

The Hispanic Americans Baseline Alcohol Survey (HABLAS): DUI Rates, Birthplace, and Acculturation Across Hispanic National Groups*

RAUL CAETANO, M.D., PH.D.,[†] SUHASINI RAMISETTY-MIKLER, PH.D., M.P.H., AND LORI A. RODRIGUEZ, M.P.H.

University of Texas School of Public Health, Dallas Regional Campus, 6011 Harry Hines Boulevard, Room V8.112, Dallas, Texas 75390-9128

ABSTRACT. Objective: This article examines the association between birthplace, acculturation, and self-reported driving under the influence of alcohol (DUI), 12-month and lifetime DUI arrest rates among Mexican Americans, Puerto Ricans, Cuban Americans, and South/Central Americans in the U.S. population. **Method:** Using a multistage cluster sample design, 5,224 adults (18 years of age or older) were interviewed from households in five metropolitan areas of the United States: Miami, New York, Philadelphia, Houston, and Los Angeles. **Results:** Birthplace was not associated with DUI, 12-month DUI arrest rates, or lifetime DUI arrest rates. Mexican Americans in the medium- and high-acculturation groups were more likely to engage in DUI. A higher pro-

portion of U.S.-born than foreign-born respondents as well as those in the high-acculturation group, irrespective of national origin, reported having been stopped by police when driving. U.S.-born Cuban Americans, Mexican Americans, and South/Central Americans thought they could consume a higher mean number of drinks before their driving is impaired compared with those who are foreign born. **Conclusions:** There are considerable differences in DUI-related behavior across Hispanic national groups. U.S.-born Hispanics and those born abroad, but not those at different levels of acculturation, have equal risk of involvement with DUI. (*J. Stud. Alcohol Drugs* 69: 259-265, 2008)

DRIVING UNDER THE INFLUENCE OF ALCOHOL (DUI) is a major public health problem in the United States. Alcohol-related traffic fatalities were about 40% of all traffic fatalities in 1999 and have remained so since then (Yi et al., 2006). Ethnicity has been one of the factors linked with DUI (Caetano and Clark, 2000; Caetano and McGrath, 2005; Ferguson et al., 2002; Padilla and Morrissey, 1993; Voas et al., 1998). Hispanics as a group have been found to be overrepresented among drunk drivers in roadside surveys, alcohol-related fatal crashes, and arrests for DUI (Hilton, 2006; Lapham et al., 1998; Perrine et al., 1989; Ross et al., 1991). Data from general population household surveys are less consistent on the extent to which Hispanics are involved in DUI in comparison with other groups. In some surveys, Hispanics have higher arrest rates (lifetime, 12 month) than whites (Chou et al., 2005, 2006); in other studies, the reverse is true (Royal, 2003). Few of these survey analyses have presented data from Hispanic national groups. An exception is a recent

analysis by Caetano et al. (in press) showing that Mexican Americans are 3 times more likely than Cuban Americans to engage in DUI, 17 times more likely to report a DUI arrest in the previous 12 months, and 7 times more likely to report a lifetime arrest. South/Central Americans also have higher odds than Cuban Americans to report DUI and lifetime arrest. Puerto Ricans are 2 times more likely than Cuban Americans to report a lifetime DUI arrest.

The objective of this article is to examine the association between DUI rate (drinking and driving so that one “would be in trouble if stopped by the police”), lifetime and 12-month DUI arrest rate, birthplace, and acculturation level among Mexican Americans, Puerto Ricans, Cuban Americans, and South/Central Americans. In addition, the article also examines attitudes about DUI as a problem. Analysis of national survey data shows that U.S.-born Hispanics are more likely than those born abroad to report “driving after having drunk enough to be in trouble if stopped by police,” to report ever being arrested for DUI (Caetano and Clark, 2000), and to report driving under the influence (Caetano and McGrath, 2005). Based on these previous results, we expect that, within each national group, U.S.-born Hispanics and those high in acculturation will report higher rates of DUI and lifetime and 12-month DUI arrest. Mexican Americans should report higher rates, followed by South/Central Americans, Puerto Ricans, and Cuban Americans.

Received: July 27, 2007. Revision: November 5, 2007.

*This research was supported by National Institute on Alcohol Abuse and Alcoholism grant RO1-AA13642 to the University of Texas School of Public Health.

[†]Correspondence may be sent to Raul Caetano at the above address or via email at: Raul.Caetano@UTSouthwestern.edu.

Method

Sample and data collection

A more detailed description can be found in Caetano et al. (in press). Briefly, data were collected as part of the 2006 Hispanic Americans Baseline Alcohol Survey (HABLAS), which employed a multistage cluster sample design in five selected metropolitan areas of the United States: Miami, New York, Philadelphia, Houston, and Los Angeles. After being appropriately weighted, data from respondents were 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 1 hour on average, were conducted in the respondents' homes by trained interviewers, all of which were bilingual English/Spanish. The questionnaire can be obtained by writing to one of the authors (SRM) at Susie.Mikler@UTSouthwestern.edu. About 70% of the interviews were conducted in Spanish.

Measurements

Driving under the influence of alcohol. Respondents who drank alcohol in the past 12 months and who answered "yes" to the question, "In the last 12 months, have you driven a car when you had drunk enough to be in trouble if the police had stopped you?" were classified as DUI. This group excludes all of those who had a 12-month or a lifetime DUI arrest.

Twelve-month and lifetime arrest for DUI. Respondents were divided into those who reported and those who did not report a DUI arrest in the past 12 months or a lifetime DUI arrest.

Police stops. All respondents who reported driving a car in the past 12 months were asked whether they had ever been stopped by police for any reason when driving a car.

Drinkers. All respondents who reported drinking any alcohol in the past 12 months were categorized as drinkers.

Number of drinks consumed before driving is impaired. Respondents reported on how many drinks they think they can consume during a 2-hour period before their ability to drive becomes impaired.

Alcohol disorders. Respondents were categorized based on Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (American Psychiatric Association, 1994), criteria for alcohol abuse and dependence. Respondents reporting the presence of three or more dependence indicators during the 12 months before the interview were identified as alcohol dependent. Those who reported the presence of at least one of the abuse criteria were grouped as "abusers."

Average drinks per week. This is the self-reported combined frequency and quantity of drinking any alcoholic beverage in the past 12 months. This alcohol consumption variable was included in the model as a continuous independent variable. The risk associated with drinking five standard drinks of alcohol is reported for the results obtained from the logistic regression analyses.

Attitudes toward DUI. Respondents were asked whether they strongly agreed, somewhat agreed, somewhat disagreed, or strongly disagreed with the six statements presented in Table 2. The analysis combined respondents who strongly agreed and somewhat agreed with the content of the statement.

Ethnicity and Hispanic national origin. This was based on self-identification. Respondents who identified themselves as Puerto Rican, Cuban, Cuban American, Mexican, Mexican American (including Chicano/a), Dominican, South American, or Central American were interviewed. In this study, Dominicans were grouped with South/Central Americans.

Birthplace. 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.

Acculturation level. This scale was built from 12 questions covering language use and other various aspects of life in the United States. The scale's reliability was assessed with Cronbach's α (.91) and the split-half method (.87, Guttman split-half coefficient). A continuous score of acculturation was computed and the subjects were grouped into three categories—low-, medium-, and high-acculturation level—using tertiles.

Other sociodemographic variables. The age of respondents was used as a continuous variable. Income was assessed by asking respondents 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 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 (SAS Institute Inc., Cary, NC). Imputed incomes were transformed back to the 12 categories. Respondents were grouped into four employment categories as shown in Table 3.

Statistical analyses

All analyses were conducted with the Software for Survey Data Analysis (SUDAAN; Research Triangle Institute, 2005). 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 demographic variables.

Results

Selected DUI-related variables, DUI, and DUI arrest rates by birthplace and acculturation

DUI and 12-month and lifetime DUI arrest rates did not differ between U.S.-born and foreign-born Hispanics (Table 1). A significantly higher proportion of U.S.-born than foreign-born Puerto Ricans, Mexican Americans, and South/Central Americans reported having been stopped by police when driving. U.S.-born Hispanics in the Cuban American, Mexican American, and South/Central American groups compared with those who are foreign born also thought they could consume a higher mean number of drinks before their driving is impaired.

As with birthplace, there were no differences in DUI, 12-month DUI arrest rates, and lifetime DUI arrest rates across acculturation levels, except for DUI among South/Central Americans. However, a higher proportion of Hispanics in the high-acculturation group reported having been stopped by police when driving, independent of national group. Hispanics in the high-acculturation group also thought they could have a higher average number of drinks before their driving is impaired.

DUI-related attitudes and events by birthplace and by acculturation

A higher proportion of foreign-born than U.S.-born Hispanics, across all groups, agreed that one will certainly be stopped by police when driving after drinking too much, that DUI is a problem that affects Hispanics more than others, and that the police stop Hispanics more often than others. In addition, foreign-born Cuban Americans and Mexican Americans were more likely than their U.S.-born counterparts to agree that those who engage in DUI are alcoholics or problem drinkers. The majority of respondents in all national groups believed that DUI is a threat to their personal safety and community, independent of birthplace. Finally, there were no statistical differences between the U.S.-born and the foreign-born respondents regarding agreement of the statement that it is acceptable to drive when feeling the effects of alcohol.

Regarding acculturation, a higher proportion of Puerto Ricans, Cuban Americans, Mexican Americans, and South/Central Americans in the low-acculturation group than in the other two groups agreed that one will certainly be stopped by police when driving after drinking too much, that DUI is a problem that affects Hispanics more than others, and that the police stop Hispanics more often than others. Differences in the proportion of those who agreed

that individuals who engage in DUI are alcoholics or problem drinkers were present only among Cuban Americans, among whom respondents in the low-acculturation group tended to agree with the statement more than others. Finally, most respondents, irrespective of national group and birthplace, agreed that DUI is a threat to their personal safety and community. About 10%-20% of respondents across acculturation and national groups agreed that it is acceptable to drive when feeling the effects of alcohol, but differences were not statistically significant.

Sociodemographic, drinking, and attitudinal predictors of DUI

First, because arrests are a relatively rare event, this analysis could be conducted only on self-reported DUI not necessarily associated with an arrest. The initial model was based on a previously tested model of DUI (Caetano et al., in press), which included gender, age, Hispanic national group, employment status, income, marital status, education, income, average number of drinks per week, alcohol dependence, plus birthplace and acculturation level. An omnibus chi-square test based on change in log likelihood (1 df) did not indicate that marital status and education provided significant contributions to the model. These two variables were then excluded. Subsequent steps in model development tested the contribution of three interaction effects, one at a time and in the following order: Gender \times Acculturation, Gender \times Birthplace, National group \times Birthplace, and National group \times Acculturation. Only the latter term added significantly to the model's log likelihood (change equal to 13.07, 4 df, $p < .05$) and thus was retained. This interaction term showed a significant odds ratio for Puerto Ricans in the medium-acculturation group (odds ratio = 7.12, 95% confidence interval = 1.31-38.84, $p = .02$).

The six variables representing attitudes toward DUI in Table 2 were then entered in the model one at a time. Only three contributed significantly to the model explanatory power and were retained in the final model shown in Table 3, which also shows re-estimated odds ratios for the interaction term between national origin and acculturation level. As a whole, the variables in the analysis do not explain DUI well. Results show that the factors of risk for DUI are being male, being Mexican American, having higher income, having a higher number of drinks per week, and being alcohol dependent. Mexican Americans who were in the medium- and high-acculturation groups, as well as respondents who disagreed that those involved in DUI are alcoholics or problem drinkers, and who agreed that it is acceptable to drive while feeling the effects of alcohol were also more likely to report DUI. Protective factors against DUI were older age, unemployment, being retired or a homemaker, and being a Cuban American in the medium-acculturation group.

TABLE 1. Driving under the influence (DUI)-related events and drinking, by place of birth and acculturation level among Hispanic national groups

Variable	Place of birth															
	Puerto Rican				Cub. Amer.				Mex. Amer.				S. and C. Amer.			
	U.S. born	Foreign born	Sig.	U.S. born	Foreign born	Sig.	U.S. born	Foreign born	Sig.	U.S. born	Foreign born	Sig.	U.S. born	Foreign born	Sig.	
DUI past 12 months, % (n) ^a	6.3 (354)	4.3 (339)		6.9 (66)	3.3 (576)		15.0 (205)	12.8 (391)		15.3 (98)	8.2 (606)					
Past 12 months DUI arrest, % (n) ^a	0.6 (356)	0.4 (356)		0.3 (69)	0.03 (589)		0.5 (222)	1.8 (434)		0.00 (100)	0.3 (624)					
Lifetime DUI arrest, % (n) ^b	1.4 (407)	3.5 (414)		1.1 (76)	1.3 (649)		6.8 (238)	7.6 (497)		3.2 (105)	3.3 (716)					
Ever stopped by police, 12-month drivers, % (n)	46.4 (271)	34.7 (349)	*	46.2 (84)	32.0 (872)		54.3 (278)	34.3 (591)	‡	4.6 (76)	35.6 (693)	†				
Mean (SD) no. of drinks consumed before driving is impaired ^c	2.7 (0.1)	2.7 (0.3)		2.6 (0.3)	1.5 (0.1)	†	2.7 (0.2)	2.0 (0.1)	‡	2.9 (0.2)	1.9 (0.1)	‡				
	Acculturation level															
	Puerto Rican				Cub. Amer.				Mex. Amer.				S. and C. Amer.			
	Low	Med.	High	Sig.	Low	Med.	High	Sig.	Low	Med.	High	Sig.	Low	Med.	High	Sig.
DUI past 12 months, % (n) ^a	3.8 (93)	6.9 (165)	5.1 (438)		2.5 (253)	1.5 (222)	7.6 (168)		9.3 (206)	18.6 (178)	12.9 (212)		5.3 (221)	8.4 (231)	12.7 (253)	*
Past 12 months DUI arrest, % (n) ^a	0.4 (95)	0.6 (177)	0.4 (443)		0.1 (260)	0.0 (227)	0.1 (172)		1.3 (224)	2.2 (199)	0.7 (233)		0.4 (228)	0.0 (239)	0.5 (258)	
Lifetime DUI arrest, % (n) ^b	1.5 (111)	4.7 (205)	1.9 (508)		2.2 (290)	1.0 (248)	0.6 (188)		8.0 (252)	5.7 (228)	8.2 (255)		4.2 (263)	3.1 (275)	2.9 (284)	
Ever stopped by police, 12-month drivers, % (n)	23.5 (83)	37.5 (188)	43.7 (350)		21.8 (394)	32.0 (333)	49.6 (229)	‡	27.8 (304)	37.0 (259)	55.1 (307)		26.0 (230)	40.2 (272)	46.0 (267)	*
Mean (SD) no. of drinks consumed before driving is impaired ^d	2.7 (0.6)	2.3 (0.2)	2.9 (0.2)	*	1.3 (0.1)	1.6 (0.1)	2.1 (0.2)	‡	2.1 (0.1)	2.2 (0.1)	2.4 (0.1)		1.6 (0.1)	2.1 (0.1)	2.4 (0.2)	‡

Notes: Numbers in parenthesis are denominators within the Hispanic subgroup and percentages are weighted. Cub. = Cuban; Amer. = American; sig. = significance; Mex. = Mexican; S. and C. = South and Central; med. = medium. ^aIncludes only current drinkers as defined by drank any alcoholic beverage in the past 12 months; ^bincludes current drinkers and exdrinkers; ^ccontinuous variable; significance noted for overall *F* test; paired *t* test significant between (1) medium and high acculturation among Puerto Ricans; (2) low and medium, low and medium, and medium and high among Cuban Americans; and (3) low and medium, low and high among S. and C. Americans. ^d*p* < .05; [†]*p* < .01; [‡]*p* < .001.

TABLE 2. Driving under the influence(DUI)-related attitudes by place of birth and acculturation level among Hispanic national groups

Variable	Place of birth															
	Puerto Rican				Cub. Amer.				Mex. Amer.				S. and C. Amer.			
	U.S. born	Foreign born	Sig.		U.S. born	Foreign born	Sig.		U.S. born	Foreign born	Sig.		U.S. born	Foreign born	Sig.	
Certain to get stopped by police after drinking too much, % (n)	79.9 (543)	87.6 (779)	†		66.8 (101)	91.7 (1,217)	†		78.7 (349)	90.8 (927)	†		71.1 (126)	89.4 (1,139)	†	
Drinking and driving affects Hispanics more than others, % (n)	43.2 (528)	52.5 (750)	*		39.5 (90)	53.9 (1,113)	*		55.3 (343)	71.7 (900)	†		44.7 (123)	58.5 (1,099)	*	
Police stop Hispanics more often than others, % (n)	45.1 (514)	61.9 (726)	†		34.8 (87)	53.4 (1,037)	*		62.7 (339)	79.5 (885)	†		50.6 (118)	66.4 (1,061)	*	
DUI are alcoholics/problem drinkers, % (n)	87.5 (541)	86.9 (779)			69.2 (100)	93.5 (1,204)	†		81.7 (347)	91.0 (918)	*		79.8 (125)	88.2 (1,137)		
DUI is a threat to my personal safety and that of my family, % (n)	97.7 (543)	94.5 (785)	*		98.0 (101)	98.3 (1,224)			96.4 (351)	95.2 (934)			95.8 (126)	96.7 (1,146)		
Acceptable to drive when feel effects of alcohol a little bit, % (n)	15.5 (544)	14.7 (782)			18.5 (100)	8.2 (1,221)			19.5 (349)	18.3 (931)			17.6 (126)	12.3 (1,145)		
	Acculturation level															
	Puerto Rican				Cub. Amer.				Mex. Amer.				S. and C. Amer.			
	Low	Med.	High	Sig.	Low	Med.	High	Sig.	Low	Med.	High	Sig.	Low	Med.	High	Sig.
Certain to get stopped by police after drinking too much, % (n)	91.7 (240)	89.8 (383)	79.5 (704)	†	94.3 (630)	93.0 (424)	74.5 (265)	†	91.2 (546)	88.8 (358)	81.3 (374)	†	91.2 (492)	89.5 (405)	81.4 (370)	*
Drinking and driving affects Hispanics more than others, % (n)	71.9 (232)	58.6 (379)	36.9 (671)	†	60.0 (580)	53.4 (385)	39.0 (239)	†	80.4 (535)	66.7 (345)	50.8 (365)	†	67.7 (474)	58.0 (394)	44.2 (356)	†
Police stop Hispanics more often than others, % (n)	76.3 (221)	61.4 (368)	45.0 (654)	†	61.9 (546)	48.1 (361)	37.8 (217)	†	86.6 (525)	77.2 (343)	57.5 (358)	†	75.7 (459)	65.8 (376)	51.4 (346)	†
DUI are alcoholics/problem drinkers, % (n)	90.7 (240)	88.8 (382)	85.3 (703)		95.8 (625)	91.1 (418)	81.1 (262)		90.8 (539)	86.5 (359)	87.0 (369)		90.9 (490)	86.2 (405)	84.9 (369)	
DUI is a threat to my personal safety and that of my family, % (n)	94.5 (240)	95.3 (384)	96.6 (709)		97.1 (635)	99.5 (424)	98.5 (267)		95.1 (551)	94.3 (361)	97.1 (375)		96.3 (496)	96.2 (407)	97.3 (371)	
Acceptable to drive when feel effects of alcohol a little bit, % (n)	10.0 (240)	18.3 (384)	14.9 (707)		8.6 (632)	8.1 (424)	12.6 (266)		19.9 (548)	18.6 (361)	17.0 (373)		9.8 (495)	12.3 (407)	16.6 (371)	

Notes: Numbers in parenthesis are denominators within the Hispanic subgroup and percentages are weighted. Cub. = Cuban; Amer. = American; sig. = significance; Mex. = Mexican; S. and C. = South and Central; med. = medium. **p* < .05; †*p* < .01; ‡*p* < .001.

TABLE 3. Odds ratios (ORs) and 95% confidence interval (CI) from multivariate logistic regression of 12-month driving under the influence (DUI) on acculturation; birthplace; and selected sociodemographic, attitudes, and drinking variables

Variable	DUI past 12 months (<i>N</i> = 2,556) OR (95% CI)
Male (ref: female)	3.38 [‡] (1.93-5.91)
Age (5 years) ^a	0.90* (0.82-0.98)
Employment status (ref.: full-/part-time employment)	
Unemployed: temporary illness/unemployed, looking/ not looking for job/in school	0.37 [†] (0.18-0.77)
Retired/homemaker	0.37* (0.14-0.97)
Disabled/never worked/something else	0.60 (0.19-1.91)
Income ^a	1.01* (1.00-1.02)
Average no. of drinks per week (5 drinks) ^a	1.09 [‡] (1.04-1.14)
Alcohol dependence (ref.: abusers/no diagnosis)	1.95* (1.10-3.45)
U.S. born (ref.: territory/foreign born)	0.84 (0.49-1.44)
Interaction term – Acculturation level × Hispanic group (Ref.: high acculturation Cuban Amer.)	
Puerto Rican-low acculturation	1.12 (0.23-5.57)
Puerto Rican-medium acculturation	1.35 (0.38-4.86)
Puerto Rican-high acculturation	0.67 (0.26-1.72)
Cuban Amer.-low acculturation	0.91 (0.28-2.92)
Cuban Amer.-medium acculturation	0.28* (0.08-0.98)
Mexican Amer.-low acculturation	1.31 (0.41-4.13)
Mexican Amer.-medium acculturation	3.14* (1.13-8.72)
Mexican Amer.-high acculturation	2.58* (1.05-6.37)
South/Central Amer.-low acculturation	1.19 (0.36-3.94)
South/Central Amer.-medium acculturation	1.48 (0.56-3.89)
South/Central Amer.-high acculturation	1.98 (0.82-4.76)
Disagree that most people who drive after drinking too much alcohol are alcoholics or problem drinkers (ref.: agree)	2.62 [‡] (1.64-4.18)
Agree that it is acceptable to drive when you feel the effects of alcohol a little bit (ref.: disagree)	1.89* (1.14-3.11)
Disagree that if you drive after having too much to drink it is almost certain you will be stopped and arrested by a police officer (ref.: agree)	1.54 (0.85-2.79)
<i>R</i> ²	10.9%

Notes: Ref. = reference; Amer. = American. ^aContinuous variable.

**p* < .05; [†]*p* < .01; [‡]*p* < .001.

Discussion

The crosstabulations in Table 1 show that Mexican Americans and South/Central Americans are more likely than Cuban Americans and Puerto Ricans to engage in DUI or report the experience of being arrested for DUI. No differences were found across birthplace in crosstabulations and in the logistic analysis in rates of DUI, 12-month DUI arrest, and lifetime DUI arrest, confirming previous findings in the literature (Caetano and Clark, 2000; Caetano and McGrath, 2005). This contradicts the common perception that foreign-born Hispanics are more likely to engage in DUI because of their lack of knowledge about DUI laws in the United States. Yet these findings are not difficult to understand. U.S.-born Hispanics are less socially disadvantaged than immigrants and most probably have more access to cars, have more disposable income to buy alcohol, and are less intimidated by contact with the police. Altogether, these factors would increase their exposure to DUI as well as their willingness to take risks while driving.

The logistic regression detected an interaction effect between national origin and acculturation on DUI risk: Mexican Americans in the medium- and high-acculturation groups were more likely to report DUI. This finding suggests that adaptation to U.S. society may not be uniform across these groups and that it may be associated with different types of health risks and problem behaviors depending on national origin. It is also important to call attention to the small proportion of variance explained by the logistic analyses. The low level of variance explained suggests that the most important variables that predict arrest are not part of the model. These may not be individual-level variables but rather those that identify locale of arrest or police practices regarding DUI law enforcement. Further, non-crash-related DUI arrests are by nature difficult to predict given that they are dependent on police powers of observation and detection, which are uncertain and vary from officer to officer. This is reflected in the low probability of arrest for DUI for those who drive after drinking. Zador et al. (2000) have estimated the probability of arrest as 1 in

772 for drivers who drive within 2 hours of drinking, and 1 in 88 for drivers above the legal limit.

The majority of foreign-born Hispanics as well as those in lower-acculturation groups are aware that DUI is a serious problem, independent of their national origin. Thus, the foreign-born compared with U.S.-born Hispanics and those low in acculturation compared with high-acculturation level have a higher rate of agreement with statements that people who drive after drinking will be stopped by police and that DUI affects Hispanics more than others. In consonance with that idea, the majority of all Hispanics agreed that those who engage in DUI are problem drinkers. Two of these attitudinal items are factors or risks for DUI: disagreeing that those involved in DUI are problem drinkers or alcoholics and agreeing that it is acceptable to drive while feeling the effects of alcohol. These results have important implications for the development of prevention programs among Hispanics. First, they suggest that the Hispanic community would be receptive to prevention efforts aimed at decreasing DUI-related problems in Hispanic communities. Second, they also suggest that imparting general knowledge about the threat posed by DUI, the importance of the DUI problem among Hispanics, and the certainty of arrest by law enforcement is irrelevant. Hispanics agree and already know all these facts. Perhaps it is more important to provide specific knowledge about specific attitudes (e.g., engaging in DUI is a signal of problem drinking, and it is not acceptable to drive after drinking), legal blood alcohol concentration level, and other DUI-related penalties. For instance, only one quarter of respondents in Ferguson et al.'s (2002) DUI study of Mexican Americans in California knew that they would have their license suspended if convicted of DUI. Finally, foreign-born Hispanics and those low in acculturation irrespective of national origin agreed that police stop Hispanics more often than other groups. This certainly creates resentment against police, which is also of importance for prevention because it makes it more difficult for law enforcement to gain community cooperation when trying to prevent DUI or enforce DUI laws.

One of the strengths of the study is that it collected comprehensive information on alcohol consumption, alcohol-use disorders, and DUI-related events from representative samples of Hispanic national groups in five large metropolitan areas in the United States. Interviews were conducted face-to-face in English or Spanish, thus allowing for the selection of respondents who were not English speakers. Finally, the survey achieved a high response rate. The design also has limitations. About 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. Also, respondents may have underreported some of the behaviors under analysis.

References

- AMERICAN PSYCHIATRIC ASSOCIATION. Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), Washington, DC, 1994.
- CAETANO, R. AND CLARK, C.L. Hispanics, blacks and whites driving under the influence of alcohol: Results from the 1995 National Alcohol Survey. *Accid. Anal. Prev.* **32**: 57-64, 2000.
- CAETANO, R. AND McGRATH, C. Driving under the influence (DUI) among U.S. ethnic groups. *Accid. Anal. Prev.* **37**: 217-224, 2005.
- CAETANO, R., RAMISETTY-MIKLER, S., AND RODRIGUEZ, L.A. The Hispanic Americans Baseline Alcohol Survey (HABLAS): Rates and predictors of DUI across Hispanic national groups. *Accid. Anal. Prev.*, in press.
- CHOU, S.P., DAWSON, D.A., STINSON, F.S., HUANG, B., PICKERING, R.P., ZHOU, Y., AND GRANT, B.F. The prevalence of drinking and driving in the United States, 2001-2002: Results from the National Epidemiological Survey on Alcohol and Related Conditions. *Drug Alcohol Depend.* **83**: 137-146, 2006.
- CHOU, S.P., GRANT, B.F., DAWSON, D.A., STINSON, F.S., SAHA, T., AND PICKERING, R.P. Twelve-month prevalence and changes in driving after drinking: United States, 1991-1992 and 2001-2002. *Drug Alcohol Depend.* **80**: 223-230, 2005.
- FERGUSON, S.A., BURNS, M.M., FIORENTINO, D., WILLIAMS, A.F., AND GARCIA, J. Drinking and driving among Mexican American and non-Hispanic white males in Long Beach, California. *Accid. Anal. Prev.* **34**: 429-437, 2002.
- HILTON, J. Race and Ethnicity in Fatal Motor Vehicle Traffic Crashes 1999-2004, Report No. DOT HS 809 956, Washington, DC: National Center for Statistics and Analysis, National Highway Traffic Safety Administration, 2006.
- LAPHAM, S.C., SKIPPER, B.J., CHANG, I., BARTON, K., AND KENNEDY, R. Factors related to miles driven between drinking and arrest locations among convicted drunk drivers. *Accid. Anal. Prev.* **30**: 201-206, 1998.
- PADILLA, A.M. AND MORRISSEY, L. Place of last drink by repeat DUI offenders: A retrospective study of gender and ethnic group differences. *Hisp. J. Behav. Sci.* **15**: 357-372, 1993.
- PERRINE, M.W., PECK, R.C., AND FELL, J.C. Epidemiologic perspectives on drunk driving. In: SURGEON GENERAL'S WORKSHOP ON DRUNK DRIVING: BACKGROUND PAPERS, Washington, DC: Department of Health and Human Services, 1989, pp. 35-76.
- RESEARCH TRIANGLE INSTITUTE. Software for Survey Data Analysis (SUDAAN), Release 9.0.1, Research Triangle Park, NC: Research Triangle Institute, 2005.
- ROSS, H.L., HOWARD, J.M., GANIKOS, M.L., AND TAYLOR, E.D. Drunk driving among American blacks and Hispanics. *Accid. Anal. Prev.* **23**: 1-11, 1991.
- ROYAL, D. National Survey of Drinking and Driving Attitudes and Behavior: 2001, Vol. 1: Summary Report; No. DOT HS 809 549, Washington, DC: National Highway Traffic Safety Administration, 2003.
- SCHAFFER, J.L. Analysis of Incomplete Multivariate Data, Boca Raton, FL: Chapman & Hall/CRC, 1997.
- VOAS, R.B., WELLS, J., LESTINA, D., WILLIAMS, A., AND GREENE, M. Drinking and driving in the United States: The 1996 National Roadside Survey. *Accid. Anal. Prev.* **30**: 267-275, 1998.
- YI, H.-Y., CHEN, C.M., AND WILLIAMS, G.D. Trends in Alcohol-Related Fatal Traffic Crashes, United States, 1982-2004, Surveillance Report, No. 76, Bethesda, MD: Division of Epidemiology and Prevention Research, National Institute on Alcohol Abuse and Alcoholism, 2006.
- ZADOR, P.L., KRAWCHUK, S.A., AND MOORE, B. Drinking and Driving Trips, Stops by the Police, and Arrests: Analyses of the 1995 National Survey of Drinking and Driving Attitudes and Behavior, Report No. DOT HS 809 184, Washington, DC: National Highway Traffic Safety Administration, 2000.