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Alcohol consumption and binge drinking among U.S.-Mexico border and non-border Mexican Americans

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Abstract

Background—This paper examines differences in drinking and binge drinking between Mexican Americans living along the U.S.-Mexico border and those living in two metropolitan areas away from the border (Houston, Texas, and Los Angeles, California).

Methods—Respondents in the non-border area (Houston and Los Angeles) constitute a multistage probability sample (N=1,288) who were 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 U.S.-Mexico 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—There were no differences between border and non-border Mexican American men in the proportion of drinkers, the proportion who binge drink at least once a year and volume of alcohol consumption. However, within each location, there were significant differences in drinking by age, indicating that younger men drank more than men who were older. Border women showed significant differences across age groups in the proportion of drinkers, in binge drinking and volume of alcohol consumption, which were not seen among non-border women.

Conclusions—Women's drinking seems to be more affected than men's by their residence on or off the U.S.-Mexico border. This is seen most clearly among young women 18–29 years old and it is associated with an increased proportion of drinkers, a higher volume of drinking and an increased proportion of women who report binge drinking. Increased drinking in this group of younger women seems to be associated with drinking in Mexico.

Keywords

Mexican Americans; U.S.-Mexico border; alcohol consumption; binge drinking

INTRODUCTION

Until fairly recently, much research on drinking among U.S. Hispanics acknowledged potential variations in alcohol use by national origin but presented research results for Hispanics as a whole. Presently, a number of epidemiological studies examining drinking across different Hispanic national groups, by birthplace, and other sociodemographic factors have appeared in the literature (Alegria et al., 2006, 2007; Caetano et al., 2009a, b; Ramisetty-Mikler et al., 2010). Not surprisingly, these studies have shown a considerable variation in alcohol use across Hispanic subgroups. For instance, studies show that Puerto

Rican and Mexican American men report higher drinking rates, higher weekly consumption, and a higher frequency of binge drinking than South/Central and Cuban Americans (Ramisetty-Mikler et al., 2010). Mexican American women report the highest abstention rate (61%), while Puerto Rican women drink more and binge more frequently compared to their counterparts in other national groups. Puerto Rican and South/Central American origins are significant predictors of binge drinking compared to Cuban American origin, and Puerto Rican origin is a significant predictor of higher volume of drinking compared to Cuban American origin (Ramisetty-Mikler et al., 2010).

There also is considerable heterogeneity in rates of alcohol-related problems, alcohol abuse and dependence, and other psychiatric disorders across these national groups (Alegria et al., 2007, 2008; Caetano et al., 2008a; Vaeth et al., 2009). Among men, Puerto Ricans and Mexican Americans have the highest rate of problems and Cuban Americans have the lowest (Vaeth et al., 2009). Among women, Puerto Ricans also have the highest rate of problems and Cuban Americans have the lowest. Regarding alcohol dependence, Puerto Rican and Mexican American men have higher rates (12 month rate of 15% for both groups) than Cuban Americans (5%) and South/Central Americans (9%). Among women, Puerto Ricans have the highest rate (12 month rate of 6.4%), followed by Mexican Americans (2%), Cuban Americans (1.6%) and South/Central Americans (0.8%; Caetano et al., 2008a). Also, alcohol abuse and dependence rates were higher among U.S.-born Puerto Ricans and South/Central Americans compared to their foreign-born counterparts, while no such differences were found for Cuban and Mexican Americans (Caetano et al., 2009a). Puerto Ricans also have higher rates of depressive disorders and any psychiatric disorders than other national groups (Alegria et al., 2008).

U.S. Hispanics on the U.S.-Mexico Border

A group of U.S. Hispanics which has seldom been the focus of alcohol epidemiology are those living along the 1,969 mile long U.S.-Mexico border. According to the 2010 U.S. Census, roughly 7.3 million people live in the 24 U.S. counties that border Mexico, of which nearly four million are Hispanic and overwhelmingly Mexican American. This population lives in close contact with Mexican culture. For instance, in 2010 there were about 39.9 million pedestrian crossings in the main ports of entry along the border, suggesting substantial population contact across the U.S. and Mexico (U.S. Department of Transportation, 2011). Therefore, this is a unique area, in some ways neither totally Mexican nor American, whose culture results from a daily blending of the cultures of the two countries.

The border area is also characterized by poverty, under education and lower than average health indices. Five of the seven poorest Metropolitan Statistical Areas in the U.S. are in the border region. Various health indices, such as the death rate from chronic liver cirrhosis and from diabetes mellitus, are higher for the border compared to non-border areas in the Southwestern states of the U.S. (Texas Comptroller of Public Accounts, 2003). Rates of hepatitis A are three times higher on the border than in the U.S. as a whole, and shigella and salmonella dysentery occur at three to four times the rate of the rest of the U.S. (Bruhn and Brandon, 1997). The border area is also affected by intense illegal drug trafficking. In 1990, the Office of National Drug Control Policy (ONDCP) designated the border, encompassing border locations in California, Arizona, New Mexico, and Texas, as one of 28 High Intensity Drug Trafficking Areas (HIDTA) in the U.S. (Office of National Drug Control Policy, 2011). Because of this drug traffic, the border is also well known for its high rate of violence, most of which has affected the Mexican side of the border, but which creates considerable instability and insecurity for all those living in the region. For these reasons and others, such as the increased availability of alcohol on the Mexico side of the border, a young population (Harrison and Kennedy, 1994), easy access to prescription

pharmaceuticals on the Mexican side (Valdez and Sifaneck, 1997), excess tobacco and alcohol advertising (Power, 1998), and mobility of the region's rapidly growing population (Kunz, 1999), the border is an area where the prevalence of alcohol use, frequent binge drinking and alcohol problems is expected to be higher than that in the rest of the U.S.

Unfortunately, alcohol studies of the Hispanic population living in the U.S.-Mexico border have a number of limitations. Because Texas has the longest border with Mexico, most studies have focused on the Texas-Mexico border population (e.g., Caetano et al., 2008b; Holck et al., 1984; Wallisch, 1998; Wallisch and Spence, 2006), ignoring the population living on the border in the other three U.S. states (New Mexico, Arizona, and California). Data on alcohol consumption have been limited to crude rates of drinking and heavy drinking (e.g., Harrison and Kennedy, 1996; Wallisch, 1998; Wallisch and Spence, 2006). Comparisons across these studies are difficult because of differences in research methods and in the groups under study. In some cases, the focus is on studying all border residents, independent of 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, Mexican Americans versus Anglos; Caetano et al., 2008b; 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). However, these studies in general confirm the expectations that heavier drinking and associated problems are highly prevalent along the border. For instance, the rate of binge drinking once a month or more among Hispanic men on the border is 36%, compared to 6–7% among Hispanics outside the border (Caetano et al., 2008b). The rate of alcohol abuse on the border is 7%, compared to 3.9% in the U.S. (Grant et al., 2004). Likewise, the rate of alcohol dependence among Hispanic men on the border is 14.5%, compared to 3.9% in the U.S. (Grant et al., 2004). However, when specific Hispanic national groups have been compared, the rate of abuse has ranged from 1.8% to 5.6% and for dependence, from 5.3% to 15.3% (Caetano et al., 2008a). So, non-national data for the U.S. shows that some Hispanic national groups, such as Puerto Ricans and Mexican Americans, can have rates of abuse and dependence as high as those reported for Hispanics on the border.

The present study addresses these limitations by describing rates and sociodemographic correlates of alcohol use and binge drinking among Mexican Americans living on the U.S.-Mexico border, and by comparing those rates with those of Mexican Americans living in two large metropolitan areas away from the border in Houston, Texas and Los Angeles, California. Based on the epidemiological research reviewed above and other studies with U.S. Hispanics, the expectation is that drinking will be higher in volume and that binge drinking will be more frequent on the border than in the non-border areas. This will be particularly so among those in the 18 to 29 age group, given the proximity with Mexico, where the legal drinking age is 18.

MATERIALS AND METHODS

Respondents in Houston and Los Angeles (N=1,288) were interviewed between March 2005 and February 2006 as part of the 2006 Hispanic Americans Baseline Alcohol Survey (HABLAS), which employed a multistage cluster sample design in five metropolitan areas of the U.S.: Miami, New York, Philadelphia, Houston, and Los Angeles. Each of these areas was selected because of the high concentration of Hispanics in their population. Houston and Los Angeles are included in the present comparison because of the high concentration of Mexican Americans living within their metropolitan areas, which can then be compared with the Mexican Americans living in the border area. Respondents in the border area (N=1,307) were interviewed between March 2009 and July 2010 and represent a multistage

cluster sample of the border population living in the four U.S.-Mexico border states: Texas, New Mexico, Arizona and California. Both studies sampled the adult population 18 years or older. The survey response rates for HABLAS and the border were 76% and 67%, respectively.

The questionnaire was identical in both studies, with the exception of a series of questions about drinking across the border in Mexico, which were asked only in the border study because these respondents have many more opportunities to cross the border to drink due to geographical proximity. It was pre-tested in English, then translated into Spanish, then translated back to English. Trained bilingual interviewers conducted Computer Assisted Personal Interviews at the respondents' home that lasted about one hour.

Measures

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)*: Respondents were provided with explicit examples of what was meant by a standard drink of beer, wine, and liquor (e.g., “a 12 ounce can of beer,” “a mixed drink containing one shot of liquor”). Average weekly alcohol consumption based on the self-reported frequency and quantity (in standard drinks) of drinking any type of alcohol was estimated using the “graduated frequencies” method (Clark and Hilton, 1991). For a more detailed description of the graduated frequencies approach to measurement, see Greenfield and Kerr (2008). The raw value is presented in Table 1 and the log transformation of this variable was used in regression models due to substantial positive skew. *Binge drinking*: This was defined as drinking four (women) or five (men) standard drinks within a two-hour period, with categories 1) did not binge in the past 12 months, 2) binged between one and 11 times in the past 12 months, and 3) binged once a month or more. *Drinking in Mexico*: These items were only administered to the Border sample due to the increased opportunities these respondents have to cross the border. Respondents provided estimates of the proportion of their total alcohol consumption in the past 12 months that was done in Mexico, as opposed to the U.S., and was coded as less than 25%, between 25% and 50%, and more than 50%.

Demographic variables—*Location*: Border versus non-border. *Age*: Measured in continuous years and categorized into four 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, 3) widowed, and 4) 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*: For men, 1) full/part-time employment, 2) unemployed: temporary illness/unemployed, looking/unemployed, not looking/in school, 3) retired/disabled/never worked/other. For women, an additional homemaker category was included. *Religion*: 1) Protestant, 2) Catholic, 3) Jewish/other. *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 and used in the analyses (see Caetano and Mills, 2011 for details).

Statistical Analysis

Analyses were conducted with Stata 11.1 (StataCorp., 2009) on data weighted 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. Bivariate associations were first explored to check for potential collinearity problems in subsequent models. Prior to examining multivariate models,

unadjusted effects of age, gender, and location on drinking outcomes were assessed with chi-square statistics for categorical variables and with t-tests or ANOVA for continuous variables. Logistic regression was used to assess predictors of drinking and binge status, and linear regression for predictors of (log-transformed) volume consumed. 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). Interactions between location, gender, and age were tested in all models, and age was mean-centered to facilitate interpretation of model coefficients. Nonsignificant interactions were dropped from final presented models. Three-way interactions were detected in some models: To facilitate interpretability and comparison of results across drinking outcomes, gender-specific models are presented for each outcome.

RESULTS

Sample Description

The gender distribution in the sample was almost equally split, with 51% being female (border: 53%; non-border: 48%). The percentage of respondents married or living with someone was also comparable across locations (border: 58.3%; non-border: 59.7%), as was the percentage of respondents with less than a high school education (border: 49.0%; non-border: 48.0%). Mean annual income was 28.5K (SE = 2.0) for those on the border compared to 26.0K (SE = 1.2) for non-border residents. The border sample had a higher mean age (41.3 years \pm 1.0 versus 37.8 years \pm 0.6 .non-border sample) and those in non-border areas were more likely to be employed part- or full-time (61.2% versus 45.4% among border residents).

Current Drinking Rates, Number of Drinks Consumed per Week and Binge Drinking

Rates of drinking among men in non-border areas were similar to that of men on the border, with the exception of older men (Table 1). In addition, in non-border areas, the proportion of drinkers was highest among young men, but this decreased for 30–39 and 40–49 year old men, and decreased further for men of 50+ years of age. The mean number of drinks consumed per week was higher in border compared to non-border areas; however, this difference was not statistically significant. In each age category, men on the border drank more drinks per week than men off the border, with the exception of men in the 50+ age group. In non-border areas, the mean number of drinks consumed per week decreased with increasing age, but there was a different pattern for men on the border. Men on the border in the 18–29 and 40–49 age groups consumed the highest mean number of drinks per week. The overall proportions of binge drinkers on and off the border were similar, although a considerably higher proportion of 18–29 year old men on the border were binge drinkers compared to non-border men. In addition, on the border, significant differences across age groups existed with close to 50% of young men on the border having binged one or more times in the previous year, and this proportion decreased in a step-wise fashion with increasing age.

Among women, the overall proportion of current drinkers was similar for the border and non-border areas (Table 1), but there were deviations from this pattern by age group. In particular, the proportion of 18–29 year old current drinkers was higher in border versus non-border areas. In contrast, the proportion of 50+ year old current drinkers was higher off the border compared to on the border. The mean number of drinks consumed per week was higher among women on the border and this was particularly evident among women in the 18–29 year old age group. In addition, the proportion of women who had engaged in binge drinking was similar among women on and off the border; however, binge drinking among

18–29 year old women on the border was nearly twice that of women off the border. When young women were compared to their older counterparts on the border, it was evident that the proportion of women in this age group that binged was approximately three times that of 30–39 and 40–49 year olds and over eight times that of 50+ year olds.

Predictors of Current Drinking

The multiple logistic regression analysis for men showed that current drinking status was associated with age, employment status, and religion (Table 2). Younger respondents were more likely to be current drinkers and, compared to men who worked full- or part-time, men who were unemployed were less likely to be current drinkers. Religious affiliation was also protective, with Protestant men being less likely than their Catholic counterparts to be current drinkers. Among women, an interaction between border residence and age was associated with current drinking status (Table 2). Particularly, among women on the border, the proportion of current drinkers decreased more abruptly with age than among women off the border. Marital status, employment status, level of education, and religious affiliation were also associated with current drinking status for women. Separated or divorced and never married women were more likely to be current drinkers than married or cohabitating women. Compared to full- and part-time workers, homemakers were less likely to be current drinkers. Regarding level of education, women who had completed at least some college or who had attended a technical or vocational school were more likely to be current drinkers than those without a high school diploma. Finally, compared to Catholic women, Protestant women were less likely to be current drinkers.

Predictors of the Volume of Alcohol Consumption per Week

The linear regression analysis for men indicated that border residents had a higher volume of consumption compared to their non-border counterparts (Table 3). Older age was associated with decreased consumption. Men who were retired, disabled, or who had never worked consumed less alcohol than those who were currently employed, although this association was only marginally significant. Finally, Protestants consumed a lower volume of alcohol than Catholics. Among women, and as seen with women's drinking status, there was an interaction between border residence and age (Table 3). This interaction effect indicates that there was a more abrupt decline in drinking with age among women on the border than among women off the border. Homemakers also consumed less alcohol than employed women whereas women with at least some college or a technical/vocational degree consumed a higher volume of alcohol than those with no high school diploma. Finally, like with men, Protestant women consumed less alcohol than Catholics.

The increased drinking by younger women on the border may be associated with drinking in Mexico, where the legal drinking age is 18. This hypothesis was tested in two analyses: The first assessed the proportion of drinkers among men and women who consumed less than 25%, 25%–50%, and more than 50% of the alcohol they drank in the past 12 months in Mexico. Results (not shown) indicated that 14% of women drinkers 18–29 years of age drank more than 50% of the alcohol they consumed in Mexico. Among women 30–39, 40–49 and 50+, the proportions were, 3%, 0% and 1%, respectively. Among men, the proportion consuming more than 50% of the alcohol in Mexico was more similar across age groups: 18–29, 7%; 30–39, 8%, 40–49 and 50+, 2%. Second, a regression model with the same predictors as in Table 2 plus a variable representing the proportion of all drinking in the past 12 months that was done in Mexico (less than 25%, 25%–50%, more than 50%) was independently tested among men and women. The analyses indicated that this variable was a significant predictor of volume of drinking among women ($b=.65$; 95 CL=.14–1.16; $p<.05$) but not among men on the border.

Proportion of Binge Drinkers

The multiple logistic regression analysis predicting binge drinking among men showed no association with place of residence. Of all the covariates in the model, only age and religious affiliation were associated with binge drinking. The likelihood of binge drinking decreased with older age. Affiliation with the Protestant faith compared to Catholicism was also protective (Table 4).

Like with men, there was lack of an association for women between place of residence and binge drinking. Also, as with men, the likelihood of binge drinking decreased with increasing age. Marital status was also associated with binge drinking, but in differing ways. Compared to married or cohabitating women, those who were separated or divorced were approximately two times more likely to engage in binge drinking, whereas being a widow was protective against this behavior. Being a homemaker, as opposed to working full- or part-time was also protective against binge drinking. Finally, in comparison to women with no high school diploma, those with some college, or with technical or vocational school, were more likely to engage in binge drinking.

DISCUSSION

This study was conducted to assess differences in drinking and associated problems among Mexican Americans living on and off the U.S.-Mexico border. Among men, results from the crosstabulations did not show differences between border and non-border Mexican Americans in the proportion of drinkers, the proportion of men who binge drink at least once a year and on the mean number of drinks consumed per week. Within each location, there were significant differences in drinking by age, indicating that younger men drank more than men who were older. This is a consistent finding in the epidemiology of alcohol in the U.S., one that has been seen in previous research with Mexican Americans and also ethnic groups in the U.S. population (Ramisetty-Mikler et al., 2010).

Results among women were similar to those among men. However, differences in the proportion of drinkers, in binge drinking and volume of alcohol consumption across age groups on the border were statistically significant, which did not happen among women off the border. Inspection of unadjusted differences by age group (Table 1) suggested that women 18–29 years of age on the border made a substantial contribution to this effect, given that their drinking was much higher than that of women in all other groups, irrespective of location.

In the multivariate analysis in Table 2, location moderated the association between age and drinking status for women only. The form of the interaction mirrored the pattern in Table 1, with differences between border and non-border women becoming increasingly pronounced at younger ages. Among men, the proportion of current drinkers who were unemployed, temporarily ill, or in school was smaller than among those who were employed; the same was true among Protestants compared to Catholics. These findings have also been previously reported in the literature (Hilton, 1991a, b; Midanik and Clark, 1994). Those who are unemployed or who are students have less disposable income to spend on drinking. Those who are ill drink less because of health reasons. Some Protestant denominations require abstention from their members, which does not happen among Catholics.

The proportion of drinkers among women was also higher among those who were separated or divorced and those who never married compared to married women. This effect of marital status on drinking has been seen previously, and may arise from the increased social interactions and resulting opportunities to drink that women who are not married have over their married counterparts (Caetano et al., 2010; Midanik and Clark, 1994; Wilsnack, 1996)

or through stress-related mechanisms (Canino et al., 2008). Homemakers and more educated women are also more likely to be drinkers than employed women and those who have less than a high school education. Women who are homemakers have a lower proportion of drinkers than women who are employed. Because the effect of marital status, employment status and education represent unique influences that are independent from one another, they are probably due to different mechanisms, all of which have the same effect of decreasing abstention among women. Thus, employed women may feel they have the right to be more independent because they earn their own money, which they can then use to purchase alcohol. More educated women may have more liberal view about women's roles, which may include more liberal attitudes toward drinking.

The amount of alcohol ingested by Mexican American men and women on the border was larger than that ingested among those not on the border. This analysis (Table 3) also showed an interaction effect between border residence and age among women. As the interaction found in the analysis of current drinking, this effect also indicated a more abrupt decrease in volume of drinking with age on the border than off the border. Analyses examining the association between drinking in Mexico and age indicated that women in the age group 18–29 were more likely than their older counterparts to consume a large proportion of the alcohol they drink in Mexico. This is so because of three factors: First, crossing the border into Mexico is easy. It is something that many Mexican Americans on the border do on a daily basis. Second, and as mentioned above, the legal drinking age in Mexico is 18, which creates opportunities to drink for people 18 to 20 years of age. Third, drinking in Mexico is cheaper than drinking in the U.S. This increased access and availability of alcohol is the most likely explanation for the increased drinking in this younger group of women.

There are at least two possible reasons this “Mexico effect”, which has been discussed in the literature (Lange and Voas, 2000; Lange et al., 2002), is not seen so clearly among men. First, men on the U.S. side of the border, even though they may be underage, may feel more at ease to drink as a consequence of general gender differences in drinking norms and attitudes, which are more liberal for men than women (Caetano and Clark, 1999; Mills and Caetano, 2010). However, this gender discrepancy in norms becomes less pronounced at higher levels of acculturation to life in the U.S., suggesting that norms regulating female drinking are likely more liberal in the U.S. than in Mexico. Consequently, an alternative explanation is that exposure to (relatively) more liberal attitudes and norms governing female drinking may encourage young women on the border to differentially seek out the more accessible and cheaper ways to consume alcohol that are available to them, such as crossing the border. Unlike in other parts of Mexico, norms governing female drinking are likely to be less conservative in Border towns due to closer contact with the U.S. and the younger demographic that tends to cross into Mexico. Effects of these types of acculturative influences are typically strongest during youth (Cheung et al., 2011), and effects of acculturation on drinking behavior specifically tend to be stronger for women (Markides et al., 1990). Taken together, these influences would be expected to accentuate these differences among younger female age groups.

Unlike drinking status and volume, there was no effect of location (border or non-border) overall or for any subgroups on binge drinking. This was an unexpected finding because binge drinking is common in Mexico (Taylor et al., 2007), and binge drinking is also more common among Hispanics, such as Mexican Americans, than in other U.S. ethnic groups (Caetano et al., 2009b; Dawson, 1998). Given the considerable connection that border residents have with Mexico, residence on the border would be expected to increase the likelihood of binge drinking. Among men, age and Protestant religion were protective against binge drinking, both of which were expected findings, as discussed above. Among women, being older, being a widow, and being a homemaker were protective against binge

drinking. These, too, are traditional findings in the epidemiology of alcohol among women (Clark and Hilton, 1991; Wilsnack, 1996). More education and being separated or divorced were risk factors for binge drinking.

In summary, women's drinking seemed to be more affected than men's by their residence on or off the U.S.-Mexico border. This location effect appears most clearly among young women in the 18–29 age group, and it is associated with an increased proportion of drinkers, a higher volume of drinking and an increased proportion of women who report binge drinking. The reason for this increased drinking in this group of younger women seems to be the greater availability of alcohol on the Mexico side of the border, where the legal drinking age is 18, where alcohol is more available throughout the day and where drinking is cheaper than on the U.S. side of the border.

Strengths and Limitations

This study has many strengths. It analyzed data collected from a representative sample of Mexican Americans living in the four U.S. states that have a border with Mexico. It employed bilingual interviewers, and, thus, it included Spanish speakers. Including a sample of Mexican Americans interviewed with the same methodology in Houston and Los Angeles allows for comparisons across locations. The study also has some limitations. The samples in Houston and Los Angeles were part of previous study that had a 76% response rate. The sample on the border had a 67% response rate, mostly due to refusals to be interviewed probably associated with the increased fear of drug-related violence on the border. Finally, it is possible that individuals interviewed in Houston and Los Angeles also have contact with Mexico and cross the border relatively frequently. This information was not collected from those samples. However, if this is true, the result would be an attenuation of differences between the samples on and off the border (bias towards the null), which strengthens the differences reported here.

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Table 1

The distribution of number of drinks/week, proportion who binge at least once a year, and abstinence rate by age, location, and gender

	Non-border					Border				
	18-29 (n = 226)	30-39 (n = 179)	40-49 (n = 130)	50+ (n = 101)	Non-border totals (n = 636)	18-29 (n = 171)	30-39 (n = 100)	40-49 (n = 101)	50+ (n = 190)	Border totals (n = 562)
<u>Men</u>										
Mean drinks/week ^{a,b}	9.08 (1.4)	8.27 (1.8)	7.60 (2.0)	5.63 (1.9)	7.89 (0.95)	11.8 (2.1)	9.54 (2.3)	11.3 (2.8)	4.30 (0.79)	9.07 (0.89)
% Binge at least once/year ^{c,d}	36	37	29	13	31	48	39	28	15	33
% Drinkers ^e	75	67	68	51	67	75	63	66	62	66
<u>Women</u>										
Mean drinks/week ^{f,g}	0.85 (0.3)	0.71 (0.3)	0.71 (0.4)	1.98 (1.4)	0.99 (0.30)	3.87 (0.9)	1.31 (0.6)	1.39 (0.7)	0.57 (0.2)	1.76 (0.35)
% Binge at least once/year ^h	14	12	7	6	10	26	9	9	4	12
% Drinkers ⁱ	46	38	31	40	39	62	35	41	18	38

Note. Standard errors are in parentheses;

^a Significant difference across male age groups on the Border (F = 9.73, p<.0001);

^b Nonsignificant difference between border and non-border men (t = .91, p=.36);

^c Significant difference across male age groups off the border ($\chi^2 = 8.53$, p<.05);

^d Significant difference across male age groups on the border ($\chi^2 = 22.82$, p<.0001);

^e Significant difference across male age groups off the border ($\chi^2 = 7.63$, p<.05).

^f Significant difference across female age groups on the Border (F = 6.48, p<.0001);

^g Nonsignificant difference between border and non-border women (t = 1.78, p=.08);

^h Significant difference across female age groups on the border ($\chi^2 = 36.74$, p<.0001);

ⁱ Significant difference across female age groups on the border ($\chi^2 = 51.84$, p<.0001).

Table 2

Logistic regression predicting current drinking status from demographic covariates

	Men				Women			
	OR	P	95% CI	OR	P	95% CI		
Border (Ref = Non-border)	1.29	0.28	0.81 2.07	1.09	0.66	0.73 1.65		
Age	0.98	0.03	0.96 1.00	1.01	0.55	0.99 1.03		
Border X Age				0.96	0.00	0.93 0.99		
Marital Status (Ref = Married/Living w/ spouse, living w/someone)								
Married not living w/spouse, separated, divorced	0.71	0.25	0.39 1.28	1.76	0.04	1.02 3.03		
Widowed	0.79	0.77	0.16 3.79	1.56	0.41	0.55 4.46		
Never married/never lived with someone	0.83	0.53	0.46 1.49	1.66	0.03	1.05 2.63		
Employment Status (Ref = Full/part-time)								
Unemployed & looking/not looking/temporary illness/in school	0.50	0.03	0.26 0.93	0.73	0.29	0.40 1.32		
Homemaker				0.45	0.00	0.28 0.71		
Retired/disabled/never worked	0.75	0.47	0.35 1.64	0.53	0.07	0.26 1.06		
Income	1.01	0.36	0.99 1.02	1.01	0.06	1.00 1.02		
Education (Ref = No high school diploma)								
High school diploma/GED	1.28	0.35	0.76 2.14	1.21	0.40	0.78 1.87		
Some college, tech/voc school or beyond	1.30	0.31	0.78 2.16	3.84	0.00	2.45 6.02		
Religion (Ref = Catholic)								
Protestant	0.15	0.00	0.07 0.35	0.40	0.01	0.21 0.75		
Jewish/Other	0.67	0.13	0.40 1.13	1.61	0.08	0.94 2.76		

Note: Ref = Reference group.

Table 3
Linear regression predicting log-transformed standard drinks per week from demographic covariates

	Men			Women		
	b	p	95% CI	b	p	95% CI
Border (Ref = Non-border)	0.31	0.01	0.07 0.56	0.19	0.00	0.06 0.32
Age	-0.01	0.02	-0.02 0.00	0.00	0.55	0.00 0.01
Border X Age				-0.01	0.01	-0.02 0.00
Marital Status (Ref = Married/Living w/ spouse, living w/someone)						
Married not living w/spouse, separated, divorced	0.19	0.36	-0.22 0.60	0.04	0.65	-0.13 0.22
Widowed	-0.34	0.06	-0.70 0.01	0.03	0.77	-0.19 0.26
Never married/never lived with someone	-0.03	0.85	-0.35 0.29	0.15	0.13	-0.04 0.34
Employment Status (Ref = Full/part-time)						
Unemployed & looking/not looking/temporary illness/in school	-0.25	0.18	-0.61 0.12	0.07	0.60	-0.19 0.33
Homemaker				-0.14	0.02	-0.25 -0.02
Retired/disabled/never worked	-0.39	0.05	-0.79 0.00	-0.08	0.36	-0.26 0.10
Income	0.00	0.82	0.00 0.01	0.00	0.75	0.00 0.00
Education (Ref = No high school diploma)						
High school diploma/GED	0.12	0.44	-0.19 0.43	0.03	0.74	-0.13 0.19
Some college, tech/voc school or beyond	0.07	0.63	-0.21 0.34	0.28	0.01	0.08 0.48
Religion (Ref = Catholic)						
Protestant	-0.78	0.00	-1.19 -0.38	-0.27	0.00	-0.43 -0.12
Jewish/Other	-0.03	0.87	-0.35 0.30	0.02	0.79	-0.16 0.21
Constant	1.19	0.00	0.94 1.44	0.23	0.00	0.10 0.36

Table 4

Logistic regression predicting any binge drinking from demographic covariates

	Men				Women			
	OR	p	95% CI	OR	p	95% CI		
Border (Ref = Non-border)	1.34	0.21	0.85 2.10	1.44	0.24	0.78 2.64		
Age	0.97	0.00	0.95 0.99	0.96	0.00	0.93 0.99		
Marital Status (Ref = Married/Living w/ spouse, living w/someone)								
Married not living w/spouse, separated, divorced	0.85	0.54	0.44 1.54	2.04	0.05	0.99 4.21		
Widowed	0.96	0.97	0.17 5.62	0.05	0.01	0.01 0.49		
Never married/never lived with someone	0.91	0.74	0.55 1.54	1.04	0.91	0.51 2.14		
Employment Status (Ref = Full/part-time)								
Unemployed & looking/not looking/temporary illness/in school	0.84	0.55	0.47 1.49	0.77	0.50	0.36 1.65		
Homemaker				0.44	0.01	0.23 0.84		
Retired/disabled/never worked	0.54	0.17	0.23 1.29	0.96	0.94	0.30 3.07		
Income	1.00	0.85	0.99 1.01	1.00	0.47	0.99 1.02		
Education (Ref = No high school diploma)								
High school diploma/GED	1.30	0.29	0.79 2.16	1.79	0.12	0.86 3.73		
Some college, technical or vocational school	1.53	0.13	0.88 2.64	2.72	0.01	1.25 5.96		
Religion (Ref = Catholic)								
Protestant	0.29	0.01	0.11 0.75	0.59	0.11	0.31 1.12		
Jewish/Other	0.63	0.08	0.38 1.05	1.27	0.51	0.63 2.54		