

# Mental Disorders and Mental Health Service Use Across Asian American Subethnic Groups in the United States

Su Yeon Lee · Silvia S. Martins · Hochang B. Lee

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**Abstract** This study analyzed the National Epidemiological Survey on Alcohol and Related Conditions data, 2001–2002, to compare the prevalence and odds of DSM-IV mood, anxiety, and substance use disorders and mental health service use across Asian American subethnic groups (648 East Asians, 485 Southeast Asians, 298 South Asians). Asian American subethnic groups varied in lifetime prevalence of psychiatric disorders ( $p = 0.004$ ), mainly due to differences in the presence of any substance use disorder ( $p = 0.06$ ), and specifically, drug use disorders ( $p = 0.02$ ). While Southeast Asians had the highest prevalence of substance use disorders (16.7 %), fewer Southeast Asians with substance use disorders used mental health services (11.1 %) compared to South Asians with substance use disorders (24.2 %). East Asians compared to South Asians had significantly lower odds of mental health service use for substance use disorders (confidence interval = 0.08–0.84). Asian American subethnic groups vary in the prevalence of mental disorders and in mental health service use, especially for substance use disorders.

**Keywords** Asian Americans · Subethnic groups · DSM-IV psychiatric disorders · Mental health service use

## Introduction

Persons of Asian ancestry are the fastest growing ethnic minority group in the United States (U.S. Census Bureau 2011). In 2010, Asian Americans comprised 5 % of the total United States population, a proportion that is projected to increase to 10 % in 2050 (Humes et al. 2011). Asian Americans are a culturally and linguistically diverse group in the United States, representing 43 ethnic groups and speaking over a hundred different languages (U.S. Department of Health and Human Services 2001). Despite the growing number and diversity of Asian Americans, previously published studies on mental health needs and service use among persons of Asian ancestry tended to treat Asian Americans as a homogeneous category and have not assessed the differences across the Asian American subethnic groups (Gee et al. 2007; Lee et al. 2011; Xu et al. 2011).

Asian American subethnic groups differ in various socioeconomic and cultural factors associated with mental health service use, such as mental health needs, attitudes towards mental health, awareness and access to culturally appropriate services, English proficiency, and severity of mental disorders (Anderson and John 1973). South Asians have generally had lower lifetime and past year prevalence of mood, anxiety, and substance use disorders when compared to the rest of Asian Americans (Masood et al. 2009). Non-elderly Vietnamese and Korean Americans have the highest uninsurance rates of 21 % and 31 % among Asian American adults, respectively, compared to an uninsurance rate of 12 % among Japanese and Indian Americans (The Kaiser Family Foundation 2008). Limited English

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S. Y. Lee (✉)  
Johns Hopkins Bloomberg School of Public Health, 624 N.  
Broadway, 8th Floor, Baltimore, MD 21205, USA  
e-mail: [slee226@jhu.edu](mailto:slee226@jhu.edu)

S. S. Martins  
Department of Epidemiology, Columbia University Mailman  
School of Public Health, 722 West 168th Street, Rm. 509,  
New York, NY 10032, USA

H. B. Lee  
Psychological Medicine Service, Yale New Haven Hospital,  
Yale University School of Medicine, 20 York St., CB 2039,  
New Haven, CT 06510, USA

proficiency is associated with lower use of mental health services (Sentell et al. 2007), and the National Latino and Asian American Study (NLAAS) found that only 3.1 % of South Asians and 4.6 % of Filipinos had limited English proficiency while 46.9 % of Koreans and 51.8 % of Vietnamese reported difficulty speaking English (Gee et al. 2007).

Only a small number of studies compared Asian American subethnic group differences in mental health service use (Abe-Kim et al. 2007; Akutsu et al. 2007; Hu et al. 1993; Tiwari and Wang 2008). For example, despite the availability of publicly funded mental health services in Canada, prevalence of mental health service use among Chinese (26.1 %) and Southeast Asians (26.1 %) with major depressive disorder were significantly lower than service use among South Asians (37.5 %) with major depressive disorder (Tiwari and Wang 2008). In the United States, Abe-Kim and colleagues found that compared to Filipinos, Chinese significantly underused medical services for mental health treatment when adjustment was made for age and the presence of mental disorders (Abe-Kim et al. 2007). Chinese and Vietnamese had lower prevalence of subjective satisfaction and perceived helpfulness regarding mental health care compared to Filipino Americans and other Asians (including Japanese, Korean, Asian Indian, and other Asian ethnicities) (Abe-Kim et al. 2007). To our knowledge, no previous study has stratified the analysis of mental health service use across Asian American subethnic groups by types of mental disorders.

A study using the National Epidemiological Survey on Alcohol and Related Conditions (NESARC) reported that Asians with mood disorders particularly underused mental health services compared to whites, Hispanics, and Native Americans (Lee et al. 2011). However, it remains unclear whether or not all Asian American subethnic groups share the same characteristics in mental health needs and service use. It is important to identify subethnic groups with greater disparities in mental health needs and care, in order to develop targeted interventions that strengthen the pathways to accessing mental health services. The goal of this study was to examine the differences in the mental health needs and patterns of mental health service use across the three Asian American subethnic groups (East Asian, Southeast Asian, and South Asian) using a large-scale dataset, the NESARC.

## Methods

### Sample

The study participants were the Asian subsample ( $n = 1,431$ ) of the NESARC wave one identified by their

reported countries of origin (2001–2002;  $N = 43,093$ ). The NESARC is a community-based, epidemiological survey of adults over 18 years of age with an overall response rate of 81 % (Grant et al. 2003). NESARC is sponsored by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) and conducted by the U.S. Census Bureau. The Office of Management and Budget reviewed and approved the research protocol and the informed consent. Detailed study methodology of the NESARC is described elsewhere (Grant et al. 2003a, 2003b, 2005).

For the purpose of this study, Asian participants were classified by participants' countries of origin or descent based on the United Nations Statistics Division's geographic region and composition guidelines (Division 2011), into East Asians ( $n = 648$ ), Southeast Asians ( $n = 485$ ), and South Asians ( $n = 298$ ). A total of 648 East Asians were identified based on participants' country of origin being China ( $n = 306$ ), Japan ( $n = 175$ ), Korea ( $n = 131$ ), and Taiwan ( $n = 36$ ). A total of 485 Southeast Asians consisted of participants from Indonesia ( $n = 29$ ), Malaysia ( $n = 11$ ), Vietnam ( $n = 101$ ), Thai, Laos, Cambodia, and Burma ( $n = 82$ ), and the Pacific Islands ( $n = 39$ ). South Asians ( $n = 298$ ) included individuals originally from India, Afghanistan, Pakistan ( $n = 251$ ) and Iran ( $n = 47$ ).

### Measures

#### *DSM-IV Diagnosis*

Trained lay interviewers administered a structured psychiatric interview to all participants, the NIAAA Alcohol Use Disorder and Associated Disabilities Interview Schedule-DSM-IV (AUDADIS-IV). The AUDADIS-IV was designed to assess DSM-IV based mood disorders, alcohol disorders, and substance use in large scale surveys (American Psychiatric Association 1994). Mood disorders consisted of major depressive disorder, dysthymia, and bipolar disorder type I and II. Anxiety disorders included social phobia, generalized anxiety disorder, agoraphobia with or without panic disorder, and specific phobias. Mood and anxiety disorders triggered by substance use or physical illness were not included. Substance use disorders included alcohol abuse/dependence or drug abuse/dependence. Drug use disorders included the use of sedatives, tranquilizers, opiates, stimulants, hallucinogens, cannabis, cocaine, inhalants or solvents, heroin, and other drugs. Reliability and validity of the AUDADIS-IV mood disorders, anxiety disorders, and substance use disorders among multiracial samples are published elsewhere (Grant et al. 2004, 2005; Ruan et al. 2008).

**Table 1** Descriptive characteristics of Asian American subethnic group participants (n = 1,431) in wave 1 of the NESARC

Characteristic	East Asians			Southeast Asians			South Asians			$\chi^2$	df	p
	(N = 648)			(N = 485)			(N = 298)					
	N	%	SE	N	%	SE	N	%	SE			
Sex										8.3	2	0.02*
Male	276	42.6	1.9	208	42.9	2.2	155	52.0	4.0			
Female	372	57.4	1.9	277	57.1	2.2	143	48.0	4.0			
Age (years)										16.0	10	0.10
18–24	107	16.5	1.4	83	17.1	1.7	42	14.1	2.0			
25–34	152	23.5	1.7	111	22.9	1.9	86	28.9	2.6			
35–44	133	20.5	2.1	121	25.0	2.5	82	27.5	2.8			
45–54	118	18.2	1.5	76	15.7	1.7	44	14.8	2.1			
55–64	63	9.7	1.2	47	9.7	1.3	21	7.1	1.5			
> 65	75	11.6	1.2	47	9.7	1.3	23	7.7	1.5			
Years in United States										44.8	6	<0.01**
Entire life	200	30.9	1.8	149	30.7	2.1	60	20.1	2.3			
≥ 20	144	22.2	1.6	76	15.7	1.6	102	34.2	2.8			
10–19	130	20.1	1.6	120	24.7	2.0	72	24.2	2.5			
< 10	174	26.9	1.7	140	28.9	2.1	64	21.5	2.4			
Family income										12.5	6	0.05
\$1,000–19,999	151	23.3	1.7	121	25.0	2.0	64	21.5	2.4			
\$20,000–34,999	133	20.5	1.6	91	18.8	1.8	54	18.1	2.2			
\$35,000–69,999	187	28.9	1.8	163	33.6	2.9	81	21.2	2.6			
\$70,000+	177	27.3	1.8	110	22.7	1.9	99	33.2	2.8			
Occupation										32.0	6	<0.001***
Administrative/professional	296	45.7	2.2	220	45.4	2.5	146	49.0	3.2			
Services/sales	148	22.8	2.1	132	27.2	2.3	61	20.5	2.9			
Transportation/equipment/other laborers	44	6.8	1.3	64	13.2	1.8	26	8.7	2.1			
Never worked for salary	160	24.7	1.7	69	14.2	1.6	65	21.8	2.4			
Education										52.8	6	<0.001***
Less than high school	60	9.3	1.1	80	16.5	1.7	32	10.7	1.8			
High school	114	17.6	1.5	107	22.1	1.9	55	18.5	2.3			
Some college	115	17.8	1.5	107	22.1	1.9	29	9.7	1.7			
College graduate	359	55.4	2.0	191	39.4	2.2	182	61.1	2.8			
Urbanicity										6.7	2	0.04*
Urban residency	308	50.5	2.0	197	44.8	2.4	118	42.0	2.9			
Region										110.7	6	<0.001***
Northeast	155	23.9	1.7	51	10.5	1.4	81	27.2	2.6			
Midwest	55	8.5	1.1	72	14.9	1.6	39	13.1	2.0			
South	110	17.0	1.5	94	19.4	1.8	101	33.9	2.7			
West	328	50.6	2.0	268	55.3	2.3	77	25.8	2.5			
Insurance										2.4	2	0.30
No (i.e. uninsured)	154	23.8	1.7	97	20.0	1.8	69	23.2	2.4			

\*  $p < 0.05$ , \*\*  $p < 0.01$ ,  
 \*\*\*  $p < 0.001$

## Mental Health Service Use

All respondents who screened positive for psychiatric symptoms based on the AUDADIS-IV reported their lifetime mental health service use for each psychiatric disorder. Mental health service utilization for those with mood and anxiety disorders included outpatient (physician, counselor, therapist, or other professional), inpatient (staying overnight or longer in the hospital setting), emergency room, or prescribed medicine use. Mental health service use for substance use disorders included seeking help from Narcotics Anonymous, Cocaine Anonymous, or 12-step meetings; social services for alcohol or drug detoxification wards; inpatient wards of psychiatric or general hospitals or community mental health programs; emergency services for alcohol or drug use; halfway houses or therapeutic communities; crisis centers related to substance use; and private physicians, psychiatrists, psychologists, social workers, or other professionals. Visits to clergy were not considered mental health service use, since we focused the analysis on outcome-based, formal mental health services.

## Statistical Analysis

The comparison of the prevalence and odds of mental health service use among Asian American subethnic groups was based on the unweighted data, since the weights were used in NESARC for the generalizability of race and ethnicity defined broadly (Whites, Blacks, Hispanics, Asians, and Native Americans) rather than for Asian American subethnic groups in the United States. Data were analyzed with Stata/SE version 11.0. Descriptive statistics of the Asian sample were provided on sex, age, years lived in the United States, family income, education, occupation, urbanicity, region of residency, and health insurance status using cross tabulations (Table 1). Prevalence and standard errors of mental disorders and mental health service use among Asians with specific disorders were assessed with cross-tabulations and the proportion command. Asian American subethnic group differences in the prevalence of mental disorders were calculated with Chi squared statistics. Fisher's exact test was used to test for the difference in proportions of mental health service use by different Asian American subethnic groups to account for small cell counts. Multivariable logistic regression was used to assess subethnic group differences in the odds of mental health service use by mental disorder category, adjusting for age, sex, education, and current health insurance status.

## Results

### Demographic Variables

Table 1 displays significant differences in sex, number of years lived in the United States, occupation, education, urban residency, and region by racial/ethnic groups and not for age and health insurance status. South Asians were more likely to be male (52.0 %) compared to East Asians (42.6 %) and Southeast Asians (42.9 %;  $p = 0.02$ ). While East Asians (30.9 %) and Southeast Asians (30.7 %) were more likely to have lived in the United States for their entire life than South Asians (20.1 %), South Asians were more likely to have lived in the United States for over 20 years (34.2 % compared to 22.2 % among East Asians and 15.7 % Southeast Asians) and were less likely to have lived in the United States for under 10 years (21.5 % compared to 26.9 % among East Asians and 28.9 % among Southeast Asians;  $p < 0.001$ ). South Asians were most likely to hold an administrative or professional occupation (49.0 %), and Southeast Asians were more likely to work in services, sales, transportation, equipment, or other labor industry. East Asians had the highest proportion of residing in urban areas (50.5 %), followed by Southeast Asians (44.8 %). More than half of East Asians and Southeast Asians resided in the western region of the United States, while the highest proportion of South Asians lived in the southern region of the U.S (33.9 %). Over fifty-five percent of South Asians and East Asians were college graduates, compared to 39.4 % of Southeast Asians ( $p < 0.001$ ). Age and insurance status were not statistically significantly different between Asian American subethnic groups, and family income varied by Asian subethnic groups with marginal significance.

### Comparison of Mental Disorders Among Asian American Subethnic Groups

Comparison of lifetime prevalence of mental disorders showed significant subethnic group differences in any DSM-IV psychiatric disorders among Asian Americans, influenced by significant differences in the prevalence of any substance use disorder (Table 2). Southeast Asians had a higher prevalence of any DSM-IV psychiatric disorders (34.6 %) compared to East Asians (22.5 %) and South Asians (24.5 %;  $p < 0.001$ ). South Asians had the lowest prevalence of substance use disorders (11.1 %) followed by East Asians (13.1 %;  $p = 0.06$ ). Southeast Asians had the highest prevalence of substance use disorders (16.7 %), mainly due to their higher prevalence of drug use disorders (15.5 %) compared to East Asians (10.2 %) and South

**Table 2** Lifetime prevalence of mental disorders among Asian American subethnic groups

Mental disorder	East Asians (n = 648)			Southeast Asians (n = 485)			South Asians (n = 298)			$\chi^2$	df	p
	N	%	SE	N	%	SE	N	%	SE			
%												
Mood disorders												
Major depression	72	11.1	1.2	59	12.2	1.5	30	10.1	1.7	0.8	2	0.66
Dysthymia	15	2.3	0.6	18	3.7	0.9	7	2.4	0.9	2.3	2	0.34
Bipolar disorder (I/II)	25	3.8	0.8	30	6.2	1.1	14	4.7	1.2	3.3	2	0.19
Any mood disorder	87	13.4	1.3	82	16.9	1.7	39	13.1	2.0	3.3	2	0.19
Anxiety disorder												
Social phobia	27	4.2	0.8	20	4.1	0.9	8	2.7	0.9	1.4	2	0.5
Generalized anxiety disorder	17	2.6	0.6	10	2.1	0.6	6	2.0	0.8	0.5	2	0.77
Agoraphobia or panic disorder	16	2.4	0.6	16	3.3	0.8	11	3.7	1.10	1.3	2	0.53
Specific phobia	40	6.2	0.9	38	7.8	1.2	19	6.4	1.40	1.3	2	0.52
Any anxiety disorder	74	11.4	1.2	65	13.4	1.5	34	11.4	1.80	1.2	2	0.55
Substance use disorder												
Alcohol disorder	35	5.4	0.01	21	4.3	0.01	8	2.7	0.01	3.6	2	0.17
Drug disorder	66	10.2	0.01	75	15.5	0.02	31	10.4	0.02	8.2	2	0.02*
Any substance use disorder	85	13.1	0.01	81	16.7	0.02	33	11.1	0.02	5.5	2	0.06
Any DSM-IV psychiatric disorder	178	22.5	0.02	168	34.6	0.02	73	24.5	0.02	11.0	2	0.004***

\*  $p < 0.05$ , \*\*  $p < 0.01$ ,  
\*\*\*  $p < 0.001$

**Table 3** Lifetime prevalence of mental health service use among Asian American subethnic groups (N = 1,443) with specific mental disorders\*

Mental disorder	East Asian (N = 648)			Southeast Asian (N = 485)			South Asian (N = 298)			p
	Total N	N used services	%	Total N	N used services	%	Total N	N used services	%	
%										
Any mood disorder	87	33	37.9	82	30	36.6	39	16	41.0	0.9
Any anxiety disorder	74	20	27.0	65	14	21.5	34	10	29.4	0.63
Any substance use disorder	85	8	9.4	81	9	11.1	33	8	24.2	0.09
Any DSM-IV psychiatric disorder	178	51	28.7	168	42	25.0	73	22	30.1	0.81

\* Fisher’s exact test calculated the p value

Asians (10.4 %;  $p = 0.02$ ). Southeast Asians also had the highest point prevalence of any mood disorder and any anxiety disorder compared to East Asians and South Asians, but these subethnic group differences were not statistically significant.

Table 3 shows Asian American subethnic group differences in the prevalence of lifetime mental health service use among those with mood, anxiety, substance use, and any DSM-IV disorders. Among Asians with substance use disorders, there was a significant subethnic group difference in

mental health service use. Only 8 or 9 individuals out of 85 East Asians (9.4 %), 81 Southeast Asians (11.1 %) and 33 South Asians (24.2 %) with substance use disorders received treatment ( $p = 0.09$ ). While not statistically significant, South Asians with any DSM-IV psychiatric disorders (including mood, anxiety, and substance use disorders) were more likely to have used mental health services, compared to East Asians and Southeast Asians. There were no other statistically significant differences in the prevalence of mental disorders across Asian American subethnic groups.

**Table 4** Comparison of lifetime utilization of mental health services for Asian American subethnic groups with mental disorders\*

Comparison	Mood disorder		Anxiety disorder		Substance use disorder		Any disorder	
	OR	95 %CI	OR	95 %CI	OR	95 %CI	OR	95 %CI
E Asian vs. SE Asian	1.08	0.56–2.07	1.30	0.55–2.86	0.72	0.25–2.08	1.29	0.79–2.12
E Asian vs. S Asian	0.78	0.35–1.74	0.84	0.34–2.11	0.25	0.08–0.84	0.89	0.48–1.64

Odds ratio (OR) controlled for age, sex, education, and current insurance status

### Mental Health Service Use Among Asian American Subethnic Groups

In Table 4, multivariable logistic regression was used to compare the odds of mental health service use between East Asians versus Southeast Asians, and East Asians versus South Asians with mood disorders, anxiety disorders, substance use disorders, and any DSM-IV disorders. Models were adjusted for age, sex, education, and current insurance status. Compared to South Asians with substance use disorders, East Asians with had a significantly lower odds of mental health service use (OR = 0.25, CI = 0.08–0.84). None of the other odds ratios for mental health service use were statistically significant. Except for substance use disorders, compared to Southeast Asians, East Asians had greater point estimates for the odds of mental health service use. Compared to South Asians, East Asians had lower odds of mental health service use in all mental disorder categories.

### Discussion

The present study investigated the heterogeneity in the prevalence of mental disorders and use of mental health services among Asian Americans, especially concerning substance use disorders. Substance use disorders are highly comorbid with mood and anxiety disorders, and are predictors to suicidal thoughts and behaviors (Grant et al. 2005; Hasin et al. 2005). While previous studies reported that Asian Americans have a lower prevalence of psychiatric disorders and substance use disorders compared to other racial groups (Division 2011; Grant et al. 2005; Hasin et al. 2005, 2007), the present study demonstrated between-Asian American subethnic group differences in mental health needs and service use patterns. We found that Southeast Asians had a higher prevalence of overall psychiatric disorders compared to East Asians and South Asians, mostly due to a high prevalence of drug use disorders. A higher prevalence of substance abuse and dependence among Southeast Asians may be due to having a higher proportion of recent migrants and refugees with pre-migration trauma and previous use patterns (D'Avanzo 1997; O'Hare and Tran 1998). A large proportion of

Southeast Asian refugees from countries such as Cambodia, Vietnam, and Laos had been subjected to fear, trauma, and unfair treatment due to differences in ethnical, religious, or political opinions (Hsu et al. 2004). Post-migration stressors due to experience of discrimination and work-related stressors may increase problematic substance use behavior (Chae et al. 2008).

The prevalence and odds of mental health service use for any substance use disorder was especially low among East Asians compared to South Asians. This difference is consistent with the lower prevalence of mental health service use for depression reported among Chinese compared to Southeast Asians and South Asians in Canada (Tiwari and Wang 2008). Proximity and accessibility to care, availability of culturally and linguistically compatible mental health services, and practical and cultural acceptability of western psychiatry among underserved subethnic groups need to be further investigated. We found that East Asians and Southeast Asians are more likely than South Asians to reside in cities, which suggests that proximity to mental health services may not be the main reason for East and Southeast Asians' relative underuse of mental health services. Shared cultural perceptions on mental illness and mental health services, such as Chinese and Korean adults' tendency to normalize heavy drinking and accessing treatment as a last resort once criminal justice system made a referral (Park et al. 2010).

One of the main limitations of this study is small number of subjects with mental disorders and the lack of confidence in correctly capturing the distributions of mental health needs and mental health service use based on a more refined grouping (e.g., by specific countries of origin). We note that within-group differences in each of South, Southeast, and East Asian American subethnic categories may attenuate the between-group differences in the prevalence of mental disorders and service use. The NESARC data may not represent the current trend of mental health service use, since the data collection took place in 2001 and 2002. The NESARC study did not report response rate by nationality, and possible differences in response rates by Asian subethnic groups may compromise the internal validity of this study. Also, due to the reliance of self-report for ascertaining lifetime mental health service use, recall bias may have influenced our findings by under-

reporting mental disorders. Furthermore, while Southeast Asian refugees are found to have a high level of post-traumatic stress disorders (PTSD) (O'Hare and Tran 1998), the NESARC wave 1 did not measure the prevalence of and service use for PTSD (Grant and Dawson 2006). The NESARC wave 2 assessed PTSD and found that Asian Americans had lower overall trauma exposure, but a higher prevalence of war-related trauma including experiences of being an unarmed civilian in a war zone or being a refugee (Roberts et al. 2011). The inclusion of a PTSD category could have increased the prevalence of anxiety disorders and service use among Asian subethnic group that experienced higher level of war-related trauma. Acculturation factors such as English proficiency that would have shed light on service use patterns were not measured for Asian Americans as part of the study.

Despite broadly classifying Asian Americans into three broad subethnic groups, our analysis found heterogeneity in the patterns of mental health service use across Asian American subethnic group categories. The strength of this study was that it examined the variability of mental health needs and service use patterns across Asian American subethnic groups using a methodologically strong, community-based dataset that is national in scope. The detailed, structured psychiatric interview and accompanying survey questions enabled the grouping of Asian American subethnic groups into South Asians, Southeast Asians, and East Asians, while such comparison across subethnic groups is rare in other smaller-scaled, community-based studies. Furthermore, the current study incorporated a structured assessment of psychiatric disorders and it allowed the analysis of treatment needs and service use patterns based on distinct categories of mental disorders.

There is significant heterogeneity in Asian Americans' mental health needs and service use patterns, especially among individuals with substance use disorders. Policy makers and service sectors should increase awareness about the fact that Southeast Asians, who are most impacted by substance use disorders, are in need of timely and culturally appropriate treatment. In addition, East Asians who have the least access to mental health services may need increased awareness and knowledge about substance use disorders and availability of services. Further studies on Asian American subethnic group differences in the role of pre-migration substance use patterns, acculturation, and social support on the use of alcohol and drugs in the United States will benefit the literature. Survey-based and intervention studies should ensure representation of diverse Asian American nationalities, and assess response rates and outcomes by countries of origin. More research is needed to investigate the barriers to mental health service use for substance use disorders including attitudes towards mental health services and availability of culturally sensitive services.

**Conflict of interest** Authors declare no conflict of interest.

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