The effect of cross-border mobility on alcohol and drug use among Mexican-American residents living at the U.S.–Mexico border

Cheryl J. Cherpitel [a,*], Yu Ye [a], Sarah E. Zemore [a], Jason Bond [a], Guilherme Borges [b]

[a] Alcohol Research Group, Emeryville, CA 94608, United States
[b] National Institute of Psychiatry, Autonomous Metropolitan University of Mexico, Mexico City, Mexico

HIGHLIGHTS

- Cross-border mobility variables were related to alcohol and drug use and problems.
- "Drug tourism" is a strong predictor of substance use across the age spectrum.
- Substance treatment at the border should be aimed at co-morbid alcohol and drug use.

ARTICLE INFO

ABSTRACT

Introduction: Little epidemiological evidence exists on alcohol or other substance use and related problems along the U.S.–Mexico border, although the border has been the focus of recent media attention related to the escalating drug/violence "epidemic". The purpose of this study was to analyze the association of variables related to crossing the border (cross-border mobility) with three substance use outcomes reported for the last year: 1) heavy drinking (5+ drinks per day for men or 4+ for women), 2) alcohol use disorder (AUD), and 3) co-occurring heavy drinking and drug use (any use of illicit and/or non-medically prescribed drugs).
Methods: Household surveys were conducted, using area probability sampling of 1565 Mexican-American residents, aged 18–65, living at the Texas–Mexico border in the metropolitan areas of Laredo and McAllen/Brownsville.
Results: Among those 18–29, more frequent crossing of the border was significantly predictive of AUD (OR = 1.61, p < 0.01) and co-occurring heavy drinking and drug use (OR = 1.70, p < 0.01). Staying more than one full day was predictive of AUD (OR = 3.07, p < 0.001) and crossing to obtain over-the-counter or prescription drugs ("drug tourism") or for nightlife/drinking were predictive of heavy drinking (ORs = 4.14, p < 0.001; 3.92, p < 0.01, respectively), AUD (ORs = 7.56, p < 0.001; 7.68, p < 0.01, respectively) and co-occurring heavy drinking and drug use (ORs = 8.53, p < 0.01; 4.96, p < 0.01, respectively). Among those 30–65, staying more than a full day and crossing for pharmaceutical reasons were predictive of heavy drinking (OR = 2.54, p < 0.001; 2.61, p < 0.05, respectively) and co-occurring heavy drinking and drug use (OR = 3.31, p < 0.001; 4.86, p < 0.01, respectively), while none of the mobility variables were predictive of AUD in this age group.
Conclusions: Cross-border mobility may play an important role in substance use and problems, especially among those 18–29. Findings also highlight the importance of "drug tourism" in substance use across the age spectrum.

1. Introduction

Individuals of Mexican origin constitute the largest subgroup of Hispanics in the U.S. (70%), with over half of these Mexican-Americans living in the four states (California, Arizona, New Mexico, Texas) bordering Mexico (Bureau of Transportation Statistics, 2011; Romellón & Vazquez, 2007). The U.S.–Mexican border stretches approximately 2000 miles (from the Pacific Ocean to the Gulf of Mexico) and is defined on the U.S. side by the 25 counties touching the border across these four states (Driessen & De Cosío, 1995). About 90% of those living on both sides of the border are concentrated in 12 bi-national metropolitan areas, including nine sister-city pairs, and Texas, with 16 border counties and six of these sister-cities, contain the highest concentration of Mexican-Americans living at the border in the U.S.

The U.S. border is characterized by economic interdependence with Mexico, and areas on both sides, including sister city pairs, are major points of commerce and increased trans-border movement (Ward,

* Corresponding author. Alcohol Research Group, 6475 Christie Avenue, Suite 400, Emeryville, CA 94608, United States. Tel.: +1 510 597 3453; fax: +1 510 985 6459.
E-mail address: ccherpitel@arg.org (C.J. Cherpitel).

1999). Border residents are able to enter a designated zone with fewer legal restrictions than those which apply to secondary checkpoints further away from the border (Martínez, 1994), facilitating movement back and forth across the border (cross-border mobility) and allowing individuals to shop, visit, and conduct business or work, as well as to obtain medical services and pharmaceuticals (Richardson, Bolillos, Pochos, & Pelados, 1999). More than 800,000 people crisscross the border legally everyday (United States–Mexico Border Health Commission, 2005), and of these the vast majority are residents of the border area and make frequent crossings.

The border has become an area of recent media attention due to high rates of drug-related violence including homicide, smuggling and kidnappings (Archibold, 2009; Hendricks, 2007; Rhee, 2009; Swarns, 2006), as well as increasing policy and legal tension, as heightened security measures mandate increased border protection. While characteristics of border life, including high mobility of the population on both sides, have been associated with various stressors, little is known about the role played by border proximity and cross-border mobility on substance use and problems. One study conducted in Texas in 2002–03 found that while volume of consumption among Mexican-Americans living at the border was no greater than that for those living off the border, problems of abuse and dependence were higher, with 23% reporting one or more episodes of binge drinking during the previous month, 7% reporting heavy drinking, and 12% reporting symptoms of alcohol dependence (Caetano, Ramisetty-Mikler, Wallisch, McGrath, & Spence, 2008; Wallisch & Spence, 2006). Comparison of these data with an earlier 1996 survey in Texas found that past-year alcohol use disorders had doubled at border sites during this period (Wallisch & Spence, 2006). This same study also found life-time and past-year drug use and problems increased significantly, paralleling the rise in alcohol use and problems during this same time. Another study comparing Mexican-Americans living at the border with those residing in several non-border metropolitan areas throughout the U.S. found no overall difference in volume of consumption, binge drinking (Caetano, Mills, & Vaeth, 2012) or alcohol-related problems (Vaeth, Caetano, Mills, & Rodriguez, 2012) between border and non-border locations, although young adults aged 18–29 on the border reported higher rates for all outcomes than their non-border counterparts (Caetano, Vaeth, Mills & Rodriguez, 2013).

Recent analysis of data from the U.S.–Mexico Study on Alcohol and Related Conditions (UMSARC), which compared the association of border proximity with alcohol use disorders (AUD) among Mexican-American adults living at the Texas–Mexico border with those living in a non-border location, found the prevalence of AUD was greater among those living at the border at the same average monthly volume and number of heavy drinking days (Cherpitel et al., 2015). Co-occurring hazardous alcohol and drug use was also more common among those living at the border than those not (Borges et al., in press).

Those residing at the border may be especially vulnerable to harmful alcohol and drug use and related problems, due to the effects of alcohol advertising, under-enforced drinking age, and greater availability of alcohol at low cost in Mexico. For example, Mexican bars cater to young people, facilitating heavy drinking by advertising inexpensive alcohol in large quantities, and public drunkenness is accepted in bars and near border crossings, where the volume of foot and vehicle traffic prohibits citations for public drunkenness, underage drinking, or drinking and driving (Lange & Voas, 2000). A study of those crossing the border from Tijuana between midnight and 4 a.m. on weekend nights found most were Mexican-American (76%) pedestrians returning from a bar or restaurant, half reported an intention to get drunk, and more than 30% had blood alcohol concentrations (BACs) of .08 or greater (Lange, Lauer, & Voas, 1999). A similar study of crossings from Juarez to El Paso found 64% of the pedestrian crossers were Mexican-American, and 36% of all pedestrian crossers had a BAC of .08 or above (Lange & Voas, 2000). A general population survey of border residents found among Mexican-Americans, over 50% reported visiting bars in Tijuana

at least once in the last year (Lange, Voas, & Johnson, 2002), with rates greater than for non-Mexican-Americans. Another study of Mexican-American border residents found those who reported drinking in Mexico reported significantly more drinks per week, and were more likely to binge drink and to report problems related to drinking compared to those not drinking in Mexico (Caetano, Mills & Vaeth, 2013).

Additionally, enhanced access to pharmaceutical drugs in Mexico (many of which are not available in the U.S.), has also been a major reason for crossing the border to Mexico. Known as "Drug tourism", U.S. custom laws allow pharmaceuticals purchased in Mexico to be brought into the U.S. if accompanied by a Mexican prescription (Valdez & Sifaneck, 1997), enabling cheap and easy access to a variety of drugs for recreational purposes.

Potential stresses related to the drug/violence "epidemic" at the U.S.–Mexico border, coupled with a high volume of border crossings (for a number of reasons including drinking and "drug tourism") among those living at the border, may result in problematic substance use, but epidemiological research on alcohol and drug use and related problems among these individuals is sparse. Reported here are findings from UMSARC on the association of cross-border mobility with substance use. We hypothesize that frequency of crossing the border, length of stay, and crossing for pharmaceutical reasons or for nightlife/drinking will be positively predictive of heavy drinking, alcohol use disorder, and co-occurring heavy drinking and drug use. Findings here will help elucidate the manner in which cross-border mobility may be related to substance use and problems at the border, predisposing individuals to harmful substance use. Because Texas includes almost two-thirds of all U.S. border counties, findings here are expected to increase our understanding of alcohol and drug use patterns and problems within the border context, potential treatment needs in this population, and factors which can impact the clinical course of substance use and substance use treatment among these individuals (Schuckit, Smith, & Kalmijn, 2014).

2. Methods

2.1. Household survey sample

Area probability sampling with face-to-face interviewing was carried out on Mexican-American respondents between the ages of 18 and 65, living in the three Texas border metropolitan areas of Laredo (Webb County) (n = 751) and McAllen/Brownsville (Cameron/Hidalgo Counties) (n = 814). Those interviewed across the combined border sites reflect a cooperation rate of 85.1%, based on households in which enumeration indicated that an eligible respondent (i.e., a Mexican-American adult in appropriate age range) was confirmed to reside, and a response rate of 53.4%, based on the fraction of those households in which enumeration was not conducted that were estimated to contain eligible residents, both using version 4 of the American Association for Public Opinion Research (AAPOR) (The American Association for Public Opinion Research, 2011).

Metropolitan areas were selected because they comprise a large proportion of Mexican-American individuals living in the Texas border counties; about 75% is Mexican-American (United States Census Bureau, 2007). The *Laredo* metropolitan area, located midway along the Texas–Mexico border, is a major commercial and retail link between Mexico and Texas (Wallisch & Spence, 2006). The *McAllen* and *Brownsville* metropolitan areas, located along the eastern side of the Texas–Mexico border, lie in the southernmost part of the Rio Grande river valley.

2.2. Fieldwork data collection

Interviews of about 45 min in length were conducted in the respondent's own home by the Public Policy Research Institute (PPRI) at Texas A&M University. Using multistage area-probability sampling (with stratification by city), primary sampling units (PSU), defined as