution, and ii) brand or beverage substitution (the reference group). The 'no substitution' category contained the responses: *"I would not change what I bought"*, *"I would buy less of my usual [beverage type]"* and *"I would buy my usual [beverage type] less often"*. The 'substitution' category included the responses: *"I would buy a cheaper brand of [beverage type]"* and *"I would buy a different type of alcoholic beverage that is cheaper"*.

Results

The survey was completed by 831 participants aged from 18 to 88 years, with a mean age of 44.2 years and a standard deviation of 15.4 years. There were slightly fewer male respondents (48.7%) than female respondents. Table 1 summarises participant demographic and socio-economic characteristics, as well as whether their past year drinking levels would place them at risk of short- or long-term alcohol-related harm. Of the 831 participants, 70% (582) had purchased beer in the past 12 months, 80% (662) had purchased wine in the past 12 months, 71% (590) had purchased spirits in the past 12 months, and 54% (448) had purchased premixed spirits in the past 12 months.

[Table 1 here]

The pattern of response to price increases was consistent across most beverage types purchased by participants. Most participants indicated they would be reluctant to change their purchasing behaviour in response to a relatively low price increase of 10%, with most participants indicated they would reduce or substitute in response to a moderate to high increase of 25-50%. For each price increase (i.e. 10%, 25% and 50%) and across each beverage type, larger proportions of participants anticipated reducing the volume or frequency of their usual purchase rather than substituting with a cheaper brand or beverage type. The only exception was purchasers of premixed spirits, the largest proportion (40%) of whom indicated they might substitute at a 25% increase (Table 2).

[Table 2 here]

Associations between socio-demographic characteristics, drinking habits and propensity to substitute

As shown in Table 3, among beer purchasers, older participants (45 years and over) were significantly less likely to report that they anticipated substituting with a different brand or beverage type compared to 18 to 24 year old beer purchasers, when asked to consider a 10% price increase (OR: 0.415; 95% CI: 0.189-0.909). Beer purchasers who had an annual household income of more than $100,000 were also less likely to anticipate substituting their usual beer purchase for a different brand or beverage type for a 10% increase than those with an annual household income of less than $50,000 (OR: 0.302; 95% CI: 0.141-0.648). Wine purchasers who usually drank premixed spirits were more likely to substitute for a different brand or beverage than wine purchasers who usually drink wine at a 10% increase (OR = 2.834; 95% CI: 1.172-6.855), while wine purchasers with an annual household income of greater than $100,000 were less likely to switch to a cheaper brand or different beverage type than those with a household income of $50,000 or less (OR: 0.382; 95% CI: 0.187-0.782). Bottled spirit purchasers residing in an area within SEIFA quartiles 2, 3 or 4 (higher socio-economic status) were less likely to expect to switch to a cheaper brand or beverage type at a 10% price increase than those residing in an area in the lowest SEIFA quartile (OR: 0.498; 95% CI: 0.273-0.911, OR: 0.401; 95% CI: 0.213-0.757, and OR: 0.524; 95% CI: 0.281-0.979 respectively). Premixed spirit purchasers who usually drank wine or beer were more likely to predict switching to a cheaper brand of premixed spirit or switch to a different beverage type at a 10% increase than those who usually drank premixed spirits (OR: 2.882; 95% CI: 1.240-6.696 and OR: 2.753; 95% CI: 1.203-6.298 respectively).

Those who purchased beer but usually drank a beverage type other than beer, wine, bottled or premixed spirits (such as cider or fortified wine) were more likely to anticipate switching to a different brand of beer or beverage type than those with who usually drank beer at a 25% price increase (OR: 2.829; 95% CI: 1.055-7.587 – Table 3). Premixed spirit purchasers aged over 24 years old were more likely to switch to a cheaper brand or beverage type than premixed spirit purchasers aged 18-24 years (OR: 1.952; 95% CI: 1.065-3.578 among 25 to 44 year olds and OR: 2.369; 95% CI: 1.203-4.666 among those aged 45 and older).

Beer, wine, bottled spirit and premixed spirit purchasers who drank at levels which put them at high risk of short-term harms were more likely to predict substituting a cheaper brand or a different beverage type for their usual purchase compared to their counterparts at low risk of short-term harms at a price increase of 50% (OR = 1.729; 95% CI: 1.107-2.699, OR: 1.787; 95% CI:1.210-2.638, OR: 1.729; 95% CI: 1.107-2.699 and OR: 1.729; 95% CI: 1.107-2.699, respectively – Table 3).

[Table 3 here]

Discussion

The main aim of the study was to explore how a range of price increases affected alcohol purchasing decisions among a national sample of metropolitan Australians. The study also sought to clarify how affordability of alcoholic beverages influenced decisions to substitute with cheaper brands or beverage types and whether socio-demographic characteristics or drinking levels might mediate such behaviour. Overall, responses to different price increases occurred regardless of respondent characteristics, suggesting that increasing price could influence purchasing behaviour across the population. Drinking at a level putting participants at an increased risk of short-term harms was the only variable which was consistently significantly associated with a higher likelihood of anticipated substitution behaviour across all beverage types studied at a 50% increase. Lower age and income, and whether the beverage type purchased was the "usual drink" were also associated with substitution at various price increases.

The majority of respondents were reluctant to change the type and brand of drink they usually purchased at price increases of 10%. A 50% price increase appeared to be the threshold increase at which consumers were willing to substitute, with nearly two-thirds of respondents indicating they would either switch to a cheaper brand or to a different beverage type. According to the ABS, in financial year 2009-10, Australians spent an average of $32.35 per

person per week on alcohol purchases (Australian Bureau of Statistics (ABS), 2011). This indicates that a 10% increase in the price of alcohol would translate to spending an average of just over $3 extra on alcohol per week. Hence, the finding that more than half of the respondents were reluctant to alter their normal purchasing behaviour in response to a 10% price increase, regardless of whether they were beer, wine, spirits or premixed spirits purchasers, was not surprising.

The only predictor that was consistently associated with a higher likelihood of substitution across beverage categories was the drinking level of the participants. Those who drank at levels which put them at high risk for short-term harms appeared to be more likely to substitute in response to a 50% price increase than those at low risk of short-term harms, across all beverage types examined. This concurs with research by Gill et al. (2015) which showed that, among very heavy drinkers, reduction in affordability was associated with substitution for a cheaper beverage rather than reduction in consumption levels. Higher price increases may be more effective at reducing overall consumption among those who drink at levels which put them at low risk for short-term harm (i.e. those who do not consume more than four standard drinks on a single occasion).

Wine and beer purchasers with a household income of greater than $100,000 were significantly less likely to substitute their usual purchase in response to a relatively small price increase of 10%. This is probably because those with higher incomes are able to accommodate small price increases, while those with lower household incomes may have to reduce purchase amounts to be able to continue purchasing preferred brands.

Premixed spirit purchasers consistently appeared to be the group most sensitive to price increases, having the lowest proportion that would maintain their usual purchasing habits at a low price increase of 10% and the highest proportion opting to substitute at a price increase of 25%, compared to the purchasers of other beverage types.

Increasing age among beer drinkers was associated with a lower likelihood of substituting for a cheaper brand of beer or different beverage type. Beer branding is increasingly being tied to identity (Kingham, 2008) and may explain why older beer purchasers are more willing to compromise on amount and frequency of consumption, in order to continue purchasing brands which they perceive reflects their identity. Compared to older participants, the youngest group of premixed spirit purchasers (aged 18 to 24 years) was less likely to substitute their usual purchase for a cheaper brand or beverage in response to a 25% price

increase. This is in contrast to prior research suggesting that young people are more likely to substitute than older people (Jones & Barrie, 2011). It may, however, reflect young people's preference for sweet tasting beverages.

Those living in a postcode with a lower socio-economic status were more likely to substitute for a cheaper brand or beverage type at a 10% increase in the price of bottled spirits. This relationship was evident even though two of the variables which underpin the composite SEIFA measure (household income and employment status) were controlled for, suggesting that other indicators of advantage and disadvantage, such as education, occupation or housing, may have driven this association.

This study provided a unique insight into Australian consumers' anticipated responses to changes in the affordability of alcohol via increases in price. However, due to the nature of the study, several limitations should be noted. By using an online panel organiser to disseminate the survey, participants were limited to members of the panel organiser's database of account holders. Although quotas were set for age, gender and SEIFA levels, the sample contained relatively few participants from Hobart and Canberra; this can be partly explained by the small size of these cities but may nevertheless influence the generalisability of the study.

The survey assessed hypothetical responses to price increases, rather than measuring actual behaviour. Anticipated responses to price increases do not necessarily translate to decisions made in real world situations (which are more complex and may vary between purchasing occasions), although the validity of the questionnaire was tested during the pilot study. Furthermore, there might not always be a cheaper brand or beverage type as alternative option in reality, which could lead to fewer people choosing to substitute a cheaper brand or beverage type in place of a higher priced item. The choice to substitute may also vary depending on the context of the purchase. The analysis assumed that substitution for a cheaper brand or beverage type did not lead to less pure alcohol being purchased, which may occur if consumers were switching to a product with lower alcohol content. Furthermore, this study did not take into account the potential effects of other substances, such as tobacco and illicit drugs, the consumption of which may alter in response to changes in alcohol affordability if intoxication is the primary goal of consumers (Moore, 2010). Very heavy drinkers (who drink quantities considerably above the consumption levels putting them the risk of harms) may respond differently to other drinkers, but the number of drinkers in this

group was too small to allow sub-analysis in this study (Falkner, Christie, Zhou, & King, 2015; Gill et al., 2015).

To better understand the factors associated with beverage substitution in response to pricing policy implementation, future research could also consider exploring consumers' anticipated reactions should the price of all products within a beverage category increase (as occurs when alcohol taxes increase). The effect of other substances, such as tobacco and illicit drugs, on substitution could also be explored.

Conclusions

This study investigated the effect of price increases on the purchasing intentions of metropolitan Australian alcohol consumers and likelihood of substitution. Characteristics most commonly associated with a tendency to substitute with cheaper beverages were age, household income, whether the type of beverage being purchased was the usual drink and drinking level; however, trends according to characteristics were not consistent across beverage types or price increases, supporting the use of price increase as useful tool to influence purchasing behaviour across the population. Drinkers at high risk of short-term harms were shown to be more likely to indicate they would bypass a relatively high price increase, substituting their usual purchase for a cheaper product. Future policy efforts aimed at increasing beverage prices in order to reduce harms should take this into consideration and implement strategies to discourage substitution among high risk drinkers.

Declaration of Interest

The authors declare no conflict of interests.

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Table 1: Demographic, socio-economic and drinking level (risk of short- and long-term harms) of online survey participants in Australian capital cities in 2012

Gender	**n**	**%**
Male	405	49
Female	426	51
Age (years)		
18 to 24	98	12
25 to 44	336	40
45 and older	397	48
Indigenous status		
Non-Indigenous	821	99
Aboriginal and/or Torres Strait Islander	10	1.2
Marital status		
Never married	222	27
Previously married	114	14
Married (incl. co-habiting)	495	60
Country of birth		
Australia	594	71
Not Australian-born	237	29
Household income		
<$50 000	224	27
$50 000 to $74 999	166	20
$75 000 to $99 999	161	19
$100 000 to $149 999	184	22
$150 000 to $199 999	68	8.2
>$200 000	28	3.4
State or territory of residence (city)		
ACT (Canberra)	3	0.36
New South Wales (Sydney)	185	22
Queensland (Brisbane)	102	12
South Australia (Adelaide)	193	23
Tasmania (Hobart)	16	1.9
Victoria (Melbourne)	203	24
Western Australia (Perth)	129	16
SEIFA quartiles		
1	202	24
2	203	24
3	207	25
4	219	26
Risk of long-term harms[1]		
High (>2 standard drinks per occasion, on average)	421	51
Low (<3 standard drinks per occasion, on average)	410	49
Risk of short-term harms[1]		
High (>4 standard drinks per maximum occasion)	494	59
Low (<5 standard drinks per maximum occasion)	337	41

[1]According to the Australian guidelines to reduce health risks from drinking alcohol (National Health and Medical Research Council, 2009)

Table 2: Responses by beverage type and price increase

Beer purchasers	10% increase		25% increase		50% increase	
I would not change what I bought	332	57%	85	15%	46	8%
I would buy less of my usual brand of beer	77	13%	161	29%	51	9%
I would buy my usual brand of beer less often	82	14%	122	22%	105	19%
I would buy a cheaper brand of beer	55	9%	131	24%	206	37%
I would buy a different type of alcohol	36	6%	58	10%	147	26%
Total	582	100%	557	100%	555	100%
Wine purchasers	10% increase		25% increase		50% increase	
I would not change what I bought	405	61%	117	18%	44	7%
I would buy less of my usual brand of wine	75	11%	195	30%	73	11%
I would buy my usual brand of wine less often	88	13%	139	21%	152	23%
I would buy a cheaper brand of wine	60	9%	145	22%	261	40%
I would buy a different type of alcohol	34	5%	58	9%	125	19%
Total	662	100%	654	100%	655	100%
Bottled spirit purchasers	10% increase		25% increase		50% increase	
I would not change what I bought	333	56%	102	18%	45	8%
I would buy less of my usual brand of bottled spirits	68	12%	148	26%	58	10%
I would buy my usual brand of bottled spirits less often	88	15%	125	22%	117	20%
I would buy a cheaper brand of bottled spirits	65	11%	123	21%	200	34%
I would buy a different type of alcohol	36	6%	80	14%	160	28%
Total	590	100%	578	100%	580	100%
Premixed spirit purchasers	10% increase		25% increase		50% increase	
I would not change what I bought	215	48%	62	14%	36	8%
I would buy less of my usual brand of premixed spirits	55	12%	89	20%	40	9%
I would buy my usual brand of premixed spirits less often	64	14%	90	20%	75	17%
I would buy a cheaper brand of premixed spirits	46	10%	88	20%	120	27%
I would buy a different type of alcohol	68	15%	111	25%	172	39%
Total	448	100%	440	100%	443	100%

Table 3: Logistic regression models demonstrating the effect of 10%, 25% and 50% price increases on beer, wine, bottled spirits and premixed spirits purchases (reference group: substitution of beverage type)

	Beer									Wine								
I would switch to a different brand of beer or beverage type[1]	10% price increase			25% price increase			50% price increase			10% price increase			25% price increase			50% price increase		
	OR[2]	95% CI		OR[2]	95% CI		OR[2]	95% CI		OR[2]	95% CI		OR[2]	95% CI		OR[2]	95% CI	
Age group																		
18-24 years	1.000			1.000			1.000			1.000			1.000			1.000		
25-44 years	0.555	0.267	1.154	1.266	0.645	2.485	0.577	0.288	1.158	1.024	0.456	2.298	1.580	0.826	3.020	0.577	0.288	1.158
45+ years	0.415*	0.189	0.909	1.040	0.509	2.125	0.608	0.291	1.268	0.873	0.372	2.050	1.705	0.862	3.372	0.608	0.291	1.268
Sex																		
Male	1.000			1.000			1.000			1.000			1.000			1.000		
Female	1.088	0.651	1.818	0.725	0.481	1.091	0.860	0.576	1.284	0.762	0.459	1.265	0.793	0.544	1.157	0.860	0.576	1.284
Marital status																		
Not married	1.000			1.000			1.000			1.000			1.000			1.000		
Married	0.747	0.453	1.233	1.167	0.778	1.748	1.090	0.735	1.617	0.868	0.535	1.410	0.918	0.631	1.335	1.090	0.735	1.617
Socio-economic status																		
SEIFA 1	1.000			1.000			1.000			1.000			1.000			1.000		
SEIFA 2	0.901	0.471	1.723	0.882	0.517	1.504	0.921	0.550	1.544	0.882	0.470	1.652	0.875	0.526	1.456	0.921	0.550	1.544
SEIFA 3	0.719	0.370	1.397	1.198	0.716	2.004	1.105	0.660	1.849	0.689	0.353	1.344	1.146	0.692	1.900	1.105	0.660	1.849
SEIFA 4	0.914	0.474	1.761	1.111	0.662	1.863	1.009	0.607	1.678	0.911	0.481	1.726	1.218	0.743	1.996	1.009	0.607	1.678
Drinking level																		
Low risk of short-term harms	1.000			1.000			1.000			1.000			1.000			1.000		
High risk of short-term harms	1.172	0.646	2.128	1.221	0.773	1.931	1.729*	1.107	2.699	1.482	0.839	2.618	1.343	0.879	2.050	1.787*	1.210	2.638
Low risk of long-term harms	1.000			1.000			1.000			1.000			1.000			1.000		
High risk of long-term harms	1.341	0.750	2.400	1.082	0.693	1.690	0.904	0.582	1.403	1.213	0.702	2.097	1.380	0.914	2.082	1.017	0.690	1.499
Usual drink																		
Beer	1.000			1.000			1.000			1.000			1.000			1.000		
Wine	1.592	0.883	2.870	1.515	0.962	2.386	1.253	0.807	1.945	1.804	1.000	3.255	1.324	0.854	2.053	0.798	0.514	1.240
Premixed spirits	1.082	0.415	2.823	1.856	0.898	3.837	1.552	0.715	3.370	2.834*	1.172	6.855	1.598	0.752	3.395	1.239	0.563	2.731
Bottled spirits	1.395	0.649	2.996	1.603	0.874	2.940	1.288	0.694	2.390	1.504	0.703	3.217	1.506	0.866	2.619	1.028	0.543	1.948
Other	1.936	0.563	6.659	2.829*	1.055	7.587	1.464	0.518	4.142	2.093	0.718	6.104	1.972	0.875	4.444	1.169	0.408	3.354
Employment status																		
Employed	1.000			1.000			1.000			1.000			1			1.000		
Unemployed	0.891	0.506	1.571	1.425	0.911	2.229	0.890	0.569	1.391	1.249	0.722	2.162	0.962	0.628	1.473	0.890	0.569	1.391
Household income																		
Less than $50,000	1.000			1.000			1.000											
$50,000-$99,999	0.895	0.494	1.622	1.034	0.633	1.691	1.295	0.791	2.120	1.000			1.000			1.000		
$100,000 or more	0.302*	0.141	0.648	0.629	0.356	1.111	0.843	0.486	1.464	0.804	0.452	1.430	0.967	0.606	1.543	1.295	0.791	2.120

	Bottled spirits									Premixed spirits								
I would switch to a different brand of beer or beverage type[1]	10% price increase			25% price increase			50% price increase			10% price increase			25% price increase			50% price increase		
	OR[2]	95% CI		OR[2]	95% CI		OR[2]	95% CI		OR[2]	95% CI		OR[2]	95% CI		OR[2]	95% CI	
Age group																		
18-24 years	1.000			1.000			1.000			1.000			1.000			1.000		
25-44 years	0.994	0.476	2.077	1.248	0.703	2.216	0.577	0.288	1.158	1.519	0.725	3.181	1.952*	1.065	3.578	0.577	0.288	1.158
45+ years	0.899	0.401	2.017	1.212	0.64	2.292	0.608	0.291	1.268	1.478	0.658	3.319	2.369*	1.203	4.666	0.608	0.291	1.268
Sex																		
Male	1.000			1.000			1.000			1.000			1.000			1.000		
Female	0.942	0.575	1.543	0.743	0.503	1.098	0.86	0.576	1.284	0.827	0.51	1.341	1.108	0.727	1.69	0.86	0.576	1.284
Marital status																		
Not married	1.000			1.000			1.000			1.000			1.000			1.000		
Married	1.281	0.782	2.097	1.172	0.796	1.725	1.09	0.735	1.617	0.894	0.552	1.448	0.816	0.532	1.251	1.09	0.735	1.617
Socio-economic status																		
SEIFA 1	1.000			1.000			1.000			1.000			1.000			1.000		
SEIFA 2	0.498*	0.273	0.911	0.643	0.386	1.073	0.921	0.55	1.544	0.937	0.505	1.738	0.985	0.564	1.721	0.921	0.55	1.544
SEIFA 3	0.401*	0.213	0.757	0.7	0.423	1.158	1.105	0.66	1.849	0.859	0.459	1.608	0.991	0.57	1.723	1.105	0.66	1.849
SEIFA 4	0.524*	0.281	0.979	1.02	0.618	1.682	1.009	0.607	1.678	0.955	0.496	1.841	1.237	0.697	2.194	1.009	0.607	1.678
Drinking level																		
Low risk of short-term harms	1.000			1.000			1.000			1.000			1.000			1.000		
High risk of short-term harms	0.821	0.470	1.437	0.968	0.619	1.513	1.729*	1.107	2.699	1.105	0.627	1.945	1.344	0.813	2.219	1.729*	1.107	2.699
Low risk of long-term harms	1.000			1.000			1.000			1.000			1.000			1.000		
High risk of long-term harms	1.398	0.807	2.423	1.286	0.836	1.976	0.904	0.582	1.403	1.127	0.650	1.952	0.988	0.608	1.605	0.904	0.582	1.403
Usual drink																		
Beer	1.000			1.000			1.000			1.000			1.000			1.000		
Wine	1.143	0.592	2.205	1.015	0.609	1.694	0.972	0.513	1.842	2.882*	1.24	6.696	1.725	0.908	3.277	0.807	0.366	1.777
Premixed spirits	0.795	0.323	1.959	1.141	0.58	2.245	1.205	0.487	2.984	2.753*	1.203	6.298	1.466	0.774	2.778	0.644	0.297	1.398
Bottled spirits	1.14	0.582	2.234	0.881	0.52	1.493	0.776	0.418	1.44	2.441	0.987	6.038	1.612	0.8	3.247	0.83	0.335	2.054
Other	2.471	0.861	7.093	1.427	0.574	3.544	1.137	0.361	3.577	3.164	0.93	10.76	0.916	0.314	2.669	0.943	0.276	3.219
Employment status																		
Employed	1.000			1.000			1.000			1.000			1.000			1.000		
Unemployed	1.283	0.755	2.181	1.124	0.722	1.75	0.89	0.569	1.391	1.704	0.992	2.926	1.013	0.619	1.656	0.89	0.569	1.391
Household income																		
Less than $50,000	1.000			1.000			1.000			1.000			1.000			1.000		
$50,000-$99,999	0.74	0.414	1.324	1.318	0.806	2.155	1.295	0.791	2.12	0.69	0.38	1.253	1.18	0.683	2.037	1.295	0.791	2.12
$100,000 or more	0.511	0.253	1.031	0.834	0.476	1.463	0.843	0.486	1.464	0.57	0.287	1.13	0.927	0.507	1.694	0.843	0.486	1.464

[1]Reference group: Substitution (those who responded that they *"would buy a cheaper brand of [beverage type]"* and those who *"would buy a different type of alcoholic beverage that is cheaper"* [2]OR: Odds Ratio *Odds ratio statistically significant at p<0.05