Available online at www.sciencedirect.com

Public Health

journal homepage: www.elsevier.com/puhe

Original Research

Distance travelled to purchase alcohol and the mediating effect of price

M. Hobday [a,*], E. Lensvelt [a], E. Gordon [a], W. Liang [a], L. Meuleners [b], T. Chikritzhs [a]

[a] National Drug Research Institute, Health Research Campus, Curtin University, GPO Box U1987, Perth, WA 6845, Australia

[b] Curtin-Monash Accident Research Centre, 7 Parker Place, Curtin University, GPO Box U1987, Perth, WA 6845, Australia

ARTICLE INFO

Article history:
Received 1 September 2016
Received in revised form
25 November 2016
Accepted 26 November 2016

Keywords:
Proximity
Alcohol availability
Alcohol outlets
Price
Survey

ABSTRACT

Objectives: Little research has been done into the distance travelled by consumers to purchase alcohol, whether this is influenced by demographic characteristics or drinking levels of consumers, and the effect of price on purchase distance. This study aimed to explore distances drinkers were prepared to travel to purchase alcohol at on- and off-site outlets and how these decisions were affected by price discounting.

Study design: Online survey.

Methods: The study, including 831 alcohol consumers aged 18 years and older living in Australian capital cities, was undertaken in 2012. The survey was used to gather data on the distances which participants anticipated that they usually travelled to purchase alcohol. The data provided insight into which factors influence where participants would choose to purchase alcohol and the possible effects of price discounts on purchase distance.

Results: Most participants would choose to travel less than 10 km to purchase alcohol. Data indicated that price discounting might increase the purchase distance that most participants would be prepared to travel to purchase alcohol; this was more marked regarding off-site outlets and among high-risk drinking groups including young males and participants with risky drinking levels.

Conclusions: Price discounting affects hypothetical purchase distance choices, indicating the importance of price when implementing alcohol control policies. Purchase distance might be more affected by price discounting among consumers visiting off-site outlets, but less useful when exploring associations with on-site outlets.

* *Corresponding author*. Present address: Curtin-Monash Accident Research Centre, 7 Parker Place, Curtin University, GPO Box U1987, Perth, WA 6845, Australia.

E-mail addresses: michelle.hobday@curtin.edu.au (M. Hobday), eveline.lensvelt@curtin.edu.au (E. Lensvelt), elise.gordon@curtin.edu.au (E. Gordon), w.liang@curtin.edu.au (W. Liang), l.meuleners@curtin.edu.au (L. Meuleners), t.n.chikritzhs@curtin.edu.au (T. Chikritzhs).

http://dx.doi.org/10.1016/j.puhe.2016.11.019

Introduction

Extensive research has investigated the associations between alcohol availability, consumption levels and alcohol-related harms.[1–3] The retail price of alcohol, or 'economic availability',[4] affects population consumption levels[5] and alcohol-related morbidity and mortality.[6] The price of alcohol may also influence the distance consumers are prepared to travel to purchase alcohol (purchase distance). Lower prices may offset the inconvenience and transport costs of travelling further to obtain alcohol. This effect may differ according to age, sex, drinking level and type of licenced outlet.[7]

We are not aware of previous research exploring whether purchase distance is influenced by the price of alcohol or whether riskier drinking groups such as young people, males and heavy drinkers travel further to purchase alcohol compared with other demographic groups.

It is well established in consumer behaviour literature that consumers are willing to sacrifice convenience for a lower price.[8,9] Retailers frequently use discounted prices to attract consumers to their stores. Large retail stores that are not able to locate themselves in prime retail positions (due to space or financial constraints) offset the inconvenience of the extra travel time by offering lower prices.[10]

Australia is a large country. Increasing affordability and availability of cars in Australia has resulted in higher car use and longer trips.[11] Town planning has led to low-density design and improved road systems leading to a reliance on cars for transport.[11] According to the Australian Bureau of Statistics, 88% of Australians used cars to travel to places other than work (such as to go shopping) in 2012.[11] Both in Australia and internationally, it has been estimated that approximately two-thirds of women do the grocery shopping[12,13] and that, as consumers become increasingly time-poor, shoppers make multipurpose shopping trips (for different product groups) or purchase large volumes in single trips to reduce travel costs.[14] Details on alcohol purchasing habits and purchase distances in Australia are not currently available.

This study aims to investigate the distances which consumers are prepared to travel to purchase alcohol and how hypothetical reductions in the price of alcohol sold in alcohol outlets affect these distances. We hypothesise that consumers will be prepared to travel further to purchase alcohol at a discounted price.

Methods

An online cross-sectional general population survey of Australian alcohol consumers was used to explore usual purchase distances and responses to hypothetical price increases.

Sample

An experienced web panel provider, Pureprofile, was contracted to disseminate the survey among their members in seven Australian capital cities to obtain a sample of Australian capital city residents. Darwin, the capital city of the Northern Territory, was excluded due to its relatively small and demographically distinct population.[15,16] Eligibility criteria included being aged 18 years or older and having purchased and consumed alcohol in the previous 12 months.

A minimum sample size of 800 participants, spread over six age groups (18–24, 25–34, 35–44, 45–54, 55–64 and 65+ years), with similar numbers of male and female participants, was required. Residential postcodes in each city were categorised using the postcode-level Socio-Economic Indexes for Areas (SEIFA),[17] an index of relative advantage and disadvantage constructed by the Australian Bureau of Statistics. Quotas were set so that each SEIFA quartile constituted approximately 25% of the sample, with quartile one including the lowest scoring 25% of the areas (most disadvantaged) and quartile four the highest 25% (most advantaged).

Procedure

A paper-based pilot questionnaire was administered to 34 participants twice to confirm the reliability of the online survey. To validate the measures of purchase distance, each pilot study participant was contacted 10 days after survey completion to assess actual distances travelled to purchase alcohol in the intervening time. Follow-up data was obtained from 29 participants, with an 83% agreement between distances recorded in their questionnaires and actual purchase distances.

The online survey was conducted in May 2012. Participants provided demographic information, employment status, income and drinking levels, identified factors which influenced where they chose to purchase alcohol, distances usually travelled to purchase alcohol and the potential effects of price discounts on purchase distance.

Questionnaire

Participants were asked the following question: '*How far are you usually prepared to travel to buy alcohol from a bottle-shop?*' Participants reported their usual alcohol purchase distance in five distance bands, with approximate driving times based on Australian capital city traffic flow data[18] included to assist participants: less than 5 km (less than 6 min driving in light traffic), 5 km–9 km (6–12 min), 10 km–19 km (13–25 min), 20 km–50 km (26 min–1 h) and more than 50 km (more than 1 h).

Participants were asked the following question: *Imagine you have learnt that a specific bottle-shop is offering a price discount on a beverage that you usually purchase. How much* ***further*** *are you prepared to travel to receive such a discount?* Discounts were 10%, 25%, 30% and 50%.

These questions were asked separately for the major off- and on-site outlet types, bottle-shops and hotels/taverns (pubs), respectively. In Australia, bottle-shops (referred to here as off-site outlets) sell alcohol solely for consumption off-site, while hotels/taverns (on-site outlets) primarily sell alcohol for on-site consumption.[19,20]

Participants were grouped by gender and age; age was aggregated into three groups: 18–24 years, 25–44 years and 45+ years. Drinking categories were defined according to the