The positive effects of increased foot patrols on the incidence of liquor infractions and assaults in the Granville Street Entertainment Area of Vancouver British Columbia Canada

Jessica L. Fitterer a,*, Trisalyn A. Nelson b, Timothy Stockwell c

a Department of Geography, University of Victoria, Victoria, British Columbia, Canada
b School of Geographical Sciences and Urban Planning, Arizona State University, Tempe, AZ, USA
c Centre for Addictions Research of British Columbia, Psychology Department, University of Victoria, Victoria, British Columbia, Canada

Abstract

Entertainment districts have high crime rates. Offences peak on the weekend during the operating hours of on-premises drinking establishments. To determine if proactive policing from May 1st to August 31st reduced the spatial density (kernel) or annual frequency of liquor infractions and assaults in Vancouver British Columbia Granville St. Entertainment Area (GEA) we analyzed the spatial and temporal pattern of crime pre (2006) and post (2010, 2013) the policing intervention. Crime occurred most frequently between 1:00am and 3:00am. The frequency of weekend liquor infractions significantly (p < 0.05) decreased during the proactive policing period. The magnitude of the reduction was greater for liquor infractions than assaults. Liquor infractions decreased from 121 events in 2006, to 53 events in 2010, to 91 events in 2013. Assaults decreased from 36 events in 2006, to 34 events in 2010, to 28 events in 2013. Future patrolling should focus on north-east end of Granville St. during early morning hours (1:00am-3:00am), and consider additional patrols, to increase crime reductions. In light of the recent trend to liberalize alcohol access across British Columbia we demonstrated that targeted policing strategies can reduce alcohol-attributable crime. We also provide fine temporal and spatial scale information on the patterns of crime creating evidence-based information to support policing strategies.

© 2017 Elsevier Ltd. All rights reserved.

1. Introduction

Alcohol access is known to alter the spatial and temporal distribution of crime. Crimes cluster in and around pubs and nightclubs (Burgess & Moffatt, 2011; Chikritzhs & Stockwell, 2002; Conrow, Aldstadt, & Mendoza, 2015; McFadden, Young, & Markham, 2015; Nicholas, Kershaw, & Walker, 2007; Ratcliffe, 2012), and occur most often during the operating hours of on-premises drinking establishments. For example, detailed proximity analysis shows that the likelihood of assaults increases after 7:00pm when in close proximity to on-premises liquor licenses (Morrison, Dong, Branas, Richmond, & Wiebe, 2016). Multiple studies also show that the frequency of crime increases when on-premises drinking establishments close and intoxicated patrons reconvene on the streets (Humphreys, Eiser, & Wiebe, 2013; Kypri, Jones, McElduff, & Barker, 2011; Mazzerolle, White, Ransley, & Ferguson, 2012).

Due to the spatial and temporal link between drinking establishments and crime, entertainment districts are particularly at risk for criminal offences. They provide a concentrated location of drinking establishments with loud, crowded and poorly ventilated characteristics known to increase the probability of crime (Green & Plant, 2007; Hughes et al., 2011; Lipton & Gruenewald, 2002; Livingston, Chikritzhs, & Room, 2007; Stockwell, Lang, & Rydon, 1993). On-premises drinking establishments promote intoxication and lure problem-oriented people. For example, problem venues are found to attract deviant individuals (Bromley & Nelson, 2002), vulnerable people (Graham, Bernards, Osgood, Wells, & Wells, 2006; Quigley, Leonard, & Collins, 2003), and heavy drinkers (Hughes, Anderson, Morleo, & Bellis, 2008). These sub-populations often have a higher probability of aggressive behaviour and victimization which raises the likelihood of crime in entertainment districts (Gruenewald, 2007; Wells & Graham, 2003; Zhu, Gorman, 2007).
Strategies to reduced alcohol associated crimes are needed. In Canada, 30% of all crimes are committed under the influence of alcohol (Pernanen, Cousineau, Brochu, & Sun, 2002). Studies have shown that areas with lower alcohol prices (Baldwin, Stogner, & Miller, 2014), longer sales hours, and more establishments (Campbell et al., 2009; Connor, Kypri, Bell, & Cousins, 2011; Gruenewald, 1993; Stockwell et al., 2009) have higher crime rates. Increases in alcohol sales have been linked to both violent (Conrow et al., 2015; Costanza, William, & Shihadeh, 2012; Day, Breetzke, Kingham, & Campbell, 2012; Fitterer, Nelson, & Stockwell, 2015; Franklin, Laveist, Webster, & Pan, 2010; Han & Gorman, 2013; Jennings et al., 2013; Schofield & Denson, 2013; Toomey, Erickson, Carlin, Lenk, et al., 2012; Wheeler & Waller, 2008; Zhang et al., 2015; Zhu et al., 2004) and amenity problems (public intoxication, disturbance, disorderly conduct, vandalism, and property crime, Toomey, Erickson, Carlin, Quick, et al., 2012; Wilkinson & Livingston, 2012). Despite the evidence, governments continue to relax alcohol access regulations. In British Columbia, Canada recent changes to alcohol laws have increased the hours of sales, allowed for more drink specials, and the addition of new sales establishments (Government of British Columbia, 2015). With these changes it is unlikely that the revenue and entertainment gained by increased alcohol access in British Columbia will outweigh the societal costs of the associated crime. Cost-analysis shows that crime associated with alcohol abuse is 2.9 times more expensive than drug related problems, and in the United States amounts to billions of dollars of direct and inherent costs (Miller et al., 2017). To reduce alcohol-associated crime in British Columbia, citizens will have to rely on police patrols to control alcohol-related crime.

Targeted patrolling of crime hot spots (crime clusters in small areas) is a successful method for crime reduction (Braga, Papachristos, & Hureau, 2014; Eck, Clarke, & Guerette, 2007). Braga et al. (2014) systematic review revealed that out of 19 studies, including 10 experimental designs and nine quasi experimental studies, 20 of the 25 (80%) statistical tests revealed that hot spot policing significantly reduced the frequency of crime in policed areas compared to the control regions. The meta-analysis reported a mean effect size of 0.184 across violent, property, drug, and disorder crimes categories. By policing strategy, problem oriented policing was twice as effective (0.223) than traditional policing (0.113). Meaning that police are more successful at reducing crime when they alter place characteristics and dynamics (e.g., assisted crowd control, enforcing serving laws) when compared to simply increasing patrols. Unfortunately, there have been few studies conducted to analyze the effect of police patrols on crime within entertainment regions (e.g., De Andrade, Homel, & Townsley, 2016; Mazerolle et al., 2012).

Responding to escalating violence in Granville Street Entertainment Area (GEA) of Vancouver British Columbia (1491 total incidences in 2006) the Vancouver Police began street closures and increased police patrolling in August 2007 on Friday and Saturday nights. During these closures, 16 officers are employed to greet people and monitor the area. Subsequent closures have occurred each year from May 1st to August 31st (Matthews, 2009). The goal of our study was to use density mapping techniques and interrupted time-series regression to determine if the spatial and temporal patterns, and overall frequency of liquor infractions and assaults, changed since the 2007 street closures. The results contribute to the limited number of proactive policing assessments completed within entertainment districts (e.g., De Andrade et al., 2016; Mazerolle et al., 2012) and the generally low number of studies analyzing the spatial dynamics of alcohol-related crime within entertainment regions (Fitterer & Nelson, 2015; Fitterer et al., 2015).

2. Methods

2.1. Study area

Granville Entertainment Area is an entertainment district in western Canada’s largest metropolitan city, Vancouver, British Columbia, Canada. The GEA is known for its high concentration of on-premises alcohol establishments, drawing people from nearby districts to its central nightlife (Fig. 1). The area is saturated with liquor licenses. Pubs and nightclubs have the capacity to serve 6700 people. Pubs are open until 12:00am, while nightclubs provide entertainment until 3:00am in the GEA. Thus, people spend most of their time in the area, which is a social network where alcohol is the main activity.

2.2. Data

To analyze the spatial pattern of alcohol-attributable crime and changes in the frequency of offences post the entertainment distinct street closures, the Vancouver police provided data on liquor infractions (consumption in a public place and public intoxication) and assaults (common, aggravated, sexual, against a police officer, and with a weapon) data. Quasi control (comparison) data including traffic violations, mischief, drug, robbery, and disturbance offenses, not specifically targeted by increased policing, were also included. All data were aggregated and anonymized prior to release.

Criminal reports were only provided for the years 2006, 2010 and 2013, between the 00:00 and 05:00 hr of the morning. The late night timeframe is suggested by multiple alcohol-crime researchers to capture alcohol-related offences (Breen et al., 2011; Burgess & Moffatt, 2011; Chikritzhs & Stockwell, 2007; Humphreys & Eisner, 2014; Humphreys et al., 2013; Mazerolle et al., 2012; Ratcliffe, 2012). Crime report attributes included the reported time of occurrence, criminal code, and (when available) the easting and northing coordinate location of the offence. All (100%) of the liquor and assault incidents occurring on Saturday and Sunday morning between 0:00 hr and 05:00 hr (n = 363) were mapped to their address with an accuracy rating of 97% (note this is geo-location accuracy, not the accuracy of the GPS coordinate). To protect anonymity, crime data were aggregated to monthly and seasonal frequencies and mapped as cumulative densities, instead of individual events.

On-premises liquor primary alcohol establishments were located using data downloaded from the Ministry of Justice BC Liquor control and licensing branch (http://www.pssg.gov.bc.ca/lclblicensed/index.htm). The GEA Liquor license addresses were geolocated using the Government of British Columbia GeoCoder Address List Editor (http://apps.gov.bc.ca/pub/geocoder/geo/editor/index). One hundred percent of the liquor licenses addresses were mapped with an average coordinate accuracy score of 89%. Attributes include the alcohol outlet type and seating capacity for on-premises drinking establishments (restaurants, pubs, hotels, clubs, bars). We selected the liquor primary licenses of on-premises nightclubs, bars, hotels, cabaret, and lounges with late night hours (open to at least midnight). Government liquor license data were cross-referenced with Google search to ensure the name of the venue was up to date. Our final list included 19 liquor primary establishments seating 4295 people at capacity.

2.3. Spatial analysis

To understand the spatial dynamic of assaults and liquor infractions within the GEA we stratified offences occurring early morning Saturday and Sunday (0:00 hr - 05:00 hr) between May
دریافت فوری متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات