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**ADDICTIVE
BEHAVIORS**

Addictive Behaviors 29 (2004) 127–141

Alcohol, tobacco, and other drug use among Asian American and Pacific Islander Adolescents in California and Hawaii

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Abstract

As an aggregate group, the lowest rates of alcohol, tobacco, and other drug (ATOD) use are often reported for Asian Americans/Pacific Islanders (AAPIs), compared to other groups. However, the low rates are often based upon samples with small representations of AAPIs, or represented by only one or two AAPI groups. Consequently, reliable data on the rates of ATOD use among specific AAPI subgroups are severely lacking. Using data from school surveys collected from 9th grade students in California and 10th grade students in Hawaii, we compared the ATOD rates of Whites, Chinese, Filipino, Japanese, and Pacific Islander/Native Hawaiian adolescents. We found considerable variation in ATOD rates among subgroups of AAPIs, variation that was consistent across surveys. Chinese reported the lowest ATOD rates; Whites, Pacific Islanders, and Native Hawaiians reported among the highest. We found similar variation in need for alcohol and other drug treatment for these groups. Implications of these findings and recommendations for future research are discussed.

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Keywords: Alcohol; Tobacco; Drug use; Asian American adolescents; Pacific Islander adolescents

1. Introduction

Substance use and abuse information among Asian Americans and Pacific Islanders (AAPIs) currently disseminated is mostly limited to alcohol and cigarette smoking (U.S.

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Department of Health and Human Services, 1997). Credible epidemiologic studies that document drug use and abuse among the wide range of AAPI subpopulations are still rare (Harachi, Catalano, Kim, & Choi, 2001; Ja & Aoki, 1993; National Research Council, 1998; Zane & Huh-Kim, 1994, 1998). In a review of over 250 recent Asian population-specific articles a few years ago, about 50 were related to substance use, mental health, and high-risk behaviors; only a handful pertained to epidemiologic information necessary to assess illicit drug use patterns among *different* AAPI subgroups in the United States.

National and regional reports on racial/ethnic differences and alcohol, tobacco, and other drug (ATOD) use have consistently shown that ATOD rates of AAPIs are among the lowest. Large national surveys, such as the National Household Survey on Drug Abuse (NHSDA) report that Asians have the lowest ATOD rates. The 1999 NHSDA reports that rates for any alcohol use in the past 30 days were 20%, 13%, 20%, 21%, and 13%, among Whites, Blacks, Hispanics, American Indians/Alaskans, and Asians aged 12–17 years, respectively; rates for lifetime cigarette use were 40%, 28%, 34%, 53%, and 24%, respectively; and rates for lifetime illicit drug use were 28%, 26%, 30%, 47%, and 19%, respectively (Substance Abuse and Mental Health Services Administration, 2000). Asians, as a group, also had the lowest lifetime, yearly, and monthly alcohol, cigarette, and illicit drug rates among those aged 18–25 years and those aged 26 years and older in the 1999 NHSDA sample. The rates for Pacific Islanders (PI) are typically not reported even in a large-scale national survey because too few PIs are included to yield reliable estimates. In a tobacco use study conducted in San Diego County schools in California for students in Grades 4, 7, 10, and 12 ($N=4980$), De Moor, Elder, Young, Wildey, and Molgaard (1989) compared rates for Hispanics, Whites, Blacks, and Asians and Pacific Islanders (APIs). Except for 10th grade, APIs as a whole reported the lowest rates of regular tobacco use, while Whites and Hispanics generally reported higher rates of experimental and regular tobacco use.

Explanations abound for these apparent racial differences ranging from race/ethnic group differences in substance use risk factors (Catalano et al., 1992; Keefe & Newcomb, 1996; Wells et al., 1992) to enzymatic differences relating to alcohol metabolism (Goedde et al., 1986). The underlying factors that may account for these differences have not been systematically investigated. Consequently, the ethnic specific attitudes, behaviors, and consequences of ATOD use and abuse among AAPIs remain largely unknown.

Furthermore, national epidemiologic findings on lower rates of ATOD use among AAPIs are inconsistent with other AAPI substance use statistics from states. For example, AAPIs were among those responsible for local epidemics of ice, smokable form of methamphetamine, particularly in San Francisco and Hawaii (Community Epidemiology Work Group, 1998; Wolkoff, 1997). Among youth, while overall substance use remains less prevalent among the AAPI than Whites, some evidence exists of higher prevalence rates of use for some classes of illicit drugs at a local level (Kim & Shantzis, 1989). Illicit drug use by Native Hawaiian middle school students exceeded that of Whites in recent years (Klingle & Miller, 1999).

One reason for conflicting results among national and some statewide samples is that differences may be masked by the fact that national samples poorly represent AAPIs and tend

to treat all ethnic groups within the AAPI as a homogenous group. Recent research, however, has shown that rates of ATOD use and abuse among ethnic groups within the broad AAPI category are in fact vastly different (Price, Risk, Wong, & Klinge, 2002). The validity of the oft-cited low prevalence rates among AAPIs is of serious concern because such findings are interpreted as low need for ATOD-related programs and services for AAPIs. Basing funding for youth services such as school-based student assistance programs (Carlson, Hughes, LaChapelle, Holayter, & Deebach, 1994), on data that may not accurately reflect the differential rates within the AAPI population may result in those with the greatest need receiving the least assistance.

Based upon California and Hawaii statewide research on AAPIs, which are geographical regions with high proportions of AAPIs, this paper reports on ATOD use among AAPI adolescents from two recent California and Hawaii statewide student surveys. Specifically, we report on the grade-specific ATOD prevalence rates among major ethnic subgroups of AAPIs and potential need for ATOD intervention or treatment services. The implications of the findings and recommendations for future research are discussed.

2. Method

2.1. Participants, procedures, and instruments

This study is based upon two self-administered, anonymous cross-sectional school-based surveys: California Healthy Kids Survey (CHKS) and Hawaii Student Alcohol and Other Drug Use Survey (HSAD). The CHKS participants were in Grades 7, 9, and 11; HSAD participants were in Grades 6, 8, 10, and 12. Surveys used in both study sites were administered in a paper and pencil format during one classroom session. Participation in both surveys required active parental consent prior to survey administration and is voluntary, confidential, and anonymous.

2.1.1. Ethnicity

In both the CHKS and HSAD, ethnicity was assessed based on participants' perceptions or "self-identity" of their ethnic background. The only difference between the two studies was that CHKS allowed students to self-identify with as many groups as possible and HSAD asked students to mark the one group with which they most strongly identified. The CHKS method of ethnic identification was similar to that used in the 2000 U.S. Census. Expectedly, the HSAD had more PI subcategories than CHKS; HSAD also had an ethnic category called, "Something not listed." Further, because of their low numbers, Hawaiians and "part Hawaiians" were grouped together as one group. In short, HSAD utilized a hybrid of student- and researcher-defined ethnicity. Admittedly, the methodologies for determining ethnicity were somewhat different, given the original intent of these surveys. Ethnicity-determination methods used by these surveys were standard, compared to ethnicity-determination methods used in all major current national surveys, including the 2000 U.S. Census.

2.1.2. *California healthy kids survey (CHKS)*

The California Healthy Kids Survey was developed by WestEd in collaboration with Duerr Evaluation Services and sponsored by the California Department of Education and California school districts. It was designed to collect information on health and risk behaviors, including alcohol and other drug use. CHKS used a representative school-district-level (not state-level) sample plan among schools in California; districts, however, were urged to sample at the school level. In districts with over 900 students with 10 schools per grade, schools and classrooms were randomly selected. Incentives and provisions for funding provided by the state Department of Education facilitated district participation. Private schools were also encouraged to participate.

Data collection for CHKS survey is ongoing, beginning in 1998. To be consistent with Hawaii data, data for this analysis were based upon the samples collected through December 1999 ($N=288,831$), which included an estimated 23% of the corresponding student population in California. To be included in the database for analysis, school districts must have met 100% participation by selected schools and classrooms, a 70% parental consent rate, and a 60% response rate. About 30% of schools did not meet these selection criteria. Although data were collected from public, private, and alternative or continuation schools, we will examine only data from public and private schools. We focused on public school data in the CHKS because (1) there were only 86 private school cases, and (2) there were no comparable continuation school data in Hawaii.

2.1.3. *Hawaii student alcohol and other drug (HSAD) use survey, 1998*

The statewide Hawaii survey began in 1987 and is conducted approximately every two years. Starting in 1996, HSAD was implemented through collaboration between the State of Hawaii Department of Health and the University of Hawaii at Manoa, with funding from the Center for Substance Abuse Treatment. The HSAD is part of a continuous effort to monitor substance use prevalence rates and treatment needs among Hawaii school students. The HSAD uses census sampling in which all schools in the State of Hawaii servicing students in Grades 6, 8, 10, and/or 12 are solicited to participate in the study. In 1998, 204 public schools (99% of the public schools statewide) and 44 private schools (42% of the private schools statewide) servicing Grades 6 and above agreed to participate in the study. Selection of participants within the schools is also based on census sampling. Thus, all students in Grades 6, 8, 10, and 12 from these schools are asked to participate in the study. Students, however, are only able to participate in the study if they received active parental consent. In the spring of 1998, 25,343 students in Grades 6 ($n=9422$; 62.2% of 6th grade population), 8 ($n=6831$; 44.7% of 8th grade population), 10 ($n=5252$; 33.9% of the 10th grade population), and 12 (3,838; 32.2% of the 12th grade population) participated in the study (public school $n=19,930$; private school $n=5413$). Of the students with parental consent, 88% completed the survey.

Although biases could exist because students who did not have parental consent were excluded from the study, participants in the study reflected the demographic make-up of the State of Hawaii. The largest ethnic groups represented in HSAD sample, as compared to statewide census estimates, were Hawaiian or part Hawaiian (22%, compared to 25%),

Filipino (20%, compared to 19%), Japanese or Okinawan (20%, compared to 12%), Caucasian (13%, compared to 16%), and Chinese (6% compared to 3%). As a further test of the representativeness of the 1998 sample, the 1998 HSAD sample was compared to the 1993 HSAD sample, which was also not restricted by an active parental consent policy that was put into place in 1996. Nationwide results (Johnston, O'Malley, & Bachman, 1999) and Hawaii results (Klingle & Miller, 1997) have found the rate of alcohol and other drug use is substantially higher among students who do *not* expect to graduate from a 4-year college than among students who do expect to graduate from a 4-year college. The strong association between *planning to graduate from college* and substance use suggests that this question would give an indication of whether the 1998 study is under- or overrepresenting “at-risk” students. With the exception of the 12th grade samples, the 1998 and 1993 samples were virtually identical on this question. The 12th grade sample in 1998, however, had 3% more of the students reporting they were college bound; thus, the 1998 sample was probably underrepresenting at-risk students. The 1998 12th grade sample also had a poor representation of public school students, with only 25.6% of the 12th grade public school population represented in the sample. Because of the high likelihood of underrepresenting at-risk students among 12th graders, the study reported here excludes the 12th grade sample.

2.1.4. AAPI groups

We focused on ATOD use among four main AAPI groups: Chinese, Filipino, Japanese, and Pacific Islander (CHKS) or Native Hawaiian (HSAD). The rates among Whites, as the comparison group, were also reported in the current study. Table 1 summarizes the

Table 1
Sample characteristics (%)

		CHKS (N=248,641–250,270)	HSAD (N=23,972–24,641)
Gender	Male	46.5	46.8
	Female	53.5	53.2
Race/Ethnicity	Chinese	2.1	5.6
	Filipino	1.6	19.5
	Japanese ^a	0.6	19.6
	Pacific Islander or Hawaiian ^b	0.8	24.7
	White	36.2	13.2
	All other race/ethnic groups	58.7	17.3
Grade	6th	–	37.2
	7th	41.0	–
	8th	–	26.8
	9th	33.0	–
	10th	–	20.8
	11th	26.0	–
	12th	–	15.2

(–) indicates no data were available. Sample size varies because of missing data.

^a Includes Okinawan.

^b Pacific Islander for CHKS and Native Hawaiian for HSAD.

characteristics of our survey participants. In contrast to the approximately 2% representation of AAPIs in the 1999 NHSDA survey, AAPI ethnic groups had higher representations in the two surveys used. The representation was roughly 11% in CHKS and 72% for HSAD, corresponding to the levels of representation of AAPIs in the two states. To make the age groups of the samples as close across the two surveys as possible, we only included the results from the 9th grade CHKS sample and from the 10th grade HSAD sample.

For CHKS and the Hawaiian sample (HSAD), we selected only the AAPI groups that were well represented in both groups. As shown in Table 1, although AAPIs comprise 5% of CHKS, using the lower bound overall CHKS (248,641) and HSAD sample sizes (23,972), this translates to the following *minimum* group sizes:

Chinese: 5221 for CHKS and 1342 for HSAD

Filipino: 3978 for CHKS and 4674 for HSAD

Japanese: 1491 for CHKS and 4698 for HSAD

Pacific Islander or Hawaiian: 1989 for CHKS and 5921 for HSAD

White: 90,008 for CHKS and 3164 for HSAD

2.2. Measures

The questionnaires from the two surveys contained numerous closed-ended items on ATOD use in addition to risk and protective factors in the family, peer–individual, and community–school domains. For this paper, we focused on the lifetime and 30-day ATOD use and treatment needs items.

2.2.1. ATOD use

For both surveys, we examined lifetime use and use in the past 30 days for alcohol, nicotine (cigarettes and smokeless tobacco), and illicit drugs (marijuana, inhalants, hallucinogens, methamphetamines, cocaine). Heroin or other opiates was assessed to lifetime only for the CHKS. CHKS lifetime items contained the questions, “During your life, have you ever used or tried. . .(substance),” with response choices including no or yes. CHKS 30-day items contained the questions, “During the past 30 days, on how many days did you. . .” (1=0 days, 2=1 to 2 days, 3=3 to 9 days, 4=10 to 19 days, 5=20 or more days). CHKS 30-day items were dichotomized into yes and no responses for analyses (0 day of use=*no* vs. use on at least 1 day in the last 30 days=*yes*). Because lifetime and 30-day ATOD items in the CHKS were included in its core modules, these items were administered to the entire CHKS sample.

HSAD lifetime items contained the stem question, “What grade were you in when you first did each of the things listed below (without a doctor telling you to take them)?” followed by a list of alcohol, nicotine, and illicit drug items. Seven response options ranging from “never used” to “Grade 12” were dichotomized (never=*no use* vs. use at any grade=*ever use*). HSAD 30-day items contained the stem question, “During the last 30 days, how many days (if any) have you used:” followed by a list of substances. The six response options, ranging from “0” to “20 or more” were dichotomized into yes and no responses (0 use during the last 30 days=*yes* vs. use on at least 1 day in the last 30 days=*no*).

2.2.2. Perceived treatment need for alcohol and other drug use (PTN) and diagnostic or actual treatment needs (ATN)

Both studies assessed perceived need for alcohol and other drug use treatment (PTN) by asking the students to self-report their perceived need for help for alcohol or other drug use. The CHKS participants were asked “Have you ever felt that you needed help for your alcohol or other drug use?” and the HSAD asked “In the past 12 months, have you ever felt you needed help for your alcohol or other drug use?”

In addition to assessing PTN, the HSAD also used a diagnostic approach in the form of the DSM-III-R criteria (*Diagnostic Statistical Manual*, 3rd Ed.—Revised, [American Psychiatric Association, 1987](#)) to assess ATN. It is important to note that the HSAD and CHKS were developed with specific purposes in mind. The DSM was a focus of the HSAD originally, which prompted the inclusion of DSM-themed treatment needs items. The DSM was not part of the CHKS, which is why DSM-themed items were not included in that instrument.

The DSM-III-R diagnostic criteria for alcohol and drug abuse and dependence reflect standards developed by researchers as to what patterns of behavior or physiological characteristics constitute abuse and dependence ([National Institute on Alcohol Abuse and Alcoholism, 1995, October](#)). The HSAD survey questions, reflecting each of the DSM-III-R diagnostic criteria, and method for categorizing responses were developed based on recommendations from the National Technical Center for Substance Abuse Needs Assessment (NTC).

The DSM-III-R diagnostic criteria are used to distinguish two types of diagnoses: dependence and abuse. Dependence is the most severe diagnosis and includes both physiological symptoms, such as tolerance and withdrawal, and behavioral symptoms, such as impaired control over the use of a substance ([Hasin, Grant, & Endicott, 1990](#)). Abuse is a residual category for those who do not meet the criteria of dependence but who use substances in dangerous situations or who use substances despite having physical, social, psychological, or occupational problems related to their substance use. Dependence and abuse are assessed in the HSAD for five classes of drugs: alcohol, marijuana, stimulants (cocaine, methamphetamine, speed), depressants or downers (sedatives, heroin), and hallucinogens. Because of the high likelihood of substance abuse by adolescents turning into a dependency problem, students are considered needing treatment if they are diagnosed as dependent on or abusers of any of these five drug classifications. Thus, actual treatment needs (ATN) is defined as students who are classified as either dependent or abusing one or more substances based on the DSM-III-R diagnostic criteria.

Substance dependence is indicated by the student’s responses to nine different questions or diagnostic criteria for dependency. These criteria include (1) using more than intended; (2) persistent desire or effort to stop use; (3) great deal of time spent using/obtaining the substance or recovering from use; (4) frequent intoxication or being high or having withdrawal symptoms when expected to fulfill major role obligations at work, school, or home, or when substance use is physically hazardous; (5) neglecting activities or sacrificing important activities because of substance use; (6) continued use despite knowledge of having a persistent or recurring problem caused or exacerbated by substance use; (7) marked tolerance; (8) withdrawal symptoms; and (9) use of the substance to relieve/avoid withdrawal symptoms. A student is considered dependent on a substance if he/she marked

“yes” to at least three DSM-III-R symptoms and for at least two of the symptoms, he/she indicated that it occurred more than once in a single month or several times within the last year.

Substance abuse is a residual category for diagnosing students who never met the criteria for dependence, but who meet one of the following criteria: (1) continued use of the substance despite knowledge of having a persistent or recurrent problem(s) at school, home, work, or with friends because of the substance (e.g., lower grades, fight with parents/friends, get in trouble at work, have problems concentrating, or physical problems); (2) substance use in situations in which use is physically hazardous (e.g., drinking or using drugs when involved in activities that could have increased the student’s chance of getting hurt—for instance, using a knife, climbing, swimming, or driving a vehicle). For the student to be classified as abusing a substance, at least one of the two abuse symptoms must have occurred more than once in a single month or several times within the last year. In addition, the student must *not* meet the criteria for dependence on that substance.

2.3. *Validity*

CHKS data are based upon numerous face valid questions about AOD use problems, among many others. Further, the AOD rates reported in the CHKS are comparable to those in the national Monitoring the Future (MTF) and Youth Behavior Risk Survey (YRBS), in terms of school grade-level and aggregated ethnic group rates. The intent of the CHKS, as well as the MTF and YRBS, is to monitor the AOD behaviors of students, based upon numerous prevalence items. Likewise, HSAD items are worded similarly to these aforementioned surveys.

3. Results

3.1. *ATOD prevalence rates*

As shown in [Tables 2 and 3](#), the ethnic-specific prevalence rates within the AAPI indicated wide variability in lifetime and 30-day ATOD rates among the AAPI groups (Chinese, Filipino, Japanese, and Pacific Islander/Native Hawaiian) and Whites. Regardless of ethnicity, the most prevalent substances were alcohol and cigarettes. For CHKS 9th graders and HSAD 10th graders, marijuana was the most prevalent illicit drug used in the lifetime and 30-days (except for lifetime use among CHKS Chinese, where inhalants was the most prevalent illicit drug).

3.1.1. *California Healthy Kids Survey*

For 9th graders, Pacific Islanders (PI) consistently reported the highest lifetime and 30-day ATOD rates; Chinese reported the lowest lifetime and 30-day rates. For lifetime rates ([Table 2](#)), among the four AAPI groups of 9th graders, alcohol rates ranged from 37% (Chinese) to 65% (PI); cigarette rates ranged from 21% (Chinese) to 52% (PI); and marijuana rates ranged

Table 2
Lifetime and 30-day prevalence of alcohol, tobacco, and other drugs: CHKS 9th grade (%)

	Lifetime					30-Day				
	Chinese	Filipino	Japanese	Pacific Islander	White	Chinese	Filipino	Japanese	Pacific Islander	White
<i>Alcohol</i>										
Alcohol	37.4	56.9	46.8	65.0	62.7	12.2	21.8	24.0	36.9	35.3
Get drunk ^a	13.4	25.1	19.3	37.0	32.9	–	–	–	–	–
<i>Nicotine</i>										
Cigarettes	21.2	44.8	29.3	51.8	43.9	5.8	12.1	9.6	19.7	16.3
Smokeless tobacco	2.3	4.0	5.6	12.8	8.7	1.7	2.3	2.7	5.2	3.3
<i>Illicit drugs</i>										
Marijuana ^b	6.4	18.5	14.4	31.0	26.5	3.6	9.5	8.6	20.4	15.2
Inhalants	6.8	13.1	10.4	12.5	13.6	2.8	3.8	2.9	5.5	4.5
Hallucinogens ^c	3.3	4.9	3.2	8.3	6.8	2.3	2.1	2.5	5.4	3.3
Methamphetamines	3.1	4.1	3.2	5.5	5.4	1.8	1.8	2.0	3.7	2.6
Cocaine ^d	3.0	3.3	2.7	5.3	4.2	1.6	1.6	2.0	3.6	2.1
Heroin or other opiates ^e	2.3	2.1	2.2	2.8	2.2	–	–	–	–	–

(–) indicates no data were available.

^a Get drunk includes very drunk or sick.

^b Marijuana includes hashish.

^c Hallucinogens include LSD or psychedelics.

^d Lifetime cocaine includes crack; 30-day cocaine includes cocaine or crack.

^e Heroin only.

from 6% (Chinese) to 31% (PI). For 30-day rates (Table 3), among the four AAPI groups of 9th graders, alcohol rates ranged from 12% (Chinese) to 37% (PI); cigarette rates ranged from 6% (Chinese) to 20% (PI); and marijuana rates ranged from 4% (Chinese) to 20% (PI).

3.1.2. Hawaii Student Alcohol and Other Drug Use Survey

Consistent with the CHKS study, HSAD also found some of the highest prevalence rates among PI groups, such as Native Hawaiians, and the lowest prevalence among Chinese. However, HSAD study found that the prevalence rates of Native Hawaiians were nearly equal to Whites. For 10th graders, Native Hawaiians generally reported the highest lifetime and 30-day ATOD rates, and the rates were close to those among Whites; Chinese generally reported the lowest rates. Lifetime alcohol rates ranged from 55% (Chinese) to 80% (Native Hawaiian); cigarette rates ranged from 34% (Chinese) to 65% (Filipino); and marijuana rates ranged from 15% (Chinese) to 52% (Native Hawaiian). Thirty-day alcohol use rates ranged from 19% (Chinese) to 46% (Native Hawaiian); cigarette use rates ranged from 12% (Chinese) to 27% (Native Hawaiian); and marijuana rates ranged from 8% (Chinese) to 30% (Native Hawaiian).

Table 3
Lifetime and 30-day prevalence of alcohol, tobacco, and other drugs, HSAD 10th grade (%)

	Lifetime					30-Day				
	Chinese	Filipino	Japanese	Native Hawaiian	White	Chinese	Filipino	Japanese	Native Hawaiian	White
<i>Alcohol</i>										
Alcohol	54.9	73.5	63.8	80.1	76.0	19.0	33.8	29.1	46.1	47.1
Get drunk	20.9	35.4	29.6	51.5	51.4	–	–	–	–	–
<i>Nicotine</i>										
Cigarettes	33.8	64.8	44.7	64.2	58.9	11.5	25.7	20.7	26.9	26.4
Smokeless tobacco	5.4	9.2	9.1	11.6	12.1	1.2	2.6	2.4	3.5	3.0
<i>Illicit drugs</i>										
Marijuana	15.4	35.4	27.6	51.6	45.8	7.5	19.0	13.9	29.7	28.9
Inhalants	5.3	11.2	6.1	11.5	12.4	1.6	2.3	1.5	2.6	2.4
Hallucinogens	2.2	5.2	4.9	11.1	18.2	1.3	1.9	1.4	4.4	7.2
Methamphetamines	2.2	6.7	3.8	9.4	7.0	1.6	3.4	1.0	4.3	2.4
Cocaine	3.1	4.2	2.7	7.3	6.7	1.6	2.1	1.1	3.4	1.9
Heroin or other opiates	0.9	1.9	1.6	2.7	2.6	–	–	–	–	–

(–) indicates no data were available.

3.2. Perceived need for AOD help

This CHKS and HSAD comparison of self-reported need for help with AOD problems was limited because CHKS asked about *ever* perceiving a need for AOD help while HSAD asked about having this need in the past 12 months. As shown in Table 4, across ethnic/racial lines, 8% or fewer students reported having a need for AOD help. The percentage of ethnic differences in perceived need for help was consistent with the differences of prevalence rates: the higher the prevalence, the higher the percentage of perceived need to help. From the CHKS survey, Pacific Islanders reported the highest self-perceived need for help while the Chinese reported the lowest. In the HSAD data, Native Hawaiians reported the highest need and the Chinese, the lowest.

3.3. AOD treatment needs

Only the HSAD assessed AOD treatment needs. As mentioned, AOD treatment need was based upon satisfying the DSM-III-R criteria for either abuse or dependence. With rare exception, those with treatment need more likely had AOD dependency than abuse. In addition, those with treatment need tended to have both alcohol and drug treatment needs (Table 5). Among 10th graders, 3–5% had alcohol treatment needs only; 3–9% had drug treatment needs only; and 4–16% had both alcohol and drug treatment needs. Between 10% and 30% had alcohol and/or drug treatment needs, with Native Hawaiians having the

Table 4
Self-reported need for help for alcohol and/or other drugs

CHKS 9th Grade					HSAD 10th Grade				
Chinese	Filipino	Japanese ^a	Pacific Islander	White	Chinese	Filipino	Japanese	Native Hawaiian	White
0.8%	1.6%	–	7.8%	2.4%	3.9%	6.1%	4.1%	7.2%	4.1%

In the lifetime for CHKS but in the past 12 months for HSAD.

^a (–) indicates there were too few total respondents in this group who answered this question to be reliable ($n < 100$ cases).

highest need and the Chinese having the lowest. Interestingly, the proportion of treatment needs assessed from the symptom profiles available in HSAD were much higher than the proportion of students who perceived themselves as having had a need for help for AOD use.

Nearly one in four Native Hawaiians and Whites had marijuana treatment needs; roughly 20% of Native Hawaiians and Whites had marijuana dependency. With rare exception, 4% or less had stimulant, depressant, or hallucinogen treatment needs. Similarly, nearly 30% of 10th grade Native Hawaiians and Whites had alcohol and/or drug treatment needs. Chinese had the lowest alcohol and/or drug treatment rate (10%).

Table 5
Alcohol and other drug treatment needs, HSAD 10th graders (%)

	Chinese	Filipino	Japanese	Native Hawaiian	White
Alcohol treatment needs	6.7	13.8	10.7	20.1	18.3
abuse	0.6	0.9	1.5	2.6	1.8
dependency	6.1	13.0	9.2	17.5	16.5
Drug treatment needs (any illicit drug)	6.3	16.5	10.0	24.9	23.5
Marijuana treatment needs	5.8	15.6	9.4	23.1	22.5
abuse	1.9	2.0	2.1	3.8	4.1
dependency	3.9	13.5	7.3	19.2	18.4
Stimulant treatment needs	1.7	2.4	1.0	3.9	3.8
abuse	0.3	0.1	0.1	0.6	0.5
dependency	1.3	2.3	0.9	3.3	3.3
Depressant treatment needs ^a	1.3	0.9	0.7	2.0	1.9
abuse	0.3	0.3	0.0	0.8	0.2
dependency	1.0	0.7	0.7	1.2	1.7
Hallucinogen treatment needs	2.0	1.6	1.0	3.3	3.8
abuse	0.3	0.4	0.0	1.0	0.6
dependency	1.7	1.2	1.0	2.3	3.1
Alcohol treatment needs only	3.3	4.0	4.6	5.0	4.6
Drug treatment needs only	2.6	6.1	3.6	8.6	9.0
Alcohol and drug treatment needs	3.6	10.3	6.4	16.1	14.4
Total treatment needs (alcohol and/or drug)	9.5	20.4	14.6	29.8	28.0

^a Depressants=tranquilizers (Valium) or sedatives (downers/reds, quaaludes).

4. Discussion and implications

Comparisons of the CHKS and HSAD were limited because both surveys used a cross-sectional design. As a consequence, results were presented within the grade as a snapshot of substance use behavior at the specific developmental stage. Additionally, HSAD contained more lifetime ATOD items than CHKS. Furthermore, these questions were worded somewhat differently. Thus, differences in prevalence rates across the two surveys could be a result of some differences in measurements. Had identical surveys been administered to California and Hawaii samples, we could make stronger statements about ethnic group differences in ATODs. Finally, grade levels and ethnic groups were not identical across the two surveys. CHKS respondents are younger. CHKS identified those of Pacific Islander ancestry as a group, which includes Hawaiians, while HSAD identified Native Hawaiians as a separate group within the Pacific Islander category. As a consequence, we did not address potential regional differences in the prevalence rates.

Although these limitations exist, the current study represents one of few studies that attempt to obtain differential ATOD prevalence rates from sufficiently large numbers of multiple AAPI subgroups. Our findings clearly indicated wide variability in ATOD use and alcohol and other drug treatment need among AAPIs. In general, across both surveys, Pacific Islanders/Native Hawaiians tended to report the highest lifetime and 30-day rates, followed by Whites, Filipinos, Japanese, and Chinese, suggesting an overall consistency in the patterns of ATOD use patterns, irrespective of region. However, HSAD tended to report higher ATOD rates than CHKS. The differences in prevalence rates may be attributable to several factors, including differences in access and availability of ATODs and social acceptance of ATOD use among youth in California versus Hawaii. Our next step is to identify these and other factors that account for these regional differences.

Across the two large-scale surveys, Chinese respondents reported the lowest rates of use and treatment need; in contrast, Whites, PIs, and Native Hawaiians reported the highest rates. Japanese and Filipinos fell in the middle. Although data on 12- to 17-year-olds from the National Household Survey on Drug Abuse indicate that Asians as an aggregated group have lower ATOD rates than aggregated White, Black, American Indian/Alaska Native, multiple race, and Hispanic aggregates (Substance Abuse and Mental Health Services Administration, 2000), these group rates obscure the differences in subgroup rates found in this study. The extent of ATOD involvement among AAPI groups is varied; likely their prevention and treatment needs are varied. Generic efforts for all AAPIs would likely lead to underserving some AAPI groups (Pacific Islanders) while overserving others (e.g., Chinese). Although the findings support previous research that AAPIs tended to have lower rates than Whites, the rates were not at modest levels as previously indicated via anecdotal evidence, suggesting that AAPIs are much more significant consumers of ATODs than previously reported.

For the five ethnic groups included in this paper, there was a large disparity between self-perceived need for AOD help and level of AOD treatment need. This finding suggests a lack of recognition of AOD problems. As a consequence, families, schools, and service providers may not provide assistance to students with AOD problems. Pacific Islanders/Native Hawaiians had the highest self-reported rates for needing help for alcohol and/or other drugs

across the two surveys (8% in CHKS and 7% in HSAD). Only the HSAD reported on ATOD treatment needs. Specifically, Native Hawaiians had the highest rate of alcohol and drug treatment needs (16%), compared to Whites, Chinese, Filipino, and Japanese agemates. Taken together, these findings suggest that not only are AAPI youth involved in ATODs more than believed previously, but they have varying levels of self-awareness of ATOD problems and need for treatment. This finding is significant because previous lack of data on AAPI treatment needs on specific AAPI groups might have helped to reinforce the myth of the “model minority.” Importantly, these findings also point to a source of underestimation of AAPI involvement in AODs and treatment need in prior research. When recruitment of members of other AAPI groups increases, it is likely that aggregate AAPI rates of AOD involvement will also increase.

School-based surveys often report higher AOD rates than household surveys. The 1999 NHSDA (*Substance Abuse and Mental Health Services Administration, 2000*), for example, reports that among those ages 12–17 years 4% had alcohol dependence, when ethnic/racial groups are aggregated (Whites, African American, Native American, Hawaiian/PI, Asian, multiple race, and Hispanic respondents). By comparison, HSAD found that 6–18% of 10th graders of the five ethnic/racial groups had alcohol dependence. As these rates show, AAPIs had a varying range of alcohol dependence rates that exceeded the NHSDA rate across all major ethnic/racial groups. Such a difference in part reflects aggregation of AAPI subgroups in the NHSDA results. The difference is also reflecting the target population of the 1999 NHSDA which included the general population of both adults and adolescents ages 12 or older. Similarly, our study found considerable variability in AOD treatment need among AAPIs, with Native Hawaiians having rates of treatment need rivaling or exceeding those for Whites. More research is needed to examine whether such results generalize to California AAPIs and for AAPIs in other states.

In summary, AAPIs clearly constitute heterogeneous groups characterized by a wide range of ATOD behaviors and treatment needs. Aggregated ATOD rates for AAPIs are underestimates at best, and misleading at worst. What is clear from this study is that adolescent AAPIs used psychoactive substances at rates that were much higher than previously reported from national general-population surveys, with a higher corresponding need for AOD treatment.

This study focused on only four AAPI groups. Findings from other AAPI groups, such as Korean, Cambodian, and Samoan, may further identify special ATOD needs for these populations. Further, this study clearly illustrates the need to identify the underlying social, psychological, and contextual variables that account for ATOD differences among heterogeneous AAPI subgroups (e.g., *Hawkins, Catalano, & Miller, 1992*).

Policy decisions based upon the ATOD information on adolescents that are available in the past would suggest that AAPI youth are at very low risk for AOD involvement and its consequences. Our study shows that this is not the case. Future studies on adolescent AAPIs may benefit from targeted studies of ATOD use in geographical locations where oversampling AAPIs can be obtained, allowing more reliable estimates. Such studies could more efficiently assist those AAPI members in need for AOD health services. Because AAPI populations continue to increase at a rapid rate (*Campbell, 1994; Price et al., 2002; U.S.*

Census Bureau, 2002, reported a 48% increase in the Asian population between 1990 and 2000), such studies will help forecast future health services needs, particularly in the areas which are experiencing rapidly increasing representation of the AAPI populations.

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