



Short Communication

Associations between proposed local government liquor store size classifications and alcohol consumption in young adults

Sarah Foster^{a,b,*}, Paula Hooper^b, Matthew Knuiman^c, Leanne Lester^d, Georgina Trapp^{b,c,e}

^a Centre for Urban Research, School of Global Urban and Social Studies, RMIT University, 124 La Trobe St, Melbourne, VIC 3000, Australia

^b Centre for the Built Environment and Health, School of Agriculture & Environment and School of Human Sciences, The University of Western Australia, 35 Stirling Highway, Crawley, WA 6009, Australia

^c School of Population and Global Health, The University of Western Australia, 35 Stirling Highway, Crawley, WA 6009, Australia

^d School of Human Sciences, The University of Western Australia, 35 Stirling Highway, Crawley, WA 6009, Australia

^e Telethon Kids Institute, 100 Roberts Road, Subiaco, WA 6008, Australia



ARTICLE INFO

Keywords:

Alcohol consumption

Local government, planning policy, Australia

Spatial analysis

Alcohol outlet density

ABSTRACT

The prevalence of warehouse-style liquor stores has prompted alarm from local communities and public health advocates. To increase local government control over liquor stores, one proposed planning response is to distinguish between ‘small’ (i.e., $\leq 300 \text{ m}^2$) and ‘large’ (i.e., $> 300 \text{ m}^2$) liquor stores. We mapped the size and location of liquor stores in Perth, Western Australia, and tested associations between liquor store exposure and alcohol consumption (grams ethanol/day) in young adults ($n = 990$). The count of liquor stores of any size within 1600 m and 1601–5000 m of home were significantly associated with increased alcohol intake, whereas larger stores (i.e., $> 300 \text{ m}^2$ and $> 600 \text{ m}^2$) were not associated with alcohol intake. Young adults’ alcohol consumption appears to be impacted by liquor store density and convenience, rather than outlet size. However, the presence of multiple stores close to home increases market competition, driving alcohol prices down, and plausibly results in alcohol prices similar to those at liquor superstores.

1. Introduction

A substantial body of research has implicated the presence and density of liquor licences in increased alcohol consumption (Livingston et al., 2008; Kavanagh et al., 2011; Pereira et al., 2013; Foster et al., 2017; Connor et al., 2011) and community harm (Bryden et al., 2012; Popova et al., 2009; Gmel et al., 2016; Campbell et al., 2009). However, studies also suggest the type of liquor licence matters and outlets where people can purchase packaged alcohol are particularly problematic (Connor et al., 2011; Kypry et al., 2008; Livingston, 2013; Liang and Chikritzhs, 2011). Packaged liquor sales account for about 80% of alcohol consumed in Australia (Howard et al., 2014). This market dominance was reflected in a 44% increase in the number of outlets selling packaged alcohol between 2001 and 2011, compared with negligible growth in pub and nightclub licences over the same period (Livingston, 2013). In addition, larger warehouse-style discount liquor stores have increased in number (Livingston, 2017; Emerson, 2018; Moodie, 2018; Waters, 2013; WA Local Government Association, 2014) and overall market share (Roy Morgan Research, 2017).

The increasing prevalence of warehouse-style liquor stores (also known as booze barns, big-box liquor stores or liquor superstores) has

prompted alarm from local communities and public health advocates (Howat et al., 2013; Williams, 2013). The physical presence of these superstores, in combination with aggressive marketing practices and discounted alcohol, are thought to increase alcohol consumption, particularly amongst young people (Howat et al., 2013) who have less disposable income and may be more price sensitive (Foster et al., 2017). Indeed, there is a well-established inverse relationship between alcohol price and consumption (Wagenaar et al., 2009), and low priced alcohol, volume discounts and point of sale promotions have been linked with increased alcohol consumption in young people (Jones and Smith, 2011; Kuo et al., 2003). Questions are now being raised as to whether the larger volumes of alcohol sold by liquor superstores have broader implications for the local community. For example, a West Australian study found that for every additional 10,000 l of pure alcohol sold by an off-site outlet, the risk of assaults in private residences increased by 26% (Liang and Chikritzhs, 2011).

There are now numerous examples of community, police and local government attempts to block the expansion of liquor superstores into local neighbourhoods, with varying success (Liang and Chikritzhs, 2011; Williams, 2013; Brown, 2014; Manton, 2014; Muhunthan et al., 2017). A recent analysis of Australian case law involving the judicial

* Corresponding author at: Centre for Urban Research, School of Global Urban and Social Studies, RMIT University, 124 La Trobe St, Melbourne, VIC 3000, Australia.
E-mail address: sarah.foster@rmit.edu.au (S. Foster).

review of administrative decisions relating liquor licence applications found that most cases challenging liquor outlet decisions were brought by the major supermarket chains that dominate the market, and they were successful in over 70% of these cases (Muhunthan et al., 2017). Of the government stakeholders, local government most frequently had legal action brought against them (Muhunthan et al., 2017).

In Australia, new liquor licences require development application approval from local government; followed by state government approval (Muhunthan et al., 2017; WA Local Government Association, 2014). For local government agencies in Western Australia (WA), current zoning and licensing practices provide relatively few barriers to new liquor stores (WA Local Government Association, 2014). In response, the WA Local Government Association (WALGA) developed discretionary guidelines on local planning instruments and controls that could be amended to help local governments manage alcohol-related development (WA Local Government Association, 2014). The guidelines were released in 2015 and propose various strategies, including changing liquor stores from a retail to a special/restricted land-use and, due to concerns about harms associated with liquor superstores, adding a size classification. This would enable local government to better control the location of new larger outlets (i.e., similar to the distinction between a shop and showroom/warehouse). The suggested changes to scheme definitions would introduce two scale classifications:

- Liquor store – *small* (premises with a net lettable area not exceeding 300 m²); and
- Liquor store – *large* (premises with a net lettable area exceeding 300 m²).

Given the rise of liquor superstores in Australia and the recommended local government planning response, the aim of this study was to test whether the distinction between ‘small’ and ‘large’ liquor stores was associated with alcohol consumption in young adults - a group typically more sensitive to the availability of cheap alcohol.

2. Methods

This study uses data from the WA Pregnancy Cohort (Raine) Study, a prospective cohort study that followed participants from gestation to early adulthood (described in detail elsewhere (Newnham et al., 1993)). It focuses on participants in Perth, WA, and their self-reported alcohol intake (grams ethanol/day) at 22-years, collected using the self-administered Anti-Cancer Council of Victoria Food Frequency Questionnaire (ACCVFFQ) (2012–2014). The ACCVFFQ compares well with other validated measures (Hodge et al., 2000), and the Raine cohort is representative of 22-year-olds living in WA (Straker et al., 2017). Raine was approved by the ethics committees of the Princess Margaret Hospital for Children, King Edward Memorial Hospital for Women and the University of WA.

A new spatial data layer was created to capture the location and size of all liquor stores in metropolitan Perth. Briefly, this involved geocoding Department of Racing, Gaming and Liquor licence locations (2014) in ArcGIS; overlaying them with Landgate building footprint data; checking store locations with Nearmap and Google Streetview; amending building polygons to reflect the store extents; digitising polygons for locations without a building footprint; and computing the area (m²) of building footprint polygons. The footprint of stores within ‘big box’ shopping centres could not be accurately determined, as individual shop boundaries were subsumed within the centre footprint. However, validation with earlier retail floor area data (i.e., Land Use Employment Survey data from 2009) revealed that all (bar one) of these shopping centre liquor stores had a floor area ≤ 300 m² and therefore they were classified as ≤ 300 m².

Using the size layer, we generated three sets of variables: count of stores (any size); stores > 300 m² (i.e., WALGA recommendation); and stores > 600 m² (i.e., larger outlets). Counts were run for three road-

network ‘donut’ distances around participants’ geo-coded home addresses: 0–1600 m (i.e., walkable distance), 1601–5000 m (i.e., cycling distance), and 5001–10,000 m (i.e., drivable distance), in order to examine whether further stores had an equivalent impact on alcohol consumption. The 1600 m distance is frequently applied in built environment studies (Pereira et al., 2013; Foster et al., 2017; Giles-Corti et al., 2013), and represents the maximum distance a participant could walk in about 15 min (Foster et al., 2015). The larger 5000 m distance has been conceptualised as a relatively easy cycling distance for most people (Australian Government Department of Infrastructure and Transport, 2013) and the 10,000 m distance was based on evidence that young adults would travel up to 10,000 m to purchase alcohol (Drug and Alcohol Office, 2011).

2.1. Statistical analysis

Linear regression models examined associations between the count of (and presence of at least one) liquor stores (any size); stores > 300 m²; and stores > 600 m² within different distances from home and alcohol consumption. All models adjusted for gender, employment, education and relationship status. Results are presented as the estimated average increase in grams ethanol/day (and standard errors) per one standard deviation (SD) increase in the liquor store count variable or for yes versus no for the presence of at least one liquor store. For reference, one standard drink contains 10 g of ethanol (NHMRC, 2009).

3. Results

The sample comprised slightly more females than males (Table 1). Most participants were in fulltime or part-time employment, had some higher education, and were single or in a relationship but not living together. The average daily alcohol consumption was 15.21 g/day (i.e., 1.5 standard drinks/day).

On average, participants had 1.4 liquor stores within 1600 m of home (Table 2), but of these only 0.4 were > 300 m² and 0.1 were > 600 m². The number of stores between 1600 and 5000 m of home ranged from 10.0 (any size) to 3.2 (> 300 m²) and 0.8 (> 600 m²), and between 5001 and 10,000 m there were 28.3 liquor stores (any size), 9.2 stores > 300 m² and 2.4 stores > 600 m². The average distance to a liquor store of any size was 1.65 km, but this increased to 2.59 km to reach a store > 300 m² and 4.76 km for a store > 600 m².

Associations between the liquor store exposure measures and alcohol consumption are outlined in Table 3. Whilst estimated associations were positive for all liquor store counts and negative for all

Table 1
Demographics of respondents (n = 990).

	n	%	Ethanol grams/day Mean (SD) ^a
Gender			
Male	452	45.7	19.7(20.6)
Female	538	54.3	11.5(13.9)
Have children	42	4.3	10.9(16.0)
Fulltime or part-time job	883	89.2	16.1(18.4)
Study	465	47.0	14.9(17.7)
Highest education			
Secondary school (high school)	475	48.0	16.1(19.7)
TAFE, college	228	23.0	14.9(17.4)
University	262	26.5	13.2(14.5)
Other	25	2.5	18.4(19.7)
Relationship status			
Single and not in a relationship	429	43.3	15.7(19.4)
In a relationship but not living together	334	33.7	15.4(17.3)
In a relationship and living together	207	20.9	13.1(15.2)
Married	20	2.0	10.6(18.3)

^a One standard drink contains 10 g of ethanol (NHMRC, 2009).

Download English Version:

<https://daneshyari.com/en/article/7456817>

Download Persian Version:

<https://daneshyari.com/article/7456817>

[Daneshyari.com](https://daneshyari.com)