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## Gender, Acculturation, and Other Barriers to Alcohol Treatment Utilization among Latinos in Three National Alcohol Surveys

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### Abstract

This study, using 3 waves of U.S. National Alcohol Surveys (1995-2005), examines lifetime alcohol treatment utilization and perceived treatment barriers among Latinos. The sample included 4204 Latinos (2178 women, 2024 men); data were weighted. Analyses were linear and logistic regressions. Controlling for survey year, severity, and other covariates, male gender and English language interview predicted higher utilization generally and AA use specifically; English interview was also associated with institutional treatment. (Effects for gender on general utilization were marginal.) Other predictors of utilization included older age, lower education, greater social pressures, greater legal consequences, greater dependence symptoms, and public insurance. Whereas men and women differed little on perceived barriers, analyses showed greater barriers among Spanish (vs. English) interviewees. Latina women's underutilization of alcohol treatment requires further research, but may be partially explained by stigma. Associations between language of interview and treatment utilization imply a need for outreach and culturally sensitive programming.

### INTRODUCTION

In the past 10 years, a growing research effort sustained by several National Institute of Health (NIH) institutes, including the National Institute on Alcohol Abuse and Alcoholism (NIAAA), has addressed racial/ethnic health disparities in the U.S. (National Institute on Alcohol Abuse and Alcoholism, 2001). Alcohol studies have helped to identify particular health disparities among Latinos. Relative to Whites, Latinos appear to be at greater risk for alcohol problems (Caetano & Clark, 1998; Galvan & Caetano, 2003; Grant et al., 2004; Herd, 1994), arrests for driving under the influence (Caetano & Clark, 2000), liver cirrhosis, and alcohol-related mortality (Caetano, 2003; Montoya, 2001; Stinson, Dufour, Steffens, & DeBaakey, 1993; Yoon, Yi, Grant, & Dufour, 2001). Despite carrying a disproportionate burden of alcohol problems, several studies suggest that U.S. Latinos show either comparable or lower rates of alcoholism treatment utilization, relative to Whites (Schmidt & Weisner, 2005; Weisner & Matzger, 2002; Weisner, Matzger, Tam, & Schmidt, 2002).

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By and large, studies on treatment utilization have focused on general populations of problem drinkers or persons with alcohol use disorders. While such studies often examine the relationship between racial/ethnic subgroup and rate of treatment utilization, they seldom investigate the specific factors related to utilization within subgroups. This is an important research gap, since it cannot be assumed that the same factors predict utilization across racial/ethnic subgroups (particularly since such groups may have very different cultural positions and experiences). The current paper addresses this gap, drawing on 3 waves of the U.S. National Alcohol Survey to create an exceptionally large, representative sample of the Latino population. Specific aims are to: (1) describe alcohol treatment utilization patterns among Latinos; (2) investigate roles for gender, acculturation and other sociodemographic factors in treatment utilization; and (3) compare perceived treatment barriers among men and women (first) and English- and Spanish-interview respondents (second). By achieving this third aim, we hope to describe the nature, as well as the extent, of effects for gender and acculturation on Latinos' treatment utilization. The paper focuses on gender and acculturation in view of prior research indicating powerful roles for these variables in Latino drinking (e.g., Caetano, 1987; Zemore, 2005; for a review, see Zemore, 2007) and considering the particular relevance of gender and acculturation to identifying underserved populations. We examine utilization of any treatment services, as well as utilization of Alcoholics Anonymous and institutional treatment (separately).

### Predictors of Alcohol Treatment Entry in the General Population

To understand access to and utilization of alcoholism treatment services, we draw on Aday and Andersen's theoretical framework of medical-care seeking (Aday & Andersen, 1974; Andersen, McCutcheon, Aday, Chiu, & Bell, 1983). Aday and Andersen's model has been adapted for the alcohol field (Weisner, 1993; Weisner & Schmidt, 1995) and is widely used in research on determinants of substance abuse treatment use. The model specifies 3 classes of determinants: (1) characteristics existing prior to problem onset that *predispose* individuals to use services; (2) personal or family resources that *enable* service utilization; and (3) factors related to the *need* for alcohol treatment.

The empirical literature sampling the general population suggests that several predisposing factors shape the likelihood of utilizing alcohol treatment services. *Male gender* has been associated with higher odds of help seeking in a variety of samples and even controlling for problem severity indicators (Cohen, Feinn, Arias, & Kranzler, 2007; Schmidt, Ye, Greenfield, & Bond, 2007; Weisner, Greenfield, & Room, 1995). Women may be less likely to seek treatment than men because of stigma surrounding alcohol problems in women, and because of the logistical barriers faced by pregnant women and women with children. According to a recent review on women and substance abuse treatment, both childcare needs and the fear of losing child custody are important obstacles to women's treatment entry (Greenfield et al., 2007). Further, findings from a national survey indicate that women with alcohol problems are more likely than men to report lack of childcare as a reason for not obtaining treatment (Grant, 1997). *Older age* has also been repeatedly related to higher odds of lifetime treatment seeking (Cohen et al., 2007; Mojtabai, 2005; Schmidt & Weisner, 2005; Schmidt et al., 2007; Weisner et al., 2002), which makes sense given that a longer life should yield greater opportunity to seek services. Numerous studies relate greater treatment seeking to *lower (vs. higher) education*, again despite controlling for problem severity (Cohen et al., 2007; Mojtabai, 2005; Schmidt & Weisner, 2005; Weisner et al., 1995). Level of education may be associated with differences in attitudes toward alcohol treatment, although the mechanism for this effect is not yet clear. Some studies have found greater treatment utilization among *single (vs. married or partnered)* individuals (Schmidt et al., 2007; Weisner et al., 1995), although others have not (Cohen et al., 2007; Mojtabai, 2005).

Although *insurance status* and *income* seem like strong candidates for enabling factors in alcohol treatment utilization, the research on these variables is actually mixed. Studies aggregating across types of insurance have found no relationship between insurance status (yes vs. no) and alcohol treatment utilization (Mojtabai, 2005; Weisner et al., 2002). Meanwhile, one study found that uninsured persons were *more* likely than those with private insurance to obtain alcohol treatment; however, the uninsured category also included individuals on public insurance (Weisner & Matzger, 2002). Schmidt and Weisner (2005) have examined effects for Medicare, Medicaid, other public, and no insurance (compared to private insurance) separately. Contrary to Weisner and Matzger (2002), having Medicare (vs. private insurance) was related to lower odds of alcohol treatment utilization, compared to having private insurance. It may be that, because the nature and extent of alcohol treatment coverage of insurance plans vary so widely, insurance status is not a reliable predictor of utilization in the general population. Income has been a similarly inconsistent predictor in the general population. Several studies have produced null associations between income and treatment utilization (Mojtabai, 2005; Weisner et al., 1995), and others have found (contrary to intuition) an inverse association between income and alcoholism treatment use (Cohen et al., 2007; Schmidt & Weisner, 2005). This negative association may be attributable to the fact that persons of lower socioeconomic status are exposed to greater social and institutional pressures and consequences (Polcin & Beattie, 2007): Pressures and problems associated with one's family, friends, the criminal justice system, and one's employer are among the strongest predictors of treatment entry (Room, Matzger, & Weisner, 2004; Weisner, 1990; Weisner et al., 2002; Contance Weisner, Mertens, Tam, & Moore, 2001).

Last, and consistent with the Aday and Anderson framework, need for alcoholism treatment services is an important predictor of treatment utilization. Although many population-based studies of treatment utilization are restricted to persons with alcohol abuse or dependence, some studies have examined the relationship between *severity of dependence* and treatment utilization; results suggest a positive relationship between severity and treatment entry (Kessler et al., 2001; Schmidt et al., 2007; Weisner & Matzger, 2002).

### Alcohol Treatment Utilization among Latinos

As noted, the literature on predictors of alcohol treatment utilization among Latinos *per se* is not well-developed, perhaps because of the rarity of help seeking and consequent limitations in statistical power. However, it seems likely that male gender, older age, lower education, social pressures, institutional pressures, and higher problem severity predict utilization among Latinos as they do among the general population. In fact, gender may be a particularly strong predictor of alcohol treatment utilization among Latinos, relative to the general population. Both Latino men and women tend to endorse relatively conservative norms regarding women's drinking (Caetano & Clark, 1999), so Latino women may be particularly concerned about stigmatization. Latino women may also be, relative to Anglo women, more likely to be shouldered with childcare responsibilities, and more concerned about losing custody of their children as a result of seeking treatment (Kline, 1996).

*Acculturation level* is another potential determinant of alcohol treatment utilization among Latinos. Less acculturated Latinos may face a number of unique treatment barriers, such as cultural and linguistic gaps in communication; lack of familiarity with the treatment system; and concerns surrounding racial or ethnic stigmatization. Virtually no research known to us explores the role of acculturation in obtaining alcohol treatment, but some studies suggest a role for acculturation in health services utilization broadly. For example, a large survey study conducted in the Los Angeles area found that, even after controlling for demographic factors, job status, health status, and insurance coverage, Mexican Americans high on acculturation had (compared to those low on acculturation) significantly higher probabilities of obtaining

(a) an outpatient medical visit, and (b) a visit to a mental health specialist or provider, both within the 12 months prior (Wells, Golding, Hough, Burnam, & Karno, 1989). Acculturation was measured using a 26-item instrument assessing language use and abilities, contact with Mexico, social activities, and ethnic background. More recently, Vega et al. (Vega, Kolody, Aguilar-Gaxiola, & Catalano, 1999), analyzing respondents with DSM-III-R-defined disorders in an even larger Fresno County survey, found that rates of mental health service utilization among Mexican Americans were about 2.4 times higher among U.S.-born Mexican Americans than immigrants. Relatedly, a study by Freeman et al. (Freeman & Lethridge-Cejku, 2006) recently found that U.S. nativity was associated with greater healthcare access among a national sample of Latina women. Studies have also found that higher acculturation predicts an increased likelihood of utilizing various forms of routine health services, such as influenza vaccinations, blood cholesterol/blood pressure screenings, cancer screenings, pap smears, mammograms, and routine check-ups (Fiscella, Franks, Doescher, & Saver, 2002; Fernandez & Morales, 2007; Jurkowski & Johnson, 2005; Shah, Zhu, Wu, & Potter, 2006).

One small study on DUI offenders more directly supports a role for acculturation in alcohol treatment utilization. In that study, Cherpitel (2001) interviewed Mexican American and White participants in 5 DUI treatment programs in northern California. Results showed that, among Mexican Americans with any alcohol use disorder (N=149), those born in Mexico were significantly less likely than those born in the U.S. to report utilization of any healthcare, alcohol-related services, and specialty alcohol programs.

## Hypotheses

Based on the forgoing review of the literature, we hypothesized that greater treatment utilization would be associated with male gender, English language interview, older age, lower education, greater social pressures, greater legal consequences, and greater lifetime dependence symptoms. We also examined roles for marital status, insurance status, and income, although, considering the mixed evidence base, offer no specific hypotheses for these variables.

## MATERIALS AND METHODS

### Data Source and Sample

National Alcohol Survey (NAS) data are collected every 5 years by the Alcohol Research Group, a national alcohol research center funded by the National Institute on Alcohol Abuse and Alcoholism (NIAAA). Data for the current study were pooled from the 3 most recent waves: 1995, 2000, and 2005. (For detailed discussion of the NAS methodology, see Clark & Hilton, 1991; Kerr, Greenfield, Bond, Ye, & Rehm, 2004; Midanik & Greenfield, 2003a). The current analyses are restricted to Latinos, including all individuals self-identifying as Mexican American, Puerto Rican, Cuban American, Central/South American, or other Spanish cultural origin (Smedley, Stith, & Nelson, 2002; the term is used interchangeably with “Hispanic”). Surveys included 1598 Latino respondents in 1995, 994 in 2000, and 1610 in 2005, for a total N=4204 (2178 women, 2024 men).

All 3 NAS surveys included probability samples of U.S. adults aged 18 and over from the contiguous states, augmented by oversamples of Blacks and Latinos. Respondents chose either an English- or Spanish-language interview. Response rates were 77% in 1995, 58% in 2000, and 56% in 2005. Methodological studies conducted by the Alcohol Research Group investigating the impact of nonresponse in the 1995 and 2000 Surveys have, comparing independent national samples (or “replicates”) with differing response rates, yielded no differences attributable to nonresponse, suggesting that the data are generalizable to the general population.

The 1995 NAS involved in-person interviews with a stratified national household sample of 100 primary sampling units. The 2000 and 2005 NAS were computer-assisted telephone interviews with respondents selected via random digit dialing. Surveys used comparable instruments adapted for differences in survey interview modality based on extensive pilot testing. Despite the differences in interview modality, methodological studies investigating the appropriateness of pooling NAS data from 1995 and 2000 have indicated no significant bias related to interview mode in key measures from the NAS. Specifically, analyses have shown no major differences between the original 1995 NAS sample and a subsample of 1000 cases re-interviewed by telephone, nor between the telephone-interviewed 2000 NAS sample and a second sample of 411 cases interviewed in person (Midanik & Greenfield, 2003b; Midanik, Rogers, & Greenfield, 2001).

## Measures

**Demographics**—Key demographic variables included gender, age, highest level of education achieved, marital status, insurance status, and annual household income. All demographic variables were dummy-coded. (See tables for levels.) Estimates of household income were converted to Year 2005 dollars.

**Acculturation**—The current paper used language of interview as the primary index of acculturation. Although multi-item scales of acculturation are commonly used in research on Latinos and have successfully predicted health outcomes (for example, see Zemore, 2007, for a review of the relationship between composite acculturation scales and alcohol consumption), language of interview was emphasized in the current paper based on preliminary analyses suggesting stronger relationships with treatment utilization than held for our other indicators, including our language index. In prior research, English interview has been related to greater alcohol usage (Chambers et al., 2005), self-rated health (Lorraine, Hammock, & Blanton, 2005), healthcare knowledge (Vadaparampil, et al., 2006), healthcare utilization (Fernandez & Morales, 2007), and healthcare satisfaction (Ngui & Flores, 2006) among Latinos.

Acculturation was also assessed using the 8-item language index from Caetano's (1987) acculturation scale. Items on this scale assessed whether the respondent speaks mostly English, mostly Spanish, or both about equally with friends, family members, and acquaintances. Responses were coded numerically (Spanish=0, both=1, English=2) and summed, so that higher scores indicate greater use of English. Caetano's language index is comparable to other language-based measures of acculturation and has been strongly associated with drinking outcomes among Latino women (Caetano, 1987; Zemore, 2005; Zemore, Mulia, & Ye, 2008). A third indicator of acculturation was U.S. nativity (U.S.- vs. foreign-born).

**Social pressures**—Social pressures surrounding drinking were assessed using a 7-item scale inquiring whether several contacts had ever “liked you to drink less or to act differently when you drank.” Contacts included “a spouse or someone you lived with; a parent; any other relative; a girlfriend or boyfriend; anyone else you lived with; any other friend; and an employer, supervisor, or coworker.” Responses were coded numerically (yes=1 and no=0) and summed. Further information on the scale is provided in Room, Greenfield, & Weisner, 1991, and Weisner et al., 1995.

**Legal consequences**—Three items measured legal consequences surrounding drinking. Respondents were asked to indicate whether, in their lifetime, “A police officer questioned or warned me because of my drinking,” “I have been arrested for driving after drinking,” and “I had trouble with the law about drinking when driving was not involved.” Responses were recoded (yes=1 and no=0) and summed. Items are a subscale of social consequences related to drinking used in prior NAS surveys (see Midanik & Greenfield, 2000).



**Lifetime alcohol dependence**—Experience of alcohol dependence symptoms was assessed using a scale developed by the Alcohol Research Group. The scale taps 17 symptoms grouped under 7 domains, as specified in the American Psychiatric Association's Diagnostic and Statistical Manual, Version IV (DSM-IV) (American Psychiatric Association, 1994). Lifetime alcohol dependence was defined as having at least 1 symptom in 3+ domains. We also coded raw number of symptoms reported, for use as a covariate in multivariate analyses. (All other analyses use the categorical variable.) Validity studies on this scale have suggested good reliability ( $\alpha=0.82$ ) and positive associations between number of symptoms reported and both greater volume consumed and odds of heavy drinking (Caetano, Tam, Greenfield, Cherpitel, & Midanik, 1997).

**Lifetime treatment utilization**—We assessed lifetime treatment utilization by asking, “Have you ever gone to anyone—a physician, AA, a treatment agency, anyone at all—for a problem related in any way to your drinking?” Respondents indicating “yes” were asked if they went to (a) Alcoholics Anonymous, (b) a specialty alcoholism treatment program; (c) a hospital or clinic; (d) a medical group or physician; and/or (e) social services programs or other agencies/professional people. Social services programs included social welfare departments and vocational rehabilitation programs. Dependent variables were constructed reflecting utilization of any services, AA, and institutional treatment (reflecting all services excluding AA).

**Reasons for not seeking treatment**—A final set of questions assessed reasons for not seeking treatment. To introduce the questions, all drinkers reporting that they had never received treatment were asked if this was because “I didn't think I had a problem.” Respondents agreeing with this statement formed a separate category and skipped out of the barriers questions. Respondents who disagreed (acknowledging a problem) were read a list of 7 barriers and indicated for each if this was a reason for not seeking help. (See Table 5 for reasons and rates). Results using a similar measure are provided in Grant (1997). For the Year 2005 NAS, questions were balloted so that only half those respondents reporting barriers were asked to identify specific reasons for not seeking treatment. Hence, rates for specific problems should underestimate population rates somewhat.

## Analysis

Analyses included chi square tests for comparisons of utilization rates among gender and language of interview subgroups both in the total sample and among those reporting 3+ dependence symptoms in their lifetimes (weighted  $N=555$ , unweighted  $N=520$ ; see Tables 1, 2, and 4). Similarly, we used chi square tests to compare reasons for not seeking treatment among gender and language of interview subgroups, including only respondents reporting 3+ lifetime dependence symptoms (Table 5). We used multivariate logistic regressions to model treatment utilization in the total sample as a function of our major predictor variables, controlling for lifetime dependence symptoms (coded continuously) and survey year (Table 3). All NAS data were weighted to adjust for sampling and survey design effects, and all analyses were conducted in Stata (Stata Corp., 2005).

## RESULTS

Table 1 shows utilization of alcohol treatment services among the entire Latino sample. This table shows low utilization overall, but significantly higher utilization almost across the board for men (vs. women) and English- (vs. Spanish-) interview respondents.

Table 2 shows utilization among those with prior alcohol dependence symptomology. This table suggests that some, but not all, of the gender and language differences in Table 1 were

due to differential problem history. Among those with lifetime dependence, the only significant gender difference emerged for utilization of AA: The rate was about twice as high among men, compared to women. Utilization of AA was, similarly, marginally greater among English- (vs. Spanish-) interview respondents. English- (vs. Spanish-) interview respondents were also significantly more likely to report receiving some forms of institutional treatment, including services at a hospital/clinic and social services/other professional treatment. About 19% of Latinos with lifetime dependence sought services of some kind, though only 6% attended a specialty program. AA was the most common form of treatment by far.

Table 3 shows our multivariate models. (Household income was dropped as a predictor because preliminary analyses indicated no effects for this variable on utilization.) With regard to our key variables of gender and language of interview, the analyses show a significant, positive effect for male gender on AA utilization and a marginal, positive effect for male gender on use of any services; significant, positive effects for English interview emerged for all 3 outcomes (i.e., any services, AA, and institutional treatment). Confirming our hypotheses, greater use of any services was additionally predicted by older age, lower education, social pressures, legal consequences, and greater numbers of lifetime dependence symptoms. Predictors of AA and institutional treatment utilization were the same, except that (1) in the AA model, education was nonsignificant, and (2) in the institutional treatment model, there were no effects for either education or age. A last difference was that greater use of institutional treatment was predicted by having public insurance (vs. none). Separate models entering respondents' scores on Caetano's (1987) language index and nativity status in place of language of interview yielded similar, positive associations between higher acculturation and greater use of services (see table Note).

One problem surrounding interpretation of the associations between language of interview (or any measure of acculturation) and service utilization in the forgoing analyses is that individuals who were born abroad may have experienced alcohol problems before moving to the U.S., so that their service utilization reflects pressures, barriers, and availability issues in foreign countries rather than the U.S. If so, results from the multivariate model above remain important, but do not necessarily imply that acculturation predicts service utilization among Latinos experiencing an alcohol problem while in the U.S. To address this question, Table 4 shows associations between utilization and language of interview exclusively among respondents born in the U.S. The pattern of results suggests that, even among U.S.-born Latinos, lower acculturation was associated with lower service utilization of all kinds, though effects were significant for AA alone.

Table 5 displays the rates of individuals who, though classifying as alcohol dependent, did not go to treatment because they believed they did not have an alcohol problem. The table also presents the proportion of individuals who considered treatment but ultimately did not go, along with their specific reasons for avoiding treatment. (Adding these rates to the rates of individuals who sought treatment should yield approximately 100%.) Results show that the large majority of individuals who avoided treatment did so because they did not believe they had an alcohol problem. This belief was marginally more common among women than men and equivalent among language of interview subgroups. Spanish- (vs. English-) interview respondents were more likely to report considering, but not pursuing, treatment because of other barriers. The most commonly perceived barrier overall was the perception that treatment would not help or that the respondent would not be understood. Other important barriers were not knowing where to go, concerns about others finding out, and financial concerns. Specific treatment barriers of all kinds were more common among Spanish- than English-interview respondents; differences between these subgroups were greatest for issues surrounding communication with providers and perceived lack of a shared racial/ethnic background. Women tended to endorse fewer barriers than men, despite the fact that their utilization rates

for any services and AA specifically were lower than men's. Again, because reasons for not seeking treatment were balloted for one of our 3 surveys (i.e., the 2005 NAS), rates in Table 5 are slight underestimates of specific barriers. Other estimates should be accurate.

## DISCUSSION

Pooling data across 3 national surveys, the current study offers a rare opportunity to investigate alcohol treatment utilization among Latinos. Results from our investigation suggest that 3.4% of Latinos in the U.S. have received any alcohol treatment, and 19.2% of those likely to have been alcohol dependent in their lifetimes have received treatment. This latter rate may suggest a racial disparity in treatment utilization, since estimates from the U.S. English-speaking population have shown that 20.7% of alcohol-dependent individuals seek some form of alcohol treatment *within one year of their disorder's onset* (and one assumes a greater number seek treatment following this point; Wang et al., 2005). Still, Schmidt et al.'s (2007) direct comparison of help seeking across race, using the 1995 and 2000 NAS (pooled) and including respondents with dependence *or abuse*, shows almost equivalent utilization rates across Hispanics and Whites (i.e., 14.7% vs. 15.8%, respectively); hence, the differences between our rates for Latinos and Wang et al.'s rates for the general population could be partly attributable to differences in sampling and/or operationalization of variables. Our data do suggest higher utilization for Latinos in the U.S. compared to Mexicans in Mexico: A recent study suggested that only 16.8% of individuals with alcohol dependence in Mexico seek treatment before the age of 50 (Borges, Wang, Medina Mora, Lara, & Chiu, 2007).

Our data also indicate that utilization of *specialty* alcohol treatment is relatively rare among Latinos. In our sample, less than a third of those obtaining services used a specialty alcohol program. AA, used by about 79% of those receiving services, was the most common form of treatment. Other analyses of the NAS data using pooled data from the 1995 and 2000 surveys suggest that this pattern (i.e., heavy use of AA relative to specialty treatment) actually distinguishes Latinos from White and Black populations: In those analyses and across tests considering both the full sample and only those with lifetime abuse/dependence, Latinos matched Whites and Blacks on use of AA, but were significantly less likely than Whites to have attended a specialty alcohol or drug program (Schmidt et al., 2007). These data suggest, then, that type of treatment must be taken into account when assessing ethnic disparities in alcohol services utilization, since a null effect overall may mask important differences in utilization of specific services. Underutilization of specialty treatment by Latinos seems problematic in view of evidence suggesting that AA involvement is effective in conjunction with formal treatment, but not necessarily alone (Chapman-Walsh, Hingson, Merrigan, & et al., 1991; Ditman, Crawford, Forgy, Moskowitz, & MacAndrew, 1967; Tonigan, Toscova, & Miller, 1996). The mechanisms behind Latinos' underutilization of specialty treatment cannot be pinpointed based on the current analysis, since this analysis was not comparative. Lack of insurance may explain at least part of the effect, however. Estimates indicate that 41% of Latinos lack insurance, compared to 19% of Whites (Schmidt et al., 2006), and Schmidt et al.'s (2007) analysis of the 2000 and 2005 NAS data indicated that Latinos are more likely than Whites to report financial barriers to using services. Meanwhile, our analyses suggested that individuals on public insurance were over twice as likely to obtain institutional treatment than individuals without insurance.

The current data also indicate important disparities by gender and acculturation. Results from the multivariate and bivariate analyses indicated an overall pattern of lower AA attendance and were suggestive of lower service utilization generally among women (vs. men). Differences in general service utilization were not robust (i.e., were nonsignificant in the bivariate analysis of respondents with dependence and only marginally significant in the multivariate analysis). Hence, conclusions regarding gender effects on general service



utilization are tentative. Gender has *not* been consistently associated with AA affiliation in the general population; if anything, women may be overrepresented in AA (Emrick, 1987; Humphreys, Mavis, & Stöffelmayr, 1991; Moos, Moos, & Timko, 2006; Timko, Moos, Finney, & Connell, 2002). Thus the current findings, indicating a distinct gender disparity among Latinos surrounding AA, constitute an important addition to the AA literature.

The sources of our gender disparities in utilization are not entirely clear. Women did not perceive more treatment barriers than men. However, women with a history of alcohol dependence *were* marginally more likely than their male counterparts to report avoiding treatment because they did not believe they had an alcohol problem. These findings may imply an objective gender difference in problem severity, but may also reflect the strict drinking norms that Latinas often encounter. Indeed, the stigma attached to alcohol problems among Latinas may motivate tendencies both to deny alcohol problems and to avoid specialized alcohol treatment even when help is sought. This proposal is supported by the utilization patterns in Table 2: Utilization rates were similar for men and women across forms of nonspecialized institutional treatment (such as visiting a medical group or physician), but relatively low among women for AA and (nonsignificantly so) for specialty alcohol treatment. We think this pattern is worth mentioning, even though the latter difference is nonsignificant, because power for this analysis was so low. However, conclusions here must be exceptionally cautious given that men and women were statistically equivalent on this variable. In any case, stigma may not fully explain the gender discrepancies. It has been found that healthcare utilization broadly shows similar gender differences among the general population, whereby men are more likely to seek specialty care than general care, and women use both about equally. (See, for example, Shapiro et al.'s, 1984, analysis of mental health care utilization revealing that men prefer the specialty sector to the generalist, whereas women make use of both.) So, alcohol treatment disparities among Latinos may reflect this larger pattern. Further research is needed to clarify what factors explain both the general pattern of gender preferences and gender disparities in alcohol treatment among Latinos specifically.

Acculturation was also an important predictor of treatment utilization. Multivariate analyses showed that, even accounting for problem severity and other covariates, Spanish-interview respondents were substantially less likely than English-interview respondents to utilize all forms of treatment. This same pattern held when other operationalizations of acculturation were used (i.e., a language index or nativity status), though effects for these variables were weaker. A similar pattern also emerged when examining associations between language of interview and treatment utilization *among U.S.-born Latinos exclusively*, though in this subgroup significant effects emerged for AA alone (and not institutional treatment or any alcohol treatment). Differences by acculturation were strongest for AA, hospital/clinic treatment, and social services/other professional treatment, as shown in the bivariate analysis of respondents with lifetime alcohol dependence.

Spanish-interview respondents were able to identify several treatment barriers that help explain their underutilization. Although problem recognition was equivalent among language of interview subgroups, Spanish-interview respondents were more likely than English-interview respondents to report treatment barriers of every kind. For example, knowing where to go for treatment was an important barrier for all respondents, but particularly so for Spanish-interview Latinos. This same factor (important because amenable to intervention) was identified as a potent predictor of help seeking for mental health problems by Vega et al. (2001) in their Fresno County area survey: Individuals who knew where to find a provider were almost 5 times as likely to have used specialty mental healthcare services as individuals who did not know where to find a provider (OR=4.68). Thus, these findings suggest that greater attention to community education and effective referral from other sources (e.g., from general medical care centers and social service agencies) could maximize treatment utilization among Latinos generally and

Spanish-speaking Latinos especially. Meanwhile, concerns around communicating with providers and encountering others of one's racial/ethnic background were much higher among Spanish-interview than English-interview respondents. High rates of these cultural barriers among Spanish-preferring Latinos underline the need for treatment agencies serving Latino populations to employ Latino staff, to offer cultural and Spanish-language training for existing staff, and to generate community awareness around their use of such practices. Again, achieving these goals should help maximize utilization among Latinos generally and Latinos low on acculturation specifically. Toward this point, at least one study has found that providing culturally sensitive mental health treatment increased utilization and effectiveness among Latino Americans (Rogler, Malgady, Costantino, & Blumenthal, 1987). Healthcare providers might also maximize effective referral to AA by becoming familiar with Spanish-speaking AA groups and referring to those groups.

Other important predictors of treatment utilization among Latinos in our study were older age, lower education, social pressures, legal consequences, and dependence symptoms. These findings mirror prior findings from the general population (see Introduction) and confirm their generalizability to Latinos. Interestingly, some data suggest that Latinos and Blacks may be, relative to Whites, more exposed to family and institutional pressures (e.g., from the criminal justice and welfare systems) that result in alcoholism treatment entry (Herd, 1994; Galvan & Caetano, 2003; Polcin & Beattie, 2007). Indeed, the effect for legal consequences in the current study is quite large, relative to the effect for dependence symptoms. It would be helpful to compare, in future research, the impact of ethnicity on mode of treatment entry (i.e., volitional or mandated). It may be that, although treatment utilization among Whites and Latinos is similar overall, fewer Latinos than Whites use treatment volitionally. Older age was a predictor of any service and AA utilization (for similar results on AA affiliation, see Emrick, 1987), but not of institutional treatment, highlighting the value of separating these services. Toward the same point, possessing public (vs. no) insurance predicted greater usage of institutional treatment, but not AA. Having private insurance was no better than having no insurance. These findings may reflect the heavy governmental financing of specialty alcoholism treatment in the U.S., and parallel those of Weisner and Matzger (2002). We found no significant effects for marital status or income. However, the odds ratio expressing the relationship between marital status and utilization of any services is consistent with the prior, if mixed, general population work suggesting associations between greater treatment utilization and single (vs. married or partnering) status (Schmidt et al., 2007; Weisner et al., 1995).

A primary goal for further research on alcohol treatment utilization should be to replicate and explain disparities related to gender and acculturation. Some of the effects discussed here were only marginally significant (i.e.,  $p < .10$ ) and hence call for replication. Still, we felt it important to discuss these results since the low rate of treatment utilization (i.e., 3.4% in the full sample) limits power and makes it unlikely that the more stringent tests captured all true effects. Given a large sample, future research could also explore barriers to treatment within ethnic subgroups. Although our analyses indicated no effects for ethnic subgroup on treatment utilization in the NAS data, this does not mean that predictors of utilization do not vary across groups. Latino subgroups are diverse in terms of both general health status and drinking behavior (Randolph, Stroup-Benham, Black, & Markides, 1998; Zsembik & Fennell, 2005), so research targeting ethnic variation is a priority.

Longitudinal studies on Latino samples would also be worthwhile, though practically difficult, as a major limitation of the current study is its cross-sectional design—and hence, reliance on lifetime measures of treatment utilization. As discussed, assessing lifetime treatment utilization introduces ambiguity into interpreting the effects of acculturation in the full sample. Further concerns are associated with the extreme demands on recall required by such a design. Inaccurate recall could affect reported rates of both alcohol problems and treatment utilization

(with underestimates likely) as well as associations between study variables. Associations are likely to be attenuated given our design, as recall problems are a source of error. A third problem related to our design is that the timeframe specified for our *independent* variables was often lifetime (as for social pressures, legal consequences, and dependence symptoms), but sometimes current with the survey (as for language of interview, age, marital status, insurance, and income). Only one key predictor, that is—gender—can be assumed to have preceded service utilization. As a result, the impact of certain variables on utilization, and especially those assessed currently with the survey, could be underestimated, since those variables may not be good estimators of the same variable at the time the individual was experiencing alcohol problems. Results could also be misleading because variables can be related to treatment utilization as effects as well as causes of that utilization. All of these limitations should be considered when interpreting the current results, and again, longitudinal research would be ideal for confirming the current conclusions.

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**Table 1**  
Lifetime utilization of alcohol treatment services (N's weighted).

Service	Overall			Gender subgroups		Lang. of interview subgroups		
	% among Hispanics (N=4195)	% among men (N=2119)	% among women (N=2076)	% among English (N=2315)	% among Spanish (N=1874)			
Any alcohol treatment	<b>3.4</b>	5.6	1.1 <sup>***</sup>	4.3	2.3 <sup>***</sup>			
Alcoholics Anonymous	<b>2.7</b>	4.7	0.6 <sup>***</sup>	3.5	1.7 <sup>***</sup>			
Institutional treatment	<b>2.1</b>	3.2	1.0 <sup>***</sup>	2.7	1.3 <sup>***</sup>			
Specialty alcohol tx program	<b>1.0</b>	1.6	0.3 <sup>***</sup>	1.0	0.9			
Hospital or clinic	<b>1.0</b>	1.4	0.6 <sup>**</sup>	1.5	0.4 <sup>***</sup>			
Medical group or physician	<b>0.7</b>	1.0	0.3 <sup>**</sup>	1.0	0.3 <sup>*</sup>			
Social services or other profess.	<b>0.8</b>	1.3	0.3 <sup>***</sup>	1.2	0.4 <sup>***</sup>			

Note.

Tests compare services across gender and language of interview.

\*\*\*  
p<.001

\*\*  
p<.01

\*  
p<.05.

**Table 2**  
Lifetime utilization of alcohol treatment services among those with lifetime dependence (N's weighted).

Service	Overall			Gender subgroups		Lang. of interview subgroups		
	% among Hispanics (N=555)	% among men (N=424)	% among women (N=132)	% among English (N=341)	% among Spanish (N=214)			
Any alcohol treatment	<b>19.2</b>	20.4	15.3	21.4	15.7			
Alcoholics Anonymous	<b>16.0</b>	18.0	9.7*	18.6	12.0 <sup>†</sup>			
Institutional treatment	<b>12.8</b>	12.7	13.3	14.5	10.1			
Specialty alcohol tx program	<b>5.9</b>	6.8	3.1	5.2	7.0			
Hospital or clinic	<b>6.4</b>	5.8	8.5	8.3	3.4*			
Medical group or physician	<b>4.7</b>	4.9	4.2	6.1	2.5			
Social services or other profess.	<b>5.3</b>	5.6	4.3	6.9	2.7*			

Note.

Tests compare services across gender and language of interview.

\* p<.05

<sup>†</sup> p<.10.

**Table 3**  
Predictors of utilization of alcohol treatment services (total N=4013).

Predictor	Any services		Alcoholics Anonymous		Institutional treatment	
	Adjusted Odds Ratio	95% Conf. Interval	Adjusted Odds Ratio	95% Conf. Interval	Adjusted Odds Ratio	95% Conf. Interval
Male gender	2.14 <sup>†</sup>	0.94, 4.86	3.71 <sup>**</sup>	1.50, 9.18	1.05	0.44, 2.48
Age						
30-49 (vs. 18-29) years	2.14 <sup>*</sup>	1.19, 3.86	2.06 <sup>*</sup>	1.03, 4.13	1.45	0.78, 2.71
50+ (vs. 18-29) years	1.78	0.83, 3.81	2.06 <sup>†</sup>	0.88, 4.81	1.06	0.42, 2.70
High school diploma (vs. less)	0.59 <sup>*</sup>	0.35, 0.99	0.60	0.32, 1.10	1.07	0.56, 2.06
Single (vs. married)	1.39	0.83, 2.32	1.55	0.87, 2.75	1.05	0.54, 2.05
Insurance status						
Private insurance (vs. none)	0.95	0.49, 1.82	0.81	0.39, 1.66	1.04	0.49, 2.20
Public insurance (vs. none)	1.59	0.75, 3.34	0.92	0.39, 2.18	2.63 <sup>*</sup>	1.08, 6.39
English (vs. Spanish) interview	2.71 <sup>**</sup>	1.32, 5.56	3.20 <sup>**</sup>	1.39, 7.34	2.35 <sup>*</sup>	1.09, 5.09
Lifetime social pressures	1.44 <sup>***</sup>	1.23, 1.69	1.31 <sup>***</sup>	1.11, 1.55	1.36 <sup>***</sup>	1.15, 1.61
Lifetime legal consequences	2.41 <sup>***</sup>	1.86, 3.14	2.31 <sup>***</sup>	1.74, 3.08	2.46 <sup>***</sup>	1.79, 3.38
Lifetime dependence symptoms	1.42 <sup>***</sup>	1.21, 1.65	1.55 <sup>***</sup>	1.33, 1.81	1.52 <sup>***</sup>	1.27, 1.82

Note.

Separate models omitting language of interview and substituting the composite language index and birthplace yielded similar effects. Greater English usage on the language index was significantly related to use of any services (OR=1.58<sup>\*</sup>) and Alcoholics Anonymous (OR=1.85<sup>\*</sup>); the association was nonsignificant though in the same direction for institutional treatment (OR=1.32, p=.25). U.S. nativity was significantly related to use of any services (OR=1.83<sup>\*</sup>); associations were nonsignificant though in the same direction for use of Alcoholics Anonymous (OR=1.81<sup>†</sup>) and institutional treatment (OR=1.44, p=.32).

\*\*\* p<.001

\*\* p<.01

\* p<.05

<sup>†</sup> p<.10.

**Table 4**Lifetime utilization of alcohol treatment services *among US-born Hispanics* (N's weighted).

Service	% among English interview subgroup (N=1657)	% among Spanish interview subgroup (N=170)
Any alcohol treatment	4.8	2.3
Alcoholics Anonymous	4.0	0*
Institutional treatment	3.1	1.9

Note.

Tests compare services across language of interview.

\* p&lt;05.



**Table 5**  
Reasons for not seeking treatment among those with lifetime dependence (N's weighted).

	Overall		Gender subgroups		Lang. of interview subgroups	
	% among Hispanics (N=555)	% among men (N=424)	% among women (N=132)	% among English (N=341)	% among Spanish (N=214)	
<b>Respondent did not believe he/she had a problem</b>	<b>61.2</b>	<b>59.4</b>	<b>69.3<sup>†</sup></b>	<b>62.2</b>	<b>61.0</b>	
<b>Respondent considered treatment, but did not go</b>	<b>19.1</b>	<b>20.3</b>	<b>15.4</b>	<b>16.5</b>	<b>23.3<sup>†</sup></b>	
Reported reasons for not seeking treatment:						
1. I thought it wouldn't help or that there wouldn't be anyone there who understood me.	7.1	8.0	4.1 <sup>†</sup>	4.2	10.7 <sup>**</sup>	
2. I didn't know where to go for help.	5.8	6.9	2.6 <sup>†</sup>	3.3	9.0 <sup>*</sup>	
3. I was too afraid of people like my friends, people at work, or my doctor finding out.	5.5	6.2	3.3	3.5	7.9 <sup>*</sup>	
4. I didn't know how to pay for it.	5.1	6.0	2.8	3.0	7.9 <sup>*</sup>	
5. I didn't think there would be anyone there who spoke my language.	4.2	5.1	1.5 <sup>†</sup>	0.6	8.8 <sup>***</sup>	
6. Too many difficulties, such as childcare, transportation, or not enough help at home.	3.7	3.7	3.9	1.6	6.4 <sup>**</sup>	
7. I didn't think there would be anyone of my racial or ethnic background.	3.2	4.4	0 <sup>*</sup>	0	7.4 <sup>***</sup>	

Note.

Tests compare variables across gender and language of interview.

\*\*\* p<.001

\*\* p<.01

\* p<.05

<sup>†</sup> p<.10.