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Availability of tobacco products associated with use of marijuana cigars (blunts)

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ABSTRACT

Objectives: This study examines factors associated with availability of tobacco products for marijuana cigars (i.e., blunts) in 50 non-contiguous mid-sized California communities.
Methods: The study is based on data collected in 943 tobacco outlets. Neighborhood demographics, community adult marijuana prevalence, medical marijuana policy and access to medical marijuana dispensaries and delivery services were included.
Results: Multilevel logistic regression analyses indicated that compared with small markets, availability of tobacco products associated with use of blunts was significantly higher in convenience stores, smoke/tobacco shops and liquor stores. None of the neighborhood demographics were associated with availability of blunt wrappers and only a small percent of Whites was positively associated with availability of blunt cigars, small cigars or cigarillos at the store. Controlling for outlet type and neighborhood demographics, higher city prevalence of adult marijuana use was associated with greater availability of blunt wrappers. Also, policy that permits medical marijuana dispensaries or private cultivation was positively associated with availability of tobacco products for blunts. Density of medical marijuana dispensaries and delivery services, however, was negatively associated with greater availability of these products at tobacco outlets.
Conclusions: Results suggest that availability of tobacco products associated with blunts is similar in neighborhoods with different socioeconomic status and racial and ethnic composition. Results also suggest the important role that community norms that support marijuana use or legalization of medical marijuana and medical marijuana policy may play in increasing availability of tobacco products associated with blunts.

1. Introduction

Marijuana use has become increasingly normalized in the US and abroad. Since 1996, California has allowed marijuana for medical use. An additional 17 states and the District of Columbia have followed suit by either allowing medical marijuana use or legalizing recreation use of marijuana. A trend among young people is smoking marijuana cigars (i.e., blunts). Marijuana cigars or blunts refer to cannabis rolled with a shell from an inexpensive cigar called a blunt, although any commonly available inexpensive small cigars or cigarillos are likely to be used (Sifaneck et al., 2005). Blunt wrappers, which are tobacco leaf rolling papers that come in sealed packages, are also sold for rolling blunts. Due to the tobacco content in the wrapper leaf, smoking marijuana cigars may be considered as concurrent use of marijuana and tobacco. In this paper, we use the term "blunts" to talk about marijuana cigars and the term "blunt cigars" to talk about the inexpensive tobacco cigar that is typically used to make the marijuana cigars. Blunt cigars are cheap, frequently available at urban convenience stores, typically pre-cut with a blunt tip (hence the name), and sold singly or in small packs of five. The present study examines factors associated with availability of tobacco products commonly used for blunts.

Epidemiological surveys indicate that blunts are most commonly used by emerging adults (age 18–25), and that their use is generally increasing across all age groups. In 2005, 3.5% of all American youth aged 12–17 years were estimated to have used blunts in the past month (National Survey on Drug Use and Health, 2007), and a study among young adults aged 18–25 reported that between 2005 and 2008 past month blunts use ranged between 9% and 10.1% (Cullen et al., 2011). By comparison, in 2011, 4.1% of youth aged 12–17 years, 11% of young adults aged 18–25 years, 4.2% of adults aged 26–34 years and 1% of adults aged 35 or older reported using blunts in the past month (Substance Abuse, 2013). A recent study reported a moderate increase in the annual prevalence

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of blunt smoking among respondents aged 12–34 years old from 12% in 2004 to 14% in 2010 (Timberlake, 2013). Other studies indicate that blunt smoking appears to be practiced among a growing number of racial/ethnic groups (Timberlake, 2013), such as Southeast Asian youth and young adults in California (Soller and Lee, 2010).

Previous studies have found that, compared to other intake forms of marijuana, smoking blunts is more associated with male gender, low GPA, poor school attachment, not attending college, not working, and living in low income areas (National Survey on Drug Use and Health, 2007; Ream et al., 2006; Soldz et al., 2003; Timberlake, 2009). Also, blunts smokers may have greater odds of being dependent on cannabis and tobacco and are at risk for smoking-related diseases (Golub et al., 2005; Timberlake, 2009). While tobacco remains the leading cause of preventable and premature death, killing an estimated 443,000 Americans each year (U.S. Department of Health and Human Services, 2012), risks associated with marijuana use include impaired respiratory, cardiovascular and cognitive functioning and reduced mental health, as well as impaired driving ability and impaired function in school and at work (Center on Addiction and Substance Abuse, 2008; Compton et al., 2009; Foley, 2006; Pujazon-Zazik and Park, 2009).

Blunts availability is likely to increase blunts use and problems associated with marijuana and tobacco use in local neighborhoods. Previous research suggests that exposure to and availability of drugs increase drug use and abuse (Crum et al., 1996; Freisthler et al., 2005; Saxe et al., 2001; Storr et al., 2004a,b). However, very little is known about availability of tobacco products associated with use of blunts. Studying the associations between neighborhood characteristics and availability of tobacco products used for blunts may help to identify areas at risk for blunts use and help policymakers and community advocates make better decisions about allocation of prevention resources.

Analyzing 2000–2003 data from the National Survey on Drug Use and Health (NSDUH), Golub et al. (2005) showed that more than half (54.7%) of past-30-day marijuana users also reported current use of blunts. Among current blunts users, over two-thirds (68%) reported no current use of cigars, indicating blunts smokers may not define this practice as tobacco use. Similarly, a recent study suggested that young people recognize blunts as a form of marijuana use but do not recognize it as cigar use (Delnevo et al., 2011). Qualitative studies have also shown that youths may not consider blunts smoking to be a form of cigar use at all (Moolchan et al., 2005; Yerger et al., 2001). These studies suggest the importance of studying the relationships between availability of tobacco products associated blunts use and societal-level influences related to normalization of marijuana use. Increased recognition of "recreational drug use" (Glassner and Loughlin, 1987; Nicholson et al., 2002; Parker et al., 1998) and increased support for legalizing some forms of marijuana use (Millhorn et al., 2009) may contribute to normalization of marijuana and therefore to availability of products associated with blunts use.

Societal-level influences related to normalization of marijuana use in the community may include rates of adult marijuana use. Recent studies have found that prevalence of adult drinking or smoking in the community are associated with increased underage drinking and youth cigarette smoking (Chen et al., 2010; Paschall et al., 2012; Thrul et al., in press). These studies suggested that the level of adult drug use in the community reflect both community drug norms and availability. Medical marijuana policy and availability should also be considered as social influences related to normalization of marijuana. Our previous studies indicated that tobacco and alcohol policies were directly related to community norms (Lipperman-Kreda et al., 2009, 2010). Although blunts smoking and use of other forms of marijuana may be seen as different practices (Dunlap et al., 2005; Johnson et al., 2006; Ream et al., 2006), medical marijuana dispensaries might increase availability and ease of access to marijuana. Also, medical marijuana dispensaries may indirectly affect general acceptability of marijuana in the community. The present study focuses on the associations between availability of tobacco products for blunts and social factors including neighborhood demographics, community-level marijuana use, medical marijuana policy and access to medical marijuana dispensaries and delivery services.

2. Methods

2.1. Study sample and survey methods

This study used data from access surveys conducted at 1000 tobacco outlets in 50 California cities with populations between 50,000 and 500,000. The sampling procedures for the 50 cities are described elsewhere in detail (Lipperman-Kreda et al., 2012a,b). This sample was a purposive geographic sample intended to maximize validity with regard to the geography and ecology of the state. Twenty randomly selected tobacco outlets in each city were surveyed. The sampling procedures for the tobacco outlets and survey procedures are also described in detail (Lipperman-Kreda et al., 2012a).

The current study is based on data from 943 outlets with data for at least one of the outcome variables. In each city, data for the study were available for between 14 and 20 outlets ($M = 18.86$, SD = 1.56). The selected tobacco outlets in each city were surveyed by two research assistants. At each outlet, a single research assistant attempted to purchase a pack of cigarettes and conducted a brief observation. After leaving the outlet, the research assistants recorded outlet data on a standardized form including whether blunt cigars, small cigars or cigarillos and blunt wrappers were for sale. Institutional review board approval was obtained prior to study implementation.

2.2. Measures

2.2.1. Outlet availability of tobacco products associated with blunts. The unit of interest for this study was tobacco outlets. The two binary outcome variables were (1) sale of blunt cigars, small cigars or cigarillos and (2) sale of blunt wrappers.

2.2.2. Type of outlets. Research assistants also documented the type of outlet they surveyed (i.e., small market, supermarket, convenience store, pharmacy/drug store, liquor store, tobacco store, and other). We created six outlet type dummy variables with small market as the reference category.

2.2.3. Outlet block group demographics. Demographic data were 2010 estimates for the census block group in which each outlet was located (GeoLytics Inc., 2010). Measures used in this study included population density (i.e., population per square mile), proportion aged under 18 years, proportion White, proportion African American, proportion Hispanic, median household income, proportion with a college education, and proportion unemployed. A single socioeconomic status (SES) factor score was derived from median family income, proportion of population with a college education, and proportion unemployed. Other measures were standardized.

2.2.4. Prevalence of past year adult marijuana or hashish users. Adult prevalence of past year marijuana use in each city was ascertained from 8807 adults over the age of 18 years old (M age = 54.79, SD = 17.46) who participated in a general population telephone survey conducted in the same 50 cities (Gruenewald and Remer, in press). Respondents were surveyed through a computer-assisted telephone interview. Listed addresses and telephone numbers obtained from various sources were used to develop a sample for the study. Listed samples of phone numbers is unbiased relative to random digit dialing techniques (Brick et al., 1995; Kempf and Remington, 2007; Tucker et al., 2002). Respondents were asked if they ever, even once, used marijuana or hashish. Respondents who had used marijuana or hashish were then asked about the number of days in the past 12 months they used marijuana or hashish. Those who reported never using marijuana or hashish or not doing so in the past 12 months were assigned a value of 0. All the others were assigned the value of 1. Adult prevalence of past year marijuana use was computed as the percent of past 12 month marijuana or hashish users in each city. Because of the skewed distribution, this variable was $\log_{10}$ transformed for analyses.

2.2.5. Medical marijuana dispensary/private cultivation policy. Although California allows medical marijuana use, the state leaves regulations regarding the distribution of medical marijuana to patients up to local jurisdictions. Some localities have banned the distribution of marijuana through storefront dispensaries, have strict regulations on cultivation sites, have density restrictions on dispensaries, or some combination. Between June 2012 and July 2012, local city ordinances (e.g., municipal codes) and policies around distribution and cultivation of marijuana were reviewed to determine whether the city permitted medical marijuana dispensaries or private cultivation in its jurisdiction. Cities were coded as allowing (1) or not allowing