

Hispanic Americans Baseline Alcohol Survey (HABLAS): Alcohol-Related Problems Across Hispanic National Groups*

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ABSTRACT. Objective: The purpose of this study was to examine the prevalence and correlates of alcohol-related problems across four Hispanic national groups: Mexican Americans, Puerto Ricans, Cuban Americans, and South/Central Americans. **Method:** Using a multistage cluster sample design, 5,224 individuals ages 18 years and older were selected from the household population of five U.S. metropolitan areas: Miami, New York, Philadelphia, Houston, and Los Angeles. **Results:** Cuban Americans had the lowest prevalence of alcohol-related problems. Significant differences across national group for zero versus two or more problems and for one versus two or more problems existed among men. Puerto Rican women were most likely to report two or more problems. The presence of zero versus two or more problems varied significantly across groups. There was variation in problem type across national groups among both men and women. Regression analyses showed that

all groups were more likely than Cuban Americans to report two or more problems (vs zero) (Puerto Ricans: odds ratio [OR] = 2.02, $p < .05$; Mexican Americans: OR = 2.92, $p \leq .01$; South/Central Americans: OR = 2.12, $p \leq .01$). Being U.S. born (vs foreign born) increased the likelihood of experiencing one (OR = 1.57, $p < .05$) and two or more problems (OR = 1.95, $p \leq .01$). The volume of consumption was associated with problems (one problem: OR = 1.16, $p \leq .01$; two or more problems: OR = 1.31, $p \leq .01$). Heavy episodic drinking less than once a month was associated with two or more problems (OR = 6.15, $p \leq .01$). Heavy episodic drinking one or more times a month was associated with one problem (OR = 1.74, $p \leq .01$) and two or more problems (OR = 3.18, $p \leq .01$). **Conclusions:** It is important to recognize that Hispanics are not a homogenous group. (*J. Stud. Alcohol Drugs* 70: 991-999, 2009)

STUDIES OF DRINKING-RELATED PROBLEMS in the general population have shown that the prevalence of problems is, in general, lower among Hispanics than non-Hispanics for both men and women (Caetano, 1997; Hilton, 1991b). Such studies have focused primarily on the U.S. Hispanic population as a whole or specifically on Mexican Americans (Caetano, 1986; Caetano and Medina Mora, 1988). However, there are a few studies that report on alcohol problems across Hispanic national groups, and they provide evidence that problem prevalence varies by gender and national group (Black and Markides, 1993; Caetano and Galvan, 2001; Dawson, 1998). For instance, data from a 1984 national sample of Hispanics show that about 22% of Mexican American men reported one or more drinking problems in the previous year, in comparison with 8% of Puerto Ricans and 4% of Cubans (Caetano, 1988). Women were less likely to report problems than men. However, like men, Mexican American women reported a higher prevalence of

drinking problems in the previous year than Puerto Rican and Cuban women (7% versus 3% and 2%, respectively, for one or more problems in the previous 12 months) (Caetano, 1988, 1989). The prevalence of specific problems is also higher among Mexican Americans than among other groups. These findings are limited, however, by the low numbers of Puerto Rican and Cuban respondents ($n = 219$ and 95, respectively, compared with 945 Mexican Americans).

The overall volume of alcohol consumption, as well as the patterns of drinking (typically consumption of five or more drinks per occasion), are strong predictors of alcohol problems (Hilton, 1991a; Midanik et al., 1996a,b; Stockwell et al., 1996). Studies focusing on the volume and patterns of consumption in relation to alcohol problems among U.S. Hispanics as a whole have found that men, those who are younger, those born in the United States, and those of lower socioeconomic status are more likely to report problems than others (Caetano and Kaskutas, 1996). Such studies, however, have not been conducted with consideration of how the volume and patterns of alcohol consumption and their association with alcohol problems may vary by Hispanic national group. This is important to consider, because treatment and preventive interventions are likely to be more effective if targeted to the problems with higher prevalence in specific Hispanic national groups. Such focus will also allow for culturally sensitive tailoring of interventions that will likely add to their effectiveness.

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The objective of this paper is to examine the association between Hispanic national group and alcohol-related problems. Specifically, this article will address the following three questions: (1) What is the overall prevalence of alcohol-related problems across Hispanic national groups and how might this vary by gender? (2) What is the prevalence of specific alcohol-related problems (dependence symptoms and social consequences) by gender across Hispanic national groups? and (3) What are the sociodemographic and drinking-related correlates of these problems? These problems have many factors of risk, including sociodemographic factors (e.g., gender, age, and ethnicity), as well as alcohol consumption factors. The multivariate analysis will, therefore, control for some of these potential risk factors in order to evaluate the independent association between Hispanic national group and problems.

Method

Sampling and data collection

These data were collected as part of the 2006 Hispanic Americans Baseline Alcohol Survey (HABLAS). The HABLAS used a multistage cluster sample design in five selected metropolitan areas of the United States where large proportions of Hispanics of specific national groups resided: Miami, New York, Philadelphia, Houston, and Los Angeles. Because of the use of sampling weights, this sample is representative of the Hispanic civilian noninstitutionalized population ages 18 and older in these sites. A total of 5,224 individuals were interviewed, for a weighted response rate of 76%. Computer-assisted personal interviews, lasting approximately 1 hour, were conducted in respondents' homes by trained interviewers in either English or Spanish, depending on the respondents' preference. Approximately 70% of the interviews were conducted in Spanish. The Committee for the Protection of Human Subjects of the University of Texas Health Science Center at Houston approved this study. All subjects signed a written informed consent before being interviewed.

Questionnaire translation

The questionnaire was developed with regard to the possibility that different Hispanic national groups would use different idioms and words in their daily use of Spanish. Thus, once the English questionnaire was pretested and finalized, the questionnaire was translated into Spanish by a lead translator and then independently back-translated into English. The English and Spanish versions of the questionnaire were then harmonized by a group of seven translators from different parts of Latin America: Cuba, Puerto Rico, Venezuela, Argentina, Peru, Mexico, and the Dominican Republic. As a group, these translators also created a roster of terms and

words that appeared in the questionnaire and that had different usage across the Spanish spoken by different Hispanic national groups. This roster was used by the interviewers, when necessary, during the home interviews.

Measurements

Alcohol-related problems in the previous 12 months (outcome variable). Respondents were asked to report if they had experienced social and alcohol dependence-related problems within the previous 12 months (Hilton, 1991c). Problems in 14 specific areas were addressed with 30 questions. Alcohol dependence symptoms included items on the salience of drinking, need to drink, increased tolerance, impaired control, withdrawal symptoms, and prolonged intoxication. Social consequences were addressed by items on belligerence, police problems, accidents, health-related problems, problems with spouse, problems with other people, work-related problems, and financial problems. The alcohol problem items were coded "1" for "yes" and "0" for "no." Based on the positive responses to these items, an additive scale was built. The scale's reliability for these data was good (Cronbach's $\alpha = .87$, and Guttman split half = .85). Respondents were then divided into three groups: (1) those who were exdrinkers, lifetime abstainers, and current drinkers who reported experiencing no problems in the previous 12 months; (2) current drinkers who experienced any one problem in the previous 12 months; and (3) current drinkers who experienced two or more problems in the previous 12 months.

Average number of drinks per week. This was assessed by combining the self-reported frequency and quantity of drinking wine, beer, distilled spirits, and mixed drinks with distilled spirits in the previous 12 months. This daily alcohol consumption variable was included in the model as a continuous independent variable. For purposes of data interpretation, the risk associated with an increase in drinking five standard drinks of alcohol per week is reported. Thus, the original logistic coefficient was multiplied by five, and a new odds ratio was derived, along with corresponding 95% confidence intervals.

Heavy episodic drinking. This was defined as drinking four or more (for women) and five or more (for men) standard drinks (wine, beer, distilled spirits) per occasion within a 2-hour period in the past 12 months. Respondents were categorized by the following three criteria: (1) current drinkers who did not engage in heavy episodic drinking in the past year/exdrinkers/abstainers (reference group), (2) current drinkers who engaged in heavy episodic drinking less than once per month, and (3) current drinkers who engaged in heavy episodic drinking one or more times a month.

Ethnicity and Hispanic national origin. Hispanic national origin was based on self-identification. Households were first screened for the presence of adult household members of Hispanic origin. Once such adults were identified, one was

randomly selected to be interviewed. During the survey interview, the ethnicity of the respondent was confirmed through self-identification. Respondents were asked, "Which of these groups best describes your own ethnic identification: Puerto Rican, Cuban, Cuban American, Mexican, Mexican American (including Chicano/a), Dominican, South American, and Central American." In this article, Dominicans are grouped with South/Central Americans because of the small numbers of respondents in these groups ($n = 517, 325, \text{ and } 432$ for Dominicans, South Americans, and Central Americans, respectively) and because of the geographic proximity and cultural similarities between Dominicans and South/Central Americans.

Place of birth. Respondents were asked, "In what state, territory, or country were you born?" All of those who stated that they had been born in a country other than the United States or in a U.S. territory (including Puerto Rico) were coded as foreign born (reference).

Other sociodemographic variables. Other sociodemographic variables included the following: age (18-29 years old, 30-49 years old, and 50 years and older [reference]), gender (men and women [reference]), education (those with less than a high school education, those with a high school diploma or General Educational Development credential, those with a technical or vocational degree, and those with at least some college [reference]), employment status (those who were temporarily unemployed, those who were retired, those who were homemakers, those who were disabled or who had never worked, and those who were employed full or part time [reference]), income (in which respondents were asked to identify 1 of 12 categories into which their total household income fell [$< \$4,000$ to $> \$100,000$]), and marital status (never married, widowed/divorced/separated, and married [reference]). For missing income data (20%), log-transformed income was estimated with multiple imputations (see Caetano et al., 2008b, for details of imputation methodology).

Statistical analyses

To account for the multistage cluster sample design used in the HABLAS, the Software for Survey Data Analysis (SUDAAN; Research Triangle Institute, 2001) was used for all analyses. Analyses were conducted on data weighted to correct for unequal probabilities of selection into the sample. In addition, a poststratification weight was applied, which corrects for nonresponse and adjusts the sample to known Hispanic population distributions on certain demographic variables (education, age, and gender for all sites, plus ethnicity for the Miami, New York, and Philadelphia samples).

For bivariate analyses of categorical variables, cross-tabulations of data with chi-square analysis were performed to detect statistically significant associations. The tables depict weighted percentages with unweighted n 's.

For multinomial regression analysis, the outcome variable was categorized into three groups: zero problems (drinkers, lifetime abstainers, and exdrinkers), current drinkers reporting one problem, and current drinkers reporting two or more alcohol-related problems. The models were initially developed in SUDAAN using a single imputed value for the income variable (average of 10 imputations). Once the variables in the models were finalized, each model was run five times using five imputations of income, one at a time. Beta coefficients and their standard errors were extracted into a matrix and were analyzed with PROC MIANALYZE in SAS to arrive at the final results. The exponentials of coefficients and confidence intervals for the standard errors were taken and reported as odds ratios and 95% confidence intervals.

Results

Sample description

The sample was composed of 5,224 respondents. Twenty-six percent was Puerto Rican, 25% was Cuban American, 25% was Mexican American, 10% was Dominican, 8% was Central American, and 6% was South American. Cuban Americans and Central Americans were most likely to be interviewed in Spanish (87% and 85%, respectively), whereas Puerto Ricans were least likely to be interviewed in Spanish (41%). Relatively equal proportions of Mexican Americans, Dominicans, and South Americans were interviewed in Spanish (72%, 73%, and 76%, respectively). Women represented 52% of the sample. The mean (SD) age of the entire sample was 42 (0.41) years. Cuban Americans, however, were older with a mean age of 50.3 (1.0) years, and Mexican Americans were younger, with a mean age of 37.8 (0.5) years. The mean age of Puerto Ricans and South/Central Americans was 40.6 (0.7) and 40.8 (0.6) years, respectively. Cuban and South/Central Americans reported a higher median income ($\$25,000$) than Puerto Rican and Mexican Americans ($\$17,000$).

Overall and problem-specific prevalence

Men, regardless of national group, had more alcohol-related problems than women (Table 1). Among both men and women, Cuban Americans had the lowest prevalence of problems, although differences across national groups are larger among men than among women. South/Central American men were most likely to report one problem, and Mexican American men were most likely to report two or more problems. There was no significant difference across national group for zero versus one alcohol-related problem. However, zero versus two or more problems, as well as one versus two or more problems, did differ significantly by national group.

Among women, Puerto Ricans, Mexican Americans, and

TABLE 1. Rates of alcohol problems among Hispanic national groups by the number of problems and gender

Variable	Puerto Rican % (n = 687)	Cuban American % (n = 662)	Mexican American % (n = 640)	Dominican/Central/South American % (n = 637)
Men ^a				
0 problems	66	82	63	70
1 problem	11	9	9	12
≥2 problems	23	9	28	18
Women ^b				
0 problems	86	95	91	92
1 problem	5	3	5	5
≥2 problems	9	2	4	4

Notes: Numbers in parentheses are unweighted denominators and the percentages are weighted.

^aThe overall chi-square significance is $p < .001$; the chi-square significance comparing 0 and 1 problem is not significant; the chi-square significance comparing 0 and ≥2 problems is $p < .001$; and the chi-square significance comparing 1 and ≥2 problems is $p < .05$; ^bthe overall chi-square significance is $p < .01$; the chi-square significance levels comparing 0 and 1 problem and 1 and ≥2 problems are not significant; and the chi-square significance comparing 0 and ≥2 problems is $p < .01$.

South/Central Americans were equally likely to report just one alcohol-related problem. In addition, Puerto Rican women were most likely to report two or more problems. There was no significant difference by national group in the presence of zero versus one problem or one versus two problems. However, the presence of zero versus two problems did vary significantly by national group, with the highest prevalence among Puerto Rican women.

In general, both Puerto Rican and Mexican American men reported statistically significant higher rates of problems, regardless of the problem type (Table 2a). The exceptions to this were in the dependence symptom of prolonged intoxication and the social consequences of police problems and ac-

cidents. In terms of the ranking of problems within national group, Puerto Rican and South/Central American men most commonly reported increased tolerance to alcohol. Mexican American men had equal proportions of increased tolerance, salience of drinking, and financial problems, whereas only the salience of drinking was most common among Cuban American men.

Among women, comparisons of specific alcohol-related problems across Hispanic national group show that Puerto Rican women generally report higher rates of problems regardless of the type (Table 2b). In relation to the ranking of problems within national group, Puerto Rican women primarily reported belligerence, followed closely by salience of drinking and problems with one's spouse. Mexican American women were equally likely to report a higher prevalence of belligerence, impaired control, and problems with one's spouse, and South/Central American women were equally likely to report increased tolerance and salience of drinking. Although the prevalence of problems was lowest among Cuban American women, this group was most likely to report increased tolerance.

Sociodemographic and drinking-related correlates of problems

Two multinomial regression models were run, one with alcohol consumption variables (drinks consumed per week and frequency of heavy episodic drinking) and one without. The -2 log-likelihood differences between these two models indicated a significant contribution of the alcohol variables to the fit of the model ($\leq .05$). Therefore, the results of the final model, including the alcohol consumption variables, are presented (Table 3). This model showed no significant differ-

TABLE 2A. Rates of alcohol problems among Hispanic national groups by type of problem among men

Variable	Puerto Rican % (n = 685-687) ^a	Cuban American % (n = 659-662)	Mexican American % (n = 634-640)	Dominican/Central/South American % (n = 634-637)	p
Dependence symptoms					
Increased tolerance	17	7	16	12	.003
Impaired control	13	6	15	9	<.001
Need drink	10	3	12	4	<.001
Withdrawal symptoms	9	3	8	7	.02
Prolonged intoxication	4	2	2	2	.86
Salience of drinking	13	9	16	9	.04
Social consequences					
Belligerence	14	4	9	8	<.001
Health problems	10	3	10	8	<.001
Financial problems	7	5	16	10	<.001
Police problems	5	2	3	1	.06
Job problems	5	1	5	4	<.001
Accidents	3	<1	2	1	.08
	% (n = 577-531)	% (n = 599-552)	% (n = 541-487)	% (n = 527-482)	
Problems with spouse	14	2	14	8	<.001
Problems with others	5	<1	5	2	<.001

Notes: Numbers in parentheses are unweighted denominators and the percentages are weighted.

^aN's vary due to missing data.

TABLE 2B. Rates of alcohol problems among Hispanic national groups by type of problem among women

Variable	Puerto Rican % (n = 641-647) ^a	Cuban American % (n = 664-665)	Mexican American % (n = 647-648)	Dominican/Central/ South American % (n = 634-637)	p
Dependence symptoms					
Increased tolerance	6	2	2	3	.04
Impaired control	6	1	3	1	<.001
Need drink	2	<1	<1	1	.29
Withdrawal symptoms	4	1	2	1	.04
Prolonged intoxication	2	1	<1	<1	.09
Saliency of drinking	7	1	2	3	.005
Social consequences					
Belligerence	8	1	3	1	.001
Health problems	4	<1	1	1	.05
Financial problems	1	1	3	1	.40
Police problems	1	0	<1	<1	.21
Job problems	1	0	<1	<1	.07
Accidents	1	0	<1	<1	.30
	% (n = 590-599)	% (n = 643-618)	% (n = 600-595)	% (n = 592-573)	
Problems with spouse	7	1	3	1	<.001
Problems with others	2	<1	<1	2	.21

Notes: Numbers in parentheses are unweighted denominators and the percentages are weighted.

^aN's vary due to missing data.

ences by national group in the likelihood of experiencing one (versus zero) alcohol-related problem (Table 3). Significant national group differences were present, however, in the likelihood of experiencing two or more alcohol problems. Compared with Cuban Americans, all other national groups were more likely to report two or more problems. Place of birth was also associated with the likelihood of experiencing alcohol problems. Compared with foreign-born individuals, those born in the United States were more likely to experience both one and two or more problems. Not surprisingly, men were more likely than women to experience problems. Interestingly, 40- to 49-year-olds, in comparison with those 50 and older, were at increased risk of reporting one problem. Regarding socioeconomic status, both education and income were significantly associated with alcohol problems. Those with less than a high school education, in comparison with those with at least some college, were more likely to have two or more alcohol problems, and, as income rose, the likelihood of two or more problems decreased. The volume of alcohol consumption, as well as heavy episodic drinking, was also positively associated with the presence of one and two or more alcohol-related problems.

Discussion

These results show that men, regardless of national group, experience more alcohol-related problems than women. These differences in problem prevalence between men and women are traditional epidemiological findings given that levels of alcohol consumption among men are higher than among women (Hilton, 1991d). Among men, Cuban Americans reported the fewest number of problems, and Puerto Rican and Mexican Americans experienced the

most problems. Previous analyses of this data set, which examined the prevalence of alcohol abuse and dependence in the sample, also reflected this finding. The prevalence of abuse and dependence was lower among Cuban American men and highest among Puerto Rican and Mexican American men (Caetano et al., 2009). Similar results have been described for drinking and driving, with higher rates among Mexican and South/Central American men (Caetano et al., 2008b). However, the proportion of men and women in each national group reporting one and two or more problems in this sample is higher than those in previous national samples of Hispanics interviewed in 1984 and 1995 (Caetano and Clark, 1998; Caetano et al., 1985). This is particularly true regarding comparisons with 1984 data, when the proportion of men reporting two or more problems was 13% (Caetano et al., 1985). Regarding data from 1995, 21% of the men in that sample reported two or more alcohol problems, which is lower than the proportion among Mexican American men, higher than the proportion among Cuban American men, and similar to the proportion among Puerto Ricans and South/Central Americans. There are two reasons for these differences. First, these previous results come from U.S. national samples of Hispanics, not samples of specific national groups interviewed in selected metropolitan areas in the United States. Second, the previous samples were interviewed in 1984 and 1995. Problem prevalence among Hispanics increased between 1984 and 1995 (Caetano and Clark, 1998) and may have changed since 1995 in different national groups.

Regarding the prevalence of specific types of problems, in general, men experienced more dependence-related problems than social consequences. That dependence problems have a higher prevalence than social consequences is not

TABLE 3. Multinomial regression models of the association between the number of alcohol problems and selected variables ($n = 5,136$)

Variable	1 problem		≥2 problems	
	OR	95% CI	OR	95% CI
National group (ref.: Cuban American)				
Puerto Rican	1.30	0.76-2.22	2.02*	1.12-3.65
Mexican American	1.32	0.79-2.20	2.92†	1.70-5.04
South/Central American	1.45	0.95-2.20	2.12†	1.27-3.53
Birthplace (ref.: foreign born)				
U.S. born	1.57*	1.05-2.34	1.95†	1.34-2.85
Gender (ref.: women)				
Men	1.93†	1.30-2.85	3.10†	2.08-4.63
Age group (ref.: 50 years and older)				
18-29	1.01	0.57-1.77	1.28	0.70-2.34
30-39	1.27	0.79-2.03	1.18	0.65-2.14
40-49	1.92*	1.16-3.19	0.87	0.48-1.57
Level of education (ref.: some college, college degree, graduate/professional degree)				
Less than high school	1.34	0.89-2.03	2.06†	1.29-3.29
High school diploma/GED	1.14	0.76-1.72	1.24	0.78-1.98
Technical/vocational	1.11	0.50-2.46	1.15	0.47-2.83
Employment status (ref.: employed full or part time)				
Temporarily unemployed	0.72	0.44-1.19	0.70	0.43-1.16
Retired	0.51	0.23-1.14	0.53	0.23-1.25
Homemaker	0.79	0.33-1.89	0.76	0.36-1.62
Disabled/never worked	0.62	0.33-1.16	0.98	0.52-1.86
Income (continuous)	1.00	0.99-1.00	0.98†	0.98-0.99
Marital status (ref.: married)				
Separated/divorced/widowed	0.77	0.49-1.22	0.92	0.56-1.52
Never married	1.73†	1.19-2.51	1.17	0.79-1.74
Average no. of drinks per week ^a	1.16†	1.06-1.28	1.31†	1.20-1.42
Frequency of heavy episodic drinking (ref.: not in the past year/abstainers/exdrinkers)				
Less than once a month	0.83	0.24-2.83	6.15†	2.61-14.5
One or more times a month	1.74†	1.24-2.45	3.18†	2.27-4.47

Notes: All data are weighted. OR = odds ratio; CI = confidence interval; GED = General Educational Development credential.

^aOR and 95% CI associated with an increased consumption of five drinks per week.

* $p < .05$; † $p \leq .01$.

unusual. This is because social consequences are dependent on reactions from the social surroundings to the drinker's drinking. These reactions vary from place to place. Some are dependent on factors such as police enforcement or local laws (legal problems), couples' relationships (problems with spouse), the type of job one has (job problems), and other factors that are not directly related to the volume and pattern of drinking of an individual. The most commonly reported dependence-related problems among men included increased tolerance, impaired control, and salience of drinking. The most commonly reported social consequences included financial problems, belligerence, and problems with one's spouse. This overlaps well with previous results for the samples of 1984 and 1995 described above. Both in 1984 and in 1995, the most common problems among Hispanic men were impaired control, salience of drinking, financial problems, belligerence, and problems with spouse (Caetano et al., 1985). Analyses of the samples from 1984 and 1995 by national groups also show a similar ranking in problem prevalence to the results herein: Both in 1984 and 1995, Mexican Americans had the highest problem prevalence, followed by South/Central Americans, and then Puerto Ricans

and Cuban Americans (Caetano, 1988; Caetano and Galvan, 2001).

As with men, alcohol-related problems among women also differed in relation to national group. Like their male counterparts, Cuban American women were the least likely to experience problems, and Puerto Rican women were most likely. Although the prevalence of problems was higher among Puerto Rican women, this group was similar to Mexican American women in that, within their national group, the distribution of dependence-related problems and social consequences were relatively similar. Previous analyses of data on problems among Hispanic women in different national groups also showed that Mexican American women and Puerto Rican women had a higher prevalence of problems than South/Central Americans and Cuban Americans (Caetano, 1988; Caetano and Galvan, 2001). However, unlike men, women did not report more dependence-related problems than social consequences. In part, this is because the prevalence of all alcohol problems is lower among women than among men, and differences are, therefore, not large. But the fact that the rank order of problem prevalence by national Hispanic groups is similar for men and women—

Cuban Americans at the bottom, Puerto Rican and Mexican Americans at the top—is an interesting result. It suggests that, in each national group, drinking varies by gender; but, when men in a particular group drink more than men in other groups, the same is observed among women. Problem prevalence then may be linked to a more general and culturally determined aspect of alcohol use at the group level; a culture that allows men to drink more vis-à-vis other national groups will also allow women in that group to drink more vis-à-vis women in other national groups. This may be a particularity of drinking among Hispanic national groups in the United States. Roizen (1983) described a rather different situation for drinking by men and women in Mexico. According to Roizen (1983), Mexico is a country of considerable disparity in drinking by gender, one in which men were granted considerable access to alcohol, whereas women were kept away from it by rather stringent norms. More recent analyses of drinking in Latin American countries still show the rate of abstinence among women in Mexico is 2.6 times higher than that among men (Taylor et al., 2007).

Results from the multinomial analysis indicate that men, regardless of national group, have a higher likelihood of experiencing one or two or more alcohol-related problems. National group differences were observed in relation to the likelihood of experiencing two or more problems. Confirming the results from the bivariate analyses discussed above, in comparison with Cuban Americans, all three other national groups had an increased likelihood of experiencing two or more problems (in comparison with zero problems). Given that this result controls for confounding by important factors, such as age and socioeconomic status, it seems that the norms and attitudes about alcohol consumption among Cuban Americans play a role in keeping their alcohol consumption and the consequent problems at a lower level than that of other Hispanic national groups. Indeed, it is well known that Cuban Americans are different from other U.S. Hispanics: They are older (median age = 40.3 years); have the highest proportion of naturalized citizens (41.4%); have the highest proportion of people who entered the United States before 1970 (39.6%); and have one of the highest median incomes among U.S. Hispanics, higher than \$42,000. Among the Hispanic national groups analyzed herein, the proportion of Cuban Americans with a bachelor's degree (21.2%) is second only to that of South Americans (25.2%). Finally, the majority of them came to the United States for political reasons, after the Cuban revolution. There are also refugees from political regimes in Central and South America among other Hispanic groups; but the majority of individuals in these groups came to the United States from rural areas in Latin America to find better job and better opportunities. Data from the 2000 Census provides evidence of these differences (Ramirez, 2004).

The multinomial analysis also shows that, besides the volume of drinking (average number of drinks per week), the

frequency of heavy episodic drinking also contributes independently to the risk of developing alcohol-related problems. Thus, the pattern with which alcohol is consumed is also important (Dawson, 1993; Rehm et al., 2003). However, in general, age does not have a statistically significant association with problems. This is in contrast to findings for the U.S. general population, which show a strong association between age, drinking, and problems. Those in the 18-29 age group are at considerably higher risk for heavier drinking, problems, and alcohol abuse and dependence than those in older groups (Grant et al., 2004a; Hilton, 1991a). This attenuated association between age, drinking, and problems among U.S. Hispanics has been reported previously (Caetano, 1991; Caetano et al., 1985, 2008a). It has been suggested that this occurs because, among Hispanic men, drinking is not as associated with a youthful lifestyle as it is among white men in the U.S. population (Caetano, 1984).

U.S.-born Hispanics, regardless of national group and gender, are more likely to experience problems than their foreign-born counterparts. This relationship has been shown previously in a number of studies. Thus, foreign-born U.S. Hispanics have a lower rate of alcohol abuse and dependence (Alegria et al., 2007; Grant et al., 2004b), a lower rate of psychiatric morbidity (Grant et al., 2004b), and a lower rate of drinking and driving (Caetano and Clark, 2000; Caetano and McGrath, 2005), although this latter finding is not consistent (Caetano et al., 2008b). Education and income are also associated with alcohol problems. Those with less education and lower income are more vulnerable than others. Others in the literature have reported similar findings in relation to alcohol abuse and alcohol dependence (Grant, 1997; Grant and Harford, 1990; Substance Abuse and Mental Health Services Administration, 2007), and alcohol problems (Caetano and Clark, 1998).

Strengths and limitations

An important strength of this study is that comprehensive data on alcohol consumption and alcohol problems were collected from representative samples of Hispanic national groups in five large metropolitan areas of the United States. Because face-to-face interviews were conducted in both English and Spanish, this study was able to include those who did not speak English. In fact, 70% of the interviews were conducted in Spanish. Although nearly one quarter of the selected respondents refused to be interviewed, the weighted response rate was good (76%). In addition, these data are cross-sectional in nature and do not allow for considerations of time in the analyses. Respondents may also have underreported their behavior. Particularly, if underreporting is higher in one national group than others, the relationships discussed in this study could be affected.

Because data were collected in five different areas of the United States, it is possible that the differences in the

prevalence and nature of alcohol-related problems across Hispanic national groups could be a reflection of aspects of the area in which respondents reside. However, it has been noted that, although the southern states have higher rates of abstinence than the northeastern, midwestern, and Pacific states, the rates of per capita consumption in the South are comparable to other areas of the country. In fact, when per capita consumption is interpreted on an individual basis, consumption is actually higher in the South than other parts of the United States (Hilton, 1991d). Given this, one might attribute, at least in part, the lower rates of alcohol consumption and alcohol-related problems among Cuban Americans to their residence in Florida. However, Cuban Americans are also older as a whole (Census Bureau, 2007) and because, in general, heavy drinking and alcohol-related problems decrease with age (Hilton, 1991e), this may also explain the lower rates of alcohol consumption and associated problems among Cuban Americans.

The results of this study are important, given the growing Hispanic population in the United States. In 2008, 15.35% of the U.S. population was of Hispanic origin, and this is projected to increase to 30.25% by the year 2050 (Census Bureau, 2008). The heterogeneity of the Hispanic population underscores the importance of reporting results that are specific to particular national groups. In this way, treatment and preventive interventions may be more effective when targeted to the problems with higher prevalence in each of these groups. Particularly, these results suggest that localities with higher populations of Puerto Ricans and Mexican Americans have a more urgent need to address alcohol-related problems, because these two groups have the highest prevalence of problems among U.S. Hispanics. Greater resources toward prevention efforts and treatment interventions are, therefore, warranted. Place of birth is also important to consider in intervention and prevention efforts, because U.S.-born Hispanics have a higher prevalence of problems. Finally, these results emphasize the importance of focusing on minimizing heavy episodic drinking. This is especially crucial because this manner of drinking puts the individual at a considerably increased risk for developing alcohol-related problems above and beyond the average volume of drinking.

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