Published in final edited form as:

J Immigr Minor Health. 2012 June ; 14(3): 371–378. doi:10.1007/s10903-011-9498-x.

Alcohol Use Among Latinos: A Comparison of Pre-Immigration, Post-Immigration, and US Born Latinos

Mario De La Rosa,

Center for Research on U.S. Latino HIV/AIDS & Drug Abuse (CRUSADA), Florida International University, 11200 SW 8th St., PCA 356, Miami, FL 33199, USA

Mariana Sanchez,

Center for Research on U.S. Latino HIV/AIDS & Drug Abuse (CRUSADA), Florida International University, 11200 SW 8th St., PCA 356, Miami, FL 33199, USA

Frank R. Dillon,

Center for Research on U.S. Latino HIV/AIDS & Drug Abuse (CRUSADA), Florida International University, 11200 SW 8th St., PCA 356, Miami, FL 33199, USA

Beverly A. Ruffin,

Center for Research on U.S. Latino HIV/AIDS & Drug Abuse (CRUSADA), Florida International University, 11200 SW 8th St., PCA 356, Miami, FL 33199, USA

Timothy Blackson, and

Center for Research on U.S. Latino HIV/AIDS & Drug Abuse (CRUSADA), Florida International University, 11200 SW 8th St., PCA 356, Miami, FL 33199, USA

Seth Schwartz

Department of Epidemiology and Public Health, University of Miami, Miami, FL, USA

Abstract

US born Latinos have higher rates of alcohol use than Latino immigrants. Yet, little is known about drinking patterns of Latinos before their immigration to the US This exploratory study compares the past month regular, binge, and heavy alcohol use patterns of Latino immigrants prior to immigration with that of post-immigration and US born Latinos. Data on past month alcohol use prior to immigration was collected from 516 recent adult Latino immigrants. Results were compared with US born and post-immigration Latinos using national aggregate data. Alcohol use patterns among Latino immigrants prior to immigration were similar to that of US born Latinos. Alcohol use patterns were lower among Latinos after immigration when compared to pre-immigration and US born Latinos. This study provides a foundation for further exploration of the drinking patterns of Latinos in the US before they immigrated to this country. Findings suggest more research is needed to uncover the underlying factors associated with the higher rates of alcohol use among Latinos prior to their immigration when compared to alcohol use patterns of post-immigration Latinos.

Keywords

Latino; Alcohol; Alcohol use; Immigration; Excessive drinking

Background

Latinos are the largest and fastest growing minority group in the United States (US) comprising more than 15% of the population. Presently, first-generation Latino immigrants represent about 40% of Latinos living in the US and will account for a significant proportion of future US Latino population growth [1]. Based on projected Latino immigration rates and US Latino birth rates, nearly one of every three Americans will be of Latino descent by 2050 [2].

Parallel to the rapid growth of the US Latino population is the emergent health concern of excessive alcohol use/abuse among young adult Latinos (ages 18–34) [3, 4]. Specifically, binge and heavy drinking episodes of alcohol affect the physical and emotional well-being of adult Latinos [5, 6]. In that regard, young adult US born Latinos, primarily of Mexican descent, exhibit more binge and heavy drinking episodes of alcohol misuse compared to foreign-born Latinos residing in the US [7]. However, most of the research regarding the alcohol use patterns of Latino immigrants has primarily been conducted on Mexican immigrants after their arrival in the US [8, 9]. Much less is known about the binge and heavy drinking episodes of alcohol use among other Latino sub-ethnic groups. More specifically, a dearth of knowledge exists on the drinking patterns of South and Central American, Cuban, and Dominican immigrants *prior* to immigrating. Furthermore, the effects of the immigration process on Latinos' alcohol consumption pre-immigration and post-immigration from these Latin American countries remains unknown and in need of further study. It is therefore important to collect data on patterns of alcohol use among Latinos of South and Central American, Cuban, and Dominican descent prior to their US immigration so variations in the alcohol consumption rates of US Latinos pre-immigration and post-immigration can be better understood.

Purpose

The primary aim of this *exploratory descriptive study* is to compare the percentages of past month regular, binge, and heavy drinking of alcohol among three groups of Latinos from South and Central America, Cuba, and the Dominican Republic between the ages of 18–34 as follows: (1) Latinos 30-days before US immigration, (2) Latinos living in the US post-immigration, and (3) US born Latinos. For the latter two groups, aggregate data from 2004 to 2009 were obtained from the *National Survey on Drug Use and Health (NSDUH)* [10] on Latinos of South and Central American, Cuban, and Dominican descent for heuristic comparison to pre-immigration Latinos' alcohol consumption. The pre-immigration group's data were collected as part of the NIMHD-funded longitudinal study on the effects of pre-immigration factors on the health behavior trajectories of recent Latino immigrants in Miami-Dade County, Florida (The Recent Latino Immigrant Study-RLIS). All comparisons were made across two age groups (18–25 and 26–34) to match those analyzed in the NSDUH. Thus, three Latino groups were compared across gender and two age groups on past month regular, binge, and heavy alcohol use patterns.

Significance

The results of this study can aid in furthering our preliminary understanding about the alcohol use of Latino immigrants prior to and after immigrating to the US as well as how these patterns may compare to US born Latinos in an effort to guide future research.

Method

The present analyses were conducted utilizing two datasets: (a) baseline data from a longitudinal investigation of the influence of pre-immigration factors on the health behavior trajectories of recent Latino immigrants in Miami-Dade County, Florida (*The Recent Latino Immigrant Study-RLIS*); and (b) the National Survey on Drug Use and Health (*NSDUH*) [10]. The samples and procedures for each of these data collections are as follows:

Recent Latino Immigrant Study (RLIS)

Sample—The RLIS sample included 516 recent Latino immigrants (45.7% female and 54.3% male). To match the NSDUH sample, the ages of the participants ranged from 18 to 34 ($M_{age} = 26.88$, $SD = 4.988$). In terms of education levels, 20% of RLIS participants had college degrees, 34% had attended some college, 28% had a high school or equivalent degree, and 18% had not completed high school. The sample consisted of relatively low-income participants. According to participants' self-reports, the average total household income in the 3 months prior to immigration to the US was \$5,286.28 ($SD = \$5,166.47$)—approximately \$21,145 annually.

Participants in the RLIS included Latino immigrants from Cuba (43%), Colombia (18%), Honduras (13%), and Nicaragua (9%). RLIS participants from Guatemala, Venezuela, and Peru each comprised about 3% of the sample, while participants from Bolivia, Uruguay, Argentina, Chile, Costa Rica, the Dominican Republic, Ecuador, El Salvador, and Panama each represented less than 2% of the sample. Participants' average length of time in the US ranged between 1 and 12 months ($M = 6.73$ months, $SD = 3.10$). The primary motives for immigration reported by participants were economic reasons (58.3%), followed by reuniting with family members (23%), political issues (8.1%), and other reasons (10.3%). Approximately 70% of participants had immigrated legally, whereas the remaining 30% consisted of undocumented immigrants.

Procedures—Inclusion criteria for the RLIS consisted of being a Latino, 18–34 years old, who had recently (i.e., within one year prior to the baseline assessment) immigrated to the United States from a Latin American country.

Respondent-driven sampling (RDS) was the primary recruitment strategy for the RLIS. This technique has shown to be an effective strategy in recruiting participants from hidden or difficult-to-reach populations [11]. Projections indicate that undocumented Latino immigrants are often a hidden population due to the sensitivity of their legal status in the US. Given that approximately 25% of the US Latino population consists of undocumented immigrants [12], and that 30% of the present RLIS sample were undocumented immigrants, respondent-driven sampling was considered to be the most feasible sampling approach. This technique involved asking each participant (*the seed*) to refer three other individuals in their

social network who met the eligibility criteria for the study and consented to be interviewed. Those participants were then asked to refer three other individuals. The procedure was followed for seven legs for each initial participant (seed), at which point a new seed would begin, thus limiting the number of participants that were socially interconnected. This process was undertaken in an effort to avoid skewing the respondent sample [11]. A comprehensive description of the recruitment and retention of the RLIS sample using RDS methods is published elsewhere [13].

RLIS participants were given the option to have assessments administered in English or Spanish. All assessment interviews were conducted in Spanish. Interviews were completed at a location agreed upon by both the interviewer and participant. Most of the interviews were administered either in participants' homes (62%) or at a restaurant/coffee shop (24%). The remaining interviews were completed at the participants' work, school, or other public location. Interviews were audio recorded and reviewed by research assistants for quality control purposes. Informed consent was obtained to audio-record the interviews.

National Survey on Drug Use and Health (NSDUH)

Sample—For the present investigation, the baseline sample from the Recent Latino Immigrant Study (described above) was compared to data from the NSDUH compiled from 2004 to 2009 [10]. The NSDUH is a cross-sectional survey conducted each year by the Substance Abuse and Mental Health Services Administration of the US Department of Health and Human Services. This particular NSDUH report focuses on trends in alcohol use among persons 18 years of age and older between 2004 and 2009. SAMHSA released the data in this pooled form only. Special tabulations were conducted by SAMHSA at the author's request for the purpose of this manuscript. The most recent aggregate data available to the public was used in the current analyses. For the present study, the NSDUH sample compiled from 2004 to 2009 consisted of approximately 6500 Latinos (46% female and 54% male). For the heuristic comparisons presented in this study, only Latinos of South or Central American, Dominican, and Cuban descent (ages 18–25 and 26–34) were included in the preliminary exploratory analysis. In terms of education levels, 19% of the participants had college degrees, 26% had attended some college, 29% had a high school diploma or equivalent, and 26% had not completed high school. Participants reported annual family income as follows: 18% earned \$75,000 or more, 15% earned between \$50,000 and \$74,999, 42% earned between \$20,000 and \$49,000, and 24% earned less than \$20,000 annually. Sixty-seven percent of the NSDUH participants were foreign-born (46% residing in the US for over 5 years, and 21% residing in the US for less than 5 years) while 33% were born in the United States [10]. Thus, the NSDUH sample was compared to the RLIS sample by age group (18–24 and 26–34) and gender, as well as US status (residing in the US for ± 5 years or born in the USA).

Measures

Regular, binge, and heavy alcohol use was measured using the same measures in the Recent Latino Immigrant Study and the NSDUH which allows for the exploratory comparisons made in this study. Past month regular alcohol use was measured as having at least one drink in the past 30 days. Past month binge alcohol use was defined as having consumed 5 or more

drinks on the same occasion in the past 30 days. Past month heavy alcohol use was defined as having consumed 5 or more drinks on the same occasion on each of 5 or more days in the past 30 days [10].

Alcohol Use—For the RLIS data, alcohol consumption prior to immigration was measured retrospectively using the Timeline Followback Interview (TLFB) [14]. This measure is a widely used and well-known research and clinical assessment tool with acceptable reliability and validity for various groups of individuals [14]. The TLFB was used to collect Latino immigrants' regular, binge, and heavy alcohol use in the 30 days prior to immigration. Alcohol consumption information was collected using a calendar format to provide temporal cues (e.g., holidays, special occurrences) to assist in recall of days when alcohol was used. Daily alcohol use information was collected in number of standard drinks per day. The Spanish version of the TLFB has been standardized and has been widely used with Latino populations [15]. The TLFB has been found to provide reliable and valid information on Latino alcohol and drug use, demonstrating high correlations with biological markers and collateral reports [16]. Previous research that tested the sensitivity of questionnaires which asked participants to recall alcohol and illicit drug use within a 12 month window found that such measurements were sensitive enough to ascertain such behavior even after 12 months had lapsed between the interview and the time the behavior occurred [17].

Post-immigration and US born Latino NSDUH participants were asked about their past month regular, binge, and heavy alcohol use. Past month regular, binge, and heavy alcohol use were measured equally across both data sets.

Results

Plan of Analysis

Several steps were taken in comparing past 30-day alcohol use behavior of Latinos prior to immigration and after immigration, and among US born Latino participants from the RLIS and the NSDUH. First, participants were categorized into two age groups within each study. One group consisted of participants aged 18–25 years where escalation of alcohol use often occurs, while the other group was aged 26–34, where maintenance and de-escalation of alcohol use often occurs [18]. Next, percentages of participants classified as regular, binge, and heavy alcohol users were determined across age groups and by gender in the RLIS and NSDUH.

Demographics

Chi-square analyses indicated a few demographic differences between the overall RLIS and NSDUH samples. Specifically, participants in the NSDUH sample reported higher income levels ($\chi^2 = 318.27$, $df = 3$, $P < .0001$, Cramer's $V = 0.213$). Conversely, the RLIS sample reported higher levels of education ($\chi^2 = 13.73$, $df = 1$, $P < .0002$, Cramer's $V = 0.045$) with more RLIS participants reporting *some college* education ($\chi^2 = 13.86$, $df = 1$, $P < .0002$, Cramer's $V = 0.185$) and more NSDUH participants indicating a *less than high school* education ($\chi^2 = 12.43$, $df = 1$, $P < .0004$, Cramer's $V = 0.043$). No differences in age or gender were found between the two samples. Other demographic comparisons were not

calculated between pre-immigration, post-immigration, and US born subsamples because NSDUH demographic data broken down by country of origin was not available.

Heuristic comparisons between the RLIS and NSDUH samples by age group and gender for regular, binge, and heavy alcohol use are summarized in Table 1 and presented below as follows:

Regular Alcohol Use

RLIS Pre-Immigration Versus NSDUH Post-Immigration—Pre-immigration RLIS Latinos had higher rates of alcohol use compared to post-immigration NSDUH Latinos across gender and age groups—males ages 18–25 ($\chi^2 = 17.48$, $df = 1$, $P < .0001$, Cramer's $V = 0.107$) and 26–35 ($\chi^2 = 7.62$, $df = 1$, $P < .005$, Cramer's $V = 0.058$), females ages 18–25 ($\chi^2 = 11.98$, $df = 1$, $P < .0005$, Cramer's $V = 0.094$) and 26–34 ($\chi^2 = 11.21$, $df = 1$, $P < .0008$, Cramer's $V = 0.084$).

RLIS Pre-Immigration Versus NSDUH US Born—Conversely, among RLIS pre-immigration Latinos ages 18–25, the percentage of past month alcohol use was statistically equivalent (ns) to that of their NSDUH US born Latino counterparts across genders. However, there was a trend for pre-immigration RLIS Latina women ages 26–34 to have lower percentages of past month alcohol use compared to NSDUH US born Latina women in that age group ($\chi^2 = 7.64$, $df = 1$, $P < .06$, Cramer's $V = 0.070$). (note: no NSDUH data were available on past month alcohol use rates of US born Latino males ages 26–34.)

NSDUH Post-Immigration Versus NSDUH US Born—Results indicated a lower percentage of past month alcohol use among post-immigration Latino men ages 18–25 ($\chi^2 = 155.18$, $df = 1$, $P < .0001$; Cramer's $V = 0.229$) when compared to that of their US born Latino counterparts. The differences in alcohol use percentages between post-immigration and US born Latina women ages 18–25 ($\chi^2 = 144.66$, $df = 1$, $P < .0001$, Cramer's $V = 0.232$) is noteworthy suggesting a gender acculturation effect among young Latina women. (note: as indicated above, no data were available for US born males ages 26–34.)

Binge Alcohol Use

RLIS Pre-Immigration Versus NSDUH Post-Immigration—As with alcohol use, the percentage of pre-immigration binge drinking was higher among Latino men ages 18–25 ($\chi^2 = 6.74$, $df = 1$, $P < .0014$, Cramer's $V = 0.009$) and ages 26–34 ($\chi^2 = 21.38$, $df = 1$, $P < .001$, Cramer's $V = 0.119$) when compared to Latino post-immigration men. Likewise, pre-immigration Latina females had higher rates of binge drinking compared to post-immigration Latina females ($\chi^2 = 4.22$, $df = 1$, $P < .01$, Cramer's $V = 0.088$). However, there were no differences observed between pre- and post-immigration females ages 26–34.

RLIS Pre-Immigration Versus NSDUH US Born—No differences were observed for binge drinking across gender by age group between pre-immigration and US born Latinos.

NSDUH Post-Immigration Versus NSDUH US Born—Latino post-immigration males ages 18–25 ($\chi^2 = 49.68$, $df = 1$, $P < .0001$; Cramer's $V = 0.149$) and 26–34 ($\chi^2 = 38.15$, $df =$

1, $P < .0001$, Cramer's $V = 0.118$) both indicated lower rates of binge drinking compared to their US born counterparts. While Latina post-immigration females ages 18–25 also had lower percentages of binge drinking than US born Latinas ($\chi^2 = 20.04$, $df = 1$, $P < .0001$, Cramer's $V = 0.121$), no differences were found between Latina females ages 26–34.

Heavy Alcohol Use

RLIS Pre-Immigration Versus NSDUH Post-Immigration—Past 30-day heavy alcohol use was higher among pre-immigration male Latinos ages 18–25 ($\chi^2 = 16.24$, $df = 1$, $P < .0001$, Cramer's $V = 0.199$) and 26–34 ($\chi^2 = 45.90$, $df = 1$, $P < .0001$, Cramer's $V = 0.333$). However, too few Latina women in either age group engaged in heavy alcohol use for comparisons (less than 5 persons per cell) indicating a gender specific effect for heavy alcohol use by Latino men.

RLIS Pre-Immigration Versus NSDUH US Born—Results showed that pre-immigration Latino males ages 26–34 had a higher percentage of heavy alcohol use than their US born counterparts ($\chi^2 = 27.03$, $df = 1$, $P < .0001$, Cramer's $V = 0.122$). However, no other differences were found across these groups by age and gender.

NSDUH Post-Immigration Versus NSDUH US Born—Latino immigrant males ages 18–25 ($\chi^2 = 16.22$, $df = 1$, $P < .0001$, Cramer's $V = 0.161$) and 26–34 ($\chi^2 = 19.37$, $df = 1$, $P < .0001$, Cramer's $V = 0.196$) both indicated a lower prevalence of heavy alcohol use compared to their US born counterparts. As previously mentioned, differences among Latina women could not be interpreted due to low rates of Latina women engaging in heavy alcohol use.

Discussion

Preliminary exploratory comparisons between the Recent Latino Immigrant Study (RLIS) and National Survey on Drug Use and Health (NSDUH) samples by age group and gender across past month regular, binge, and heavy alcohol use was higher among both male and female RLIS Latino immigrants prior to immigration compared to reports obtained from NSDUH Latino immigrants after their immigration to the US.

These preliminary heuristic findings suggest that an increase in harmful alcohol use among Latino immigrants may not be linear. For example, our RLIS findings suggest that pre-immigration binge and heavy alcohol use may exceed use by post-immigration Latinos. Furthermore, these findings also underscore the importance of Sam & Berry's [19] description of the “healthy immigrant effect”. The healthy immigrant effect, which refers specifically to first generation immigrants, suggests that healthier members of the country of origin may be more likely to immigrate, and that their health declines to match that of many US residents—perhaps because of stressors involved in immigrating and culturally adapting to this country [20].

To the extent to which the RLIS and NSDUH datasets are comparable with one another, the present results suggest that drinking patterns among Latinos in their country of origin appear to be more similar to those reported by US born Latinos than to Latinos at post-immigration.

However, the preliminary findings reported herein clearly indicate that more research is needed to uncover the underlying factors associated with the higher frequency rates of alcohol use among Latinos prior to their immigration to the US, as well as their sharp declines in use after immigration. In that regard, Latino immigrants living in the US, irrespective of country of origin, may not necessarily consume higher rates of alcohol when compared to Latinos still living in their country of origin [21–24]. We hope our longitudinal follow-up of the RLIS sample will further inform these issues in subsequent comparisons to NSDUH findings.

Recommendations for Future Research

First, examining the pre-immigration experiences of Latinos is informative. Decisions to immigrate to the US are often prompted by difficult life circumstances [25]. Even with the prospect of starting a new life, relocating does not come without stressors. The decision to relocate brings about uncertainty and anxiety, effects that are amplified by the loss of close ties with friends and family, health providers, and religious institutions in one's country of origin [26]. These stressors are further exacerbated among undocumented immigrants, who take on the added risks associated with relocating without proper documentation [27].

Second, attention should be given to the psychological factors related to the post-immigration experience and how these may affect alcohol use behaviors. The preliminary comparisons between the RLIS and NSDUH samples suggest a decline in alcohol use among Latinos after immigrating to the US, albeit this is conjecture. Latino immigrants may come to the US with optimistic expectations of beginning a new life with a host of opportunities for themselves and their families [28]. It may be that this hope for prosperity and well-being also brings a decrease in health compromising behaviors, such as alcohol use, that were part of the lives immigrants' left behind in their country of origin. Perhaps, those who choose to immigrate are the most psychologically healthy—as hypothesized by the healthy immigrant effect [19]. For individuals who are willing to go through the stressors involved in immigration, the desire to engage in alcohol abuse may be curbed by the prospect of new beginnings in the host country.

Third, factors related to social control may also be associated with decreases in post-immigration Latino alcohol use. Stringent societal laws in the US, such as the prohibition of drunk driving, may not be present in the country of origin, and could serve as a way of monitoring and directing behaviors so that they are in line with what is considered acceptable by the host society [29]. It is also possible that compared to their US born counterparts, recent immigrants could be more cognizant of, and invested in, becoming a part of their host society and not drawing attention to themselves for alcohol use related behaviors especially if they are undocumented immigrants.

Limitations

Several limitations to the heuristic findings of this exploratory study are presented here as follows: First, some participant-level demographic differences in income and education levels between the RLIS and NSDUH samples were observed. Also, demographic data for

the NSDUH sample was only available for the sample as a whole. Thus, demographic differences between the US born and post-immigration Latino groups could not be calculated. Furthermore, length of time in the US for the post-immigration sample was only available in two categories: *less than* or *greater than* 5 years in the US. The literature suggests foreign-born Latinos experience a decrease in health status as their time in the United States increases. Specifically, alcohol use patterns of Latino immigrants have been found to increase with length of time in the US [3, 30, 31]. Research indicates that these exacerbated alcohol use behaviors are at least partially attributed to the acculturation process, particularly acculturative stress and the erosion of protective Latino cultural values [15, 32]. The potentially wide range in length of stay in US of the post-immigration group is not captured in the present study and may have influenced study findings. Overall, the possibility exists that important demographic differences between the samples could also explain some differences in alcohol use patterns across the age group by gender comparisons.

Second, a few comparisons were not tested due to missing data from the NSDUH sample. Specifically, NSDUH data on past month alcohol use was unavailable for US born Latino males ages 26–34. Additionally, statistical differences on heavy drinking among Latina women were not calculated because findings resulted in less than 5 participants per cell. However, those absent comparisons represent only 3 of 36 total analyses and support the notion that heavy drinking occurs far more frequently among Latino men versus women.

Third, as in all studies which include retrospective data or prior alcohol use, the study results may have recall issues given that some of the study participants were asked about alcohol use frequency 30 days prior to immigration. Drinking behaviors 30 days prior to immigration may also not be indicative of participants' usual alcohol use. Atypical alcohol use could have occurred in association with departure from country of origin (e.g., response to stress of leaving behind family/friends, and good-bye celebrations). Lastly, a limitation of the RLIS data set is the use of respondent driven sampling. Although respondent driven sampling has been widely successful in recruiting hidden populations such as undocumented immigrants, it does not secure a representative sample. Given the considerable number of undocumented immigrants within the US Latino population [12], respondent-driven sampling was deemed appropriate.

Conclusion

Findings reported in this investigation provide a starting point for further exploration of the trajectories and patterns of alcohol use among Latinos before and after immigrating to the United States. This study also contributes to the limited knowledge on alcohol use patterns of Latino immigrants prior to arriving in the US. Future research on pre- and post-immigration alcohol use patterns may provide valuable information on the underlying factors that influence alcohol use and related behaviors among Latino immigrants as well as their US born counterparts. Such research is of high public health significance, as it may inform prediction, prevention, and treatment of problem-drinking behaviors among the largest and fastest growing ethnic minority group in the United States.

Acknowledgments

This study was supported by award number P20MD002288 from the National Institute on Minority Health and Health Disparities. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute on Minority Health and Health Disparities.

References

1. U.S. Census Bureau. Facts for features, CB09-FF 17, Hispanic Heritage Month 2009: Sept 15–Oct 15. U.S. Department of Commerce, Washington, DC: U.S. Census Bureau; 2009.
2. Bernstein, R., Edwards, T. An older and more diverse nation by midcentury. U.S. Census Bureau News, Washington, DC: U.S. Census Bureau; <http://www.census.gov/newsroom/releases/archives/population/cb08-123.html> Published 14 Aug 2008 [Accessed 15 Jan 2011]
3. Lara M, Gamboa C, Kahramanian MI, Morales LS, Hayes Bautista DE. Acculturation and Latino health in the United States: a review of the literature and its sociopolitical context. *Annu Rev Public Health*. 2005; 26:367–97. [PubMed: 15760294]
4. Lipskey S, Caetano R. Epidemiology of substance abuse among Latinos. *J Ethn Subst Abuse*. 2009; 8(3):242–60. [PubMed: 25985069]
5. Substance Abuse and Mental Health Services Administration. Results from the 2008 national survey on drug use and health: national findings (Office of Applied Studies, NSDUH Series H-36, HHS Publication No SMA 09-4434). Rockville, MD: Substance Abuse and Mental Health Services Administration; 2009.
6. Substance Abuse and Mental Health Services Administration. Office of Applied Studies. The NSDUH report: substance use treatment need and receipt among Hispanics. Rockville, MD: Substance Abuse and Mental Health Services Administration; Jul 16. 2009 2009
7. Substance Abuse and Mental Health Services Administration, Office of Applied Studies. The NSDUH report: substance use among Hispanic adults. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2010.
8. Borges G, Medina-Mora ME, Lown A, Ye Y, Robertson MJ, Cherpitel C, Greenfield T. Alcohol use disorders in national samples of Mexicans and Mexican-Americans: the Mexican national addiction survey and the U.S. national alcohol survey. *Hisp J Behav Sci*. 2006; 28:425–49.
9. Markides KS, Krause N, Mendes de Leon CF. Acculturation and alcohol consumption among Mexican Americans: a three-generational study. *Am J Public Health*. 1998; 78(9):1178–81.
10. Substance Abuse and Mental Health Services Administration. Special tabulations from the 2004 to 2009 national surveys on drug use and health, AdHoc041. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2010.
11. Salganik MJ, Heckathorn DD. Sampling and estimation in hidden populations using respondent-driven sampling. *Sociol Methodol*. 2003; 34(1):193–240.
12. Passel, JS., Cohn, D. Trends in unauthorized immigration: undocumented inflow now trails legal inflow. Washington, DC: Pew Hispanic Center; 2008.
13. De La Rosa M, Babino R, Rosario A, Valiente N. Challenges and strategies in recruiting, interviewing, & retaining recent Latino immigrants in substance abuse and HIV epidemiologic studies. *Am J Addict*. In press.
14. Sobell, LC., Sobell, MB. Timeline followback: a technique for assessing self-reported alcohol consumption. In: Litten, RZ., Allen, J., editors. *Measuring alcohol consumption: psychosocial and biological methods*. New Jersey: Humana Press; 2002. p. 41-72.
15. Gil AG, Wagner EF, Tubman JG. Culturally sensitive substance abuse intervention for Hispanic and African American adolescents: Empirical examples from the alcohol treatment targeting adolescents in need (ATTAIN) Project. *Addiction*. 2004; 99(suppl2):140–150. [PubMed: 15488112]
16. Dillon FR, Turner CW, Robbins MS, Szapocznik J. The concordance among biological, interview, and self-reported measures of drug use among African American and Hispanic adolescents referred for drug abuse treatment. *Psychol Addict Behav*. 2005; 19(4):404–13. [PubMed: 16366812]

17. Smith PC, Schmidt SM, Allenworth-Davies D, Saiz R. A single-question screening test for drug use in primary care. *Arch Intern Med.* 2005; 170(13):1155–60.
18. Substance Abuse and Mental Health Services Administration. Results from the 2009 national survey on drug use and health: volume I Summary of national findings (Office of Applied Studies, NSDUH Series H-38A, HHS Publication No SMA 10-4586Findings). Rockville, MD: Substance Abuse and Mental Health Services Administration; 2010.
19. Sam DL, Berry JW. Acculturation: when individuals and groups of different cultural backgrounds meet. *Perspect Psychol Sci.* 2010; 5:472–81. [PubMed: 26162193]
20. Flores G, Brotanek J. The healthy immigrant effect: a greater understanding might help us improve the health of all children. *Arch Pediatr Adolesc Med.* 2005; 159:295–7. [PubMed: 15753277]
21. Caetano R, Mora ME. Acculturation and drinking among people of Mexican descent in Mexico and the United States. *J Stud Alcohol.* 1998; 49:462–71.
22. Cherpitel CJ, Borges GA. Comparison of substance use and injury among Mexican American emergency room patients in the United States and Mexicans in Mexico. *Alcohol Clin Exp Res.* 2001; 25:1174–80. [PubMed: 11505048]
23. Fosados R, Caballero-Hoyos JR, Torres-Lopez T, Valente TW. Condom use and migration in a sample of Mexican migrants: potential for HIV/STI transmission. *Salud Publica de Mex.* 2006; 48(001):57–61.
24. Vega WA, Alderete E, Kolody B, Aguilar Gaxiola S. Illicit drug use among Mexican and Mexican Americans in California: the effects of gender and acculturation. *Addiction.* 1998; 93(12):1839–50. [PubMed: 9926572]
25. Menjivar C, Bejarano C. Latino immigrants' perceptions of crime and police authorities in the United States: a case study from the Phoenix metropolitan area. *Ethn Racial Stud.* 2004; 27:120–48.
26. Mitrani VB, Santisteban DA, Muir JA. Addressing immigration-related separations in Hispanic families with a behavior-problem adolescent. *Am J Orthopsychiatry.* 2004; 74:219–29. [PubMed: 15291699]
27. Saldana D. Coping and stress. A refugee's story. *Women Ther.* 1992; 13:21–34.
28. Yakushko O, Watson M, Thompson S. Stress and coping in the lives of recent immigrant and refugees: consideration for counseling. *Int J Adv Couns.* 2008; 30:167–78.
29. Moos R. Active ingredients of substance use-focused self-help groups. *Addiction.* 2008; 103(3):387–96. [PubMed: 18269361]
30. Gfroerer JC, Tan LL. Substance use among foreign-born youths in the United States: does length of residence matter? *Am J Public Health.* 2003; 93(11):892–5.
31. Worby PA, Organista KC. Alcohol use and problem drinking among male Mexican and Central American im/migrant laborers: a review of the literature. *Hisp J Behav Sci.* 2007; 29(4):413–55.
32. De La Rosa, MR., Holleran, LK., Straussner, SL. Substance abusing Latinos: current research on epidemiology, prevention, and treatment. New York: Haworth Press; 2005.

Table 1
Exploratory comparison of three Latino groups on past month alcohol use by age group and gender

Past month alcohol use	Latino ages 18–25						Latino ages 26–34					
	Pre-immigration (RLIS)		Post-immigration (NHSDU)		US born (NHSDU)		Pre-immigration (RLIS)		Post-immigration (NHSDU)		US born (NHSDU)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Regular												
M	74	64	644	43	983	66	111	58	1,255	66	na	na
						17.48 ^{d**} , ns						7.62 ^{d*} , na
F	50	56	495	37	808	60	72	49	533	35	936	61
						11.98 ^{d*} , ns						11.21 ^{a*} , 7.64 ^{b*} , ns
Binge												
M	54	47	384	34	549	49	88	54	483	35	644	47
						6.74 ^{d*} , ns						21.38 ^{a**} , ns
F	27	30	141	20	215	31	31	21	113	17	123	19
						4.22 ^{d*} , ns						na
Heavy												
M	25	22.2	25	7.4	60	18.1	45	24.4	12	4.4	44	16.3
						16.24 ^{d**} , ns						45.90 ^{d**} , 27.03 ^{b**} , 19.37 ^{c**}
F	9	10.0	<5	2.6	9	6.8	9	6.0	<5	4.0	<5	1.7
						ns						na

**P* < .01

***P* < .001

^dPre-immigration versus Post-immigration

^bPre-immigration versus US Born

^cPost-immigration versus US Born