Published in final edited form as:

Addict Behav. 2017 January ; 64: 154–158. doi:10.1016/j.addbeh.2016.08.045.

Differences in alcohol use patterns between adolescent Asian American ethnic groups: representative estimates from the National Survey on Drug Use and Health 2002–2013

Jeremy C. Kane, PhD, MPH¹, April Joy Damian¹, Brian Fairman, PhD¹, Judith K. Bass, PhD, MPH¹, Derek K. Iwamoto, PhD², and Renee M. Johnson, PhD, MPH¹

¹Department of Mental Health, Johns Hopkins Bloomberg School of Public Health, 624 North Broadway, Baltimore, MD, 21205

²Department of Psychology, University of Maryland, 4094 Campus Drive, College Park, MD 20742

Abstract

Objective—Studies have suggested that alcohol use prevalence is increasing among Asian American adolescents and there may be significant differences between specific adolescent Asian American ethnicities.

Method—Data from the National Survey on Drug Use and Health (2002–2013) were used to estimate prevalence of alcohol use (lifetime, past-month, past-year) and problem (binge drinking, alcohol use disorder [AUD], and early initiation of use) outcomes among adolescent Asian American ethnicities.

Results—Filipino Americans had the highest prevalence of lifetime (29.3%) and past-month (10.3%) use; Korean Americans had the highest prevalence of past-year use (22.7%). Asian Indian Americans had the lowest prevalence of all three use indicators: 14.6%, 11.9%, and 4.9% for lifetime, past-year, and past-month, respectively. Korean Americans had the highest prevalence of binge drinking (5.4%), Filipino Americans had the highest prevalence of AUD (3.5%), and Vietnamese Americans had the highest prevalence of early initiation of use (13.5%). Asian Indian Americans had the lowest prevalence for all three alcohol problem indicators: 2.6%, 1.0%, and 4.9% for binge drinking, AUD, and early initiation of use, respectively.

Corresponding Author: Jeremy C. Kane, PhD, MPH, Phone: 717.991.4098, jkane29@jhu.edu, Department of Mental Health, Johns Hopkins Bloomberg School of Public Health, 624 N. Broadway, 8th Floor, Baltimore, MD 21205.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Contributors

The original study was conceived and designed by RMJ, JCK, BF, and AJD. BF and AJD conducted the statistical analysis and led in drafting the Methods. JCK wrote the first draft of the manuscript. JKB and DKI provided critical feedback on the first draft and contributed to writing of subsequent drafts. All authors contributed significantly to and edited all sections of the manuscript and have approved the final version.

Conflict of Interest

The authors have no conflicts of interest to declare.

Conclusions—Prevalence estimates of alcohol outcomes among Korean, Japanese, and Filipino American adolescents were high and similar to other racial groups that are often considered higher risk racial groups. Estimates among large subgroups with low alcohol use prevalence, Chinese and Asian Indian Americans, may mask high rates among other Asian ethnicities when alcohol use estimates are presented among Asians overall. When feasible, researchers should present alcohol use estimates disaggregated by specific Asian American ethnicities and investigate differences in risk factors across groups.

Keywords

Asian American; adolescent; alcohol use; sub-ethnic differences

1. Introduction

Asian American youth consistently report lower levels of alcohol use than other racial/ethnic groups. Data from the 2013 U.S. National Survey on Drug Use and Health (NSDUH) indicate that Asian American youth have the lowest prevalence of past-month alcohol use and binge drinking among all race/ethnicity groups (Substance Abuse and Mental Health Services Administration, 2014). Such findings could lead public health researchers and practitioners to deprioritize examination of patterns of alcohol use among Asian Americans. However, continued investigation into alcohol use prevalence and correlates among Asian Americans is an important area of study for many reasons. First, the number of Asian Americans under age 18 is projected to increase 87% by 2060, from a current estimate of 3.3 to 6.2 million. This is the largest projected increase among youth of all racial groups (Colby & Ortman, 2015). Because of the projected size of the Asian population, detailed information about their drinking patterns fulfills the basic public health task of behavioral monitoring. Second, studies indicate that prevalence of alcohol use problems among Asian Americans in late adolescence and early adulthood is increasing at a faster rate than among adolescents in general (Grant et al., 2004), highlighting the need to better understand and address this growing problem. These statistics are concerning as youth drinking is associated with sexual risk behaviors, impaired driving and motor vehicles crashes, and violence, as well as an increased risk for alcohol problems in adulthood (Hingson & Zha, 2009, Murray et al., 2002, and Singleton, 2007).

A third reason to examine alcohol use among Asian American adolescents is that patterns of use may vary widely by Asian ethnic group. Several recent studies have demonstrated that reporting on aggregate populations of Asian Americans masks important within-group differences and may conceal high rates of use within specific groups (Hendershot et al., 2007, Iwamoto et al., 2012, Iwamoto et al., 2010, Kane et al., 2016, Shih et al. 2015, and Wang et al., 2012). Le and colleagues (2009) found higher rates of substance use (including alcohol) among Cambodian and Lao/Mien youth compared to Chinese and Vietnamese youth. Wong et al. (2004) found that self-reported lifetime alcohol use among Asian American high school students varied across subgroups, with prevalence as high as 65% among Pacific Islander youth (although Pacific Islander populations are now typically not considered an Asian subgroup; (Office of Management and Budget, 1997) and as low as 37% among Chinese youth. A study of college students showed that rates of past 3-month

binge drinking were high among Filipino and Japanese American students and comparable to students in other race groups (Iwamoto et al., 2012). A recent, nationally-representative study of adults showed that there were statistically significant differences in drinking patterns across five Asian subgroups; Japanese and Koreans reported higher levels of past month use compared to Chinese, Filipino, and Indian adults (Lee et al., 2013). Finally, in one of few longitudinal studies of drinking patterns among Asian youth, Shih et al (2015) observed differences by subgroup. Though not statistically significant, findings showed that Vietnamese American youth were three times more likely than Japanese-American youth to report lifetime alcohol use, and that Indian Americans were the least likely to initiate alcohol use over the three-year period of the study.

Although several studies suggest there are differences in drinking patterns among Asian adolescents by subgroup, there is a dearth of widely-generalizable and representative prevalence estimates. Specifically, studies that investigate differences by Asian subgroup have been limited by small sample sizes, specialized and non-representative samples, wide age ranges, and underrepresentation of certain ethnic groups (Iwamoto et al., 2012). This represents a significant gap in knowledge, and is inadequate for effective public health practice. In this brief report, we use nationally-representative data to examine alcohol use among adolescents of different Asian American ethnic groups.

2. Methods

2.1 Data source and sample

Data are from the online, publicly available 2002–2013 United States National Survey on Drug Use and Health restricted-use data analysis system (NSDUH-RDAS). Approximately 67,500 US residents 12 years and older are interviewed annually. Multistage area sampling yields nationally representative samples of households. Further details of NSDUH methodology have been published elsewhere (Substance Abuse and Mental Health Services Administration, 2015). The NSDUH RDAS was used for this study because it measures alcohol use behaviors among different Asian American subgroups: Chinese, Filipino, Japanese, Asian Indian, Korean, Vietnamese, other (not specified), and Asian Americans indicating multiple subgroups. We use a similar methodology as Lee et al. (2013), who examined within group differences among Asian adults. Our analysis used adolescent data from NSDUH RDAS, including youth ages 12–17 years, which accounted for approximately 32% of the total sample. Analyses were conducted with de-identified, publicly available data and were designated as non-human subjects research by the Institutional Review Board at Johns Hopkins Bloomberg School of Public Health.

2.2 Outcome measures: Alcohol Use and Alcohol Use Disorders

Six alcohol-related outcomes were included in the analysis: Alcohol use as assessed by 1) lifetime use, 2) past-year use, 3) past-month use; and alcohol use problems as assessed by 4) past-month binge, 5) past-year alcohol use disorder (AUD), and 6) early initiation of use (i.e., initiation prior to age 14). Presence of AUD (abuse or dependence) was based on the clinical feature criteria in the *Diagnostic and Statistical Manual for Mental Disorders, 4th Edition* (DSM-IV; American Psychiatric Association, 1994).

2.3 Statistical analysis

Prevalence estimates for each of the six outcomes are presented with corresponding variances as 95% confidence intervals (CI) using Taylor series linearization, accounting for sampling weights and the complex survey design.

3. Results

3.1 Prevalence of alcohol use

Table 1 summarizes all alcohol use outcomes stratified by Asian American ethnic group. Filipino Americans and Korean Americans displayed the highest prevalence of use among Asian American ethnicities. Filipino Americans had the highest estimates of lifetime (29.3%, 95% CI: 26.0% – 32.7%) and past-month (10.3%, 95% CI: 8.2% – 12.8%) use. Korean Americans had the highest prevalence of past-year use (22.7%, 95% CI: 18.8% – 27.0%) followed closely by Filipino Americans (22.0%, 95% CI: 19.1% – 25.2%). For all three use indicators, Asian Indian Americans had the lowest prevalence: lifetime (14.6%, 95% CI: 12.6% – 17.0%), past-year (11.9%, 95% CI: 10.0% – 14.1%), and past-month (4.9%, 95% CI: 3.8% – 6.4%). In aggregate, estimates for Asian Americans overall were 23.6% (95% CI: 22.3% – 25.0%) for lifetime, 17.6% (95% CI: 16.5% – 18.9%) for past-year, and 7.2% (95% CI: 6.8% – 8.0%) for past-month use.

3.2 Prevalence of alcohol use problems

The highest estimates for alcohol use problems were among Filipino, Korean, and Japanese Americans. Binge drinking was highest among Korean Americans (5.4%, 95% CI: 3.6% – 8.1%). Prevalence of past year alcohol use disorder was highest among Filipino Americans (3.5%, 95% CI: 2.5% – 5.0%) and Korean Americans (3.4%, 95% CI: 2.1% – 5.5%). Vietnamese Americans had the highest prevalence of early initiation of drinking (13.5%, 95% CI: 10.6% – 17.2%). Ethnic groups with consistently low estimates of alcohol use problems were Chinese and Indian Americans. The lowest prevalence of binge drinking was 2.6% (95% CI: 1.8% – 3.9%) among Indian Americans and 2.7% (95% CI: 1.8% – 3.9%) among Chinese Americans. Past-year alcohol use disorders were reported by 1.0% of both Indian Americans (95% CI: 0.5% – 1.8%) and Chinese Americans (95% CI: 0.6% – 1.7%). Early initiation of use was lowest among Indian Americans (4.9%, 95% CI: 3.7% – 6.5%). In aggregate, binge drinking was reported by 3.6% (95% CI: 3.1% – 4.2%), alcohol use disorders by 2.0% (95% CI: 1.6% – 2.4%), and early initiation by 9.8% (95% CI: 8.9% – 10.7%) of the Asian American adolescents.

4. Discussion

This study investigated prevalence of alcohol use outcomes across adolescent Asian American ethnic groups. We observed significant differences in drinking behaviors across the ethnic groups, which is a consistent finding with a growing body of literature in the U.S. (Iwamoto et al., 2010, Iwamoto et al., 2012, Le et al., 2009, Thai et al., 2010, and Wong et al., 2004). Estimates of the prevalence of alcohol risk behaviors – including use, AUD, and binge drinking – were higher among Filipino, Japanese, and Korean Americans, and lower among Indian and Chinese Americans. The findings are in line with existing literature based

on youth (Wong et al., 2004 and Shih et al., 2015), young adult (Hendershot et al., 2008 and Iwamoto et al., 2012), and adult populations (Lee et al., 2013), suggesting that drinking patterns may differ by subgroup in consistent ways across the life course. Overall, estimates of alcohol use among this national sample of 12–17 year old Asian American adolescents were lower than previous studies that included analyses of specific Asian American ethnicities, which could be attributable to those studies using older samples of high school and college students (Iwamoto et al., 2010 and Wong et al., 2004).

Additionally, Vietnamese youth had a particularly high prevalence of early age of initiating drinking. The high rate of early initiation of use among Vietnamese American adolescents is similar to a recent study by Shih and colleagues (2015), which included a younger sample than our study (mean age 11.5 years), and found that the highest prevalence of lifetime alcohol use amongst seven adolescent Asian American ethnic groups was among Vietnamese youth. This suggests intervention and prevention efforts for alcohol use among Vietnamese American adolescents should be done at an early age. In particular, these interventions may focus on buffering possible risk factors for early initiation of alcohol use among Vietnamese American adolescents, including the impact of alcohol-using peers; a recent study of very early Vietnamese adolescents in Vietnam (ages 9–11) found that peer use was the strongest predictor of adolescent drinking (Jordan et al., 2013). Additionally, a systematic review by Wyatt et al. (2015) identified authoritarian parenting styles as a risk factor for depression among Vietnamese youth. Given that alcohol use may be initiated as a coping mechanism for depressive symptoms (Fang et al., 2011), intervention strategies that target parenting practices and depression may also be useful in delaying alcohol initiation.

Because Indian and Chinese Americans constitute the largest proportion of Asians in the population, prevalence estimates of drinking patterns of Asian youth as a whole are underestimates of the true prevalence within specific population groups. The national estimate of the prevalence of past-month alcohol use among Asians as a whole, aged 12–17 years, is 7.2%, the lowest of all race/ethnicity groups. (The corresponding prevalence estimates are: Black: 9.7%, American Indian: 9.3%, Hispanic/Latino, 10.7%; and Whites: 12.9%; [Substance Abuse and Mental Health Services Administration, 2014]). Estimates of past-month use among Filipino (10.3%), Japanese (8.6%), and Korean (9.2%) American adolescents are all higher than the pooled Asian rates. Iwamoto et al. (2012) similarly found that Japanese and Filipino American young adults had binge drinking rates similar to those from racial groups that are often considered higher risk groups than Asian Americans. This study indicates that the pooled estimate of prevalence does, indeed, underestimate use within specific subgroups.

One possible explanation for prevalence differences between the ethnic groups is acculturation: Japanese and Filipino Americans may have a stronger identification with U.S. culture than youth from other Asian American groups (Chen et al., 1999 and Iwamoto et al., 2012), resulting in rates more similar to the majority U.S. adolescent population. Cook et al. (2015) found that drinking culture in country of origin predicted heavy episodic drinking among Asian American young adults. In that study, Korea, Japan, and Philippines had the highest per capita alcohol consumption (Cook et al., 2015). Similarly, a strong identification with traditional culture has been associated with lower levels of alcohol use among

Vietnamese and Cambodian American adults (Kane et al., 2016); Vietnam and Cambodia have lower alcohol consumption than many other Asian countries and the U.S. (Banta et al., 2013 and Cook et al., 2015).

Our study found that Indian Americans had the lowest rates of all alcohol use outcomes. Previous studies with Indian American adolescents have found that many are bicultural (Farver et al., 2002 and Patel et al., 1996). Bicultural individuals may participate in American activities, speak English both away from and at home, but may also participate in and adhere to traditional cultural beliefs, norms, and practices such as those that relate to alcohol use. According to data from the World Health Organization (2014), traditional drinking cultures vary considerably across Asian countries. In India, 84% report abstaining from alcohol, compared to 56% in Philippines, 55% in Korea, and 31% in Japan. Prevalence of heavy episodic drinking was just 2% in India, significantly less than both Japan (18%) and Korea (6%). This would also support the findings by Cook et al. (2015). Notably, one of the traditional cultural practices that also may be adhered to is religion (Farver et al. 2002). Approximately 10% of Indian Americans practice Islam (Desilver, 2014), in which alcohol use is generally forbidden. This is a higher percentage than Japanese, Filipino, and Korean Americans combined.

Additional explanations for differences across subgroup may include biological and socio-cultural factors. Variation in genetic markers associated with alcohol use across Asian ethnic groups is a possible contributor to difference in prevalence estimates (Eng et al., 2007). Previous studies have found that the presence of the *ALDH2*2* is associated with reduced risk of alcohol use problems but also that it is most common in Chinese, Japanese, and Korean populations (Eng et al., 2007). Our study found that Japanese and Korean American adolescents had high relative rates of alcohol use, which suggests that other non-genetic factors are also important to consider. These may include cultural values, such as collectivism, personal restraint, and filial piety, which are central to Asian cultures but may also differ from one culture to the next. Several researchers suggest that these values may have a protective effect against alcohol initiation (Shih et al., 2012) and alcohol-related problems (Iwamoto et al., 2016).

Our findings should be viewed within the context of several limitations. First, data on alcohol use were based on self-report, therefore these estimates could be conservative to the degree that alcohol use is stigmatizing within these Asian American ethnic groups. Second, within-year samples sizes were not sufficient to produce trends in these estimates by subgroup over time, hence the need to collapse estimates across the years 2002–2013. Although generational status and nativity have been found to explain within-group differences in drinking patterns among Asian Americans adolescents (Hahm et al., 2003), the NSDUH-RDAS publicly available data set does not currently include this information. Relatedly, we were unable to examine the moderating role of sex, which may have helped explain within-group differences among our sample (a previous NSDUH report provides information on gender and nativity for Asians overall but not separately by ethnic group; [Substance Abuse and Mental Health Services Administration, 2011]). Although previous studies among Asian American adolescents (Hahm et al., 2003) and young adults (Iwamoto et al., 2012) did not find significant differences by sex across ethnic groups, future studies in

this area as well as those investigating the role of gender norms (Liu & Iwamoto, 2007) are warranted. Finally, the public-use NSDUH RDAS does not allow for complex data analyses (e.g., generalized linear modeling) of alcohol use outcomes with statistical control for factors that might help explain variation in these Asian American ethnic group estimates. Nevertheless, Lee et al. (2013) reported that differences in alcohol use patterns among adult Asian American ethnic groups persisted after controlling for such factors.

In summary, we found that prevalence estimates for several alcohol use outcomes differed across ethnic groups among Asian American adolescents. Japanese, Filipino, Vietnamese, and Korean Americans were more likely to report alcohol risk behaviors than other Asian subgroups. Subgroup differences may be attributable to genetic, cultural, religious, migration, and socioeconomic factors (Kim et al., 2001; Wang et al., 2012). Disregarding differences by ethnic subgroup masks substantial variation in alcohol risk behaviors by subgroup. Therefore, when feasible, studies on alcohol use among Asian American youth should disaggregate analyses by ethnicity and generational status (i.e., nativity). It may also be important in national surveys to oversample specific Asian groups so as to have sufficient statistical power for subgroup analyses and investigation of risk factors. Our research suggests that public health attention toward drinking among Asian youth is warranted. Standard alcohol prevention programs should be reviewed for their suitability to Asian youth as a whole, and for specific Asian subgroups.

Acknowledgments

Role of Funding Source

Dr. Kane and Dr. Fairman are supported by a National Institute on Drug Abuse training grant in Drug Dependence Epidemiology (T32DA007292, PI: Furr-Holden). Ms. Damian was supported by the Drug Dependence Epidemiology Training Program (T32DA007292, PI: Furr-Holden) and the Psychiatric Epidemiology Training Program (NIMH; T32MH014592, PI: Zandi). Dr. Johnson was funded by K01DA031738 (PI: Johnson). These funding sources had no further role in study design; in the collection, analysis and interpretation of data; in the writing of the report; or in the decision to submit the paper for publication.

References

- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th. Washington, DC: 1994.
- Banta JE, Addison A, Job JS, Yel D, Kheam T, Singh PN. Patterns of Alcohol and Tobacco Use in Cambodia. *Asia-Pacific Journal of Public Health*. 2013; 25(5 suppl):33S–44S. <http://doi.org/10.1177/1010539512464649>. [PubMed: 23165486]
- Chen X, Unger JB, Cruz TB, Johnson CA. Smoking patterns of Asian-American youth in California and their relationship with acculturation. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*. 1999; 24(5):321–328. [PubMed: 10331838]
- Colby, SL.; Ortman, JM. Projections of the size and composition of the U.S. population: 2014 to 2060 (Population Estimates and Projections). United States Census Bureau; 2015. <http://www.census.gov/content/dam/Census/library/publications/2015/demo/p25-1143.pdf>? [Accessed 22.06.16]
- Cook WK, Karriker-Jaffe KJ, Bond J, Lui C. Asian American problem drinking trajectories during the transition to adulthood: ethnic drinking cultures and neighborhood contexts. *American Journal of Public Health*. 2015; 105(5):1020–1027. <http://doi.org/10.2105/AJPH.2014.302196>. [PubMed: 25393183]
- Desilver, D. 5 facts about Indian Americans. Pew Research Center; 2014. Retrieved from <http://www.pewresearch.org/fact-tank/2014/09/30/5-facts-about-indian-americans/> [Accessed 22.06.16]

- Eng MY, Luczak SE, Wall TL. ALDH2, ADH1B, and ADH1C genotypes in Asians: a literature review. *Alcohol Research & Health: The Journal of the National Institute on Alcohol Abuse and Alcoholism*. 2007; 30(1):22–27. [PubMed: 17718397]
- Fang L, Barnes-Ceeney K, Schinke SP. Substance use behavior among early-adolescent Asian American girls: the impact of psychological and family factors. *Women & Health*. 2011; 51(7):623–642. [PubMed: 22082244]
- Farver JAM, Bhadha BR, Narang SK. Acculturation and Psychological Functioning in Asian Indian Adolescents. *Social Development*. 2002; 11(1):11–29. <http://doi.org/10.1111/1467-9507.00184>.
- Grant BF, Dawson DA, Stinson FS, Chou SP, Dufour MC, Pickering RP. The 12-month prevalence and trends in DSM-IV alcohol abuse and dependence: United States, 1991–1992 and 2001–2002. *Drug and Alcohol Dependence*. 2004; 74(3):223–234. <http://doi.org/10.1016/j.drugalcdep.2004.02.004>. [PubMed: 15194200]
- Hahm H, Lahiff M, Guterman N. Acculturation and parental attachment in Asian-American adolescents' alcohol use. *Journal of Adolescent Health*. 2003; 33:119–129. [PubMed: 12890603]
- Hendershot CS, Dillworth TM, Neighbors C, George WH. Differential effects of acculturation on drinking behavior in Chinese- and Korean-American college students. *Journal of Studies on Alcohol and Drugs*. 2008; 69(1):121–128. [PubMed: 18080072]
- Hendershot CS, Stoner SA, George WH, Norris J. Alcohol use, expectancies, and sexual sensation seeking as correlates of HIV risk behavior in heterosexual young adults. *Psychology of Addictive Behaviors*. 2007; 21(3):365–372. <http://doi.org/10.1037/0893-164X.21.3.365>. [PubMed: 17874887]
- Hingson RW, Zha W. Age of Drinking Onset, Alcohol Use Disorders, Frequent Heavy Drinking, and Unintentionally Injuring Oneself and Others After Drinking. *Pediatrics*. 2009; 123(6):1477–1484. <http://doi.org/10.1542/peds.2008-2176>. [PubMed: 19482757]
- Iwamoto DK, Corbin W, Fromme K. Trajectory classes of heavy episodic drinking among Asian American college students. *Addiction*. 2010; 105(11):1912–1920. <http://doi.org/10.1111/j.1360-0443.2010.03019.x>. [PubMed: 21040058]
- Iwamoto DK, Kaya A, Grivel M, Clinton L. A review of alcohol use and abuse among Asian Americans. *Alcohol Research: Current Reviews*. 2016; 38
- Iwamoto DK, Takamatsu S, Castellanos J. Binge drinking and alcohol-related problems among U.S.-born Asian Americans. *Cultural Diversity & Ethnic Minority Psychology*. 2012; 18(3):219–227. <http://doi.org/10.1037/a0028422>. [PubMed: 22686146]
- Jordan LP, Graham E, Duc Vinh N. Alcohol Use among Very Early Adolescents in Vietnam: What Difference Does Parental Migration Make? *Asian and Pacific Migration Journal*. 2013; 22(3):401–419. [PubMed: 24954964]
- Kane JC, Johnson RM, Robinson C, Jernigan DH, Harachi TW, Bass JK. Longitudinal effects of acculturation on alcohol use among Vietnamese and Cambodian immigrant women in the United States. *Alcohol and Alcoholism*. 2016 Epub, pii: agw007.
- Kim BS, Yang PH, Atkinson DR, Wolfe MM, Hong S. Cultural value similarities and differences among Asian American ethnic groups. *Cultural Diversity & Ethnic Minority Psychology*. 2001; 7(4):343–361. [PubMed: 11759271]
- Lee HK, Han B, Gfroerer JC. Differences in the prevalence rates and correlates of alcohol use and binge alcohol use among five Asian American subpopulations. *Addictive Behaviors*. 2013; 38(3):1816–1823. <http://doi.org/10.1016/j.addbeh.2012.11.001>. [PubMed: 23254233]
- Le TN, Goebert D, Wallen J. Acculturation factors and substance use among Asian American youth. *The Journal of Primary Prevention*. 2009; 30(3–4):453–473. <http://doi.org/10.1007/s10935-009-0184-x>. [PubMed: 19444609]
- Liu WM, Iwamoto DK. Conformity to masculine norms, Asian values, coping strategies, peer group influences and substance use among Asian American men. *Psychology of Men and Masculinity*. 2007; 8:25–39.
- Murray RP, Connett JE, Tyas SL, Bond R, Ekuma O, Silversides CK, Barnes GE. Alcohol volume, drinking pattern, and cardiovascular disease morbidity and mortality: is there a U-shaped function? *American Journal of Epidemiology*. 2002; 155(3):242–248. [PubMed: 11821249]

- Office of Management and Budget. Washington, DC: The White House; 1997. Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity. https://www.whitehouse.gov/omb/fedreg_1997standards/ [Accessed 22.06.16]
- Patel N, Power TG, Bhavnagri NP. Socialization Values and Practices of Indian Immigrant Parents: Correlates of Modernity and Acculturation. *Child Development*. 1996; 67(2):302–313. <http://doi.org/10.1111/j.1467-8624.1996.tb01735.x>.
- Shih RA, Miles JNV, Tucker JS, Zhou AJ, D'Amico EJ. Racial/ethnic differences in the influence of cultural values, alcohol resistance self-efficacy, and alcohol expectancies on risk for alcohol initiation. *Psychology of Addictive Behaviors: Journal of the Society of Psychologists in Addictive Behaviors*. 2012; 26(3):460–470. <http://doi.org/10.1037/a0029254>. [PubMed: 22867294]
- Shih RA, Tucker JS, Miles JNV, Ewing BA, Pederson ER, D'Amico EJ. Differences in Substance Use and Substance Use Risk Factors by Asian Subgroups. *Asian American Journal of Psychology*. 2015; 6(1):38–46. [PubMed: 26388971]
- Singleton RA. Collegiate alcohol consumption and academic performance. *Journal of Studies on Alcohol and Drugs*. 2007; 68(4):548–555. [PubMed: 17568960]
- Substance Abuse and Mental Health Services Administration. Substance use among Asian adolescents. 2011 [Accessed 22.06.16] <http://www.aapcho.org/wp/wp-content/uploads/2015/08/SAMHSA-Substance-Use-among-Asian-Adolescents.pdf>.
- Substance Abuse and Mental Health Services Administration. [Accessed 22.06.16] National Survey of Drug Use and Health: Alcohol Use in Lifetime, Past Year, and Past Month among Persons Aged 12 to 17, by Demographic Characteristics: Percentages, 2012 and 2013. 2014. <http://www.samhsa.gov/data/sites/default/files/NSDUH-DefTabs2013/NSDUH-DefTabs2013.htm#tab2.38b/>
- Substance Abuse and Mental Health Services Administration. [Accessed 22.06.2016] Population Data/ NSDUH. 2015. Retrieved from <http://www.samhsa.gov/data/population-data-nsduh/reports?tab=39/>
- Thai N, Connell C, Tebes J. Substance use among Asian American adolescents: Influence of race, ethnicity, and acculturation in the context of key risk and protective factors. *Asian American Journal of Psychology*. 2010; 1(4):261–274. <http://doi.org/10.1037/a0021703>. [PubMed: 25309680]
- Wang M, Kviz FJ, Miller AM. The mediating role of parent-child bonding to prevent adolescent alcohol abuse among asian american families. *Journal of Immigrant and Minority Health/Center for Minority Public Health*. 2012; 14(5):831–840. <http://doi.org/10.1007/s10903-012-9593-7>.
- Wong MM, Klingler RS, Price RK. Alcohol, tobacco, and other drug use among Asian American and Pacific Islander Adolescents in California and Hawaii. *Addictive Behaviors*. 2004; 29(1):127–141. [PubMed: 14667425]
- World Health Organization. [Accessed 22.06.2016] Global Status Report on Alcohol and Health 2014. 2014. http://www.who.int/substance_abuse/publications/global_alcohol_report/en.pdf
- Wyatt LC, Ung T, Park R, Kwon SC, Trinh-Shevrin C. Risk factors of suicide and depression among Asian American, Native Hawaiian, and Pacific Islander youth: a systematic literature review. *Journal of Health Care for the Poor and Underserved*. 2015; 26(2):191–237. [PubMed: 25981098]

Highlights

- Prevalence of alcohol use differed across adolescent Asian American ethnic groups
- Higher rates of use among Korean, Filipino, and Japanese American adolescents
- Lower rates of use among Chinese and Asian Indian American adolescents
- Vietnamese American adolescents had highest rate of early initiation of use
- Aggregated rates of Asian alcohol use mask high rates among specific ethnic groups

Table 1

Prevalence of alcohol use behaviors among Asian American adolescents aged 12–17 years, 2002–2013.

	% ^d	Lifetime				Past-Year				Past-Month				Past-Month Binge ^a				Early initiation ^b				Alcohol Use Disorder			
		Lifetime		Past-Year		Past-Month		Past-Month Binge ^a		Early initiation ^b		Alcohol Use Disorder		Overall		Lifetime Users ^c		Overall		Lifetime Users ^c		Overall		Lifetime Users ^c	
		wt%	95% CI	wt%	95% CI	wt%	95% CI	wt%	95% CI	wt%	95% CI	wt%	95% CI	wt%	95% CI	wt%	95% CI	wt%	95% CI	wt%	95% CI	wt%	95% CI	wt%	95% CI
Chinese	21	22.1	(19.4, 25.1)	16.6	(14.3, 19.3)	6.2	(4.8, 8.0)	2.7	(1.8, 3.9)	9.4	(7.6, 11.6)	1.0	(0.6, 1.7)	4.6	(2.7, 7.8)	4.6	(2.7, 7.8)	1.0	(0.6, 1.7)	4.6	(2.7, 7.8)	1.0	(0.6, 1.7)	4.6	(2.7, 7.8)
Filipino	17	29.3	(26.0, 32.7)	22.0	(19.1, 25.2)	10.3	(8.2, 12.8)	5.2	(3.7, 7.2)	12.4	(10.2, 14.9)	3.5	(2.5, 5.0)	12.0	(8.4, 16.8)	3.5	(2.5, 5.0)	12.0	(8.4, 16.8)	3.5	(2.5, 5.0)	12.0	(8.4, 16.8)	3.5	(2.5, 5.0)
Japanese	3	28.2	(21.8, 35.5)	21.6	(16.0, 28.5)	8.6	(5.5, 13.2)	4.8	(2.7, 8.4)	12.7	(8.4, 18.6)	1.7	(0.8, 3.5)	5.9	(2.7, 12.3)	1.7	(0.8, 3.5)	5.9	(2.7, 12.3)	1.7	(0.8, 3.5)	5.9	(2.7, 12.3)	1.7	(0.8, 3.5)
Asian Indian	22	14.6	(12.6, 17.0)	11.9	(10.0, 14.1)	4.9	(3.8, 6.4)	2.6	(1.8, 3.9)	4.9	(3.7, 6.5)	1.0	(0.5, 1.8)	6.7	(3.7, 11.8)	1.0	(0.5, 1.8)	6.7	(3.7, 11.8)	1.0	(0.5, 1.8)	6.7	(3.7, 11.8)	1.0	(0.5, 1.8)
Korean	10	28.6	(24.4, 33.3)	22.7	(18.8, 27.0)	9.2	(6.8, 12.2)	5.4	(3.6, 8.1)	9.5	(7.3, 12.4)	3.4	(2.1, 5.5)	11.9	(7.4, 18.6)	3.4	(2.1, 5.5)	11.9	(7.4, 18.6)	3.4	(2.1, 5.5)	11.9	(7.4, 18.6)	3.4	(2.1, 5.5)
Vietnamese	11	28.9	(24.5, 33.6)	20.5	(16.8, 24.8)	7.1	(5.0, 9.8)	3.6	(2.1, 6.0)	13.5	(10.6, 17.2)	1.9	(0.9, 3.8)	6.5	(3.2, 12.7)	1.9	(0.9, 3.8)	6.5	(3.2, 12.7)	1.9	(0.9, 3.8)	6.5	(3.2, 12.7)	1.9	(0.9, 3.8)
Other Asian	14	24.5	(20.7, 28.9)	15.9	(12.9, 19.4)	6.6	(4.8, 9.1)	3.0	(1.8, 4.9)	11.3	(8.7, 14.5)	2.3	(1.3, 3.9)	9.2	(5.4, 15.3)	2.3	(1.3, 3.9)	9.2	(5.4, 15.3)	2.3	(1.3, 3.9)	9.2	(5.4, 15.3)	2.3	(1.3, 3.9)
Asian, multiple ethnicities	2	25.1	(18.4, 33.2)	19.9	(14.1, 27.3)	8.5	(4.7, 15.0)	4.3	(1.9, 9.5)	11.0	(6.3, 18.6)	1.7	(0.8, 3.4)	6.8	(3.1, 14.4)	1.7	(0.8, 3.4)	6.8	(3.1, 14.4)	1.7	(0.8, 3.4)	6.8	(3.1, 14.4)	1.7	(0.8, 3.4)
All Asians	100	23.6	(22.3, 25.0)	17.6	(16.5, 18.9)	7.2	(6.4, 8.0)	3.6	(3.1, 4.2)	9.8	(8.9, 10.7)	2.0	(1.6, 2.4)	8.3	(6.8, 10.1)	2.0	(1.6, 2.4)	8.3	(6.8, 10.1)	2.0	(1.6, 2.4)	8.3	(6.8, 10.1)	2.0	(1.6, 2.4)

wt%, weighted prevalence in percent; 95% CI, confidence interval

^aDefined as five or more drinks on the same occasion.^bDefined as alcohol use prior to age 14 years.^cPast-year alcohol use disorder among lifetime alcohol users.^dFrequencies are not available in NSDUH-RDAS data. Only the percentage of each ethnic group relative to all Asian Americans included in the surveys is reported.