

THE 2019-2020 HAWAI'I STUDENT ALCOHOL, TOBACCO, AND OTHER DRUG USE (ATOD) SURVEY

In Contract with and Prepared By:
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*EXECUTIVE
SUMMARY*

Acknowledgments & Disclosures

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The findings from the ATOD Survey disseminated here are solely the views presented by the authors and do not necessarily represent the views of the sponsoring or partnering agencies.

Unless otherwise indicated, all data presented utilize findings from the Data Source: University of Hawai'i Department of Psychiatry, 2019-2020 Hawai'i Student ATOD Survey.

We wish to extend our greatest appreciation to all the school administrators, staff, and students who participated in the survey – mahalo nui loa for your support.

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I. Background and Purpose

This **Executive Summary** is part of a series of reports from the **2019-2020 Hawai'i Student Alcohol, Tobacco, and Other Drug Use (ATOD) Survey** that include data from **state, county, and community region levels** that present an assessment of the scope of alcohol, tobacco, marijuana, and other drug use among participating students in grades 8, 10, and 12. This report summarizes data for **the State of Hawai'i**. Data were collected using a primarily online survey, using a risk and protective factors approach, to report levels of substance use and treatment needs in the county. These findings may be used by the State of Hawai'i and other organizations for planning, evaluation, prevention, and treatment services for youth substance use.

The **full comprehensive statewide report** and the **regional level reports for county or community regions** for Hawai'i County, Maui County, Honolulu County, Kaua'i County and Community Region, East Hawai'i Community Region, West Hawai'i Community Region, Maui Community Region, Canoe Community Region, Honolulu Community Region, Windward O'ahu Community Region, Leeward O'ahu Community Region, Central O'ahu Community Region may be found at the [Hawai'i State Department of Health Alcohol and Drug Abuse Division \(ADAD\) website](#).

II. Overview of Key Findings

Estimates of treatment need and overall substance use findings are described more in detail in sections of this report. The following summarize the highlights from the 2019-2020 Hawai'i ATOD Survey:

- Overall, about 11% of students screened for a probable substance use disorder, indicating treatment need, and an additional 14% fell into the positive risk range for problem substance use.
- Treatment need increased by grade, more than doubling from middle school (8th grade 6.6%) to high school (12th grade 15%)
- Gender diverse students (transgender or other gender minority) made up the smallest proportion of the state sample but showed the highest risk for a probable substance use disorder and for substance use behavior in almost all categories, including tobacco cigarettes. Females were also higher in risk, compared to males.
- Adolescents most likely to have a probable substance use disorder primarily identified themselves as Other Pacific Islander (19.7%), Native Hawaiian (15.2%), Hispanic or Latino (16.2%), and of 2 or more ethnicities with Native Hawaiian (13.5%).

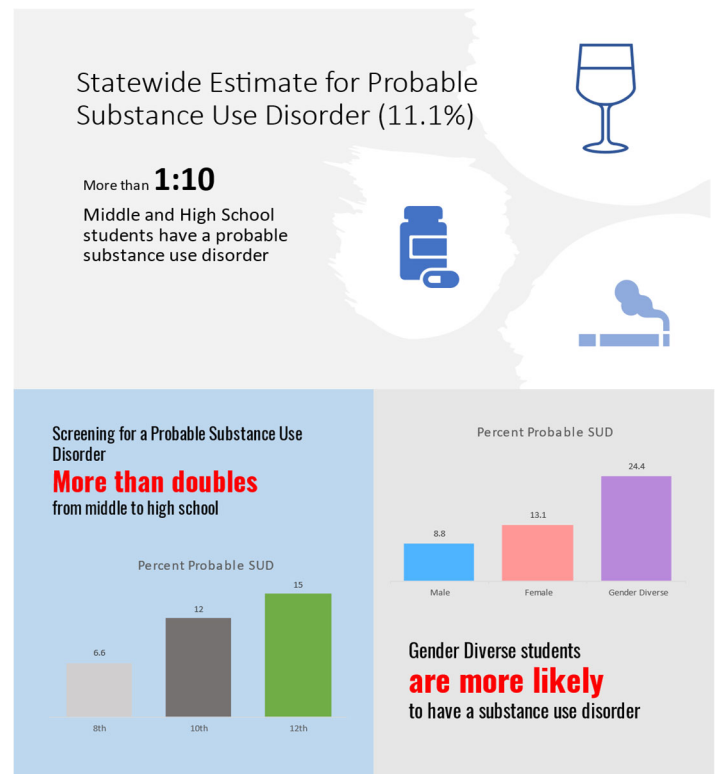


Figure 1. Infographic for statewide estimated probable substance use disorder treatment need for the overall state, by grade, and gender.

- Approximately 37% of students endorsed some level (mild, moderate, or severe) of mental health distress – and among those with severe distress, about one fourth screened as likely to have a problem with substance use.
- Less than one third of students that screened in the probable SUD or positive risk categories reported receiving any help, of which about three-fourths reported receiving some type of help at school. The other 70-80% that were likely to need treatment or some kind of prevention intervention did not get help even if they thought they should, or did not think that getting help applied to them.
- Vaping was the most commonly used (25.9% reported current use) and most frequently used (13.8% reported moderate-heavy use) among the substance use behaviors in the past 30 days. Current (20.3%) and moderate-heavy (9.3%) use of marijuana was also higher.
- Although more than a quarter of middle and high school students report using alcohol use in the past 30 days (27.3% current use), binge behavior (13.9%) and more frequent use (moderate-heavy use 5.3%) in the past 30 days was much lower.
- Alcohol was the substance that most students reported having first tried at a younger age, with an alarming peak distribution of first use at 8 years of age or younger for many youth, and another gradual peak around 13-15 years of age. This period of adolescence is also a time when other first use of substances such as vaping and marijuana occurs. Initiation of binge drinking appears to peak around 15 years of age, perhaps as a result of increasing numbers of students that have already tried alcohol by 13 years old.
- Substance use categories such as current binge drinking, vape/e-cigarette use, and marijuana use were disproportionately higher for students who primarily identified as Native Hawaiian, two or more ethnicities with Native Hawaiian, Hispanic/Latino, and Other Pacific Islander.
- The most common ways that students acquired alcohol, tobacco/e-cigarettes, and marijuana were when someone gave it to them, they gave someone money to buy it for them, while at school (tobacco/vape and marijuana), or took it (alcohol) from a family member.
- The most common places that students use alcohol, tobacco/e-cigarettes, and marijuana were at their or another person's home, or at a public place. Marijuana and vapes were also used while on school property.
- Substance use prevention education and public awareness messages reached a large majority, but not all, students in a variety of ways, including from family, at school, friends, television/music channels, social media, digital ads on their devices, and traditional printed media such as posters and signs.
- In a resilience model of risk and protective factors, community, peer, family, and individual factors were found to contribute to adversity, which reduces resilience to substance use. However, the model also indicates that resilience significantly reduces the likelihood of any substance use – community validation of prosocial beliefs was the largest contributor, followed by school climate, relationships, self-efficacy, and cultural connection.

III. Design & Method

The design of the ATOD survey was informed, in consultation with ADAD, with the end-goal of the study in mind, i.e., how to disseminate the findings to key stakeholders and decision-makers effectively. Miao and colleagues¹ have conceptualized this as a **relational design approach** (Figure 2). In addition to the quantitative school-based needs assessment approach with the 2019-2020 ATOD Survey, a parallel qualitative youth needs assessment was conducted focusing on special populations of youth that may be less likely to complete a school-based survey. This companion report may be found at the [Hawai'i State Department of Health Alcohol and Drug Abuse Division website](#).

The survey sample included **public middle and high schools** that agreed to participate and **8th, 10th, and 12th grade students** from those schools who assented to participate with parental opt-out/passive consent.

A **two-stage cluster sample design** was utilized to obtain a representative sample for 8th, 10th, and 12th graders in each community region which would be included into the statewide sample (Figure 3). Community regions were defined to include county and island representation. In

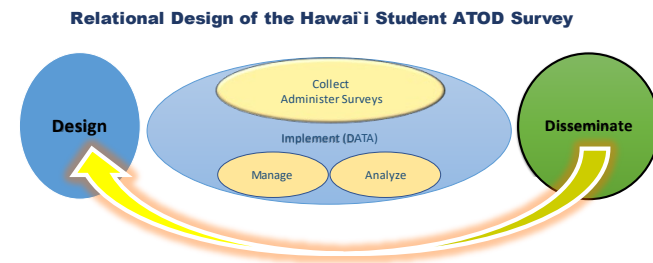


Figure 2. Relational design with dissemination goal as the driver for informing the design of the survey project

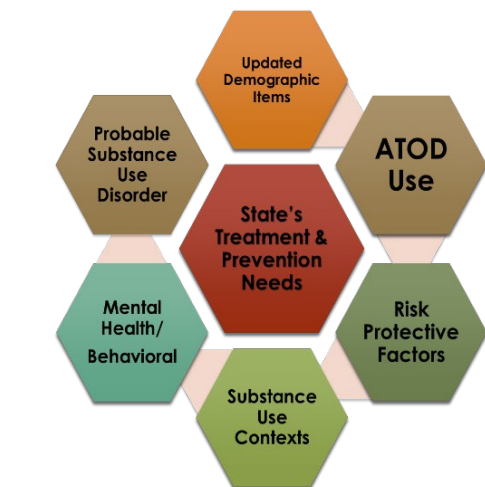


Figure 4. Components of the ATOD Survey

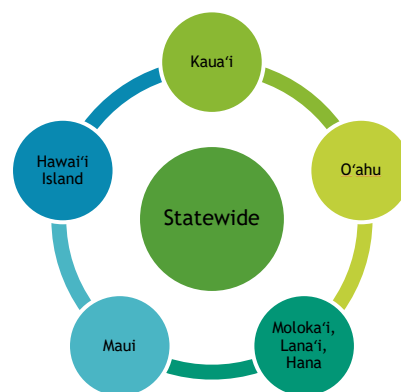


Figure 3. Community region sampling

the **first stage of sampling**, schools within each community region were randomly selected by grade level. Additionally, schools that were not selected but were located in communities that had demonstrated high need and few resources were included as a subgroup of interest. In the **second stage of sampling**, for each grade, a target minimum of approximately 75 students were surveyed. Where data were unavailable for a few schools, estimated scores for selected substance use and behavioral health indicators (e.g., treatment need, current use of substances, mental health) were substituted using a composite score from other selected schools based on knowledge of the community region and matching of similar

¹ Helm, S., Onoye, J., Yurow, J., Dau, C., Miao, T., Ng-Osorio, J., Wilczek, K., & Nguyen, L. (2020, October 13, 2020). A data-driven system of care for state of hawaii alcohol drug abuse division [Round table]. 2020 Annual Hawaii Pacific Evaluation Association Meeting, Honolulu, HI.

demographic characteristics (i.e., driving distance to major hospital, percent Native Hawaiian, and percent free/reduced lunch) that were shown to be important variables of substance use treatment need from a statistical classification model analysis. For substance use indicators examined by grade, gender or ethnicity/race, no adjustments for missing schools were made, therefore percentages of reporting may be underreported or overreported.

Using standardized survey methods, data collection was conducted using a **primarily online survey administration method** to assess **prevalence rates of youth substance use** in each community region, as well as comparisons between the overall state level data from Hawai'i. **Risk and protective factors for substance use among students based on the existing literature were measured for individual, peer, family, school, and community domains as well as contextual items from the literature related to substance use.** Components of the survey are depicted in Figure 4. More details about the development of survey items, survey administration procedures, and data collection can be found in the *2019-2020 Hawai'i Student Alcohol, Tobacco, and Other Drug Use (ATOD) Survey Statewide Report*.

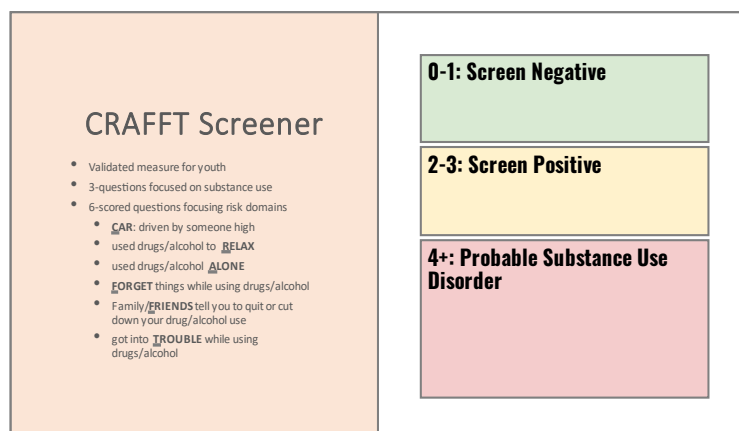


Figure 5. Brief illustration of the validated CRAFFT screen.

A statewide weighted sample was obtained, where weights were applied for each school and grade level using corresponding pre-calculated scores from the academic enrollment prior to the survey year.²

Demographic items included the following: Age; Grade; Parent or Family in the Military or Reserve/National Guard; Live on a Hawaiian Homestead; Any and Primary Identification for Race/Ethnicity; Primary Language Spoken in Household; Sex assigned at birth; Gender; Place Usually Sleep; Parent/Caregiver Level of Education (as proxy for socioeconomic status).

Because when combined with other protective factors, expression of the importance of **maintaining one's cultural traditions** and having a **strong sense of belonging to one's ethnic group** may be protective against substance use, these items related to culture were included on the ATOD Survey.

Using the weighted sample, estimated need for substance use treatment among adolescents was based on the cutoff score of 4 or higher on the well-validated CRAFFT instrument³ (Figure 5), indicating a probable substance use disorder (abuse/dependence, American Psychiatric Association DSM-IV and DSM-5). Current and frequent substance use in the past 30 days for those most prevalent, alcohol, tobacco, vaping, and marijuana are highlighted in this summary report by demographic variables of grade, gender, and race/ethnicity.

Current use was defined as any use of a categorized substance in the past 30 days. Moderate-heavy use was defined as 6 or more times in the past 30 days. Binge drinking definitions (Figure 6) were updated for youth as

² Data were weighted based on the sampling frame and led to adjustments for enrollments using the prior academic counts to lessen the effects of a sample bias. A corresponding weight score for each school was applied in the analyses to represent estimates for the overall sample.

³ Knight JR, Shrier LA, Bravender TD, Farrell M, Vander Bilt J, Shaffer HJ. A new brief screen for adolescent substance abuse. Arch Pediatr Adolesc Med. 1999 Jun;153(6):591-6. doi: 10.1001/archpedi.153.6.591. PMID: 10357299.

3+ standard drinks on one occasion for all 8th graders and for 10th and 12th graders assigned female at birth. For students assigned male at birth, binge drinking was defined as 4+ drinks for 10th graders and 5+ drinks for 12th graders.⁴ **Lifetime use** was determined if the student endorsed any first use of a substance category. **Age of initiation** was described as the age when a person first begins using a substance. **Early initiation** indicated that a person's first use occurred at age 13 or younger.



Figure 6. Binge drinking definition for youth accounts for grade level and sex assigned at birth.

In addition to substance use indicators, **mental health distress** and **attentional disorder** were screened respectively using the validated Patient Health Questionnaire PHQ-4⁵, which collects symptoms related to depression and anxiety, and the Pediatric Symptom Checklist⁶ Attention Subscale for which a positive screen indicates further assessment for an Attention Deficit Disorder (ADD/ADHD).

The 2019-2020 Hawai'i Student ATOD Survey assessed **several risk and protective factors** related to **individual, peer, family, school, and community domains** to aid in planning for prevention efforts. Risk factors are attributes of the five domains that have been shown to foretell increased probability of substance use, delinquency, and problem behaviors in young people⁷ while protective factors are characteristics of the five domains that appear to have a hand in reducing or preventing problem behaviors in adolescents. Risk and protective factors were analyzed using a modeling approach for predicting problem substance use. Using the modeling-informed approach, factors that emerged as important were descriptively examined to show overall rates of endorsement for these factors. More details about on the risk and protective factor items and domains in the social-ecological domains can be found in the **2019-2020 Hawai'i Student Alcohol, Tobacco, and Other Drug Use (ATOD) Survey Statewide Report**.

IV. Sample Description

The weighted sample consisted of 8,225 students from public middle and high schools in **the State of Hawai'i** who participated in the survey. The **overall participation rate statewide was 88.5%**, which was an improvement over the 58.7% participation rate from the 2007-2008 ATOD Survey. **Gender** was determined using the survey question asking students their current gender. Other or Transgender were combined into the category of "Transgender and Other Gender Minority" also categorized in this report as gender diverse. **Race/ethnicity** was determined using the survey question asking students with which ethnic or racial group(s) they **primarily identified**. Students who chose more than one response were grouped together into the category of "2 or more ethnicities." Due to relatively small sample sizes for some ethnicities, certain groups were combined. Students who reported their

⁴ National Institute on Alcohol Abuse and Alcoholism (2021, May 2021). Binge drinking. National Institute on Alcohol Abuse and Alcoholism. Retrieved 9/30/21 from <https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/binge-drinking>

⁵ Löwe B, Wahl I, Rose M, Spitzer C, Glaesmer H, Wingenfeld K, Schneider A, Brähler E. A 4-item measure of depression and anxiety: validation and standardization of the Patient Health Questionnaire-4 (PHQ-4) in the general population. *J Affect Disord*. 2010 Apr;122(1-2):86-95. doi: 10.1016/j.jad.2009.06.019. Epub 2009 Jul 17. PMID: 19616305.

⁶ Gardner W, Murphy M, Childs G, et al. The PSC-17: a brief pediatric symptom checklist including psychosocial problem subscales: a report from PROS and ASPN. *Ambulatory Child Health*. 1999;5:225-236

⁷ Arthur, M. W., Hawkins, J. D., Pollard, J. A., Catalano, R. F., & Baglioni, A. J., Jr. (2002). Measuring risk and protective factors for substance use, delinquency, and other adolescent problem behaviors. The communities that care youth survey. *Evaluation Review*, 26(6), 575-601. <https://doi.org/10.1177/0193841X0202600601>

primary identity as Samoan, Chuukese, Marshallese or other Pacific Islander were grouped into the category of “Other Pacific Islander.” The category of “Other Asian” included students who reported that they primarily identified as Chinese, Vietnamese, Korean, or other ethnicities from East, South or Southeast Asia. The “Other” ethnicity category (1.5%) included students who reported their primary identity as African American, Native American, Alaska Native, or other ethnicities not indicated in Table 1 below.

Table 1. Characteristics of Participants by Gender, Grade Level, Primary Race/Ethnicity, and Other Demographics (weighted n and %)

Demographic Characteristics	n	%
Overall Total	8,225	100.0
Gender		
Male	4,370	53.1
Female	3,628	44.1
Transgender & Other Gender Minority	188	2.3
Grade		
8th Grade	2,764	33.6
10th Grade	2,932	35.6
12th Grade	2,529	30.7
Self-Identified⁸ Primary Ethnicity/Race		
Native Hawaiian	811	10.0
Other Pacific Islander	468	5.8
Japanese	733	9.1
Filipino	1,375	17.0
Other Asian	332	4.1
Hispanic/Latino	240	3.0
White/Caucasian	674	8.3
Other	120	1.5
2 or more ethnicities with Native Hawaiian	1,885	23.3
2 or more ethnicities not Native Hawaiian	1,451	17.9
Family member in Active Military, Reserve, or National Guard	1,397	17.2
Self or family member lives on Hawaiian homestead	2,115	26.7
Primary language spoken in household other than English	1,447	17.7
Regular place to sleep other than home	448	5.5
Mother/Guardian’s education less than college degree	4,188	51.3
Father/Guardian’s education less than college degree	4,234	51.9

In the state sample, **5.5% reported to usually sleep at a place other than home, 51.3% reported having a mother/guardian with less than a college degree, and 51.9% reported that their father/guardian’s education was less than a college degree.** Statewide, **17.2% reported having a family member in the military service** and **26.7% reported that they or a family member lived on Hawaiian Homestead.** For items related to culture, **59.5%**

⁸ While the survey asks students to select a group with which they primarily identify, a large proportion reported primarily identifying with multiple (2 or more) ethnic/racial groups. Among those who selected two or more ethnic/racial groups, Native Hawaiian was among the highest therefore, the table shows the percentage of students that selected Native Hawaiian and those that did not.

of students reported that maintaining cultural traditions was important, 85.3% reported having a strong ethnic belonging, and 17.7% of students reported speaking a primary household language other than English.

Further analysis may enhance the evidence base for positive cultural identity and cultural practices as a protective factor for youth substance use and other behavioral health concerns.

V. Treatment Need & Substance Use Estimates

Probable SUD and Mental Health

The majority of students in the state sample (74.5%) screened negative, while **14.3% screened positive and 11.1% indicated probable SUD and treatment need** (Figure 6). The overall total estimated treatment need across the state ***increased*** to 11.1% compared to 7.7% reported from the 2007-2008 Hawai'i Student Alcohol, Tobacco, and Other Drug Use Study.

More than a third of students in the statewide sample (37% combined) reported mild to severe levels of mental health distress in the past two weeks. Approximately 15% of students statewide also screened positive for a potential attention disorder. (Figure 8)

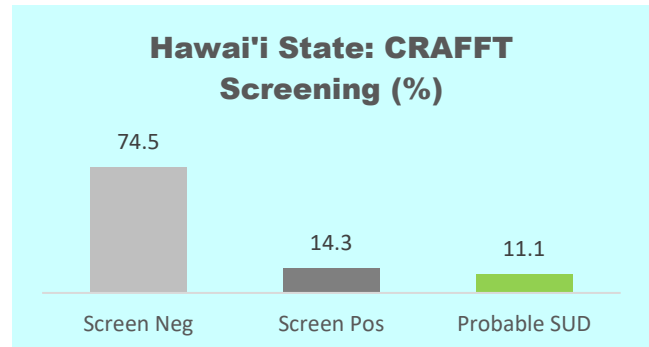


Figure 7. Statewide, about 14.3% screened positive and 11.1% indicated probable SUD and treatment need.

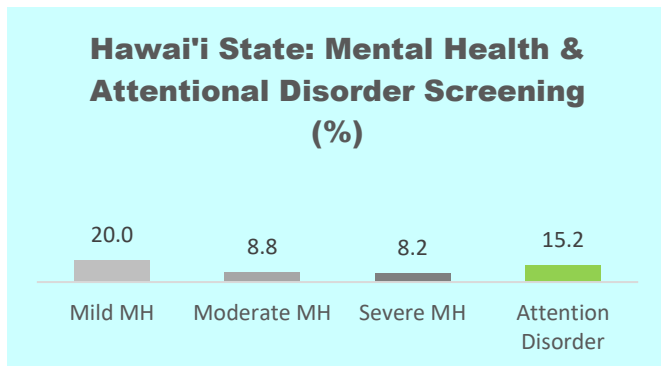


Figure 8. Twenty percent of students screened indicated mild mental health distress, while 8.8% and 8.2% indicated moderate to severe mental health distress, respectively. Screening for attentional disorder was indicated by 15.2% of students in the state sample

As shown in *Table 2* for treatment needs by grade, 6.6% of 8th graders, 12% of 10th graders, and 15% of 12th graders had a probable substance use disorder. Compared to both males (8.8%) and females (13.1%), the inclusion of Transgender and Other Gender Minority (TGGM), while a small group, indicated an elevated proportion of probable substance use disorder (24.4%). Adolescents most likely to have a probable substance use disorder primarily identified themselves as Other Pacific Islander (19.7%), Native Hawaiian (15.2%), Hispanic or Latino (16.2%), and of 2 or more ethnicities including Native Hawaiian (13.5%).

Screening for attention related disorders found **youth with a positive screen (which indicates further assessment for attentional disorders) had a percentage**

(19.5%) of probable substance use disorder, about twice that of those with a negative screen (9.6%). CRAFFT screen rates **by mental health distress severity from the PHQ-4 screen showed increasing rates of probable SUD (mild 11.2%, moderate 17.9%, severe 25.3% respectively).** (Figure 9)

Table 2. CRAFFT screen percent for probable SUD by demographic factor

Probable Abuse or Dependence of any Substance, Based on the CRAFFT, for Gender, Grade Level, and Ethnicity (weighted percents)					
	No		Yes		Total
	n	% (CI95%)	n	% (CI95%)	
Overall Total	7,172	88.9 (88.2, 89.6)	896	11.1 (10.4, 11.8)	8,068
Gender					
Male	3,902	91.2 (90.4, 92.0)	377	8.8 (8.0, 9.6)	4,279
Female	3,116	86.9 (85.8, 88.0)	471	13.1 (12.0, 14.2)	3,587
Transgender & Other Gender Minority	133	75.6 (69.3, 81.9)	43	24.4 (18.1, 30.7)	176
Grade					
8th Grade	2,527	93.4 (92.5, 94.3)	179	6.6 (5.7, 7.5)	2,706
10th Grade	2,531	88.0 (86.8, 89.2)	346	12.0 (10.8, 13.2)	2,877
12th Grade	2,113	85.0 (83.6, 86.4)	373	15.0 (13.6, 16.4)	2,486
Self-Identified Primary Ethnicity/Race					
Native Hawaiian	671	84.8 (82.3, 87.3)	120	15.2 (12.7, 17.7)	791
Other Pacific Islander	372	80.3 (76.7, 83.9)	91	19.7 (16.1, 23.3)	463
Japanese	681	94.1 (92.4, 95.8)	43	5.9 (4.2, 7.6)	724
Filipino	1,261	92.4 (91.0, 93.8)	103	7.6 (6.2, 9.0)	1,364
Other Asian	316	95.2 (92.9, 97.5)	16	4.8 (2.5, 7.1)	332
Hispanic/Latino	197	83.8 (79.1, 88.5)	38	16.2 (11.5, 20.9)	235
White/Caucasian	600	90.8 (88.6, 93.0)	61	9.2 (7.0, 11.4)	661
Other	101	86.3 (80.1, 92.5)	16	13.7 (7.5, 19.9)	117
2 or more ethnicities with Native Hawaiian	1,589	86.5 (84.9, 88.1)	248	13.5 (11.9, 15.1)	1,837
2 or more ethnicities not Native Hawaiian	1,269	89.3 (87.7, 90.9)	152	10.7 (9.1, 12.3)	1,421

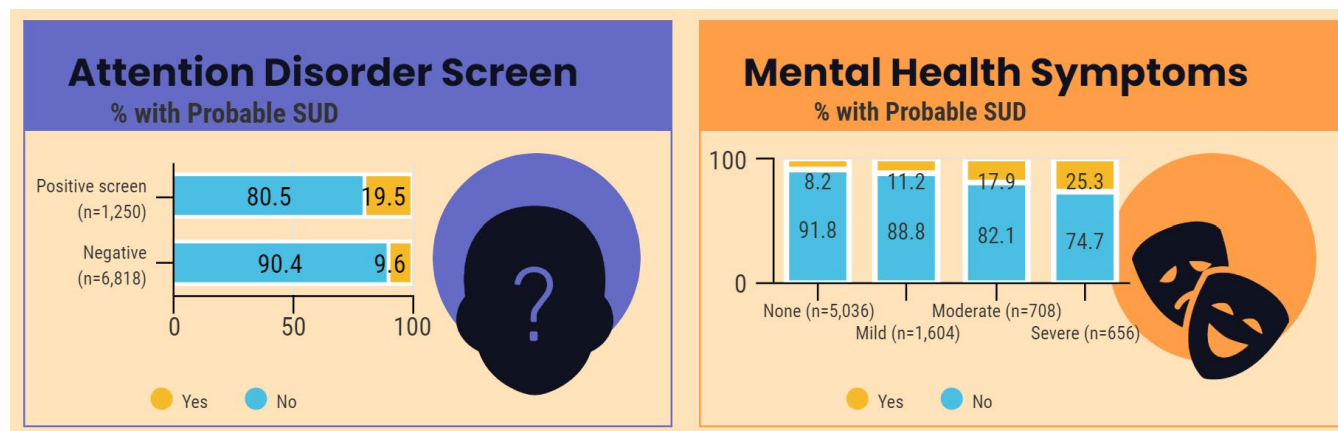


Figure 9. Percent of probable SUD on the CRAFFT screen by attention and mental health screeners.

Treatment Need vs. Utilization

Similar to the 2007-2008 ATOD Survey, the 2019-2020 ATOD Survey asked about **receiving help** for substance use problems. Among students that screened in the **probable SUD range** (4+ on the CRAFFT), **only 29% reported getting help**. Of those who screened in the **risk positive range** (2-3 on the CRAFFT), **less than 17% received getting help**. For both the probable and risk for SUD groups, help was received by students at school **and** outside of school for about half, while the remainder were equally likely to have received help at either school **or** outside of school.

A large majority of students that screened as needing treatment or at risk of an SUD were not receiving help even if they thought they should, or they did not think they were in need of help. In the low or no risk group (0-1 on the CRAFFT), about 4.5% of students reported receiving some help primarily both on and off campus. (Figure 10)

Alcohol or Drug Treatment Need vs. Utilization

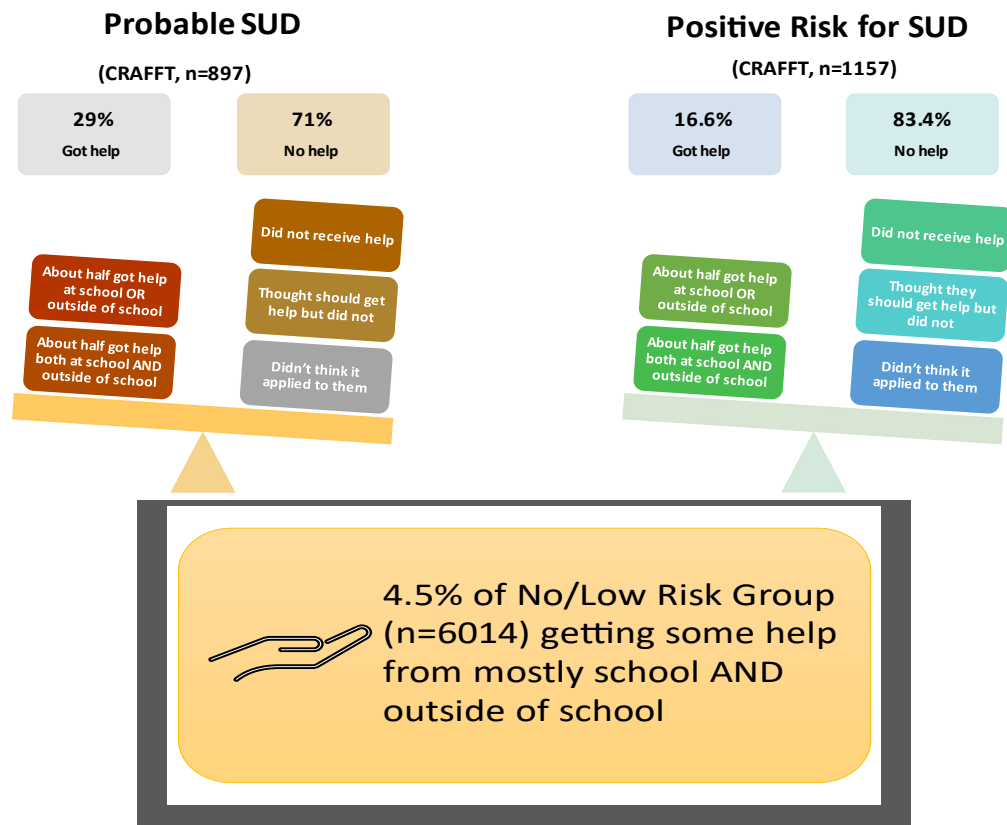


Figure 10. Treatment utilization is a small percentage of the overall treatment need - receiving early prevention interventions for positive risk and low risk students may be even lower than treatment utilization.

Overall Lifetime, Current, & Moderate-Heavy Use of Substances

The 2019-2020 ATOD Survey statewide data (Figure 11) showed the **highest prevalence rates of substance use were reported for both lifetime and 30-day use of alcohol**, followed by **e-cigarettes/vaping products, marijuana, and tobacco cigarettes**. **Alcohol use by binge drinking and concurrent use of alcohol and marijuana use together were also commonly reported current substance use behaviors**. Current use of over the counter (OTC) drugs, and sedatives and other prescription drugs without a doctor's instruction, were reported at a higher rate than use of inhalants, opioids, steroids, or other illicit drugs. **This executive summary report emphasizes current findings for the above mentioned most prevalent substances used by youth (alcohol, vape/e-cigarettes, tobacco, and marijuana)**

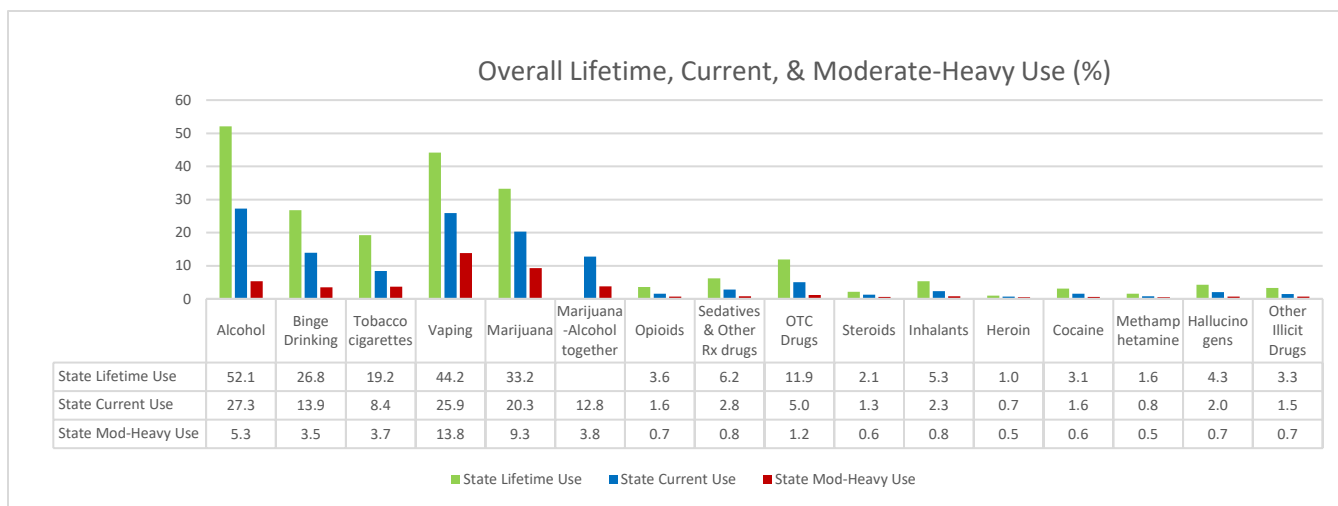


Figure 11. Lifetime use, any current use (in past 30 days), and moderate-heavy use (6+ times in the past 30 days) of substance categories. Note: Current Binge drinking uses the new 3/4/5+ drinks definition, while Binge drinking for lifetime and current moderate-heavy use is based on a survey item for 4+ drinks on one occasion; there was no survey item that asked about lifetime concurrent alcohol-marijuana use.

Early Initiation

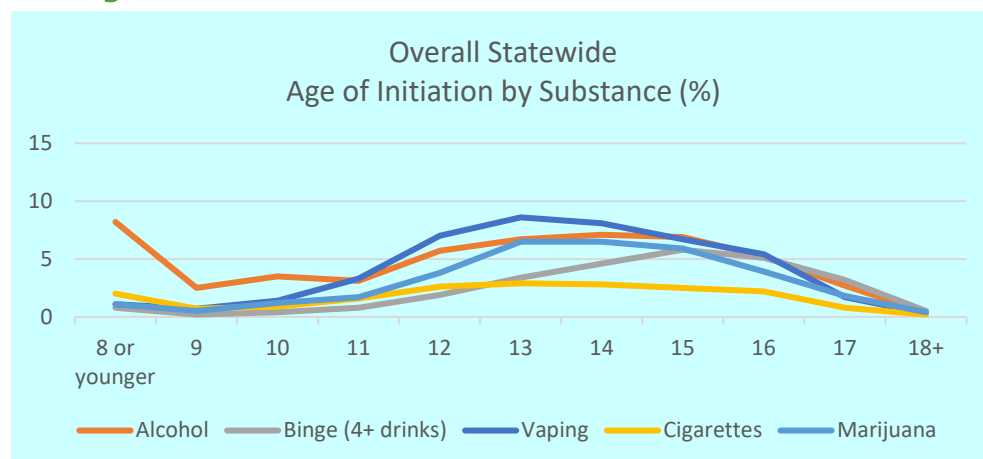


Figure 12. Percent among statewide sample is plotted by age of first use for alcohol and substance use categories.

Age of Initiation is described as the age when a person **first begins using a substance**. Early initiation is used to indicate that a person's first use occurred at age 13 or younger. In the state, students reported **early initiation of most substance use behaviors except for binge**.

A peak for early initiation of alcohol occurs at 8 years of age or younger, but also later throughout adolescence. Patterns are seen for early initiation of vaping, marijuana and tobacco cigarette use around age 13, while binge drinking appears to primarily show a later peak for age of onset around 15-16 years of age.

Alcohol Use

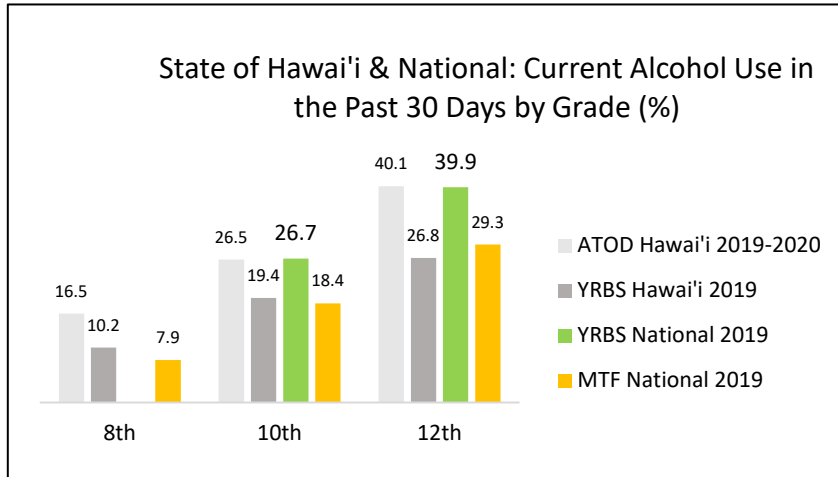


Figure 13. There was an increase in alcohol use from 8th to 12th grade across the Hawai'i ATOD, Youth Risk Behavior Survey (YRBS), and Monitoring the Future surveys.

days was seen to **increase by grade level, and most frequently reported among 12th graders** (23.8%) compared to 10th (12%) and 8th (6.9%) graders. Female students (18.3%) reported a higher rate of current binge drinking than male students (9.7%), however **gender diverse students (26.2%) reported the highest rates of binge drinking**.

- Moderate-Heavy (6+ times) Alcohol Use in the past 30 days:** Current moderate-heavy use of alcohol in the past 30 days showed a **more than doubling of rates from middle school 8th grade to 12th grade high school** (8th 3%, 10th 4.9%, 12th 8.1%). By gender, **rates of moderate-heavy use of alcohol in the past 30 days were highest among transgender/other gender minority students (20.3%) compared to their cisgender counterparts (4.4% males, 5.4% females)**.

- Current Alcohol Use in the past 30 days:** Among Hawai'i middle and high school students, **27.3% reported current use of alcohol**. Rate of alcohol use **increases with grade, with 12th graders (40.1%) having the highest rate of current alcohol use, about 2.5 times that of 8th graders (16.5%)** (Figure 13). By gender, female students (31.1%) use alcohol at a higher rate than male students (23.6%), however, **transgender/other gender minority students (37.4%) are more likely to use alcohol than their cisgender counterparts**.

- Binge Drinking in the past 30**

Cigarette & Vape Use

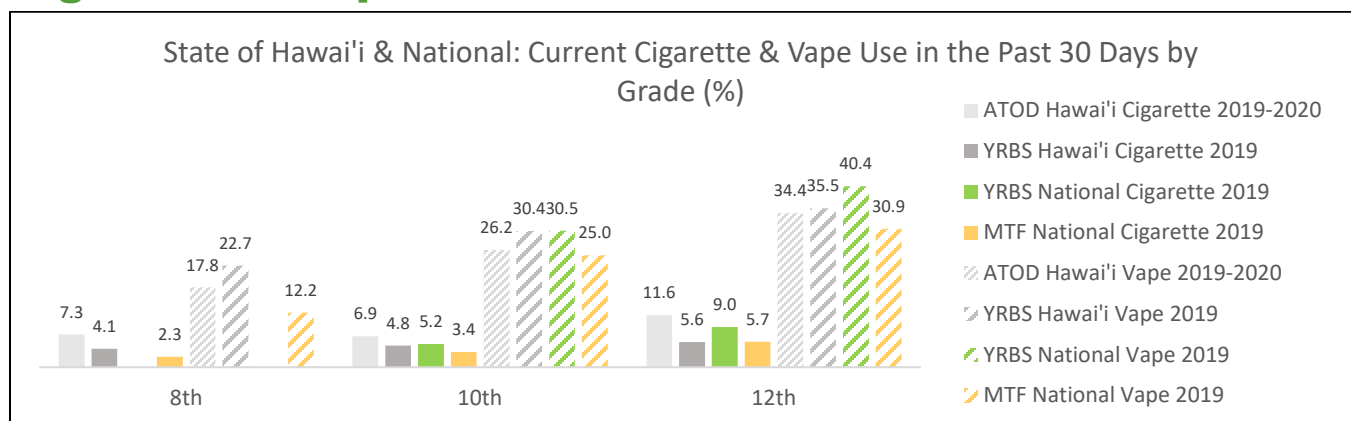


Figure 14. Current use of tobacco cigarettes in the past 30 days by grade level for ATOD Hawai'i compared to national surveys (YRBS and Monitoring the Future). No data were available for 8th grade YRBS National.

- **Rates of Current tobacco and vape use in the past 30 days** were highest among 12th graders among all surveys (Figure 14). Current vape/e-cigarette use in the past 30 days was lowest for males (22.3%), higher for females (29.7%), and the highest for transgender/other gender minority students (35.4%). Current tobacco cigarette use was also highest for transgender/other gender minority students (30.2%), compared to the much lower rates for females (8.4%) and males (7.6%). Transgender/other gender minority students are likely to use tobacco cigarettes about as much as e-cigarettes/vapes.
- **Moderate-Heavy (6+ times) Cigarette and Vape Use in the past 30 days** was the highest rate of use by 12th graders (cigarettes 5.5%, vape 21.2%) compared to 8th (cigarettes 3%, vape 7%) and 10th (cigarettes 2.9%, vape 13.7%) graders. By gender, rates of moderate-heavy use of both cigarettes and vape in the past 30 days were highest among transgender/other gender minority (17.6%, 20.4% respectively) students compared to their cisgender counterparts (females 3.4%, 15.1% respectively; males 3.4%, 12.2% respectively).
- **Substances used in Electronic Vaping Devices:** The most reported substances used were nicotine (26.2%) and flavors (22.6%), however 12.5% of the overall state sample reported vaping marijuana.

Marijuana Use

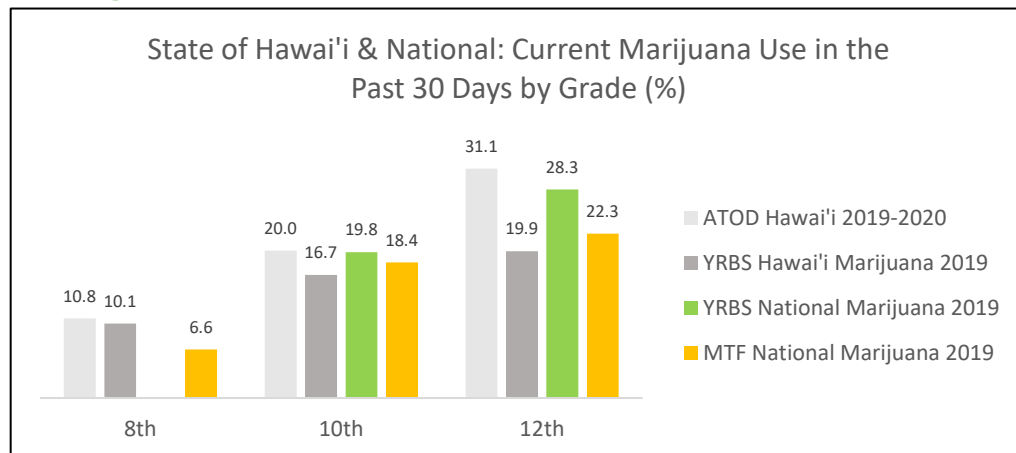


Figure 15. Current use of marijuana in the past 30 days by grade level for ATOD Hawai'i compared to national surveys (YRBS and Monitoring the Future). No data were available for 8th grade YRBS National.

- **Current Marijuana Use in the past 30 days:** There was an increase in marijuana use from 8th to 12th grade across all surveys (Figure 15). The ATOD Survey showed 12th graders (31.1%) using marijuana in the past 30 days at almost threefold the rate of 8th graders (10.8%). By gender, past 30 day use of marijuana was lowest

for male students (17.7%), higher for females (22.3%), with transgender/other gender minority students (42%) reporting the highest rates of current use.

- **Moderate-Heavy (6+ times) Marijuana Use in the past 30 days:** Rates of moderate-heavy marijuana use by grade level increased with 10th grade (8.5%) almost doubling, and 12th grade (15.1%) more than tripling rates from middle school 8th grade (4.5%). By gender, the rate of moderate-heavy use of marijuana in the past 30 days was disproportionately higher among transgender/other gender minority students (26%) compared to their cisgender counterparts (male 8.4%, female 9.2%).
- **Concurrent Marijuana-Alcohol Use Together in the past 30 days:** Co-use of marijuana with alcohol in the past 30 days was highest among 12th graders (20.6%) compared to 10th (12.1%) and 8th (6.5%) graders. Transgender/other gender minority students (26.9%) were more likely to have used marijuana together with alcohol in the past 30 days compared to male (9.9%) or female (15.5%) students.

Substance Use (Past 30 days) by Primary Race/Ethnicity

Table 3 summarizes estimated rates of substance use in the past 30 days by self-reported **primary identification** in major race/ethnicity categories. **Current binge drinking, vape/e-cigarette use, and marijuana use were disproportionately higher for students who primarily identified as Native Hawaiian, two or more ethnicities with Native Hawaiian, Hispanic/Latino, and Other Pacific Islander.**

Table 3. Percent of current substance use for alcohol, tobacco, vape and marijuana categories (in the past 30 days) by primary race/ethnicity

	Alcohol	Binge	Cigarettes	Vape	Marijuana	Marijuana & Alcohol Together
Filipino	23.9%	8.6%	4.5%	23.7%	14.1%	6.5%
Japanese	18.0%	7.7%	4.1%	13.8%	9.9%	7.0%
Other Asian	12.1%	4.2%	-	9.6%	6.9%	3.0%
Hispanic/Latino	37.8%	23.5%	9.2%	30.7%	31.9%	20.6%
Native Hawaiian	34.4%	21.2%	12.0%	36.7%	28.2%	19.1%
Other Pacific Islander	27.1%	17.9%	13.8%	33.2%	24.0%	12.5%
White	28.4%	11.1%	4.6%	17.7%	20.2%	10.7%
2 or more ethnicities with Native Hawaiian	34.7%	20.1%	13.1%	36.4%	28.9%	19.6%
2 or more ethnicities not Native Hawaiian	24.3%	11.5%	7.2%	20.1%	16.4%	11.7%
Other	16.8%	-	11.8%	19.5%	22.9%	11.2%

Note: cells with counts less than 10 are suppressed and noted “ - ”

Access to Substances

While the majority of students reported not using substances, the **most selected method of acquiring substances was by having someone give it to them** (Alcohol 21.7%, Marijuana 19.6%, Tobacco/Vape 18.9%, and Other Drugs 4.1%). Other ways included giving someone money to buy it for them (alcohol 7.4%, tobacco/vape 7.8%), getting it while at school (tobacco/vape 10%, marijuana 7.9%), or took it (alcohol 13%) from a family member.

Location of Use

Students were **most likely to use substances at their own home** (alcohol 17.9%, tobacco/vape 11.5%, marijuana 11.2%, and other drugs 2.1%), and **at another person’s home with a few friends and family** (alcohol 17.9%, tobacco/vape 11.8%, marijuana 14.5%, and other drugs 1.9%). Marijuana (7%) and vapes (9.4%) were also used while on school property.

Prevention Education and Messaging

Overall, **85.7% of the students statewide reported having received any type of prevention education** with a majority having heard from their **family** (69.8%) or at **school** (67.8%) around the dangers of alcohol, tobacco, or drugs. Likewise, **84% of students reported having had viewed or heard any public awareness messages** around the risks or dangers of alcohol, tobacco, or other drugs. The **sources of public awareness messaging** primarily came from **television or internet channels** (56.8%), **social media/apps** (58.8%), **ads on their devices** (51.0%), or **printed media such as posters or signs** (45.9%).

VI. Risk & Protective Factors

Structural equation modeling was used to examine the relationships of risk and protective factors in the social-ecological domains applying the conceptual model of resilience and adversity. Higher levels of adversity were found to reduce resilience, with **community adversity as the largest contributor, followed by peer, family, and individual, respectively**. The model also indicated that **resilience significantly reduces the likelihood of any substance use**. **Validation of prosocial beliefs was the largest contributor, followed by school climate, relationships, self-efficacy, and cultural connection, respectively**. Figure 14 graphically highlights descriptive characteristics for these factors endorsed in the state sample.

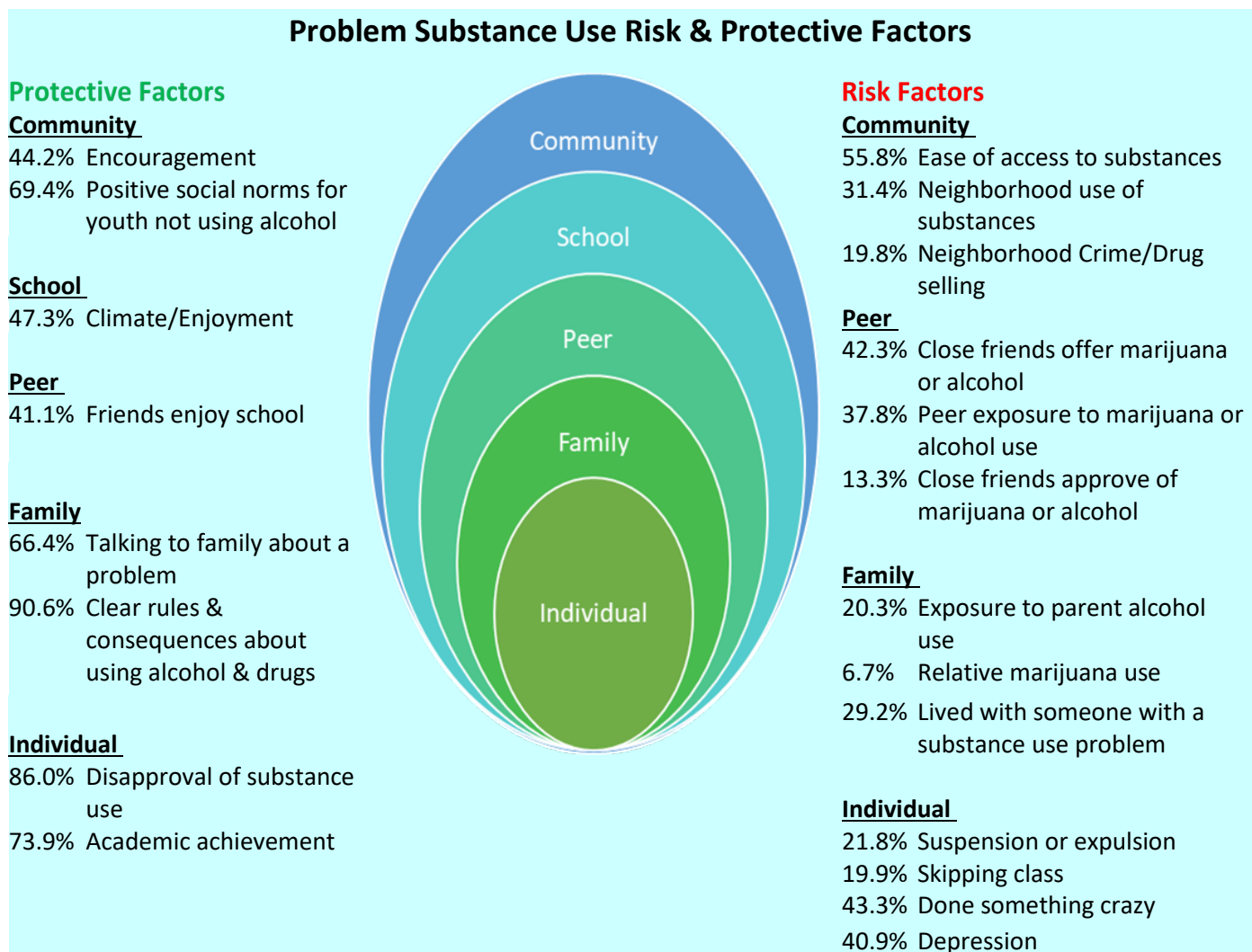


Figure 16. State profile of percent of students endorsing emerging important risk and protective factors in the Social-ecological model for predicting problem substance use.

VII. Implications & Recommendations

This iteration of the Hawai'i ATOD Survey provides data to inform substance use treatment and prevention needs among Hawai'i's youth. Overall, more than one in ten students screened as having a probable substance use disorder (PSUD), with rates highest for transgender/other gender minority students and 12th graders. Only a small proportion of students who screened in the PSUD range reported receiving any assistance (at school or outside of school) for substance use problems. This indicates a gap between adolescents in need of services and those who actually receive services. Additionally, given the significant number of students who are at risk for a SUD, there may be a greater demand for earlier intervention to adequately address prevention needs.

To decrease the rates of PSUD indicating treatment need, several recommendations may be beneficial to consider:

- Continued behavioral health screening and supports in schools and community settings, with greater integration of behavioral health services to address co-occurring mental health issues and substance use
- Evidence-based approaches such as Screening, Brief Intervention, and Referral to Treatment (SBIRT) implemented in school- and community-based settings, given the growing body of research associated with SBIRT that demonstrates overall improvements for substance use and increased student access to mental health support
- The expansion of extracurricular activities as a protective factor for students who are at greater risk of exposure to substance use at home and in their communities
- Improved staff training to facilitate a shift from punitive to supportive attention, with a focus on recognizing student needs and sharing information on services and resources and destigmatizing help-seeking for substance use
- Explore or enhance outreach, monitoring, and support systems for gender diverse students who are at higher risk for using all substances and potential PSUDs
- Increasing protective factors through gender-responsive, culturally-rooted, and other tailored and strength-based approaches to supports and services for youth and their families

Identifying risk and protective factors via data-driven strategies used in the Hawai'i ATOD Survey and the companion qualitative needs assessment (Helm et al., 2021)⁹ are important for building on youths' resilience around substance use. Prevention, treatment and recovery, and other intervention programs can be informed by projects like this to help improve outcomes for reducing adolescent substance use more effectively. These factors have potential implications among broader stakeholders working in the system of care. We hope that youth substance use data from the Hawai'i ATOD Survey and its qualitative companion study will be used to inform and improve practice and policy. We are grateful to be a part of this kākou effort to embrace our youth and support their development to thrive.

⁹ Helm, S., Miao, T., Onoye, J., Monick, B., Masuda, T., Rehuher, D., Juberg, M., Sabellano-Tsutsui, T., Taeza-Gutter, G., Kanemoto, R., Guillermo, M., Topinio, J., & Lawler, A. (2021). Services to conduct a needs assessment for substance use prevention and treatment services among special populations youth using qualitative methods. Protocol 2, in-depth interviews with youth regarding the system of care. H. i. S. D. o. H. A. a. D. A. Division. <https://health.hawaii.gov/substance-abuse/files/2021/10/Youth-Substance-Use-Needs-Assessment-Interviews-September-2021.pdf>