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Heavy Drinking, Poor Mental Health, and Substance Use Among Asian Americans in the NLAAS: A Gender-Based Comparison

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Abstract

The severity of heavy drinking among Asian Americans has often been dismissed because of relatively low rates compared to other racial/ethnic groups. However, higher depression and suicide rates among Asian Americans and their association to alcohol use suggest serious detrimental effects of heavy alcohol use among Asian Americans. Gender differences in heavy drinking have been documented among other immigrant based ethnic minorities, little is known of this pattern for Asian Americans. The purpose of the present study was to examine gender differences in heavy drinking, poor mental health, and substance use among a national sample of Asian Americans ($N = 581$) in the National Latino and Asian American Study (NLAAS). Using National Institute on Alcohol Abuse and Alcoholism (NIAAA) guidelines, heavy drinkers were categorized as those who exceeded the recommended weekly number of drinks (14 drinks/week for male and 7 drinks/week for female). Accordingly, six comparison groups were created (male non, light, and heavy drinkers, and female non, light, and heavy drinkers). Pearson's chi-square test was conducted to examine percentage distribution for the six groups for mental health disorders (i.e., suicidality, *DSM-IV* mental health endorsement for past 12-month and lifetime). Logistic regression was followed to determined predictors for heavy drinking behavior for men and for women. Female heavy drinkers reported significantly poorer mental health than non drinkers, light drinkers and male heavy drinkers, as indicated by higher rates of lifetime generalized anxiety, and depressive disorders. In contrast, male heavy drinkers were more likely to have lifetime substance use disorders. Findings suggest the need to develop gender-specific drinking interventions for Asian Americans that focus on improving mental health among women and substance treatment among men.

Keywords

Asian American; heavy drinking; alcohol; substance use; mental health

Asian Americans represent one of the fastest growing ethnic minority groups in the U.S. (U.S. Census Bureau, 2004). Asian Americans constitute 5% (14.7 million) of the overall U.S. population (U.S. Census Bureau, 2010) and this number is projected to double by 2020 to over 23 million people (Penn, Kar, Kramer, Skinner, & Zambrana, 1995; U.S. Census Bureau, 2007). Despite this rapid growth, problems related to Asian American mental health and substance use, particularly alcohol use, have not received attention, largely due to the misperception that Asian Americans do not have such needs (Fong & Tsuang, 2007; Iwamoto, Corbin, & Fromme, 2010; Ja & Aoki, 1993).

Aggregating Asian subgroups in national surveys, the lack of sampling among subgroups where heavy drinking or greater than or equal to 14 drinks/week for male and greater than or equal to seven drinks/week for female (NIAAA) is more prevalent (e.g., refugee, college age), and methodological differences in the measurements used to assess alcohol and substance use, obscure important clinical needs and issues related to alcohol use among Asian Americans (Fong & Tsuang, 2007; Ja & Aoki, 1993; Zane & Sasao, 1992). National surveys' suggest that Asian Americans have a lower alcohol use prevalence compared to other racial groups (Grant, Dawson, Stinson, Chou, & Pickering, 2004; Substance Abuse & Mental Health Services Administration, 2007). However, there are some important shifts suggesting problems related to alcohol use among Asian Americans in the literature may not be reflective of the actual state of alcohol problems among this population. A national survey (from 1991 to 2001) revealed that alcohol abuse and alcohol dependence increased significantly among 18–29-year-old Asian American women and men, respectively (Grant et al., 2004). Further, compelling evidence suggests that Asian American heavy drinkers experience a higher rate of negative consequences compared to heavy drinkers of other ethnicities, suggesting that Asian Americans experience significant health disparities and problems due to problematic alcohol use (Ja & Aoki, 1993; Park, Shibusawa, Yoon, & Son, 2010). Given the rise of alcohol problems among certain Asian American groups, the purpose of this study is to extend the literature by identifying risk factors of heavy drinking among a national sample of Asian Americans.

Heavy alcohol use has been linked to a myriad of mental health problems including substance use, depression, anxiety, and suicidal thoughts for both men and women (O'Hare, 1995), and contrary to the model minority stereotype (Fong & Tsuang, 2007; Ja & Aoki, 1993) Asian Americans are no exception to these problems (Chae et al., 2008; Jané-Llopis & Matytsina, 2006; Stinson et al., 2006). Alcohol use is associated with higher prescription drug use and illicit drug abuse among Asians Americans (Johnson, VanGeest, & Cho, 1997). In Asian American adolescents, marijuana use rates and depression are higher among drinkers (Otsuki, 2003) which highlight the relationship between mental health and substance use. The possible comorbid relationship between poor mental health and heavy drinking is a concern particularly for Asian Americans who report higher rates of depression than other racial/ethnic groups (Gee, 2004; Iwamoto, Liu & McCoy, 2011; Okazaki, 1997; Young, Fang, & Zisook, 2010). Similarly, a higher prevalence rate of depression was also found among Asian college students regardless of gender (Greenberger & Chen, 1996; Kim & Chun, 1993). Asian American adolescent females have been found to be at particularly higher risk than White adolescent females for reporting major depressive disorder (9.7% vs.

5.7%, respectively) (Greenberger & Chen, 1996). Asian American women in the 15–24 age group are documented to have the highest suicide rates compared to all other racial/ethnic groups while Asian American men have the second highest suicide rate in the same age range compared to other racial/ethnic groups (Centers for Disease Control & Prevention, 2003). The rates of suicidal ideations collated to both anxiety and depression among the Asian NLAAS sample (Cheng et al., 2010). Binge drinking was found to be strongly associated with suicidal ideation among adolescent Asian American and Pacific Islanders (Nishimura, Goebert, Ramisetty-Mikler, & Caetano, 2005). Given this pattern, it seems likely that poor mental health, as suggested by depression or suicidal ideation, may be associated with increased risk of heavy drinking for Asian Americans. However, few studies have examined whether poor mental health predicts drinking status among a nationally representative sample of Asian Americans adults.

Research examining gender differences among immigrant groups (Johnson et al., 1997; Lopez-Gonzalez, Aravena, & Hummer, 2005; Takeuchi et al., 2007) have hypothesized different gender pathways to drinking owing to normative cultural expectancies to gender norms and effects of acculturation (Abraído-Lanza, Chao, & Flórez, 2005; Gilbert, 1991). While the percentage of heavy drinkers among females is much lower than that of men, it has been hypothesized that women who became heavy drinkers suffers graver mental health consequences than their male counterparts because drinking behavior among women is viewed much more negatively within a traditional culture than among men (Canino, Vega, Sribney, Warner, & Alegría, 2008; O'Hare, 1995). While the hypothesis has been investigated among Latino cultures (Canino et al., 2008), it has not yet been explored among Asian Americans.

Given the high co-occurrence of mental health disorders with drinking behavior among Asians, and the poorer mental health of Asian females relative to their male counterparts, the present study goals were to examine the association between heavy drinking, lifetime substance disorders, and mental health among a national sample of Asian American men and women in the NLAAS. Specifically, we hypothesized that Asian female drinkers would report poorer mental health than Asian male drinkers. Predictors of heavy drinking for Asian American men and women were also examined. Due to the exploratory nature of this article, suicidal behaviors were included as part of the poor mental health analysis to examine high risk behaviors among Asian Americans.

Method

The NLAAS is a national multistage area probability sample of Latino and Asian Americans residing in the United States conducted between May, 2002 to December 2003. The NLAAS Asian sample included 2,095 of which 29% were Chinese, 24% Filipino, 25% Vietnamese, and 22% reported “other” Asian. The gender split was nearly equivalent (52% women), and the majority (78%) were foreign-born.

Procedures

Detailed NLAAS sampling procedure, recruitment and protocol have been previously documented (Alegría et al., 2004). Concisely, core sampling utilized multistage stratified

area probability design, high density sampling, over sampling, and second respondent sampling to recruit member of the same household. Face-to-face or telephone interview were conducted among the Asian sample using Cantonese, Mandarin, Tagalog, Vietnamese, Spanish, and English using computer assisted software. The median interview time is 2.4 hours. The participants were compensated initially with \$50 and later up to \$150 to reduced nonrespondents. The response rate for the Asian American sample was 84.5%.

Measures

Lifetime and 12-month mental health diagnosis—Lifetime and 12-month (the occurrence of the diagnosis within 12-month of the interview) history of mental health disorder was assessed using the World Mental Health Survey Initiative version of the World Health Organization Composite International Diagnostic Interview (WMH-CIDI). The assessment is fully structured diagnostic interview based on the diagnostic criterion of the Diagnostic and Statistical Manual, Version IV (*DSM-IV*). Diagnoses were based on the following categories: (a) mood disorders (major depressive disorder or dysthymia), (b) anxiety disorders (generalized anxiety disorder), and (c) substance use disorders (alcohol abuse, alcohol dependence, drug abuse, drug dependence). Due to the low count rate of mental disorders in the distribution, based on Takeuchi et al. (2007) the presence of any mental health disorder were treated as all or none (0 = *no disorder*, 1 = *having at least one disorder*) into anxiety disorders (panic disorder, agoraphobia with/without panic, social phobia, generalized anxiety disorder, or posttraumatic stress disorder), depressive disorders (major depressive disorder or dysthymia), and substance use disorders (alcohol abuse, alcohol dependence, drug abuse, drug dependence).

Suicidal ideation and behavior—Suicidal ideation and behavior were screened using the suicide section of the WMH-CIDI. If a positive identification to past suicidal ideation was affirmed, follow-up questions on age of first and last suicidal ideation and attempts, plans, situation surrounding the attempts, reasons for the attempt were assessed. These questions were also assessed in our study. Consistent with the DSM variables, the presence of lifetime and past 12 month suicide attempts and ideations were treated as the presence of any suicidal variable (0 = *no attempts or ideation*, 1 = *having at least one attempt or ideation*).

Drinking—Volume of Weekly drinks was computed as number of drinking occasions/week multiplied by the number of drinks per occasion. Using NIAAA guidelines, heavy drinkers were categorized as those who exceeded the recommended weekly number of drinks (14 drinks/week for male and 7 drinks/week for female). Light drinkers were categorized as those who reported drinking in the past year, but drank less than >14 drinks/for male and >7 drinks/week for female. Non-drinkers were categorized by people who reported to have no drinks at all.

Data Analytic Plan

Analyses included participants who reported their drinking history, missing data were excluded. Participants were categorized into six groups by gender and drinking status (male nondrinkers, light and heavy drinkers, female nondrinkers, light and heavy drinkers). A

Pearson's chi-square test was conducted to examine percentage distribution for the six groups for mental health disorders (i.e., suicidality, DSM criteria for past 12 month and lifetime). To examine whether associations existed between gender, mental health, and substance use disorders on drinking status, gender-stratified logistic regression models were conducted separately using *DSM-IV* criteria for past 12 month and lifetime as predictors. All variables were entered simultaneously in regression models. Analyses were conducted separately by gender and controlled for age for each of the analyses.

Results

Twenty-seven percent of the sample ($n = 581$) reported their drinking behavior and was analyzed out of the total sample of 2,095 participants in the NLAAS dataset for Asian Americans. The majority of the participants were males ($n = 401$, 69%), age range from 18 to 89 ($M = 39.97$). Majority of the participants were married/cohabiting ($n = 375$, 64.5%), 7.9% were at one time married, and 27.5% ($n = 160$) reported being single. Close to half (44.8%) of the participants reported receiving higher education (16 years plus), about 29.6% have less than 12 years of education attainment with overall employment rate being 72.1% ($n = 419$). Thirty-four percent were U.S. born ($n = 197$), while the majority were immigrants ($n = 381$) residing in the U.S. between less than 5 to 20 years plus. Over 76.4% of the interview was conducted in English, 12.2% was in Vietnamese, 5.5% in Cantonese, 2.9% in both Mandarin and Tagalog.

Twenty-one percent of the sample ($n = 444$) from the overall Asian American NLAAS subset reported drinking, which consisted of 76% of the current sample. Among the drinkers 72% ($n = 319$) were males and 28% were females ($n = 125$). Of the females who drank, 17% ($n = 21$) were heavy drinkers, and of the males who drank, 10% ($n = 33$) were heavy drinkers. Twenty-one percent of the male sample does not drink ($n = 82$) and 30.56% of the females reported to be nondrinkers ($n = 55$).

Pearson's chi-square test revealed significant results were found across the 12 groups in the following areas. Compared with males, light and nondrinkers, female heavy drinkers endorsed the highest percentage of lifetime depression rates (female HD = 33.3% male HD = 9.1%; $\chi^2(5, 581) = 12.28, p = .031$) and lifetime anxiety (female HD = 38.1% male HD = 21.2%; $\chi^2(5, 581) = 14.67, p = .012$). On the other hand, male heavy drinkers endorsed highest lifetime substance use rates (female HD = 23.81% male HD = 27.3%; $\chi^2(5, 581) = 20, p = .001$). For past suicide ideation and attempts, female light drinker (female LD = 39.5%; $\chi^2(5, 581) = 38.27, p < .001$) reported having the highest frequency followed by female nondrinkers (20%) and lowest by male nondrinkers (6.1%). However, male heavy drinkers (male HD = 6.1%, female LD = 5.8%; $\chi^2(5, 581) = 11.46, p = .04$) reported higher past 12-month suicidal ideation or attempts followed by female light drinkers and lowest by male nondrinkers and female heavy drinkers (both 0%).

Gender-stratified binominal logistic regression analyses overall model Pseudo- $R^2 = .25$ ($\chi^2 = 20.19; df = 8; p = .01$) for lifetime and 12-month depression, anxiety, substance use disorders, and suicidal ideation/attempts revealed that female heavy drinkers compared to female light drinkers had increased odds of reporting lifetime anxiety disorders ($OR = 3.92$,

$p = .046$, 95% CI [1.02, 15.01]), and lifetime suicidal ideations/attempts ($OR = .13$, $p = .03$, 95% CI [.13, .02]). Among men, overall model Pseudo- $R^2 = .12$ ($\chi^2 = 18.31$; $df = 8$; $p = .02$) for lifetime and 12-month depression, anxiety, substance use disorders, and suicidal ideations/attempts. When male heavy drinkers compared to male light drinkers revealed increased odds of reporting 12-month substance use disorders ($OR = 7.89$, $p = .03$, 95% CI [1.29, 48.31]) (shown in Table 1).

Discussion

This study advances the literature by providing a more comprehensive understanding of how gender, substance use disorders, mental health may contribute to elevated risk of heavy drinking among a nationally representative sample of Asian Americans. In line with research investigating drinking behavior among Latinas (Canino et al., 2008), we hypothesized that drinking heavily, an act of violation to traditional cultural roles for women, would be associated with increased risk for Asian American women. Related, Asian women who were heavy drinkers were expected to experience the poorest mental health relative to Asian women who were nondrinkers or light drinkers.

Consistent with our hypotheses, Asian American men and women who used alcohol more heavily reported more substance use disorders and poorer mental health compared to those who drank less heavily. Specifically, greater substance use disorders were associated with heavy drinking among males, while depressive and anxiety disorders were associated with female heavy drinkers. Logistic regression analyses further supported the association between heavy drinking, drug use, anxiety and depression for women, and the association between heavy drinking, and substance abuse for men. The findings suggest female Asian American heavy drinkers are more likely to suffer from mental health problems such as depression, while male heavy drinkers of Asian descent are more likely to abuse substances (i.e., marijuana, cocaine). The findings are consistent with the literature that highlights the relationship between illicit drug use and heavy drinking among men (Stinson et al., 2006) and poor mental health and heavy drinking among Latinas (Canino et al., 2008). Findings suggest the need to develop gender-specific drinking interventions that focus on improving mental health among women, and further research on the association between psychosocial functioning and drinking among men.

Our second hypothesis was also supported. We found that female heavy drinkers reported significantly poorer mental health than other groups, as indicated by higher rates of lifetime generalized anxiety, more frequent reports of depressive disorders. This pattern is consistent with observations that the presence of alcohol abuse or dependence as a disorder for women compared to men is usually comorbid with other mental health problems (Canino et al., 2008). These findings are especially relevant to Asian American women given that this group often reports high rates of psychological distress (Okazaki, 1997; Young, Fang, & Zisook, 2010). Hence these findings suggest that Asian American women who report mental health problems may be also engaging in heavy drinking patterns.

Prior research has proposed mechanisms to increased drinking for Latino women as acculturation increase, and these mechanisms, which pertain to violating traditional cultural

expectations, may operate similarly for Asian women. Increased acculturation and an increase in the number of friends outside the family has been associated with increased drinking (Canino et al., 2008) because the new friends provide new access to drinking opportunities and contexts where drinking is more available and more acceptable for women. In other words, distancing from traditional cultural values and family conflict may increase drinking among women, particularly for those who are more acculturated. Related, it may be that distress over the conflict with family or role confusion can lead to poor mental health and increased drinking, especially for individuals who come from traditional cultures where drinking is less desirable for women. Although our findings are limited due the correlational design, the general direction of our findings is a first step to build models testing the idea that distancing from family and conflict are associated with poor mental health and increased drinking among Asian American women. Future research is needed to examine the mechanisms by which this happens.

Despite the numerous strengths of the study including using a nationally representative community sample of Asian Americans, there are some limitations worth noting. The study was cross-sectional thus causality cannot be assumed. Therefore, it is unclear whether individuals who experience mental health problems lead them to engage in heavy drinking and substance abuse or if, the individual's substance use and heavy drinking contributed to their elevated mental health problems. Second, there were small sample sizes for certain comparisons, such as suicidal ideation. Low response rates for certain questions may have been due to difficulty recalling the information or refusal to answer the question. Other possibility for small sample size is due to the fact that participants had to endorse one question on suicide in order to be given follow-up questions on suicidal attempts. Therefore, in addition to possible recall bias, there was a smaller sample answering certain questions. Given the exploratory nature of the study, it was decided to report the findings even with a smaller sample, to minimize the possibility of not including potentially informative results.

Despite the limitations noted, this study contributes to the literature by identified salient risk factors of heavy drinking among a nationally represented sample of Asian Americans. Our findings highlight the role of mental health problems, and lifetime substance use in heavy drinking. Finally this investigation identified gender as specific risk factor for mental health problem in problematic drinking among Asian American women and men. Findings suggest the need to develop gender-specific drinking interventions for Asian Americans that focus on improving mental health among women and substance treatment among men. Further research on the different gender pathways to drinking among Asians American is needed.

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Table 1

Odds Ratio (ORs) and Confidence Intervals (CIs) for Drinkers

			95% CI	
	<i>p</i>	OR	Lower	Upper
Female				
12-month depressive disorders	.358	.26	.015	4.58
Lifetime depressive disorders	.130	3.67	.68	19.70
12-month anxiety disorders	.778	.69	.05	9.20
Lifetime anxiety disorders	.046	3.92	1.02	15.01
12-month substance use disorders	.46	3.69	.119	113.97
Lifetime substance use disorders	.30	4.19	.28	62.33
12-month suicidal ideations/attempts	.99	.00	.00	—
Lifetime suicidal ideations/attempts	.03	.13	.02	.82
Male				
12-month depressive disorders	.70	.58	.04	9.17
Lifetime depressive disorders	.57	.53	.06	4.63
12-month anxiety disorders	.83	1.21	-.21	6.93
Lifetime anxiety disorders	.83	1.13	.36	3.50
12-month substance use disorders	.03	7.89	1.29	48.31
Lifetime substance use disorders	.53	1.55	.39	6.08
12-month suicidal ideations/attempts	.24	3.89	.41	37.27
Lifetime suicidal ideations/attempts	.22	2.13	.63	7.20