Alcohol abuse and dependence among U.S.-Mexico border and non-border Mexican Americans

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Abstract

BACKGROUND—This paper examines the prevalence, the symptom profile, and the drinking and sociodemographic predictors of current (past 12 month) DSM-IV alcohol abuse and dependence among Mexican Americans living along the U.S.-Mexico border and those living in metropolitan areas away from the border.

METHODS—Respondents in the non-border areas (primarily Houston and Los Angeles) constitute a multistage probability sample (N=1,288) of these areas, interviewed as part of the 2006 Hispanic Americans Baseline Alcohol Survey (HABLAS). Respondents in the border area (N=1,307) constitute a household probability sample of Mexican Americans living on the border. In both surveys, data were collected during computer assisted interviews conducted in respondents' homes. The HABLAS and the border sample response rates were 76% and 67%, respectively.

RESULTS—Although bivariate analyses revealed no overall differences between border and non-border locations, (negative) age trends were more pronounced on the border for male abuse and for dependence among both genders. Among females aged 18–29, border residence was linked to significantly higher rates of dependence. In multivariable analyses, the prevalence of male abuse declined more rapidly with age on the border than off the border. Other unique predictors of male abuse were Jewish/other religion and weekly volume of alcohol consumption. Being married or out of the workforce, attaining a higher education, no religious preference, and weekly volume uniquely predicted female dependence. Age and weekly volume uniquely predicted male dependence.

CONCLUSIONS—The prevalence of alcohol use disorders among Mexican Americans on and off the U.S.-Mexico border largely mirrors previously documented patterns of alcohol consumption in these areas. For young Mexican-American women in particular, border residence is linked to heightened vulnerability to alcohol dependence.

Keywords

Mexican Americans; U.S.-Mexico border; alcohol consumption; alcohol abuse and dependence

INTRODUCTION

About 7.3 million people live in the 24 U.S. counties that border Mexico, of which about 4 million (approximately 55%) are Hispanic and overwhelmingly Mexican American. There are several characteristics of border regions that affect the wellbeing of its residents. First,

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the border is characterized by poverty, under education, and unemployment (Gerber, 2009; U.S./Mexico Border Counties Coalition, 2007). Second, the border has high rates of certain health problems such as tuberculosis, hepatitis A, and liver disease (CDC, 2008a; 2008b; PAHO, 2007). Third, border regions are designated as "High Intensity Drug Trafficking Areas" (Office of National Drug Control Policy, 2011). Although drug-related violence appears to be more prevalent on the Mexican side of the border, there is concern that violence may "spill over" to the U.S. side and affect residents there (Johnston, 2011).

There are additional factors on the border that may put its residents at an elevated risk for certain patterns of alcohol use (such as binge drinking) and by implication, rates of alcohol problems, relative to non-border residents. These include the border's relatively young population (the median age of border Hispanics is 26.9 years versus 40 years for border non-Hispanics; Harrison and Kennedy, 1994; La Fe Policy and Advocacy Center, 2006). This is significant because young adults on the border are at greater risk for binge drinking (Caetano et al., 2012). In addition, youth and young adults may be particlarly influenced by the excessive tobacco and alcohol advertising on the border (Fleming et al., 2004; Power, 1998). The border's close proximity to a country with distinct drinking norms may also impact patterns of drinking (Caetano, 1987). Factors such as age and drinking norms are also known to predict alcohol problems independently of alcohol consumption patterns (Caetano et al., 2011; Mäkelä, 1978; Midanik and Clark, 1995). There is substantial population contact across the U.S. and Mexico. In 2010, for example, there were about 39.9 million pedestrian crossings at the border's main ports of entry (U.S. Department of Transportation, 2011). Crossing into Mexico for the sole purpose of drinking is common, particularly among young adults (Caetano et al., 2012; Lange et al., 2002). In Mexico, alcohol is less expensive and the legal drinking age is 18 (and loosely enforced; Lange et al., 2002). In fact, the lower price of alcohol and the easy ability to get drunk were important reasons among young people for drinking in Mexico (Lange et al., 2002). These considerations suggest that the prevalence of alcohol problems among border Mexican Americans may be very different from the U.S. general population and from Mexican Americans nationally. An accurate epidemiological picture of alcohol problems on the border is therefore important to the public health of this region.

This epidemiological picture is beginning to emerge, although it is far from complete. One major complication is that existing epidemiological evidence is not uniform. For example, Harrison & Kennedy (1996) reported that rates of alcohol use among a largely urban sample of Hispanics on the border was lower than among Hispanics nationally, and Holck et al. (1984) found that Mexican American women on the border were more likely to abstain from alcohol than were Anglo women on the border. However, Wallisch (1998) reported that Hispanics on the Texas-Mexico border had higher rates of alcohol use and comparable rates of heavy drinking to Hispanics nationally. In a more recent sample of the Texas-Mexico border, levels of alcohol use were generally similar between Hispanics on the border and nationwide, but alcohol abuse and dependence rates were somewhat higher on the border relative to nationwide data (particularly among young adults; Substance Abuse and Mental Health Services Administration, 2004; Wallisch and Spence, 2006).

Moreover, differences between border and national estimates may be accentuated among men. For example, border and nationwide estimates of Hispanic female binge drinking and alcohol use disorders (AUDs) are comparable. However, the rate of male binge drinking among border Hispanics is 36% (versus 23% nationwide), and, compared to Hispanics nationwide (abuse: 3.9%; dependence: 3.9%), the rates of AUDs for males on the border are roughly doubled for abuse and more than tripled for dependence (7% and 14.5%, respectively; Caetano et al., 2008c; 2010; Grant et al., 2004a). Further, Mexican Americans appear to be a particularly vulnerable Hispanic subgroup relative to other U.S Hispanic

national groups (with the exception of Puerto Ricans; Caetano et al., 2008b). For example, the prevalence of alcohol dependence among Mexican Americans nationwide is 9.8% (Grant et al., 2004b). This exceeds the national rate for Hispanics (3.9%), yet it is still lower than rates reported on the border (14.5%) Caetano et al. (2008c).

A second major complication, and one that likely contributes to the inconsistent findings reviewed above, is that existing studies show substantial methodological fragmentation in their population coverage and alcohol measures. For example, most alcohol studies of the border population have focused only on the Texas-Mexico border (e.g., Caetano et al., 2008c; Wallisch, 1998; Wallisch and Spence, 2006), ignoring the other 3 border states. Some studies have been designed to study all border residents (ignoring ethnicity), who are then compared to groups living outside the border (e.g., Wallisch, 1998). In other cases, the focus is on comparisons across different groups of border residents (e.g., metropolitan versus rural areas, colonia versus non-colonia, Hispanics across acculturation levels, or Mexican Americans versus Anglos; Caetano et al., 2008c; Holck et al., 1984; Wallisch and Spence, 2006). In yet another type of comparison, Hispanics along the border are compared to all U.S. Hispanics (e.g., Harrison and Kennedy, 1996). Regarding alcohol measures, these studies also vary widely in the types of variables collected (e.g., any use, heavy drinking/binge, or alcohol problems) and its referenced time frame (e.g., lifetime, past year, past month, past week).

Mexican Americans nationally and Mexican Americans on the *Texas*-Mexico border are at particular risk for alcohol abuse and dependence (Caetano et al., 2008b,c). This, along with the inconsistent findings and methodological difficulties of previous research, underscore the need for a clearer understanding of how border residence influences alcohol problems among Mexican Americans. Our specific objective is to examine prevalence rates and the sociodemographic correlates of alcohol abuse and dependence among Mexican Americans living both on and off the U.S.-Mexico border. Our predictions and analytic approach are based on the epidemiological research reviewed above, other studies with U.S. Hispanics, and previously published analyses of these current data (Caetano et al., 2012). In particular, those analyses showed that after adjusting for background characteristics, (a) border men reported a higher volume of drinking than non-border men and (b) negative age trends in female prevalence and volume of drinking were more accentuated on the border than off the border. Although age by location interactions were not significant for men in multivariate analyses, male age trends for both volume and binge in bivariate analyses had the same basic form, where trends were more negative on the border. For both men and women, these trends were largely a consequence of elevated drinking levels among younger age groups. Given these patterns of drinking, we predict that border residents – and particularly younger border residents – will report higher overall rates of alcohol abuse and dependence. Moreover, alcohol problems are known to vary independently of alcohol consumption, particularly among younger age groups (e.g., Caetano et al., 2011; Selin, 2005). For example, drinking norms may not only increase the likelihood of drinking, but they may also have an independent impact on the likelihood that problems are recognized or reported (e.g., Knupfer, 1984; Mäkelä, 1978). Consequently, we predict these effects will hold independently of alcohol consumption.

MATERIALS AND METHODS

Interviews were conducted among 1,307 Mexican Americans in the U.S.-Mexico border counties of California (Imperial County: N=365), Arizona (Cochise, Santa Cruz, and Yuma Counties: N=173), New Mexico (Dona Ana County: N=65), and Texas (Cameron, El Paso, Hidalgo and Webb Counties: N=704) between March 2009 and July 2010. For increased comparability with the non-border HABLAS sample, data for the border sample were

collected in urban areas only. Non-border Mexican American respondents (N=1,288) were interviewed as part of the 2006 Hispanic Americans Baseline Alcohol Survey (HABLAS), which sampled from 5 metropolitan areas of the U.S. Most of these 1,288 respondents were interviewed in Los Angeles (N=609) and Houston (N=513), and additional interviews were conducted in New York (N=86), Philadelphia (N=59), and Miami (N=21).

Both the border and non-border surveys used the same multistage cluster sampling methodology, with the only exception being that the border methodology also involved stratifying by county, with all primary sampling units coming from urban areas. Weighted response rates for the border and non-border surveys were 67% and 76%, respectively (out of all possible people selected into the study, whether reached or not). Both studies sampled the adult population 18 years or older and determined Mexican American ethnicity via self-identification. The 2 studies also used identical questionnaires, with the exception of a series of questions about drinking across the border in Mexico, which were asked only in the border study. The questionnaire was pre-tested in English, then translated into Spanish, then back-translated to English. Trained bilingual interviewers conducted Computer Assisted Personal Interviews at the respondents' home that lasted about 1 hour. In both studies, respondents received a $25 incentive for participation and provided written informed consent. Both surveys were approved by the Committee for the Protection of Human Subjects of the University of Texas Health Science Center at Houston.

Measures

Alcohol abuse and dependence (past 12 months)—This was queried with questions taken directly from the Composite International Diagnostic Interview – Substance Abuse Module, DSM-IV version (Cottler et al., 1989). This operationalization covers the 7 criteria for alcohol dependence as well as the 4 criteria for alcohol abuse described in the DSM-IV of the American Psychiatric Association. Abuse criteria include (1) recurrent alcohol use resulting in a failure to fulfill major role obligations, (2) recurrent alcohol use in physically hazardous situations, (3) recurrent alcohol-related legal problems, and (4) continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by alcohol. Dependence criteria include (1) tolerance, (2) withdrawal, (3) alcohol use in larger amounts or over a longer period than intended, (4) a persistent desire or unsuccessful efforts to cut down or control alcohol use, (5) a great deal of time spent obtaining, using, or recovering from the effects of alcohol, (6) giving up or reducing important social activities because of alcohol use, and (7) continued alcohol use despite knowledge of a persistent physical or psychological problem likely to have been caused or exacerbated by alcohol. Respondents who reported 1 or more criteria for abuse in the past 12 months were considered alcohol abusers. Respondents who reported 3 or more dependence criteria were considered alcohol dependent.

Alcohol variables—*Drinking status:* 1) abstainers (including ex-drinkers and lifetime abstainers), and 2) current drinkers (drank any alcohol in the past 12 months). *Average number of drinks per week (past 12 months):* Average weekly alcohol consumption based on the self-reported frequency and quantity of drinking any type of alcohol.

Demographic variables—*Location:* Border versus non-border. *Age:* Measured in continuous years and categorized into 4 groups for crosstabulations (18–29, 30–39, 40–49, and 50+ years) and treated continuously in regression models. *Marital status:* 1) married/ living with spouse/living with someone, 2) married not living with spouse/legally separated/ divorced/widowed, and 3) never married/never lived with someone. *Education:* 1) less than a high school education, 2) high school diploma/GED, 3) some college, technical/vocational school, or beyond. *Employment status:* 1) full/part-time employment, 2) unemployed:

temporary illness/unemployed, looking/unemployed, not looking/in school, and 3) retired/ disabled/never worked/homemaker/other. *Religion*: 1) Protestant, 2) Catholic, 3) Jewish/ other, and 4) no religious preference. *Income:* Total household income with 12 possible responses ranging from <$4,000 to >$100,000. For missing income data (15.2%), log-transformed income was multiply imputed 10 times and used in the analyses (see Caetano et al., 2008a for details).

The grouping of some demographic characteristics was done based on similarity between groups and also because some groups were too small to remain separate and provide stable results in the analyses (e.g., technical and vocational education, and disabled employment status).

Statistical Analysis

Analyses were conducted with Stata 11.1 (StataCorp., 2009) on data weighted to the 2006 Current Population Survey (U.S. Census Bureau, 2006). The purpose of weighting is to correct for unequal probabilities of selection into the sample. A poststratification weight was applied to correct for nonresponse and adjust the sample to known Hispanic population distributions on demographic variables (education, age, and gender). A rst-order Taylor series linear approximation was used to account for the complex sampling design. Bivariate associations were assessed with chi-square statistics. Logistic regression was used to assess predictors of alcohol abuse and dependence. Based on previous findings of interactions involving border residence, age, and gender (Caetano et al., 2012), interactions between these variables were tested. Preliminary models were fit using the average of the 10 imputed income values, and final model estimates were obtained by combining estimates from analyses on each of the 10 imputed datasets using Rubin's rules (Carlin et al., 2008; Rubin, 1987). All multivariate models were run with and without adjustment for alcohol consumption. Models that did not adjust for consumption differed in no substantive way from those that did. We report results for models that control for consumption. Predicting an alcohol problem index, such as alcohol abuse or dependence, while adjusting for consumption is an approach used in a broad range of studies on the sociocultural and environmental underpinnings of age, gender, and ethnic disparities in alcohol problems (e.g., see Caetano et al., 2011; Livingston and Room, 2009; Midanik et al., 1996; Selin, 2005). Group differences that remain after adjusting for alcohol consumption are also a key prediction of influential theoretical perspectives in alcohol research (e.g. Knupfer, 1984; Mäkelä, 1978).

RESULTS

Sample Description (weighted)

The gender distribution in the sample was almost equally split, with 51% being female (border: 53%; non-border: 48%). The border sample had a higher mean age (41.3 years versus 37.8 years in the non-border sample) and more than half of the respondents were married or lived with someone (border: 58.3%; non-border: 59.7%). Nearly half of the respondents had less than a high school education (border: 49.0%; non-border: 48.0%) and those in non-border areas were more likely to be employed part- or full-time (61.2% versus 45.4% among border residents). The mean annual income was $28,500 (SE = 2.0) for those on the border compared to $26,000 (SE = 1.2) for non-border residents.

Prevalence Rates of Abuse and Dependence by Age

There were no statistically significant differences by age in the prevalence of abuse for men and women within or between locations (Table 1). Notice, however, that among 18–29 year old men, the prevalence of abuse was almost 2 times higher among those on the border than

among those off the border (9.0% and 5.1%, respectively). This pattern reversed for 50+ year olds (border: 2.2%; non-border: 7.7%). Among women, the prevalence of abuse was generally low and comparable across border and non-border locations for all age groups.

Tests of the effect of border residency on dependence prevalence in gender-age subgroups revealed a significant effect among 18–29 year old females (6.4% versus 1.7%; Table 1). An examination of the distribution of dependence by age within locations showed that age was significantly associated with dependence among men and women on the border but not among those off the border. Among those on the border, the rate of alcohol dependence decreased considerably in older age groups, especially for those 50 years of age and older. For example, between the youngest and oldest age groups, the prevalence of dependence decreased by a factor of 16 for women (6.4% to 0.4%) and by a factor of 3.6 for men (24.0% to 6.6%).

Prevalence of Abuse and Dependence Criteria

Among men, analysis of prevalence data for each criterion of abuse did not show any statistically significant differences in prevalence by location (data now shown). Criterion prevalence ranged from 2.0% to 9.5%. The most common criterion in both locations was "hazardous use" (non-border, 8.9%; border, 9.5%). Among women, the prevalence of "legal problems" was higher in non-border than in border locations (non-border, 0.4%; border, 0.1%; chi square, p<.001). The prevalence of other abuse criteria among women ranged from 0.2% to 1.5%.

Among men, analysis of dependence criteria did not show any statistically significant differences between the border and non-border samples. Among women, the only statistically significant difference between the border and non-border samples was for tolerance (non-border, 1.6%; border, 4.4%; chi square, p<.05). The most prevalent criterion among both men and women, independent of location, was "cut down/control drinking" (non-border men, 26%; border men, 25%; non-border women, 7%; border women, 6%).

Correlates of Abuse and Dependence

Results from logistic regression among women indicated that none of the variables in the model were statistically significant predictors of alcohol abuse (Table 2). Among men, an interaction effect was detected between border residence and age. At younger ages, men on the border were at higher risk for abuse than men off the border, but this effect of border residence dissipated at older ages. Religious affiliation was also associated with abuse among men; Jewish/other religious affiliation was a protective factor for abuse. Finally, and as expected, the number of drinks consumed per week also increased the likelihood of alcohol abuse among men.

Among women, the likelihood of alcohol dependence was higher among those who were married not living with spouse, separated, divorced, or widowed, as well as among those who were retired, homemakers, disabled, or never worked. In addition, the likelihood of dependence was greater among women with more than a high school education compared to those without a high school diploma, as well as among women with no religious preference compared to Catholics (Table 3). The average number of drinks consumed per week was also associated with alcohol dependence. Among men, the correlates of dependence include age (i.e., older age was protective) and the number of drinks consumed per week.

DISCUSSION

The U.S.-Mexico border is an area at a considerable disadvantage economically and health wise. In conjunction with Mexico's lower legal drinking age, the heightened availability of

alcohol on the Mexico side of the border makes it an attractive location where U.S. residents under 21 years of age can legally drink. These considerations motivated the present study's primary hypothesis that rates of DSM-IV alcohol abuse and dependence would be higher among Mexican Americans on the border than in non-border areas, and these differences would be particularly elevated among younger age groups. This hypothesis was partially confirmed. With the exception of female alcohol abuse, negative age trends in unadjusted rates of alcohol use disorders were more pronounced on the border than off for both men and women (Table 1). In particular, rates of alcohol dependence were significantly higher among young (18–29) border women than young non-border women, as predicted. This variation in age trends of alcohol use disorders on and off the border is consistent with patterns of volumetric intake and binge drinking across these groups (Caetano et al., 2012), particularly for women. However, although overall age trends followed the same basic pattern for men, tests of border residency effects never reached significance for any specific male age group in bivariate comparisons.

The general hypothesis of the study also received some unanticipated support in the regression model for male alcohol abuse. Despite controlling for alcohol consumption, a similar interactive pattern was observed: At younger ages, border males were at higher risk for abuse (OR = 5.48, $p < .05$), but this heightened risk dissipated by about 5% with each additional year (OR = .95, $p < .05$). This suggests that, although age and border residency effects on female abuse (and as discussed below, dependence) appear to be largely accounted for by volumetric intake and other sociodemographic characteristics, these variables do not entirely explain differences among males.

Turning now to possible explanations of these results and secondary findings of the study, there are 2 potential factors that could explain the findings for alcohol abuse among males. First, factors such as the increased availability of alcohol in Mexico and a lower legal drinking age may especially affect younger males. Although drinking in Mexico did not predict overall drinking among men in a previous analyses of this data (Caetano et al., 2012), Clapp et al. (2001), Lange and Voas (2000), and Lange et al. (2002) all reported that young men living near the border often go to Mexico specifically to binge drink. Second, men in their 20s, whether they are Mexican Americans or not, have some of the highest rates of drinking, binge drinking, and alcohol abuse in the U.S. population (Caetano et al., 2011; Grant et al., 2004a). The rate of binge drinking is particularly high among Mexican American border men in the 18–29 age group (Caetano et al., 2012). Binge drinking predicts alcohol problems independently of volumetric intake (Caetano and Mills, 2011; Dawson, 2011), and increased levels of this drinking pattern among young Mexican males on the border may contribute to the age by border interaction effect shown in Table 2.

Among women, border and non-border samples did not differ in the rate of alcohol abuse. In contrast, Vaeth et al. (2012) used a conceptually similar – but more detailed – measure of alcohol-related social problems and found that young border women were at higher risk. Specifically, among 18–29 year old women, the rate of having 1 or more alcohol-related social problem was 3 times higher on the border than off (14.7% versus 4.6%, respectively; Vaeth et al., 2012). The different nature of these problem measures may explain these inconsistent findings. There are known limitations associated with the types of alcohol-related problems covered in the DSM-IV alcohol abuse diagnosis (e.g., Caetano, 2011), the focus of the present study, and the social problems measure used in Vaeth et al. (2012) which covered social problems associated with both abuse and dependence diagnoses.

Regarding alcohol dependence, age had a protective effect among both men and women on the border. However, rates of dependence declined more rapidly with age among border residents than among non-border residents. This finding was present in the crosstabulation in

Table 1 for men and women, although the logistic regression confirmed a main effect for age only among men. Women not in a married or cohabitating relationship, those not in the workforce (retired, homemaker, disabled, or not working), those who are more educated, and those who consume a higher number of drinks per week were all at a higher risk for dependence. The finding regarding women and marital status may be explained by previous research indicating that attitudes towards women's drinking are generally stricter and that this is particularly so for drinking by married women (Caetano, 1984). There is also research suggesting that women who are not in romantic relationships may have lifestyles that involve more socializing with friends and, therefore, more opportunities for both drinking and its associated problems (Prescott and Kendler, 2001). Alternatively, the threshold for recognizing drinking problems may be lower for non-working women due to increased social reactions (by friends, spouses, family; Prescott and Kendler, 2001). Finally, women reporting no religious affiliation were at higher risk for dependence than Catholics. This is consistent with findings of heavier drinking among people with no religious affiliation (Michalak et al., 2007).

Limitations

This study has limitations that should be noted. First, in spite of relatively good response rates for both the border and non-border samples, the border response rate was only 67% (versus 76% for the non-border sample), representing a loss of approximately 30% of the selected respondents. The lower response rate on the border may be attributable to heightened fears of drug-related violence in that region. The 2 surveys were restricted to urban samples, and therefore our findings may not generalize to the rural Mexican American population. Confidence intervals were also fairly wide, indicating that estimates lack precision. Differences in levels of acculturation between the locations may also complicate our comparisons. However, we compared border and non-border respondents on Caetano's (1987) acculturation measure and found no differences overall by age, gender, or age-gender subgroups. We also reran all regression models adjusting for acculturation, and found no substantive differences in any findings discussed or inferences drawn from the data. Also, it is possible that individuals interviewed in Houston and Los Angeles had contact with Mexico and may have crossed the border relatively frequently. In this case, differences in abuse and dependence between to the 2 samples would have been minimized. Finally, respondents may have underreported their drinking as well as the extent of their drinking problems. This underreporting has been reported in other research (Rehm, 1998).

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Table 1

Prevalence of DSM-IV alcohol abuse and dependence by gender, location and age

AUD	Age group	Females			Males	
		Non-border % (n)	Border % (n)	Non-border % (n)	Border % (n)
Abuse	Total	0.8 (644)	0.8 (721)	5.6 (634)	5.6 (558)
	18–29 yrs	2.7 (190)	2.0 (148)	5.1 (225)	9.0 (170)
	30–39 yrs	0.0 (221)	0.0 (149)	5.3 (179)	5.5 (100)
	40–49 yrs	0.0 (126)	1.3 (140)	5.5 (129)	4.8 (99)
	50+ yrs	0.0 (107)	0.0 (284)	7.7 (101)	2.2 (189)
	Sig.	ns	ns	ns	ns
Dependence	Total	2.1 (642)	3.6 (725)	15.2 (633)	15.3 (560)
	18–29 yrs	1.7 (189)	6.4 (152)	18.8 (226)	24.0 (171)
	30–39 yrs	2.1 (221)	4.3 (150)	16.8 (178)	13.1 (100)
	40–49 yrs	2.9 (126)	4.4 (139)	11.4 (130)	15.1 (100)
	50+ yrs	1.9 (106)	0.4 (284)	10.1 (99)	6.6 (189)
	Sig.	ns	*	ns	**

Notes: Percentages are weighted; n = unweighted denominator; Sig. = Significance; significance shows the difference across age groups within the location; there was also a significant effect of border residency on dependence prevalence among 18–29 year old females, $F(1,239) = 5.57$, $p = 0.02$; ns = non-significance.

*
$p < 0.05$;

**
$p < 0.01$.

Table 2

Odds ratio and 95% confidence interval from logistic regression models predicting DSM-IV alcohol abuse

	Female (n= 1,269) OR (95% CI)	Male (n= 1,137) OR (95% CI)
Border (Ref.: Non-border)	0.83 (0.17 – 4.01)	5.48 * (1.08 – 27.70)
Age (Continuous)	0.89 (0.74 – 1.07)	1.03 (0.99 – 1.07)
Interaction of border by age	N/A	0.95 * (0.91 – 0.99)
Marital status (Ref.: Married/living with spouse/living with someone)		
Married not living with spouse/legally separated/divorced/widowed	8.72 (0.96 – 79.34)	0.42 (0.09 – 1.88)
Never married/never lived with someone	2.06 (0.16 – 27.15)	1.59 (0.63 – 4.04)
Employment status (Ref.: Full/part-time employment)		
Unemployed: Temporary illness/unemployed, looking/unemployed, not looking/in school	3.59 (0.40 – 32.31)	0.98 (0.38 – 2.53)
Retired/homemaker/disabled/never worked	0.93 (0.10 – 8.56)	1.11 (0.29 – 4.21)
Income (Continuous)	1.00 (0.98 – 1.02)	1.00 (0.99 – 1.02)
Education level (Ref.: <High school diploma)		
High school diploma/GED	0.38 (0.04 – 3.65)	1.35 (0.54 – 3.41)
Technical/vocational/some college/college graduate	2.12 (0.57 – 7.87)	1.35 (0.52 – 3.53)
Religion (Ref: Catholic)		
Protestant	0.26 (0.02 – 3.40)	0.52 (0.12 – 2.29)
Jewish/other	0.82 (0.06 – 12.02)	0.09 * (0.01 – 0.95)
No preference	0.36 (0.02 – 5.19)	1.63 (0.59 – 4.55)
Standard drinks per week (Continuous, 5 drinks)	1.37 (0.98 – 1.93)	1.14 ** (1.04 – 1.26)

Notes: n = unweighted denominators; OR = odds ratio; CI = confidence interval; Ref. = reference group; GED = general equivalency diploma;

*
$p < 0.05$;

**
$p < 0.01$.

Table 3

Odds ratio and 95% confidence interval from logistic regression models predicting DSM-IV alcohol dependence

	Female (n=1,270) OR (95% CI)	Male (n= 1,138) OR (95% CI)
Border (Ref.: Non-border)	1.17 (0.44 – 3.07)	0.85 (0.45 – 1.60)
Age (Continuous)	0.97 (0.94 – 1.01)	0.97 * (0.94 – 1.00)
Marital status (Ref.: Married/living with spouse/living with someone)		
Married not living with spouse/legally separated/divorced/widowed	5.44 ** (1.54 – 19.18)	1.07 (0.48 – 2.39)
Never married/never lived with someone	2.76 (0.77 – 9.90)	1.06 (0.57 – 1.96)
Employment status (Ref.: Full/part-time employment)		
Unemployed: Temporary illness/unemployed, looking/unemployed, not looking/in school	1.82 (0.49 – 6.72)	0.90 (0.39 – 2.10)
Retired/homemaker/disabled/never worked	5.34 * (1.42 – 20.13)	1.26 (0.49 – 3.22)
Income (Continuous)	1.02 (1.00 – 1.04)	0.99 (0.98 – 1.00)
Education level (Ref.: <High school diploma)		
High school diploma/GED	1.89 (0.38 – 9.42)	0.61 (0.28 – 1.32)
Technical/vocational/some college/college graduate	13.21 *** (3.18 – 54.81)	1.00 (0.49 – 2.05)
Religion (Ref: Catholic)		
Protestant	2.40 (0.68 – 8.45)	0.50 (0.15 – 1.61)
Jewish/other	1.41 (0.23 – 8.44)	0.54 (0.15 – 1.91)
No preference	5.07 * (1.15 – 22.26)	0.83 (0.38 – 1.82)
Standard drinks per week (Continuous, 5 drinks)	2.34 *** (1.82 – 3.01)	1.46 *** (1.33 – 1.60)

Notes: n = unweighted denominators; OR = odds ratio; CI = confidence interval; Ref. = reference group; GED = general equivalency diploma;

*
$p < 0.05$;

**
$p < 0.01$;

***
$p < 0.001$.