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The Hispanic Americans Baseline Alcohol Survey (HABLAS): Rates and Predictors of Alcohol Abuse and Dependence Across Hispanic National Groups*

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Abstract

Objective—The primary purpose of this article is to report 12-month prevalence rates and predictors of alcohol abuse and dependence among Mexican Americans, Cuban Americans, Puerto Ricans, and South/Central Americans living in the United States.

Method—Using a multistage cluster sample design, a total of 5,224 individuals 18 years of age and older were selected from the household population in five metropolitan areas of the United States: Miami, New York, Philadelphia, Houston, and Los Angeles. The survey weighted response rate was 76%. Personal interviews lasting an average of 1 hour were conducted in respondents' homes either in English or Spanish.

Results—There is considerable heterogeneity in rates of abuse and dependence across these national groups, with Mexican American and Puerto Rican men having higher rates than Cuban American and South/Central American men. The rates of dependence for Mexican American and Puerto Rican men are also higher than those for men in the U.S. general population. Further, although the highest rates of abuse and dependence are among those in their 20s, the rate decline with age is not as strong as in the U.S. population. Thus, Hispanics at older ages (40–49, 50–59) are at considerably more risk of dependence and its health consequences than the U.S. general population. This is particularly true of Puerto Rican and Mexican American men.

Conclusions—Future analysis must take this heterogeneity into consideration by conducting national group-specific analysis. Prevention efforts must also be guided by these findings, which suggest that Puerto Ricans and Mexican Americans are at higher risk for abuse, dependence, and the associated consequences than the other two groups of U.S. Hispanics.

Hispanics constituted 12.5% of the United States population in the 2000 Census (Bureau of the Census, 2001). A recent update indicates that Hispanics already compose 14.4% of the population (Bureau of the Census, 2006) and will be about 25% of the U.S. population in 2050 (Falcon et al., 2001; Bureau of the Census, 2004). Although treated in most instances as a homogeneous population, Hispanics are heterogeneous culturally and racially because they originate from all countries of Latin America. Hispanics are also relatively young and, as such, are particularly vulnerable to alcohol abuse and dependence, which in the U.S. population has its highest prevalence in the 18–29 age group (Grant et al., 2004a). About 23% of U.S. Hispanics are between 18 and 29 years of age compared with 16% of the U.S. population

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(Bureau of the Census, 2007). This increasing presence in the U.S. population, this heterogeneity, and this youthfulness and its associated vulnerabilities make it important to try to learn more about levels of disease prevalence and their predictors, especially about alcohol abuse and dependence, among Hispanics. The heterogeneity of the Hispanic population makes it particularly important to report results that are specific to national groups as much as possible, which is the main objective of this article.

Rates of alcohol abuse and dependence in the U.S. population 18 years of age and older, based on diagnostic criteria in the Diagnostic and Statistical Manual of the American Psychiatric Association, Fourth Edition (DSM-IV; American Psychiatric Association, 1994), are 4.65% and 3.81%, respectively (Grant et al., 2004a). These rates are higher among men than women and higher among those in the 18–29 age group than in any other group. For instance, rates for alcohol dependence among men and women in the 2002 National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) were 5.42% and 2.32%, respectively. Rates of alcohol dependence among men were 13% in the 18–29 age group, declining to 4.98% in the 30–44 age group and to 2.67% in the 45–64 age group (Grant et al., 2004a). The Epidemiology Catchment Area (ECA) data reported on Mexican Americans 20 years ago (Burnam, 1989; Burnam et al., 1987), indicating higher rates (during 12 months) of alcohol abuse and/or dependence (13%) compared with whites (8%). Shrout et al. (1992) reported significantly higher rates of alcohol abuse/dependence for Mexican Americans in Los Angeles (ECA data) and Puerto Ricans in Puerto Rico. Lifetime prevalence was 12.2% among Puerto Ricans and 24% among U.S.-born Mexican Americans, suggesting that, among Hispanic national groups, Mexican Americans have higher levels of alcohol abuse and dependence. More recently, Caetano et al. (2008b) analyzed data for Hispanics living on the Mexico-U.S. border in Texas, most of whom are Mexican Americans. Rates of alcohol abuse and dependence among men were 7% and 14.5%, respectively. Among women, the prevalence rate for alcohol abuse was 3%, and the rate for alcohol dependence was 1.6%. Rates for women were not higher than the national average; however, rates for men were two times higher than national rates. For instance, NESARC data indicate that the rate of alcohol dependence for Hispanic men is 5.9% and for all men is 5.4% (Grant et al., 2004a). NESARC data on alcohol dependence for Mexican Americans in the United States show a prevalence rate for alcohol dependence (9.8%; Grant et al., 2004b) that is also lower than that found on the border by Caetano et al. (2008b).

The objective of this article is to report 12-month prevalence rates and predictors of alcohol abuse and dependence among Mexican Americans, Cuban Americans, Puerto Ricans, and South/Central Americans living in the United States. As already discussed, there are several reasons why these rates may be different across these national groups. First, there are demographic differences in population composition. Second, there is a difference in alcohol dependence rates between Puerto Ricans and Mexican Americans as reported by Shrout et al. (1992). Third, there are differences in other alcohol data that suggest potential variations in the prevalence of abuse and dependence across Hispanic national groups. For instance, survey results indicate that among Hispanics, Mexican Americans have higher prevalence rates of frequent heavy drinking (drinks once a week or more often and have five or more drinks per occasion once a week or more often) and alcohol-related problems (Caetano, 1988; Caetano and Galvan, 2001). Mexican Americans, followed by South/Central Americans, also have higher rates of arrest for driving under the influence of alcohol than other groups (Caetano et al., 2008a). These differences in drinking practices are most probably historically and culturally determined. For instance, the higher rate of frequent heavy drinking with high intake per occasion among Mexican Americans has been associated with patterns of drinking in Mexico, which in turn are associated with historical practices linking intoxication and religious holidays in Mexico (Caetano and Medina Mora, 1988).

Method

Sampling and data collection

Data were collected as part of the 2006 Hispanic Americans Baseline Alcohol Survey (HABLAS). The HABLAS employed a multistage cluster sample design in five selected metropolitan areas of the United States: Miami, New York, Philadelphia, Houston, and Los Angeles. These sites were chosen because of the large proportion of Hispanics of specific national groups in their population. Thus, most Cuban Americans were interviewed in Miami (98%), most Mexican Americans in Houston and Los Angeles (87%), most South/Central Americans in Miami (50%) and New York (41%), and most Puerto Ricans in Philadelphia (50%) and New York (50%). After being appropriately weighted to correct for differences in sampling, respondents are a representative sample 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 an average of 1 hour were conducted in the respondents' homes by trained interviewers, all of whom were bilingual in English/Spanish. Once the English questionnaire was pretested and finalized, the questionnaire was translated into Spanish and then independently translated back to English. The final Spanish version incorporates the variations in the language used by the different Hispanic national groups. Informed consent was obtained after respondents were given a complete study description. A total of 5,224 individuals were interviewed (Mexican Americans = 1,288; Puerto Ricans = 1,335; Cuban Americans = 1,327; South/Central Americans = 1,274) for a weighted response rate of 76%.

Sample characteristics

Women represented 52% of the sample. Cuban Americans were older ($mean_{men}$ [SD] = 49.9 [1.0] years; $mean_{women}$ = 50.6 [1.5] years) and Mexican Americans were younger ($mean_{men}$ = 37.3 [0.6] years; $mean_{women}$ = 38.3 [0.8] years). The mean age of Puerto Ricans ($mean_{men}$ = 39.8 [1.0] years; $mean_{women}$ = 41.2 [1.0] years) and South/Central Americans ($mean_{men}$ = 39.8 [0.8] years; $mean_{women}$ = 41.7 [0.8] years) was around 40 years. About three quarters of the sample (76%) were foreign born (in a U.S. territory including Puerto Rico or in a country other than the United States). Of those who reported being foreign born, the mean number of years lived in the United States was 17.4. This varied across national groups (Mexican Americans = 15.4 years; South/Central Americans = 15.4 years; Puerto Ricans = 20.3 years; Cuban Americans = 21.0 years). South/Central Americans reported the highest grade/year completed (12.7 years) followed by 12.5 years for Cuban Americans, 12.2 years for Puerto Ricans, and 10.8 years for Mexican Americans. Cuban Americans and South/Central Americans reported a higher median income ($25,000) compared with Puerto Ricans and Mexican Americans ($17,000).

Measurements

Alcohol abuse and dependence (past 12 months)—This finding is based on a series of questions that are part of the Composite International Diagnostic Interview-Substance Abuse Module, DSM-IV version (Cottler et al., 1989). This operationalization covers the seven criteria for alcohol dependence as well as the four criteria for alcohol abuse described in the DSM-IV. Respondents who reported one or more criteria for abuse in the same time frame were considered to be alcohol abusers. Respondents who reported three or more alcohol indicators were considered to be alcohol dependent.

Age at initiation of drinking—Respondents were asked to report the age at which they first started drinking alcoholic beverages, not including small tastes. Based on their response, respondents were grouped into "14 years or younger" and "21 years or older," with the ages in between coded as they were reported.

Average drinks per week (past 12 months)—This number was assessed by combining the self-reported frequency and quantity of drinking any type of alcohol during the past 12 months. This variable was included in the model as a continuous variable and the risk associated with drinking five standard drinks of alcohol was reported.

Hispanic national origin—This measurement was done in two steps and is based on self-identification. The first step included screening households by asking the household informant whether there were any adult household members who were Hispanic or Latino. Once these adults were identified, one was randomly selected to be interviewed. In the second step, during the survey interview, the selected adult confirmed his or her Hispanic origin 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, or Central American." In this article, Dominicans are grouped with South/Central Americans.

Other sociodemographic variables—*Age:* Based on self-reported age, the respondents were grouped into five categories: 18–29, 30–39, 40–49, 50–59, and 60 years or older. *Marital status:* Respondents were classified into three groups: (1) never married or never lived with someone; (2) widowed, divorced, or separated; or (3) married or cohabiting. *Education level:* Respondents were categorized into five education categories: (1) less than high school, (2) completed high school or a general educational development (GED) credential, (3) technical or vocational school, (4) some college, or (5) completed 4-year college or higher. *Employment status:* Respondents were categorized into four employment categories: (1) unemployed (temporary illness, unemployed, looking/not looking for job/in school), (2) employed part time or employed full time, (3) retired/homemaker, or (4) disabled/never worked/other. *Income:* Respondents were asked to identify the category into which their total household income fell from a list of 12 categories, beginning with less than $4,000 and ending with a highest category of greater than $100,000. However, nearly 20% of the total sample (n = 1,069) either refused to answer or did not know their income. For these respondents, log-transformed income was multiply imputed using the Markov Chain Monte Carlo method (Schafer, 1997) as implemented in SAS PROC MI (SAS Institute Inc., Cary, NC). Imputed incomes were transformed back to the 12 categories. Imputations were based on the respondent's education, employment status, marital status, household size, age, metropolitan area of residence, Hispanic nationality, if the respondent was born in the United States, how long the respondent had lived in the United States, acculturation, if the respondent had driven an automobile in the past year, and annual wage and salary data for the respondent's occupation in the case of employed respondents. The source of the wage and salary estimates was the Occupational Employment Statistics (OES) program, a cooperative program between the Bureau of Labor Statistics and State Workforce Agencies. The OES program produces employment and wage estimates for various occupations, excluding self-employed individuals (data available at: www.bls.gov/oes). State and metropolitan estimates were used corresponding to the five study locations. In all, 10 imputations were generated. Additionally, a single imputation based on the mean of the 10 log-transformed imputations was created for purposes of exploratory data analysis.

Statistical analyses

The Software for Survey Data Analysis (SUDAAN; Research Triangle Institute, 2005) 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, cross tabulations with chi-square options for categorical variables were performed to detect statistically significant associations. Logistic regression models were developed first 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, one at a time. Beta coefficients and their standard errors were extracted and inputted into SAS. The resulting matrix was analyzed with the SAS PROC MI ANALYZE to arrive at final results. The exponentials of the beta coefficients and the confidence intervals for the standard errors were taken and reported as odds ratios and 95% confidence intervals.

Results

Prevalence of alcohol abuse and dependence by gender, age, and Hispanic national group

Overall, rates of alcohol dependence were higher than rates of abuse independent of gender and Hispanic national origin. Among men, there were a few statistically significant differences in the overall prevalence of alcohol abuse across national groups. The prevalence of alcohol abuse was highest among Mexican Americans, followed by Puerto Ricans, South/Central Americans, and Cuban Americans (Table 1). Data by age within each national group show statistically significant differences only among South/Central Americans. Still, rates were highest in the 18–29 age group in most national groups, with the exception of Mexican Americans, declining thereafter. Mexican Americans showed an increase in the rate in the 50–59 age group that was not present in the other groups.

Among women, alcohol abuse rates were not statistically different across national groups or by age within national groups. Also, data by age show that most national groups and age groups have a prevalence rate that is zero or close to zero. The exception was Cuban American women 18–29 years of age, who had the highest prevalence rate among all groups.

Among men, differences in overall rates of alcohol dependence across national groups were statistically significant (Table 2). The rate of alcohol dependence was higher among Puerto Ricans and Mexican Americans, followed by South/Central Americans and Cuban Americans. These rates also declined with age. However, the only statistically significant differences across age groups were for Mexican Americans and South/Central Americans.

Among women, overall prevalence rates were statistically different across national groups. Also, rates among women were 4 to 20 times lower than among men, ranging from about 6% among Puerto Ricans to 0.8% among South/Central Americans. Differences in rates across age groups were statistically significant only for Puerto Rican women, among whom the highest rate was for women in the 40–49 age group.

Sociodemographic and alcohol-related predictors of alcohol abuse and dependence

The significant risk factors for alcohol abuse were being male, younger age, initiating drinking at or before age 15, and volume of alcohol consumption (Table 3). An interaction term representing the effect of gender by age was not significant; hence, it was not included in the final model. Also, the regression analysis explains a relatively small proportion of the variance in alcohol abuse. Risk factors for alcohol dependence were having less than a high school education, technical/vocational education, some college education, initiating drinking at or before age 14, and volume of alcohol consumption. There was a statistically significant interaction effect between Gender and Age: Men 18–39 years of age were considerably more at risk of alcohol dependence than other groups when compared with 18- to 29-year-old women. Higher income was a protective factor against alcohol dependence.

Discussion

The rates of abuse and dependence in the U.S. population and among Hispanic national groups analyzed herein show important differences. First, both the Hispanic national groups and the U.S. population show higher rates of abuse and dependence for men than for women. This is seen in the cross tabulations and in the logistic analysis of predictors of abuse and dependence. These differences between men and women are traditional findings of epidemiological research in the U.S. general population (Grant et al., 1994, 2004a; Helzer et al., 1992). Rates of abuse among men were slightly lower than those reported in the NESARC by Grant et al. (2004a). This is especially true for Cuban Americans. Rates of dependence were in general higher in the Hispanic national groups than in the NESARC, with the exception again of Cuban Americans. These differences are particularly pronounced for Puerto Rican and Mexican American men, who had rates of dependence almost three times higher than those for men in the NESARC. For women, rates of abuse in the NESARC were slightly higher than in Hispanic national groups (about 1–2 percentage points). Rates of dependence were also higher in the NESARC than among Cuban American and South/Central American women. Mexican American women had a rate similar to the NESARC and Puerto Rican women had a higher rate (6.4% vs 2.3%).

Past research suggests that Hispanic men in the United States, especially Mexican American men, have higher rates of consuming five or more drinks on a single occasion than the majority white population, which could explain higher rates of dependence but not lower rates of alcohol abuse among these men (Caetano, 1988; Caetano and Galvan, 2001). Also, longitudinal data showed that Hispanic men have higher stability of frequent heavy drinking and alcohol problems than white men in the U.S. general population, which could also contribute to higher rates of alcohol dependence (Caetano and Kaskutas, 1995, 1996). Hispanic women, on the other hand, had higher rates of abstention and lower rates of drinking than white women in the majority U.S. population (Caetano and Kaskutas, 1995). This could help explain why rates in the NESARC are higher than among most Hispanic women.

The difference in prevalence rates between Hispanic men and women are best explained by the considerable differences in norms regulating alcohol consumption. In most cultures, if not all, these norms are more liberal when directed at men than when directed at women. Hispanic cultures are not an exception. On the contrary, the differences between genders in Hispanic cultures regarding alcohol consumption seem to be more pronounced than those found, for instance, in the United States (Caetano and Clark, 1999). As a result, rates of abstention, heavier drinking, and all types of alcohol problems, including abuse and dependence, are lower among women than among men (Caetano and Clark, 1998).

Acculturation of Hispanic women to the United States is associated with lower rates of abstention and increased drinking (Zemore, 2005). However, the effect of this change in drinking with acculturation among women is not strong enough to lead to rates of abuse and dependence that eliminate the gap between the genders.

The variation in crude rates across age groups in the various Hispanic national origins is roughly comparable to that in the U.S. general population. Crude rates of abuse and dependence in all Hispanic groups are generally highest among those 18–29 years of age, independent of gender and national group. However, these differences were statistically significant only for rates of dependence among Mexican American and South/Central American men and Puerto Rican women. Once other background variables and level of alcohol consumption are controlled for in the logistic analysis (Table 3), the results for the association between age and abuse and dependence change considerably. For abuse, those 18–29 years of age are significantly more at risk than those in all other age groups, with the exception of the 50 or older age group. These

results are as expected, taking as comparison previous data from the U.S. population (Grant et al., 2004a).

The results for dependence are different. Crude rates of alcohol dependence do not decline rapidly with age, especially among Puerto Rican and Mexican American men, as they do among men in the U.S. general population. For instance, rates for Puerto Rican and Mexican American men in their 40s are 12.2% and 11.4%, respectively. In the NESARC, rates for all men, white men, and Latino men in the 30–44 age group are 4.98%, 5.13%, and 5.33%, respectively (Grant et al., 2004a). Still, as it can be seen by the effects of the interaction between gender and age, men in the 18–29 and 30–39 age groups are at considerably more risk of dependence than other gender and age groups. These findings are in agreement with data from the U.S. population (Grant et al., 2004a).

The highest rate of dependence among men in their 20s in the U.S. population is probably associated with the pattern of drinking by men in this group. These men have higher rates of ever drinking and of weekly drinking five or more drinks on a single occasion, ever being intoxicated, or being intoxicated weekly (Dawson et al., 1995). This is also true for Hispanic men in the United States. Regarding the prevalence of dependence in older age groups, there may be many potential reasons why the rates do not decline as rapidly among Hispanic men as they do with men in the U.S. population. A higher stability of frequent heavy drinking among Hispanic men could keep rates higher as men go from their 20s into their 30s and 40s (Caetano and Kaskutas, 1995). Also, if heavier drinking is seen as part of a youthful lifestyle among white men and not among Hispanics, as suggested by Caetano (1984), rates of dependence could be kept higher among older men in some Hispanic national groups. However, it is difficult to explain with certainty why the lack of decline of prevalence with age is more present among Puerto Rican and Mexican American men than among men in the other two national groups. Much of what is known about drinking among Hispanic men in the United States is based on studies with Mexican Americans and not Puerto Ricans, a reason why the study reported here was necessary. However, a study comparing 6-month prevalence of alcohol dependence among Puerto Ricans and Mexican Americans in Los Angeles showed similar rates in these two groups (Canino et al., 1992).

A few words are necessary about other predictors of abuse and dependence besides gender and age. Age at initiation of drinking is a significant predictor of alcohol abuse (≤15 years) and dependence (≤14 years). In the findings of Grant et al. (2001), drinking onset in any age group before the legal age limit (21 years) was associated with higher odds of alcohol abuse. This difference in results between Grant et al. and those reported here perhaps can be explained in part by the outcome being assessed. That is, in the analysis herein, the outcome is dependence at any point in time after age 18. In some previous analyses, the outcome was prevalence of lifetime dependence (Grant and Dawson, 1997), alcohol dependence within 10 years of drinking onset and two or more episodes of dependence (Hingson et al., 2006), and severity of dependence (Hasin and Glick, 1992; Hingson et al., 2006). Also, some of these previous analyses have focused on restricted age groups in the U.S. population (Grant et al., 2001) or the U.S. population as a whole and have not been specific to a particular ethnic group. In the analysis by Hingson et al. (2006), which focuses on an outcome similar to the one in this article, 12-month prevalence of dependence is in this latter category. Therefore, it is possible that the role of age at drinking onset in triggering subsequent abuse and dependence on alcohol is different in ethnic minorities.

Education and income are also associated with alcohol dependence. Those with higher education and higher income are less at risk than others. This has been another traditional epidemiological finding of studies in the general population (Grant and Dawson, 1997; Grant and Harford, 1990; Substance Abuse and Mental Health Services Administration, 2007). It

probably has to do with differences in patterns of drinking, with a higher prevalence of consuming five or more drinks at one occasion happening in lower socioeconomic strata. It could also be that those in lower socioeconomic strata have fewer resources to respond personally to problems associated with heavier drinking, which then makes problems (e.g., job related, legal, family) more manifested, leading to a more readily recognized state of dependence.

Strengths and limitations

This study collected comprehensive information on alcohol consumption and alcohol use disorders from representative samples of Hispanic national groups in five large metropolitan areas in the United States. Face-to-face interviews were conducted in English or Spanish, thus allowing for the selection of respondents who did not speak English and for the collection of detailed data on a variety of areas. The survey also achieved a high response rate. However, nearly one quarter of the selected respondents refused to be interviewed. The data under analysis are cross sectional in nature and do not allow for considerations of time order in the analyses. Respondents may have underreported some of the behaviors under analysis. If underreporting is higher in a particular group than in others, this could affect the relationships discussed in this study.

Conclusion

The epidemiology of alcohol abuse and dependence in Hispanic national groups has similarities but also important differences with that seen in the U.S. general population. There is considerable heterogeneity in rates of abuse and dependence across these national groups, with Mexican American and Puerto Rican men having higher rates than Cuban American and South/Central American men. The rates of dependence for Mexican American and Puerto Rican men are also higher than those for men in the U.S. general population. Further, although the highest rates of abuse and dependence are among those in their 20s in all national groups, the rate decline with age is not as strong as in the U.S. population. Thus, Hispanics at older ages (40–49, 50–59), particularly Puerto Rican and Mexican American men, are at more risk of dependence and its health consequences than men of the same age in the U.S. general population. Future analysis must take this heterogeneity into consideration by conducting national group-specific analysis. Prevention efforts must also be guided by these findings, which suggest that Puerto Ricans and Mexican Americans are at higher risk for abuse, dependence, and the associated consequences than the other two groups of U.S. Hispanics.

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Table 1

Prevalence of alcohol abuse based on the DSM-IV diagnosis, by Hispanic national group, age, and gender

Gender	Hispanic group[a]	Total % (denom.)	18–29 yr % (denom.)	30–39 yr % (denom.)	40–49 yr % (denom.)	50–59 yr % (denom.)	≥60 yr % (denom.)	χ^2 (df)	*p* value[b]
Male	Puerto Rican	5.2 (686)	12.4 (201)	3.5 (148)	0.3 (134)	4.6 (91)	0.9 (112)	9.2 (4)	.06
	Cub. Amer.	1.8 (662)	3.7 (84)	2.8 (97)	2.9 (134)	1.3 (103)	0.1 (244)	8.9 (4)	.07
	Mex. Amer.	5.6 (638)	5.1 (225)	5.3 (179)	5.5 (129)	10.1 (49)	4.7 (56)	0.5 (4)	.98
	S/C Amer.	4.2 (637)	6.3 (212)	5.7 (150)	2.4 (117)	3.5 (101)	0.0 (57)	9.7 (4)	.05
Female	Puerto Rican	0.7 (647)	1.1 (159)	0.6 (130)	1.3 (122)	0.0 (111)	0.2 (125)	6.7 (4)	.16
	Cub. Amer.	1.1 (665)	6.5 (66)	0.0 (108)	0.0 (119)	0.0 (92)	0.0 (280)	3.3 (4)	.50
	Mex. Amer.	0.8 (648)	2.7 (190)	0.0 (221)	0.0 (126)	0.0 (61)	0.0 (50)	4.1 (4)	.39
	S/C Amer.	0.2 (637)	1.0 (122)	0.0 (152)	0.1 (171)	0.0 (103)	0.0 (89)	3.0 (4)	.55

Notes: Numbers in parenthesis are denominators specific to the age group within a specific Hispanic group; percentages are weighted. DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition; denom. = denominator; yr = year; Cub. = Cuban; Amer. = American; Mex. = Mexican; S/C = South/Central.

[a] Overall comparing Hispanic national groups for males: $\chi^2 = 10.0$, $p = .02$; for females: $\chi^2 = 4.4$, $p = .22$;

[b] *p* value refers to the difference between the age groups within the corresponding Hispanic group.

Table 2

Prevalence of alcohol dependence based on the DSM-IV diagnosis, by Hispanic national group, age, and gender

Gender	Hispanic group[a]	Total % (denom.)	18–29 yr % (denom.)	30–39 yr % (denom.)	40–49 yr % (denom.)	50–59 yr % (denom.)	≥60 yr % (denom.)	χ^2 (df)	*p* value[b]
Male	Puerto Rican	15.3 (685)	24.2 (201)	14.1 (148)	12.2 (134)	12.6 (91)	6.6 (111)	8.2 (4)	.09
	Cub. Amer.	5.3 (662)	12.6 (84)	11.0 (97)	3.8 (134)	3.5 (103)	0.9 (244)	8.1 (4)	.09
	Mex. Amer.	15.1 (637)	18.8 (226)	16.8 (178)	11.4 (130)	15.0 (48)	4.7 (55)	9.4 (4)	.05
	S/C Amer.	9.0 (634)	18.0 (212)	6.0 (147)	8.4 (117)	2.3 (101)	0.9 (57)	16.9 (4)	.003
Female	Puerto Rican	6.4 (646)	6.2 (159)	5.0 (130)	12.1 (121)	7.6 (111)	0.8 (125)	11.2 (4)	.03
	Cub. Amer.	1.6 (665)	1.0 (66)	2.3 (108)	1.8 (119)	4.9 (92)	0.0 (280)	6.2 (4)	.19
	Mex. Amer.	2.1 (646)	1.7 (189)	2.1 (221)	2.9 (126)	3.3 (60)	0.0 (50)	7.1 (4)	.13
	S/C Amer.	0.8 (636)	1.2 (122)	1.2 (152)	0.9 (170)	0.5 (103)	0.0 (89)	7.6 (4)	.11

Notes: Numbers in parenthesis are denominators specific to the age group within a specific Hispanic group; percentages are weighted. DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition; denom. = denominator; yr = year; Cub. = Cuban; Amer. = American; Mex. = Mexican; S/C = South/Central.

[a] Overall comparing Hispanic national groups for males: $\chi^2 = 26.6$, $p = .00$; for females: $\chi^2 = 13.3$, $p = .005$;

[b] *p* value refers to the difference between the age groups within the corresponding Hispanic group.

Table 3

Odds ratio (ORs) and 95% confidence interval (CIs) from the logistic regression models predicting alcohol abuse and dependence

Variable	Alcohol abuse (*n* = 2,619) OR (95% CI)	Alcohol dependence (*n* = 2,902) OR (95% CI)
Male (ref.: female)	4.01‡ (2.01–8.00)	—
Hispanic subgroup (ref.: Cuban Amer.)		
Puerto Rican	1.36 (0.54–3.40)	1.81 (0.96–3.39)
Mex. Amer.	1.60 (0.65–3.91)	1.70 (0.86–3.38)
S/C Amer.	1.19 (0.51–2.78)	1.08 (0.56–2.08)
Age (ref.: 18–29 years)		
30–39 years	0.47* (0.23–0.99)	—
40–49 years	0.37* (0.15–0.93)	—
≥50	0.45 (0.16–1.30)	—
Marital status (ref.: married/living with spouse/living with someone)		
Married not living with spouse/legally separated/divorced/widowed	0.62 (0.28–1.36)	0.98 (0.63–1.51)
Never married/never lived with someone	1.12 (0.60–2.10)	1.27 (0.82–1.95)
Education level (ref.: 4-year college degree, graduate/professional school)		
<High School (HS)	1.07 (0.34–3.32)	3.81† (1.62–8.94)
HS diploma/GED	1.09 (0.35–3.37)	2.31 (0.96–5.55)
Technical/vocational school	0.77 (0.14–4.08)	3.40* (1.01–11.43)
Some college	1.00 (0.30–3.31)	2.96* (1.20–7.28)
Employment status (ref.: full/part-time employment)		
Unemployed: temporary illness/unemployed, looking/unemployed, not looking/in school	1.21 (0.54–2.76)	0.93 (0.54–1.62)
Retired/homemaker	0.78 (0.26–2.35)	1.17 (0.61–2.24)
Disabled/never worked/other	0.46 (0.13–1.58)	1.49 (0.83–2.67)
Income[a]	1.00 (0.99–1.01)	0.99† (0.98–1.00)
Age of initiation of drinking (ref.: ≥21 yrs)		
≤14	3.02* (1.28–7.14)	1.84* (1.03–3.29)
15	2.67* (1.09–6.50)	1.35 (0.74–2.45)
16	0.69 (0.20–2.40)	1.90 (1.00–3.60)
17	2.11 (0.93–4.76)	1.47 (0.71–3.04)
18	0.68 (0.24–1.95)	1.23 (0.70–2.15)
19	0.43 (0.09–1.97)	0.56 (0.22–1.42)
20	0.37 (0.06–2.11)	1.03 (0.50–2.11)
Average no. of drinks per week (five drinks)[a]	1.10† (1.03–1.17)	1.30‡ (1.21–1.39)
Interaction between age and gender (ref.: 18–29 Years x Female)		
18–29 Years x Male	—	5.33‡ (2.80–10.17)
30–39 Years x Male	—	3.14† (1.55–6.36)
30–39 Years x Female	—	1.31 (0.50–3.46)
40–49 Years x Male	—	2.00 (0.98–4.07)
40–49 Years x Female	—	2.06 (0.73–5.80)
≥50 Years x Male	—	1.68 (0.76–3.70)
≥50 Years x Female	—	0.96 (0.34–2.67)
R^2	6.1%	19.7%

Notes: Ref. = reference; Amer. = American; Mex. = Mexican; S/C = South/Central; GED = General Educational Development.

[a] Continuous variable.

* $p < .05$;

† $p < .01$;

‡ $p < .001$.