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The Hispanic Americans Baseline Alcohol Survey (HABLAS): Acculturation, Birthplace and Alcohol-Related Social Problems Across Hispanic National Groups

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Abstract

Objective—To examine the association between acculturation, birthplace, and alcohol-related social problems across Hispanic national groups.

Method—5,224 Hispanic adults (18+ years) were interviewed using a multistage cluster sample design in Miami, New York, Philadelphia, Houston, and Los Angeles.

Results—Multivariate analysis shows no association between acculturation and problems among men or women. Birthplace is a risk factor for social problems among both genders. Among men, Mexican Americans, Puerto Ricans, and South/Central Americans are more likely to report social problems than Cuban Americans. Other risk factors for men are unemployment, a higher volume of drinking, and a higher frequency of binge drinking. Among women, Mexican American origin and binge drinking are also risk factors for reporting problems.

Conclusions—U.S.-born Hispanics may experience stress and other detrimental effects to health because of their minority status, which may increase the likelihood of more drinking and the development of alcohol-related problems.

Keywords

Hispanic groups; acculturation; birthplace; social problems

Introduction

This paper examines the association between acculturation, birthplace, and alcohol-related social problems among Puerto Ricans, Cuban Americans, Mexican Americans, and South/Central Americans living in the United States. Acculturation is a process that leads to the adoption of cultural traditions and values of the host society by immigrant groups. Results in the literature suggest that acculturation has a closer association with drinking among women than among men (Gilbert, 1987; Lara, Gamboa, Kahramanian, Morales, & Hayes-Bautista, 2005; Markides, Ray, Stroup-Benham, & Treviño, 1990; Zemore, 2005). Acculturated Hispanic women adopt more liberal drinking norms characteristic of U.S. society, which appears to lead to a lowering of the rate of abstention among these women and increased drinking (Gilbert, 1987; Zemore, 2005).

Alcohol-related social problems may be legal (e.g., drinking and driving), interpersonal (e.g., divorce), or job-related (e.g., loss of job). They are different in nature from those problems associated with alcohol dependence, such as inability to control alcohol intake or

withdrawal symptoms. By being more closely related to the drinker's social environment, alcohol-related social problems may be more influenced by the drinkers' social environment, which in turn can be shaped by factors associated with birthplace and acculturation. The association between acculturation and alcohol-related social problems has been less examined in the literature than the association between acculturation and drinking. Caetano and Medina-Mora (1988) reported a positive cross-sectional association between high acculturation and problems among Mexican American women but not among men. However, that analysis included both social and dependence-related problems. In a trend analysis of the association between acculturation and problems from 1984 to 1995, Caetano and Clark (2003) reported a statistically significant downward trend between low acculturation and belligerence among men. The same analysis showed a significant upward trend between medium acculturation and belligerence, problems with police, and problems with spouse. High acculturation had a significant upward trend for belligerence as well. Medium and high acculturation have been associated with higher rates of driving under the influence of alcohol (Caetano, Ramisetty-Mikler, & Rodriguez, 2008a), but only among Cuban Americans and Mexican Americans. This modification of the effect of acculturation by Hispanic national identity was also reported by Ortega et al. (2000) in regard to lifetime psychiatric disorders and substance use disorders.

Findings on the association between birthplace and alcohol-related problems have been more uniform than those reported for acculturation, indicating that those born in the U.S. usually have a higher rate of problems than those born abroad. However, these studies have only focused on drinking and driving and not on a wider set of alcohol-related social problems (Caetano & Clark, 2000; Caetano & McGrath, 2005). Other studies have examined the association between birthplace and psychiatric diagnosis of abuse and dependence. Results show that U.S.-born Hispanics have a higher rate of DSM-IV substance use disorders than those who are foreign-born (Alegría, Mulvaney-Day, Torres, Polo, Cao, & Canino, 2007; Grant, Stinson, Hasin, Dawson, Chou, & Anderson, 2004; Ortega et al., 2000). Vega et al. (1998) results suggest that some of this increased risk present among U.S.-born Hispanics can be acquired by the foreign-born. So, these authors reported that U.S.-born Mexican Americans were almost three and five times more likely to have a lifetime diagnosis of alcohol abuse or dependence than immigrants with less than 13 years and more than 13 years of life in the U.S., respectively. A previous paper using the same data set analyzed here examined the association between acculturation, birthplace and DSM-IV alcohol abuse and dependence (Caetano, Ramisetty-Mikler, & Rodriguez, 2009). Analyses controlling for sociodemographic factors showed that high acculturation was a factor of risk for alcohol abuse but not dependence, while birthplace was a factor of risk for dependence but not for abuse. Four interactions were also tested in that analysis (gender by acculturation, gender by birthplace, national group by acculturation and national group by birthplace) but none showed statistically significant effects.

This paper examines the association between acculturation, birthplace, and alcohol-related social problems in four large Hispanic national groups in the U.S.: Puerto Ricans, Cuban Americans, Mexican Americans, and South/Central Americans. Based on the literature reviewed, both acculturation and birthplace should have a positive association with social problems, but the link should be stronger for birthplace than acculturation. The analyses will also assess the effect of birthplace and acculturation on social problems with and without controls for volume, drinking, and binge drinking to examine to what extent these two latter variables confound the effect of acculturation and birthplace. Finally, analyses will control for other sociodemographic variables with well known effects on problems, such as gender, age, education, employment, income, and marital status.

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 random sample design in five selected metropolitan areas of the U.S.: 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. Respondents are a representative sample of the Hispanic civilian non-institutionalized population aged 18 and older in these sites. A total of 5,224 individuals were interviewed, for a design adjusted response rate of 76%. This rate is estimated taking into consideration the proportion of housing units with unknown eligibility that, based on Census data, are likely to be eligible. Face-to-face Computer Assisted Personal Interviews (CAPI) lasting one hour on average were conducted in respondents' homes by trained interviewers, all of which were bilingual in English and Spanish. About 70% of the interviews were conducted in Spanish. Respondents received a \$25 incentive for their participation in the study. The Committee for the Protection of Human Subjects of the University of Texas Health Science Center at Houston approved this study.

Questionnaire translation

Once the English questionnaire was pre-tested and finalized, it was translated into Spanish by a lead translator and then independently translated back to English. These two 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) to take into account the possibility that respondents in different Hispanic national groups would use different idioms and words in their daily use of Spanish. This group of translators, working together, 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 provided to the interviewers, who then used it when necessary during interviews in the field.

Measurements

Average number of drinks per week—This was assessed by combining the self-reported frequency and quantity of drinking wine, beer, liquor, and mixed drinks with liquor in the past 12 months. The question asked respondents to “think about all kinds of alcoholic beverages combined”. Average number of drinks was computed using this total volume consumed in the past 12 months and converted to a weekly consumption. For Table 3, this weekly alcohol consumption variable was log-transformed to address skewness.

Binge drinking—This was defined as drinking four or more (for women) and five or more (for men) standard drinks (wine, beer, liquor) per occasion within a two-hour period in the past 12 months. A drink was defined as a 5 ounces glass of wine, a 12 ounce can of beer and a shot of 1.5 ounces of liquor. For men, respondents were categorized by their frequency of binge drinking: 1) not in the past year/ex-drinkers/abstainers (reference group); 2) less than once a month; and 3) one or more times a month. Because of the small number of women reporting binge drinking, respondents were categorized as 1) not in the past year/ex-drinkers/abstainers (reference group) and 2) one or more times a year.

Alcohol-related social problems in the previous 12 month (outcome variable)

—Respondents were asked to report whether or not they had experienced various types of alcohol-related social problems within the previous 12 months (see Hilton, 1991b). The following problems were covered: belligerence, police problems, accidents, health-related problems, problems with spouse, problems with one's children, work-related problems, and

financial problems. The alcohol problem items were coded “1” for “yes” and “0” for “no”. The multivariate analysis in table 3 is done with a dichotomy coded as “1” for one or more social problems and as “0” for no problems.

Birthplace—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 U.S. or in a U.S. territory (including Puerto Rico) were coded as foreign-born.

Acculturation level—This scale was developed by Caetano (1987). It was built from 12 questions covering the following information: daily use of and ability to speak, read, and write English and Spanish; preference for media (books, radio, and T.V.) in English or Spanish; ethnicity of people with whom respondents interact with at church, parties, the neighborhood in which respondents currently live and lived while growing up; and finally, a series of questions about values thought to be characteristic of the Hispanic lifestyle. With the exception of the items used to assess language use, all other items are coded using a 4-point Likert scale (strongly agree to strongly disagree). The scale's reliability was assessed with Cronbach's Alpha (0.91) and the Guttman split-half method (0.87). The scale correlates positively with being U.S.-born (0.58) and with number of years of life in the U.S. (0.22), and correlates negatively with age (−0.36). It also has positive correlations with drinking and alcohol problems. All these correlations are in the expected direction and empirically confirm the scale's construct validity. A continuous score of acculturation was computed and the subjects were then grouped into three categories – low, medium and high acculturation levels using tertiles.

Other sociodemographic variables—*Age*. Based on self-reported age, the respondents were grouped into four categories: 18–29, 30–39, 40–49, and 50 years or older (reference group). *Education status*. Respondents were categorized into four education categories: 1) less than high school; 2) completed high school or GED; 3) technical or vocational school; and 4) some college, completed 4-year college or higher (reference group). *Employment status*. Respondents were categorized into: 1) employed part-time or full-time (reference group); 2) unemployed (looking/not looking for job); 3) retired; 4) homemaker; 5) disabled/never worked. *Income*. Respondents were asked to identify the category into which their total household income fell from a list of 12 categories, beginning with <\$4,000 ending with a highest category of >\$100,000. However, nearly 20% of the total sample (n=1,069) either refused to provide their income 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. 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, whether the respondent was born in the U.S., how long respondent had lived in the U.S., acculturation, whether 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 (BLS) and State Workforce Agencies (SWAs). The OES program produces employment and wage estimates for various occupations, excluding self-employed individuals. These data were publicly available online through the BLS website (<http://www.bls.gov/oes/>). State and metropolitan estimates were used corresponding to the five locations where interviews were conducted for this study. In all, 10 imputed income values were generated.

Statistical analyses

Data were weighted to compensate for unequal probabilities of selection into the sample. In addition, a post-stratification weight was applied, which corrects for non-response 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). To account for the multistage cluster sample design used in the HABLAS, Stata 11.0 (StataCorp., 2009) was used for all analyses. The cross-tabulations in Tables 1 and 2 have cells with proportions smaller than 1%, which is due to weighting. Multivariate logistic analyses assessed the association between sociodemographic factors and drinking variables and social problems (none versus one or more). Two interaction effects were also tested, Hispanic national group by birthplace and Hispanic national group by acculturation. All main effects were entered simultaneously in the regression model. After that, one interaction effect was entered at a time in the model. The *test* command in Stata was used to determine if the interaction effect was contributing significantly to the model. If the interaction effect was significant, it was retained in the model. All variables in the analysis, with the exception of income and the average number of drinks consumed per week, were categorical, with one specific category (identified in the table) serving as the reference category for estimation of the odds ratios. Additionally, because income was included in the multivariate logistic analysis, the *mi* command in Stata was used to handle multiply imputed data.

Results

Sample description

Women represented 52% of the sample. Cuban Americans were older (men, 49.9 year $\pm$ 1.0; women, 50.6 years $\pm$ 1.5) and Mexican Americans were younger (men, 37.3 years $\pm$ 0.6; women, 38.3 years $\pm$ 0.8). The mean age of Puerto Ricans (men, 39.8 year $\pm$ 1.0; women, 41.2 years $\pm$ 1.0) and South/Central Americans (men, 39.8 year $\pm$ 0.8; women, 41.7 years $\pm$ 0.8) 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 U.S.). Of those who reported being foreign-born, the mean number of years lived in the U.S. was 17.4. This varied across national groups (Mexican Americans: 15.4 years; South/Central Americans: 15.4 years; Puerto Ricans: 20.3 years; and Cuban Americans: 21.0 years). Mexican Americans had the highest report of having less than a high school education (48%) followed by Puerto Ricans (34%), Cuban Americans (30%), and South/Central Americans (28%). Cuban Americans and South/Central Americans reported a higher median income (\$25,000) compared to Puerto Ricans and Mexican Americans (\$17,000).

Level of acculturation and alcohol-related social problems among men

Overall, acculturation did not appear to have much effect on alcohol-related social problems among men (Table 1). Among Puerto Rican men, financial problem was the only social consequence that varied significantly by level of acculturation. Among Cuban American men, level of acculturation was only associated with belligerence. For Mexican American men, the largest proportion of those reporting both financial and job problems represented men of low acculturation and this proportion decreased in a step-wise fashion as the level of acculturation increased. Accidents were also associated with acculturation among Mexican American men with men of mid-level acculturation most commonly reporting this problem. Among South/Central American men, financial problems were most commonly reported by men of low acculturation, followed by those of mid-level acculturation, and least commonly reported by men of high acculturation. There were no statistically significant associations among men in any of the national groups in relation to the total number of social problems and level of acculturation.

Level of acculturation and alcohol-related social problems among women

As with men, acculturation does not have a consistent association with alcohol-related social problems among women (Table 1). Among Puerto Rican women, there were no statistically significant associations between level of acculturation and any type of social problem. Among both Cuban American and Mexican American women the proportion reporting belligerence and spousal problems was highest among those with high acculturation and lowest among those with low acculturation. Among South/Central American women, financial problems were significantly higher among women in the low acculturation group.

Statistically significant differences in level of acculturation and the total number of problems were observed among all national groups, with the exception of South/Central Americans. Among Puerto Rican women, those reporting only one problem or three or more problems were most likely to be of high acculturation, whereas those reporting two problems were most likely to be of mid-level acculturation. Cuban American women who reported one problem were most likely to be of low acculturation, while those reporting two problems or three or more problems were most likely to be of high acculturation. Finally, Mexican American women who reported only one problem or two problems were most likely to be highly acculturated, while those reporting three or more problems were more likely to be in the medium acculturation group.

Birthplace and alcohol-related social problems among men

There were several statistically significant associations between place of birth and alcohol-related social problems among Puerto Rican men (Table 2). Particularly, U.S.-born men were more likely than their foreign-born counterparts to experience five of the eight social consequences. Only financial problems, health problems, and problems with children were not associated with birthplace. Place of birth was only associated with two social consequences among Cuban Americans. U.S.-born men in this group were more likely than their foreign-born counterparts to report belligerence and police problems. Mexican American men showed a different pattern. Two social consequences, financial problems and job problems, were significantly associated with birthplace; however, it was the foreign-born men who were more likely to have these problems. Like Puerto Rican and Cuban American men, place of birth was also associated with the social problem of belligerence in South/Central American men, with U.S.-born men more likely to report this problem than foreign-born men. South/Central American men born in the U.S. were also more likely than foreign-born men to report accidents. Birthplace was also associated with the total number of problems, but only among Puerto Rican and Cuban American men. Men with one social problem and three or more social problems were more likely to be born in the U.S., whereas men with two social problems were more apt to be foreign-born.

Birthplace and alcohol-related social problems among women

In general, among women, U.S. birth status was associated with a higher prevalence for some types of social problems (Table 2). The only exception to this was among Puerto Rican women, where foreign birth status was associated with a higher likelihood of reporting accidents, although the magnitude of the difference in proportions was small. Belligerence was commonly reported more often by U.S.-born women, regardless of national group. U.S. birth was also associated with an increased likelihood of reporting spousal problems among women from all national groups with the exception of South/Central American women. U.S.-born Mexican American and South/Central American women were more likely to report job-related problems than those who were foreign-born. U.S. birth was also associated with a greater likelihood of reporting problems with one's children among Mexican Americans and with health problems among South/Central Americans. When a problem count was analyzed, U.S. birth was also associated with a

greater likelihood of reporting two and three or more problems among Cuban Americans, of reporting one, two, and three or more problems among Mexican American and of reporting one and three or more problems among South/Central American women.

Sociodemographic characteristics, acculturation and birthplace as predictors of alcohol-related social problems

The logistic regression analysis was conducted in two steps and by gender. The model run in the first step (not shown) included acculturation and birthplace plus all sociodemographic variables in Table 3, but did not include the drinking variables (number of drinks per week and binge drinking). Results for that model failed to show any significant effects of acculturation on social problems, irrespective of gender. Birthplace, however, had a statistically significant association with social problems among both men (OR=1.58; 95CL: 1.03–2.42; $p<0.05$) and women (OR=3.10; 95CL: 1.68–5.74; $p<0.001$). The second model (Table 3) also did not show an association between acculturation and social problems, but confirmed the association between birthplace and problems for both genders. Among men, Mexican Americans, Puerto Ricans and South/Central Americans were more likely than Cuban Americans to report social problems. Men who were unemployed, retired or disabled/never worked were less likely than employed men to report an alcohol-related social problem. The same was true for men with higher income. An increased likelihood of reporting a problem was associated with consumption of a higher number of drinks per week and binge drinking. Among women, Mexican Americans were more likely to report an alcohol-related social problem than Cuban Americans. Consuming a higher number of drinks and reporting binge drinking one or more time a year also increased the likelihood of reporting problems.

Discussion

Acculturation and alcohol-related problems

Previous research on the association between acculturation and problems has not produced consistent results. Sometimes the association is found for one gender only (women), sometimes for a particular type of problems (e.g. drinking and driving, DSM-IV alcohol abuse) or for specific Hispanic national groups (Caetano & Clark, 2003; Caetano & Medina-Mora, 1988; Caetano et al., 2009; Ortega et al., 2000). Methodological differences across studies are one of the potential explanations for the inconsistency (Takeuchi, Alegria, Jackson, & Williams, 2007). However, it is also possible that this inconsistency reflects differences in the process of acculturation to U.S. society across gender, age of arrival in the U.S., birthplace and characteristics of each Hispanic national group. For instance, arrival in the U.S. after age 25 is associated with an estimated zero prevalence of substance abuse disorders (Alegria, Shrout, Woo, Guarnaccia, Sribney, Vila et al., 2007). Similarly, more than 13 years of residence in the U.S. increases the likelihood of mood disorders, anxiety disorder and alcohol and drug disorders in comparison to less than 13 years in the U.S. among Mexican Americans (Vega et al., 1998). Thus, if immigration patterns vary across Hispanic national groups, with some coming to the U.S. at an earlier age than others (e.g. Puerto Ricans); this could influence the prevalence of alcohol problems across these groups and create inconsistencies in associations.

The results described in this paper show some of these inconsistencies. First, the crosstabulations in Tables 1 and 2 show that, in general, acculturation does not seem to be strongly related to the prevalence of alcohol-related social problems in this Hispanic sample, especially among men. Among women, there is an association between higher acculturation and the number of problems reported in all four national groups. However, data on specific problems show that only a few problems are associated with acculturation (e.g., financial,

problems with spouse, belligerence). A previous analysis of the prevalence and predictors of problems across Hispanic national groups using this same data set indicated a high prevalence of problems, especially among Puerto Ricans and Mexican Americans (Vaeth, Caetano, Ramisetty-Mikler, & Rodriguez, 2009). So, alcohol problems are highly prevalent among U.S. Hispanics, but they are not strongly associated with acculturation. A previous analysis of this data set examining the association between acculturation and DSM-IV abuse and dependence showed a positive association for abuse but not for dependence (Caetano et al., 2009). Test of an interaction effect between acculturation and Hispanic national group in that analysis was not statistically significant (Caetano et al., 2009). While indicators of alcohol abuse are similar in content with some of the social problems in this paper, this overlap is considerably minimized by the different ways abuse and social problems are operationalized in survey questionnaires. The tradition in identifying alcohol abuse is not to ask for specific problems, as done in this paper, but to group them in a single item (e.g., failure to fulfill role obligations at work, school or home). As a result, people identified under a particular abuse indicator may be so for one, two or even three problems in different social areas (school, work, home).

The multivariate analysis in Table 3 does not show an effect of acculturation on problems among women, but there is an interaction effect between Hispanic nationality and acculturation among men. In this regard, the special status that Puerto Ricans have in the U.S. deserves attention. First, there is a strong interaction effect between Puerto Rican nationality and acculturation regarding problem risk, indicating that acculturation influences the likelihood of problems among Puerto Ricans in a way that is not found in any other of three national groups. Puerto Ricans low in acculturation have a greater likelihood of reporting problems than those in the medium and high acculturation groups. Puerto Ricans have the right to American citizenship and are thus free to enter and live in the U.S. at any time. This special status, plus the commonwealth political ties that link Puerto Rico and the U.S., may create a different acculturation process for this particular group. For instance, Alegria et al. (2007) have suggested that because of Puerto Rico's special ties with the U.S., Puerto Ricans would have higher expectations about life in the new country and successful sharing of the country's wealth. When these expectations are not met, they are more susceptible to frustration and stress, which could lead to higher rates of mental health and substance abuse problems. It is possible that this may be particularly true of low acculturated Puerto Ricans who would be less likely to effectively interact with U.S. society and fulfill expectations of social and financial success.

Birthplace and alcohol-related problems

The association between birthplace and problems is stronger than that between acculturation and problems, as it can be best seen in the multivariate analysis in Table 3. Birthplace in the U.S. must bring a host of common experiences to these four Hispanic national groups that seem to lead to a greater likelihood of developing not only alcohol problems, but a host of other psychiatric and physical health problems as well (Alegria, Mulvaney-Day, et al., 2007; Grant, Stinson, et al., 2004; Lara et al., 2005; Ortega et al., 2000; Vega et al., 1998). Perhaps it is the experience of minority status and the associated stresses and discrimination which these groups all can have. This cumulative adversity, as represented by an accumulation of stressful life events during one's lifetime, has been associated with a higher risk for substance use disorders (Turner & Lloyd, 1995). Further, this experience usually comes together with lack of medical insurance and limited access to health care. It is also possible that selective migration, that is, the notion that most of those who migrate are in better health and free of disease, explains these results associating birth in the U.S. and ill health (Alegria, Mulvaney-Day, et al., 2007).

Other sociodemographic correlates of problems

Results in Table 3 also show that besides birthplace and national group, other correlates of problems are: the average number of drinks consumed per week and the frequency of binge drinking. These findings are expected and have been described in the literature before (Caetano, 1997; Hilton, 1991a; Midanik, Tam, Greenfield, & Caetano, 1996; Stockwell, Daly, Phillips, Masters, Midford, Gahegan et al., 1996). In addition, the results in Table 3 show that age is not a factor of risk for social problems. This is unusual if compared to the U.S. population as a whole, given past analyses showing that it is the age group 18–29 that has the highest likelihood of reporting problems (Grant, Dawson, Stinson, Chou, Dufour, & Pickering, 2004; Hilton, 1991a). However, previous findings on the association between age and problems among U.S. Hispanics show that problem prevalence does not decrease as abruptly with age in this ethnic group as it does in the U.S. general population. Among Hispanics, older age groups (30–39 and 40–49) have a relatively high rate of problems (Caetano, 1991; Caetano, Campillo-Serrano, & Medina-Mora, 1985; Caetano, Ramisetty-Mikler, & Rodriguez, 2008b). This has been associated with the notion that drinking, and perhaps heavier drinking, is not as linked to a youthful lifestyle among Hispanics as it is among the White majority population in the U.S. (Caetano, 1984).

Among men, three employment status categories, “retired”, “disabled/never worked” and “unemployed”, are protective against problems compared to being employed. There are two likely explanations for this protective factor. First, there is lifestyle and the fact that those who are employed may have more disposable income, more opportunities to interact socially and, thus, drink and have associated problems. This is particularly true in comparison to those who are disabled or never worked. Finally, among men, higher income is protective against reporting alcohol social problems. This effect is probably due to the fact that those with higher income have more resources to deal with alcohol problems and may also be more sheltered and protected against them.

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 U.S. Face-to-face interviews were conducted in English or Spanish, thus, allowing for the selection of respondents who were not English-speakers and for the collection of detailed data on a variety of areas. The survey also achieved a high response rate (76%). 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 under-reported some of the behaviors under analysis. If under-reporting is higher in a particular group than in others, this could affect the relationships discussed in this study.

Conclusion

The association between birthplace and alcohol-related social problems seems more consistent and stronger than that for acculturation. In spite of a certain degree of overlap, given that those who are high in acculturation tend to be those born in the U.S., it is possible that acculturation processes are more diverse across population groups than the experience of minority status and birth in the U.S. Minority status is usually associated with lack of economic opportunities and discrimination, which are shared by almost all minorities. Stress associated with this status may, therefore, be a uniform factor linking birthplace in the U.S. and alcohol-related problems across Hispanic national groups.

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Biographies

Raul Caetano is Dean and Professor of Health Care Sciences and Psychiatry, Southwestern School of Health Professions, University of Texas Southwestern Medical Center, and Regional Dean and Professor of Epidemiology, University of Texas School of Public Health. His research has focused on the epidemiology of alcohol consumption, drinking problems and domestic violence among U.S. ethnic minorities, especially Hispanics. Another area of research is the epidemiology of alcohol dependence and the development of diagnostic criteria for alcohol dependence.

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Table 1

Social consequence problems by acculturation level by Hispanic national group by gender (in percents)

	Males															
	Puerto Rican			Cuban American			Mexican American			South/Central American						
	Low n=109-110	Medium n=195-197	High n=379-380	Low n=298-299	Medium n=207	High n=155-156	Low n=254-257	Medium n=187-189	High n=191-194	Low n=200-201	Medium n=212-213	High n=222-223	Sig.			
Social consequence items																
Financial problems	16.63	6.19	5.98	*	6.24	3.79	4.05	ns	23.48	14.17	8.97	**	13.58	11.92	4.65	*
Belligerence	11.67	8.31	17.52	ns	0.91	2.30	7.99	***	10.21	9.40	8.28	ns	5.73	6.65	10.56	ns
Police problems	3.33	3.26	6.10	ns	1.14	0.76	4.35	ns	3.82	3.91	1.53	ns	0.31	1.95	1.99	ns
Accidents	0.18	1.41	3.51	ns	0.00	0.60	0.55	ns	0.34	4.93	0.87	***	0.21	0.42	1.85	ns
Health problems	13.72	9.97	9.35	ns	3.87	3.06	1.63	ns	12.98	9.28	8.32	ns	11.13	8.35	3.58	ns
Problems with spouse	9.89	8.89	13.53	ns	1.60	2.34	2.56	ns	15.12	11.95	8.03	ns	5.57	6.69	9.06	ns
Problems with children	9.44	3.75	3.18	ns	0.00	0.46	0.00	ns	6.41	2.84	3.27	ns	1.83	2.30	0.09	ns
Job problems	2.97	2.35	6.64	ns	0.65	0.73	0.76	ns	8.70	5.05	2.42	*	4.55	3.72	2.42	ns
Total number of problems ^a				ns				ns				ns				ns
1 problem	8.59	7.58	9.00		7.31	2.42	6.59		17.87	18.55	12.46		15.13	13.28	11.59	
2 problems	13.98	2.43	4.46		0.86	1.17	0.55		5.88	8.78	6.96		3.21	3.17	5.09	
3+ problems	9.06	7.63	11.25		1.49	2.71	4.32		11.16	6.48	3.63		5.24	5.64	3.93	

	Females															
	Puerto Rican			Cuban American			Mexican American			South/Central American						
	Low n=129-130	Medium n=186-188	High n=326-329	Low n=335-336	Medium n=218	High n=111	Low n=294-295	Medium n=172	High n=181	Low n=294-295	Medium n=192-194	High n=146-148	Sig.			
Social consequence items																
Financial problems	0.96	0.77	2.02	ns	1.40	0.39	2.18	ns	2.46	3.46	2.62	ns	3.02	0.13	0.85	**
Belligerence	3.35	4.61	10.50	ns	0.60	0.00	3.87	**	0.48	3.15	5.90	**	0.45	1.31	2.75	ns
Police problems	0.00	0.00	2.01	ns	0.00	0.00	0.00	n/a	0.00	0.31	1.03	ns	0.35	0.00	0.00	ns
Accidents	0.00	2.88	0.14	ns	0.00	0.00	0.00	n/a	0.13	0.00	0.08	ns	0.00	0.00	0.20	ns
Health problems	3.73	0.94	5.38	ns	0.51	0.07	0.68	ns	0.13	1.24	1.90	ns	0.51	0.62	1.21	ns
Problems with spouse	3.10	4.14	9.75	ns	0.22	0.00	3.85	***	0.14	1.79	5.55	***	0.00	2.13	0.47	ns
Problems with children	0.83	2.67	2.03	ns	0.62	0.00	0.00	ns	0.00	0.95	0.00	ns	2.70	0.00	1.15	ns

Females															
	Puerto Rican				Cuban American				Mexican American				South/Central American		
	Low n=129-130	Medium n=186-188	High n=326-329	Sig.	Low n=335-336	Medium n=218	High n=111	Sig.	Low n=294-295	Medium n=172	High n=181	Sig.	Low n=294-295	Medium n=192-194	High n=146-148
Job problems	0.58	0.50	0.62	ns	0.00	0.00	0.00	n/a	0.00	0.92	0.50	ns	0.00	0.00	0.47
Total number of problems ^a				*				**				***			ns
1 problem	1.83	1.04	2.24		1.21	0.33	0.17		2.54	2.85	7.14		5.56	1.56	2.46
2 problems	0.05	6.55	3.46		0.11	0.07	2.73		0.14	0.32	3.64		0.37	1.31	0.63
3+ problems	2.85	0.62	6.55		0.51	0.00	1.65		0.13	2.18	1.06		0.24	0.00	0.66

Notes: Reporting unweighted sample sizes and weighted proportions; Sig. = Significance level, indicated for acculturation level within each Hispanic national group;

* p<0.05;
** p<0.01;
*** p<0.001;
ns = Not significant;
^a Compared to group with zero problems/ex-drinkers/abstainers.
n/a = Not applicable, contains a zero in the marginal, statistic cannot be computed.

Table 2
Social consequence problems by birthplace by Hispanic national group by gender (in percents)

	Males															
	Puerto Rican				Cuban American				Mexican American				South/Central American			
	U.S.-born	Foreign-born			U.S.-born	Foreign-born			U.S.-born	Foreign-born			U.S.-born	Foreign-born		
	n=297-298	n=385-387	Sig.	n=50	n=610-611	Sig.	n=168-171	n=466-469	Sig.	n=77	n=557-559	Sig.				
Social consequence items																
Financial problems	7.62	6.98	ns	6.91	4.47	ns	6.94	19.12	**	3.83	10.71	ns				
Belligerence	21.98	7.48	***	18.05	1.51	***	11.67	8.40	ns	21.04	6.01	**				
Police problems	8.18	2.13	**	10.17	0.86	***	1.36	3.81	ns	1.05	1.50	ns				
Accidents	5.13	0.26	***	1.37	0.22	ns	0.99	2.47	ns	5.05	0.32	**				
Health problems	12.93	7.54	ns	1.84	3.07	ns	9.25	10.66	ns	5.81	7.81	ns				
Problems with spouse	19.02	5.49	***	3.26	1.98	ns	7.87	13.35	ns	13.27	6.39	ns				
Problems with children	6.07	2.32	ns	0.00	0.17	ns	4.28	4.19	ns	0.00	1.57	ns				
Job problems	8.53	1.93	**	1.11	0.66	ns	2.48	6.65	ns	7.63	3.02	ns				
Total number of problems ^a			**			*			ns			ns				
1 problem	9.66	7.54		9.46	5.00		13.09	17.67		20.09	12.44					
2 problems	4.50	5.41		0.00	0.99		6.98	7.28		4.18	3.80					
3+ problems	16.35	4.42		10.17	1.71		4.53	8.25		9.63	4.34					
Females																
	Puerto Rican				Cuban American				Mexican American				South/Central American			
	U.S.-born	Foreign-born			U.S.-born	Foreign-born			U.S.-born	Foreign-born			U.S.-born	Foreign-born		
	n=243-247	n=395-397	Sig.	n=51	n=613-614	Sig.	n=180	n=465-466	Sig.	n=49	n=585-587	Sig.				
Social consequence items																
Financial problems	0.70	2.00	ns	2.20	1.11	ns	2.91	2.70	ns	0.00	1.58	ns				
Belligerence	12.80	4.03	*	3.67	0.81	*	7.91	0.81	***	8.10	0.77	**				
Police problems	2.28	0.29	ns	0.00	0.00	n/a	0.35	0.43	ns	0.00	0.15	ns				
Accidents	0.11	1.36	*	0.00	0.00	n/a	0.09	0.08	ns	0.00	0.06	ns				
Health problems	5.65	2.66	ns	1.23	0.27	ns	2.44	0.37	*	3.94	0.45	**				
Problems with spouse	11.24	4.10	*	3.94	0.58	**	7.36	0.20	***	1.54	0.79	ns				

	Females											
	Puerto Rican			Cuban American			Mexican American			South/Central American		
	U.S.-born n=243-247	Foreign-born n=395-397	Sig.	U.S.-born n=51	Foreign-born n=613-614	Sig.	U.S.-born n=180	Foreign-born n=465-466	Sig.	U.S.-born n=49	Foreign-born n=585-587	Sig.
Problems with children	2.53	1.62	ns	0.00	0.30	ns	0.80	0.00	*	3.15	1.19	ns
Job problems	1.10	0.24	ns	0.00	0.00	n/a	1.33	0.00	*	1.54	0.00	***
Total number of problems ^a			ns			**			***			*
1 problem	2.81	1.19		0.00	0.77		6.23	3.23		10.55	2.70	
2 problems	3.98	3.59		3.67	0.28		4.28	0.09		0.00	0.84	
3+ problems	7.61	1.98		1.23	0.52		2.31	0.37		1.54	0.16	

Notes: Reporting unweighted sample sizes and weighted proportions; Sig. = Significance level, indicated for place of birth within each Hispanic national group;

* p<0.05;

** p<0.01;

*** p<0.001;

ns = Not significant;

^a Compared to group with zero problems/ex-drinkers/abstainers;

n/a = Not applicable, contains a zero in the marginal, statistic cannot be computed.

Table 3

Logistic regression models of the association between one or more social consequence problems and selected variables by gender

	Male (N=2,587)	Female (N=2,549)
	OR (95% CI)	OR (95% CI)
U.S.-born (Reference: Foreign-born)	1.58* (1.03–2.42)	3.10*** (1.68–5.74)
Acculturation level (Reference: High)		
Low	1.53 (0.95–2.49)	1.77 (0.79–3.96)
Medium	1.19 (0.80–1.77)	1.08 (0.53–2.20)
Hispanic national group (Reference: Cuban American)		
Puerto Rican	2.07* (1.17–3.67)	1.95 (0.85–4.47)
Mexican American	3.21*** (1.85–5.56)	3.04* (1.22–7.58)
South/Central American	2.44** (1.42–4.19)	2.19 (0.77–6.25)
Age group (Reference: 50 years and older)		
18–29	0.98 (0.57–1.68)	1.06 (0.30–3.68)
30–39	0.93 (0.57–1.52)	1.01 (0.35–2.89)
40–49	0.72 (0.43–1.20)	1.86 (0.60–5.79)
Level of education (Reference: Some college, college degree, graduate/professional degree)		
Less than high school	1.51 (0.93–2.44)	1.38 (0.63–3.03)
High school diploma/GED	1.23 (0.75–2.01)	0.94 (0.47–1.91)
Technical/vocational	0.79 (0.34–1.85)	0.90 (0.30–2.65)
Employment status (Reference: Employed full- or part-time)		
Temporarily unemployed	0.52* (0.32–0.85)	0.84 (0.42–1.70)
Retired	0.41* (0.21–0.90)	0.49 (0.15–1.65)
Homemaker	0.67 (0.15–3.04)	0.76 (0.34–1.67)
Disabled/never worked	0.48* (0.27–0.86)	1.05 (0.38–2.93)
Income (continuous)	0.99** (0.98–1.00)	0.99 (0.97–1.00)
Marital status (Reference: Married/living with someone)		
Married not living with spouse/separated/divorced/widowed	1.02 (0.63–1.66)	0.97 (0.44–2.16)
Never married	1.17 (0.82–1.66)	1.25 (0.60–2.61)
Binge drinking (Reference: Not in the past year/ex-drinker/abstainer)		
1+ Times a month	5.47*** (2.50–11.97)	n/a
< Once a month	3.36*** (2.45–4.63)	n/a
Binge drinking (Reference: Not in the past year/ex-drinker/abstainer)		
1+ Times a year	n/a	11.36*** (6.04–21.38)
Drinks per week (continuous by 5 drinks)	1.22*** (1.14–1.31)	1.37*** (1.20–1.56)

Notes: All data are weighted; OR=Odds ratio; CI=Confidence interval;

*
p<0.05;

**
p<0.01;

p<0.001.