

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

In Contract with and Prepared By:  
University of Hawai'i Department of Psychiatry  
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*EAST HAWAI'I  
COMMUNITY  
REGION REPORT*

## **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 **Community Region Report** is part of a series of reports from the **Hawai'i Student 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 **East Hawai'i Community Region**. 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 community region. 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.

# II. 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 colleagues<sup>1</sup> have conceptualized this as a **relational design approach** (Figure 1). 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](https://www.dhs.gov/hawaii).

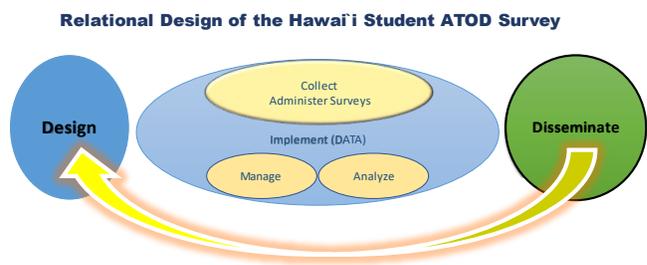


Figure 1. Relational design with dissemination goal as the driver for informing the design of the survey project

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

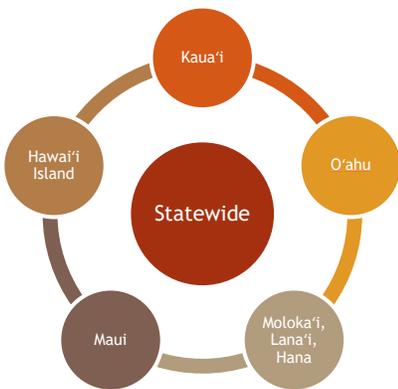


Figure 2. Community region sampling

A **two-stage cluster sample design** was utilized to obtain a representative sample for 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> graders in each community region which would be included into the statewide sample (Figure 2). Community regions were defined to include county and island representation. In 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

<sup>1</sup>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.

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 symptom severity, attentional disorder) were substituted using a composite from other selected schools based on knowledge of the community and matching of similar 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.



Figure 3. Components of the ATOD Survey

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 county, 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 3. 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.**

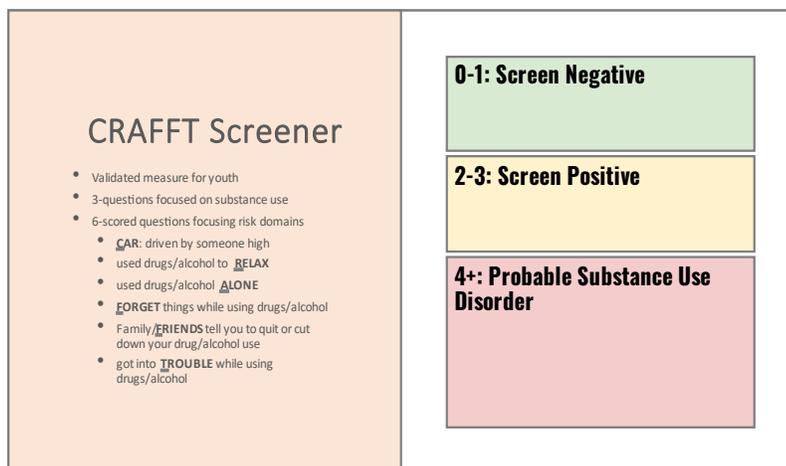


Figure 4. Brief illustration of the validated CRAFFT screen.

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.<sup>2</sup>

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. Speaking a **primary language other than English**

<sup>2</sup> 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.

in the home may also reflect a protective factor among families who are intentional about language preservation and cultural perpetuation.

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 instrument**<sup>3</sup> (Figure 4), indicating 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.

### Moderate -Heavy Use = 6 or more times



Figure 5. Definition of moderate-heavy use as 6 or more times in the past 30 days.

**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 (Figure 5). **Binge drinking** definitions (Figure 6) were updated for youth as 3+ standard drinks on one occasion for all 8<sup>th</sup> graders and for 10<sup>th</sup> and 12<sup>th</sup> 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 12<sup>th</sup> graders.<sup>4</sup> **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.

In addition to substance use indicators, **mental health distress** and **attentional disorder** were screened respectively using the validated Patient Health Questionnaire PHQ-4<sup>5</sup>, which collects symptoms related to depression and anxiety, and the Pediatric Symptom Checklist<sup>6</sup> 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

### Binge Drinking

is having more than \_\_\_ drinks on one occasion

<p><b>Female Students:</b>            3+ drinks: 8th grade            3+ drinks: 10th grade            3+ drinks: 12th grade</p>		<p><b>Male Students:</b>            3+ drinks: 8th grade            4+ drinks: 10th grade            5+ drinks: 12th grade</p>
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Figure 6. Binge drinking definition for youth accounts for grade level and sex assigned at birth.

<sup>3</sup> 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.

<sup>4</sup> 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>

<sup>5</sup> 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.

<sup>6</sup> 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

foretell increased probability of substance use, delinquency, and problem behaviors in young people <sup>7</sup> while protective factors are characteristics 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 analyzed for descriptive characteristics for the county sample to show rates of endorsement for these factor within the county.

The **East Hawai'i Community Region** (Figure 7) data are reported based on the analyses by community region from the overall statewide sample. As with the overall state level, data for the main indicators for treatment need and substance use in the community region are also shown as reported using weighted percentages.

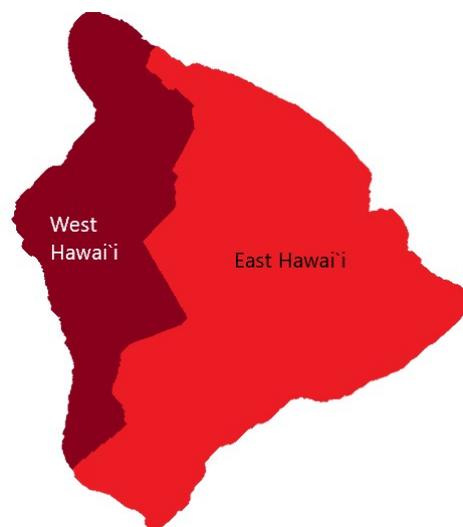


Figure 7. Hawai'i Island is divided into east and west for the ATOD survey community regions.

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<sup>7</sup> 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>

### III. Sample Description

The weighted sample consisted of **1,124** students from public middle and high schools in the **East Hawai'i Community Region** who participated in the survey. The overall participation rate for East Hawai'i Community Region was **90.7%**. Gender, grade, and primary ethnicity/race distributions are shown in Table 1.

Table 1. Characteristics of Participants by Gender, Grade Level, Primary Race/Ethnicity, and Other Demographics (weighted %) for East Hawai'i Community Region

Demographic Characteristics	% (weighted)
<b>Gender</b>	
Male	46.8
Female	51.2
Transgender & Other Gender Minority	2.0
<b>Grade</b>	
8th Grade	34.1
10th Grade	30.0
12th Grade	35.9
<b>Self-Identified<sup>8</sup> Primary Ethnicity/Race</b>	
Native Hawaiian	13.5
Other Pacific Islander	6.0
Japanese	6.5
Filipino	14.5
Other Asian	1.2
Hispanic/Latino	2.8
White/Caucasian	7.7
Other	1.6
2 or more ethnicities with Native Hawaiian	29.9
2 or more ethnicities without Native Hawaiian	16.4
<b>Family member in Active Military, Reserve, or National Guard</b>	19.9
<b>Self or family member lives on Hawaiian homestead</b>	35.0

**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 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 included students who reported their primary identity as African American, Native American, Alaska Native, or other ethnicities not indicated. Additionally, in

<sup>8</sup> 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 2 or more ethnic/racial groups in the state sample, Native Hawaiian was among the highest therefore, the table shows the percentage of students that selected Native Hawaiian and those that did not.

the community region samples, for some of the ethnicity/racial categories, percentages were not reported due to low counts (less than 10).

In the East Hawai'i Community Region, **6.8% of students reported usually sleeping at a place other than home, 58.7% reported their mother/guardian had less than a college degree, and 58% reported their father/guardian's education was less than a college degree** (Figure 8).

East Hawai'i Community Region  
Other Demographics (%)

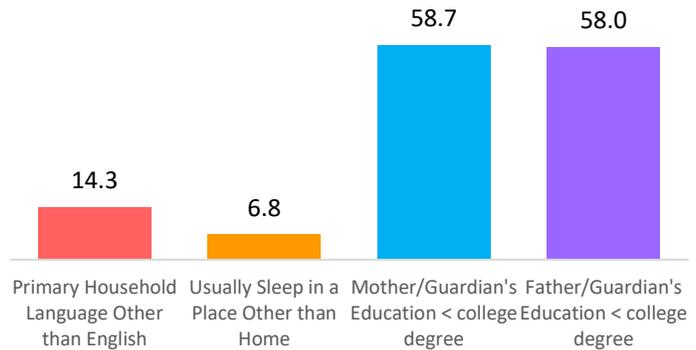


Figure 8. Percent of community region sample for other demographic characteristics.

East Hawai'i Community Region  
Importance of Culture (%)

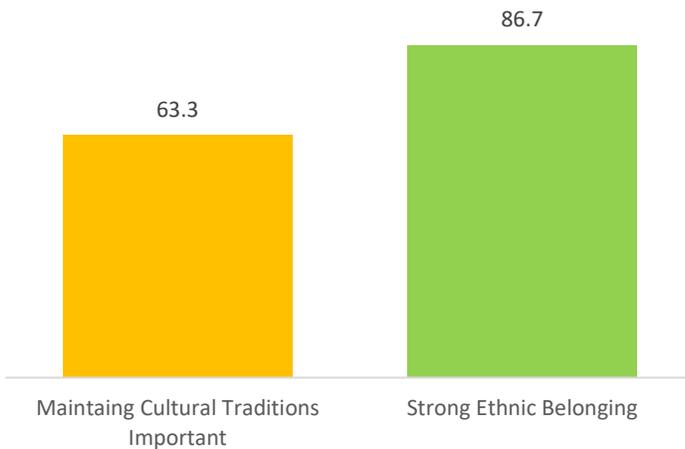


Figure 9. Percent of community region sample endorsing items related to culture.

For items related to culture, **14.3% of students reported speaking a primary household language other than English** (Figure 8), **63.3% reported that maintaining cultural traditions was important, and 86.7% reported having a strong ethnic belonging** (Figure 9). Further analysis may enhance the evidence base for positive cultural identity and cultural practices as protective factors for youth substance use and other behavioral health concerns.

## IV. Estimated Treatment Need & Substance Use

The East Hawai'i Community Region reported similar or slightly higher rates of positive risk and probable substance use disorder (SUD) when compared to the county and overall state samples (Figure 10).

Following the state trend by grade level, in the East Hawai'i Community Region, 12<sup>th</sup> graders (16.5%) had the highest rate of probable SUD, compared to 10<sup>th</sup> graders (12.8%) and 8<sup>th</sup> graders (6.5%). Probable SUD by gender showed similar patterns to the state with females (13.9%) having higher rates than males (9.6%) in the community region. In the community region by primary race/ethnicity, students identifying as Native Hawaiian (18.4%), Other Pacific Islander (17.2%), with two or more ethnicities with Native Hawaiian (13.2%), and two or more ethnicities not Native Hawaiian (13.4%) were among those with probable SUD rates higher than the overall state (11.1%). Rates of probable SUD for transgender/other gender minority and other race/ethnicity groups are not reported here due to low counts.

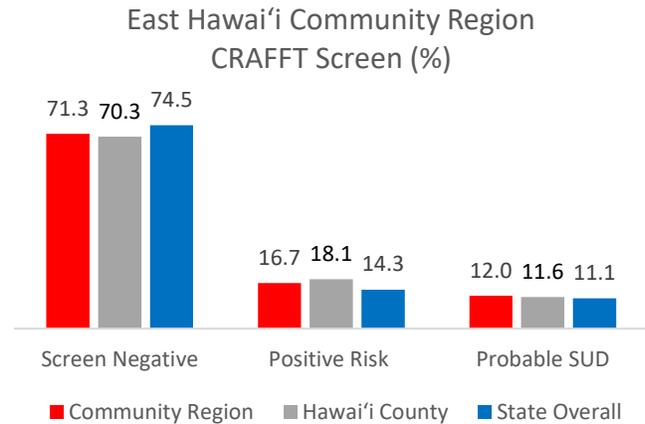


Figure 10. CRAFFT screen percentages for East Hawai'i community region compared to Hawai'i County and state samples.

Of those who had a probable SUD, about one-fifth received help at school (20.5% for alcohol and drug use, 20.2% for tobacco/vaping) or from some place other than school (21.4% for alcohol and drug use, 20.3% for tobacco/vaping). Among students that screened as risk positive, a smaller percentage received help at school (13.6% for alcohol and drug use, 16.8% for tobacco/vaping) or at some place other than school (16.7% for alcohol and drug use, 17.3% for tobacco/vaping). The remaining majority of students with a probable SUD, or who had screened positive for an SUD, did not receive help or did not think it applied to them.

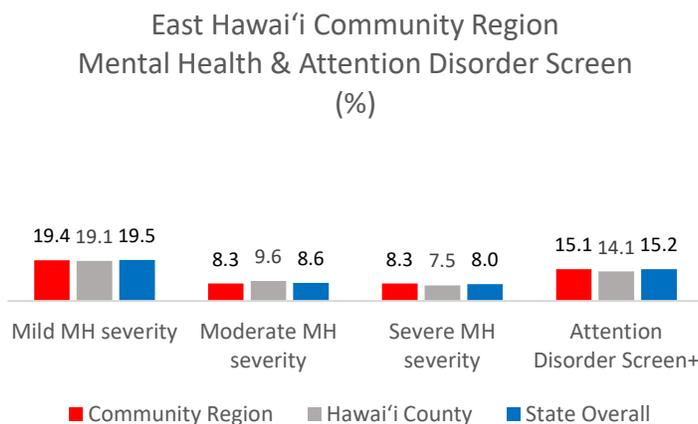


Figure 11. Mental health and attention disorder screen percentages for East Hawai'i community region compared to Hawai'i County and state samples.

The East Hawai'i Community Region reported similar mental health and attention disorder rates when compared to the county or overall state (Figure 11). These rates of mental health and attention disorder screening are important considering the data at the state level showing that a positive screen for attentional disorders had a two-fold likelihood of a probable SUD compared to a negative screen, and that with increasing mental health distress severity there were also increasing rates of a probable SUD.

## V. Overall Current and Moderate-Heavy Alcohol & Substance Use (within past 30 days) in East Hawai'i Community Region, Hawai'i County & State

Alcohol & Substance Use % (Past 30 Days)

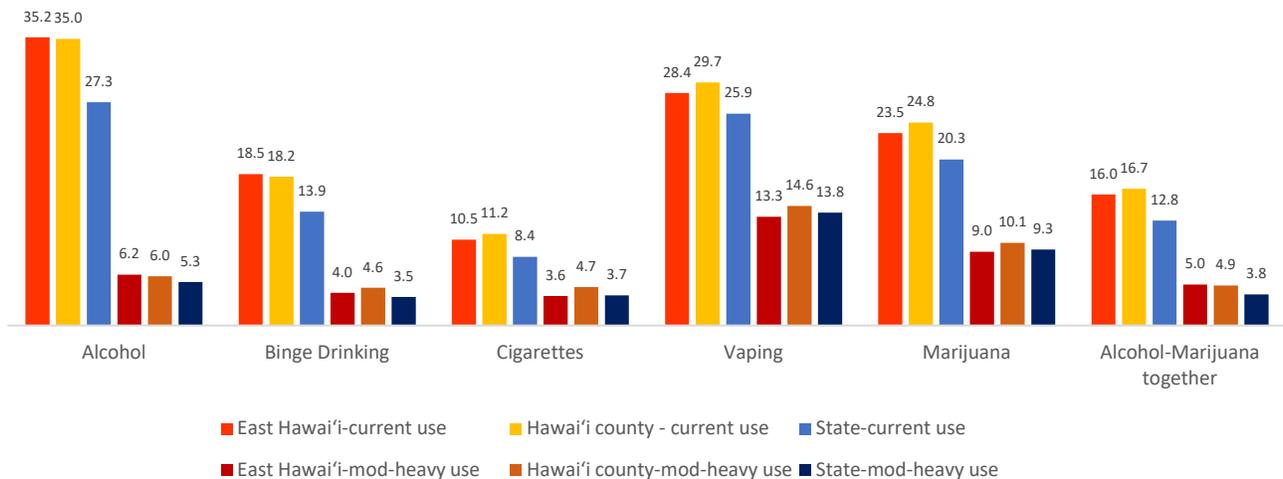


Figure 12. Community region, county, and state comparisons for current any use and moderate-heavy use of substances in the past 30 days. Note: moderate-heavy binge percentages were based on a survey item for 4+ drinks on one occasion.

Overall in the East Hawai'i Community Region, rates of **current alcohol and substance use**, defined as **any use in the past 30 days**, were **higher for the community region compared to the state**. East Hawai'i community region data were **similar to Hawai'i County**. For current **moderate-heavy use**, defined as **6 or more times in the past 30 days**, rates of alcohol (and concurrent alcohol-marijuana use) were slightly higher than the state level and similar to the county level, but otherwise similar for other substances, when comparing the community region to the state (Figure 12).

East Hawai'i students also reported **slightly higher rates** than the state<sup>9</sup> for overall current (past 30 days) use of **methamphetamine** (1.3% vs. 0.8%), **steroids** (1.6% vs. 1.3%), and **heroin** (0.9% vs. 0.7%). Rates of current **over-the-counter drugs** (3.9% vs. 5.0%), **sedatives & other prescription drug** (2.5% vs. 2.8%), **other illicit drugs** (1.3% vs. 1.5%), **hallucinogen** (1.7% vs. 2.0%), **inhalant** (1.8% vs. 2.3%), **opioid** (1.6% vs. 1.6%), and **cocaine** (1.5% vs. 1.6%) use were similar or lower compared to the state.

<sup>9</sup> Statewide prevalences by Grade, Gender and Primary Race/Ethnicity for Lifetime, Any Current (past 30 days), and Moderate-Heavy Use (6+ times in past 30 days) use are found in the Appendix of the [2019-2020 Hawai'i Student Alcohol, Tobacco, and Other Drug Use \(ATOD\) Survey Statewide Report](#).

## VI. Age of Initiation

East Hawai'i Community Region Early Initiation of Substance Use (%)



**Age of Initiation** is described as the age when a person **first begins using a substance**. **Early initiation** indicates that a person's first use occurred at age 13 or younger. **Early initiation of alcohol** is seen more frequently for alcohol use (Figure 13), although there is a later peak for onset of binge drinking as well as some bimodal peaks for **alcohol, vaping, and marijuana for early and later initiation of use in the East Hawai'i Community Region** (Figure 14).

Figure 13. Percent for early initiation (13 or younger) vs. later initiation (14 or older) by substance category for the community region.

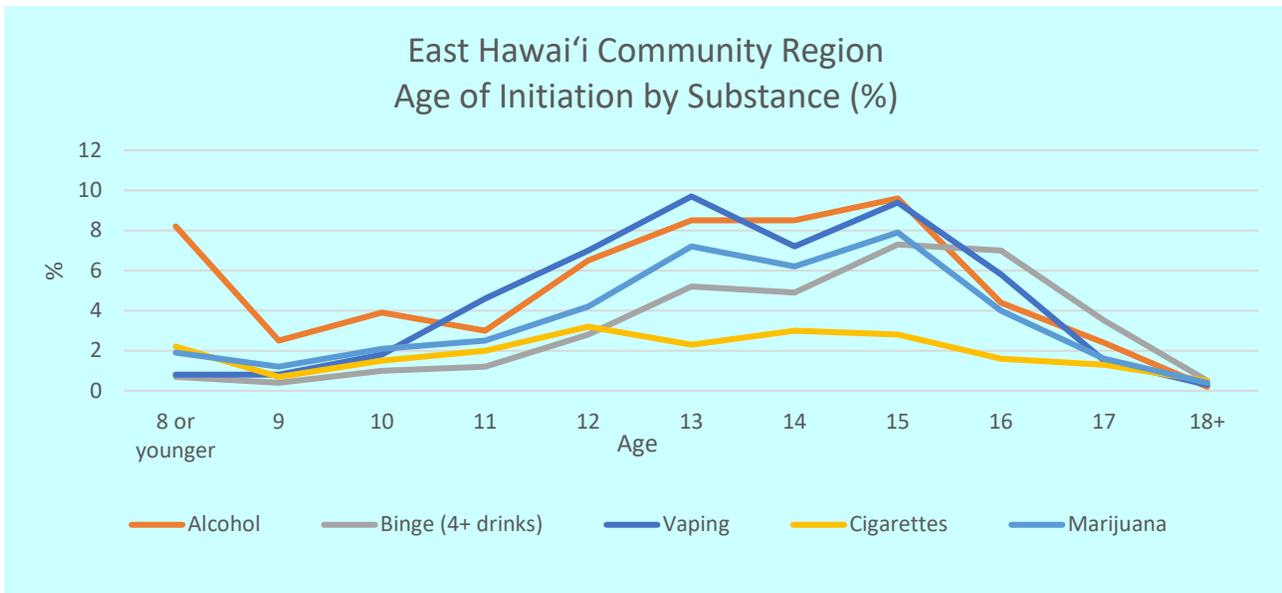


Figure 14. Distribution of age of first use for substance categories in the East Hawai'i Community Region.

# VII. Alcohol Use

## Current Alcohol and Binge Drinking: Community Region, County, & State

Current Alcohol & Binge Use by Grade:  
East Hawai'i Comparison (%)

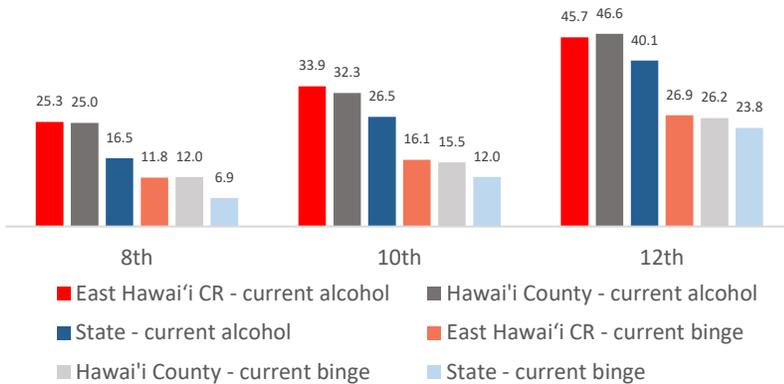


Figure 15. Current any use of alcohol and binge drinking in the past 30 days by grade level for East Hawai'i community region, Hawai'i County, and the state.

Current Alcohol & Binge Use by Gender:  
East Hawai'i Comparison (%)

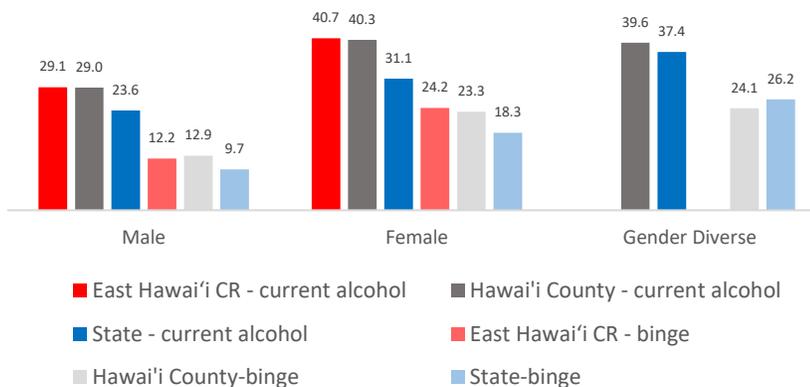


Figure 16. Current any use of alcohol and binge drinking in the past 30 days by gender for East Hawai'i community region, Hawai'i County, and the state. \*Community region gender diverse percents not reported due to low count.

The East Hawai'i Community Region reported **higher rates of current alcohol use** and **binge drinking** compared to overall statewide results, and similar to the county level, for each grade level (Figure 15).

While males and females in East Hawai'i were similar to county rates and higher than state for **any current alcohol use or binge drinking** in the past 30 days, females generally had higher rates of alcohol use compared to males (Figure 14). Due to low counts, percentages for gender diverse students are not reported.

Rates of **moderate-heavy** (6+ times in the past 30 days) **alcohol use** by grade level were slightly higher for 8<sup>th</sup> and 12<sup>th</sup> graders in East Hawai'i compared to the state<sup>10</sup> (8<sup>th</sup> grade 4.3% vs. 3.0%; 10<sup>th</sup> 4.8% vs. 4.9%; 12<sup>th</sup> grade 9.0% vs. 8.1%).

Rates of **moderate-heavy alcohol use** by gender were also slightly higher for the East Hawai'i Community Region compared to the state overall (males 5.7% vs. 4.4%; females 6.4% vs. 5.4%; gender diverse percentage not reported due to low counts).

<sup>10</sup> Statewide prevalences by Grade, Gender and Primary Race/Ethnicity for Lifetime, Any Current (past 30 days), and Moderate-Heavy Use (6+ times in past 30 days) use are found in the Appendix of the [2019-2020 Hawai'i Student Alcohol, Tobacco, and Other Drug Use \(ATOD\) Survey Statewide Report](#).

# VIII. Cigarette & Vape Use

## Current Tobacco Cigarette and Vape/E-cigarette Use: Community Region, County, & State

Current Cigarette & Vape Use by Grade:  
East Hawai'i Comparison (%)

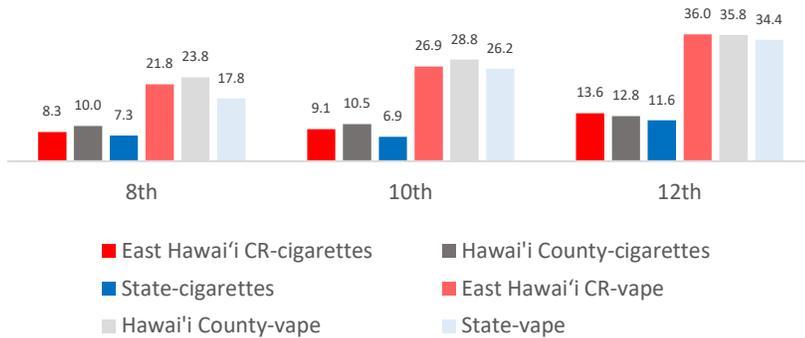


Figure 17. Current any use of tobacco cigarette and vape use in the past 30 days by grade level for East Hawai'i community region, Hawai'i County, and the state.

Current Cigarette & Vape Use by Gender:  
East Hawai'i Comparison (%)

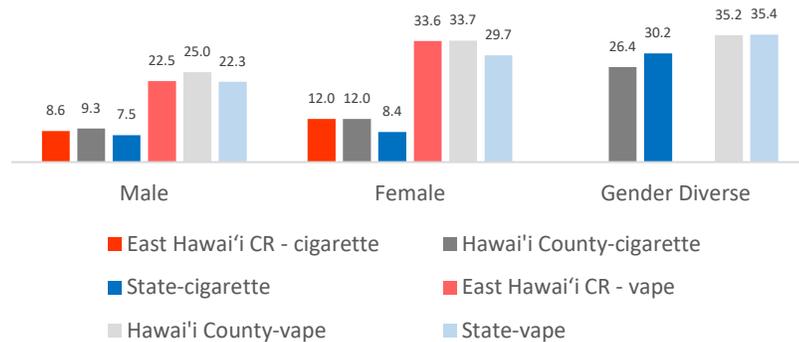


Figure 18. Current any use of tobacco cigarette and vape use in the past 30 days by gender for East Hawai'i community region, Hawai'i County, and the state. \*Community region gender diverse percents not reported due to low count.

In the East Hawai'i Community Region **current tobacco cigarette use** was **similar or slightly higher to county and state rates across the grade levels**. **Current vape use** for the East Hawai'i Community Region was **similar for 10<sup>th</sup> and 12<sup>th</sup> graders compared to the state and county, and slightly higher for 8<sup>th</sup> graders compared to the state** (Figure 17).

**Current cigarette use** rates were similar for **males and higher for female students** in East Hawai'i compared to the county and the state. **Similar to Hawai'i County and the state**, in the community region, **female and gender diverse students reported the highest rates of current vaping** compared to males (Figure 18). Due to low counts, percentages for gender diverse students are not reported.

Compared to the **state<sup>11</sup>**, East Hawai'i students reported **similar use rates for 12<sup>th</sup> graders for moderate-heavy use (6+ times in the past 30 days) of cigarettes** (12<sup>th</sup> grade 5.5% vs. 5.5%; 8<sup>th</sup> and 10<sup>th</sup> grade percentages not reported due to low count) and **across all grades for vape/e-cigarettes** (8<sup>th</sup> grade 6.7% vs. 7.0%; 10<sup>th</sup> grade 12.2% vs. 13.7%; 12<sup>th</sup> grade 20.4% vs. 21.2%). **Moderate-heavy use by gender for cigarettes** (males 3.1% vs. 3.4%; females 3.7% vs. 3.4%), and **vape/e-cigarettes** (males 11.3% vs. 12.2%; females 15% vs. 15.2%) were similar **compared to the state<sup>11</sup>**.

**Substances used in Electronic Vaping Devices:** The most reported substances used by East Hawai'i students were **nicotine (26.7%) and flavors (28.6%)**, however 11.1% also reported **vaping marijuana**.

<sup>11</sup> Statewide prevalences by Grade, Gender and Primary Race/Ethnicity for Lifetime, Any Current (past 30 days), and Moderate-Heavy Use (6+ times in past 30 days) use are found in the Appendix of the **2019-2020 Hawai'i Student Alcohol, Tobacco, and Other Drug Use (ATOD) Survey Statewide Report**.

# IX. Marijuana Use

## Current Marijuana and Concurrent Marijuana-Alcohol Use: Community Region, County, & State

Current Marijuana & Concurrent Marijuana-Alcohol Use by Grade:  
East Hawai'i Comparison (%)

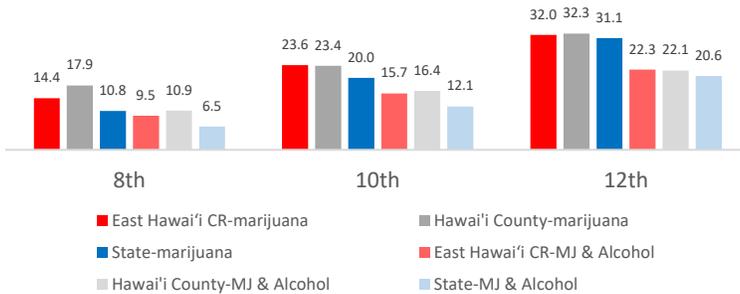


Figure 19. Current any use of marijuana and concurrent use marijuana-alcohol in the past 30 days by grade level for East Hawai'i community region, Hawai'i County, and the state.

Current Marijuana & Concurrent Marijuana-Alcohol Use by Gender:  
East Hawai'i Comparison (%)

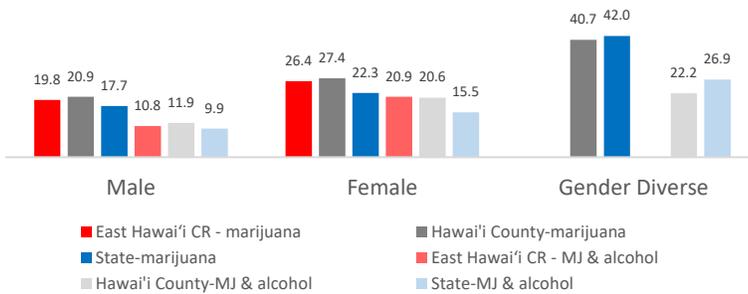


Figure 20. Current any use of marijuana and concurrent use marijuana-alcohol in the past 30 days by gender for East Hawai'i community region, Hawai'i County, and the state. \*Community region gender diverse percents not reported due to low count.

**Current marijuana** use rates in the **East Hawai'i Community Region** were **higher than state rates for 8<sup>th</sup> and 10<sup>th</sup> grades, slightly lower than the county for 8<sup>th</sup> grade, and similar to the county for 10<sup>th</sup> grade.** For **12<sup>th</sup> graders** in the community region, rates of **current marijuana use** were **similar to the county and state levels.** **Concurrent marijuana-alcohol use** rates in the past 30 days for the **East Hawai'i Community Region** were **higher across all grades compared to the state and more similar to the county** (Figure 19).

In the **East Hawai'i Community Region**, rates of **both current marijuana use and marijuana-alcohol co-use by gender** were **slightly higher than the state and similar to the county.** Following state and county patterns for gender, **female students reported higher rates of use** compared to males (Figure 20). Due to low counts, percentages for gender diverse students are not reported.

**Moderate-heavy** (6+ times in the past 30 days) **use of marijuana** was reported at **similar or lower rates for East Hawai'i grade levels** compared to the overall state<sup>12</sup> sample (8<sup>th</sup> grade 4.3% vs. 4.5%; 10<sup>th</sup> grade 8.6% vs. 8.5%; 12<sup>th</sup> grade 13.9% vs. 15.1%). By **gender**, **East Hawai'i female students** (10.1% vs. 9.2% state) reported **slightly higher rates of moderate-heavy marijuana use** compared to the state, while **males** (8.1% vs. 8.4% state) **were similar.** Gender diverse percentage not reported due to low counts.

<sup>12</sup> Statewide prevalences by Grade, Gender and Primary Race/Ethnicity for Lifetime, Any Current (past 30 days), and Moderate-Heavy Use (6+ times in past 30 days) use are found in the Appendix of the [2019-2020 Hawai'i Student Alcohol, Tobacco, and Other Drug Use \(ATOD\) Survey Statewide Report](#).

## X. Substance Use in the Past 30 days by Ethnicity

Table 2 summarizes estimated rates of substance use for the East Hawai'i Community Region in the past 30 days by self-reported **primary identification** in major race/ethnicity categories. Current substance use rates were overall disproportionately **higher for students who primarily identified as Native Hawaiian, including those who identified as two or more ethnicities with Native Hawaiian, and Other Pacific Islander**. Note that due to low counts for certain race/ethnicity groups, percentages were not reported.

Table 2. Percent of current substance use for alcohol, tobacco, vape, and marijuana categories (in the past 30 days) by primary race/ethnicity among East Hawai'i Community Region students

	Alcohol	Binge	Cigarettes	Vape	Marijuana	Marijuana & Alcohol Together
Filipino	26.1%	11.5	-	21.3%	13.6%	6.5%
Japanese	29.6%	-	-	13.9%	-	-
Other Asian	-	-	-	-	-	-
Hispanic/Latino	54.8%	-	-	-	46.7%	-
Native Hawaiian	43.1%	28.2%	20.1%	39.2%	36.6%	27.0%
Other Pacific Islander	27.7%	21.5%	16.9%	33.8%	20.0%	18.8%
White	32.5%	-	-	21.4%	18.8%	-
2 or more ethnicities with Native Hawaiian	41.3%	22.7%	11.5%	33.3%	30.2%	20.9%
2 or more ethnicities not Native Hawaiian	27.1%	12.4%	8.4%	25.3%	15.6%	12.8%
Other	-	-	-	-	-	-

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

## XI. Access and Location of Use

### Access to Substances

While the majority of students reported not using substances, for the East Hawai'i Community Region the **most selected method of acquiring substances was by having someone give it to them** (alcohol 24.1%, marijuana 21.9%, tobacco/vape 20%, and other drugs 4.2%). Other ways included **giving someone money to buy it** for them (alcohol 8.8%, tobacco/vape 7.9%, marijuana 6.7%), **getting it while at school** (tobacco/vape 12%, marijuana 8.6%), or **took it** (alcohol 14.2%, marijuana 6.7%) **from a family member** (Figure 21).



Figure 21. Commonly reported ways in which students get access to substances.

## Location of Use

In the East Hawai'i Community Region students were **most likely to use substances at their own home** (alcohol 20.7%, tobacco/vape 11.1%, marijuana 11%, and other drugs 1.8%), and **at another person's home with a few friends and family** (alcohol 20.2%, tobacco/vape 13.2%, marijuana 15.1%, and other drugs 2.0%), at a **public place** (marijuana 9.5%, tobacco/vape 9.0%, alcohol 6.4%), or at a **party** (alcohol 13.1%, tobacco/vape 7.6%, marijuana 7.6%). Marijuana and vapes were also used **while in a vehicle** (marijuana 5.7%, tobacco/vape 5.9%) and on **school property** (marijuana 6.9%, tobacco/vape 9.9%).

## XII. Prevention Education and Messaging

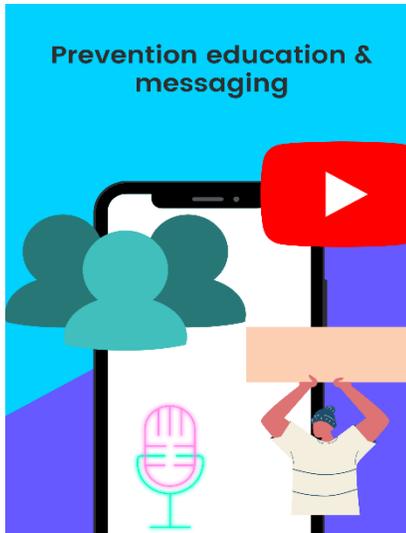


Figure 22. Common prevention education and messaging sources.

Overall, **82.4% of East Hawai'i students reported having received any type of prevention education** with a majority having heard from their **family** (67.4%), at **school** (62.5%), or their **friends** (36%) around the dangers of alcohol, tobacco, or drugs.

Likewise, **80.6% of students reported having 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** (49.6%), **social media/apps** (58.7%), **ads on their devices** (46%), **printed media such as posters or signs** (45.7%), or **traditional/internet radio stations** (26.6%). (Figure 22)

In the East Hawai'i Community Region, **9.7% of youth reported that they thought it was safe for a woman to drink regularly** (once a day to once a week 1.7%), or **even occasionally** (once a month or less 8%), **during pregnancy**. Because prenatal alcohol exposure is associated with significant in utero brain damage and can result in Fetal Alcohol Spectrum Disorders, yet entirely preventable, targeted prevention education may be needed for teens.

### XIII. Risk And Protective Factors

Structural equation modeling was used to examine in the state level data 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**. graphically highlights characteristics for these factors endorsed in the East Hawai'i Community Region sample.

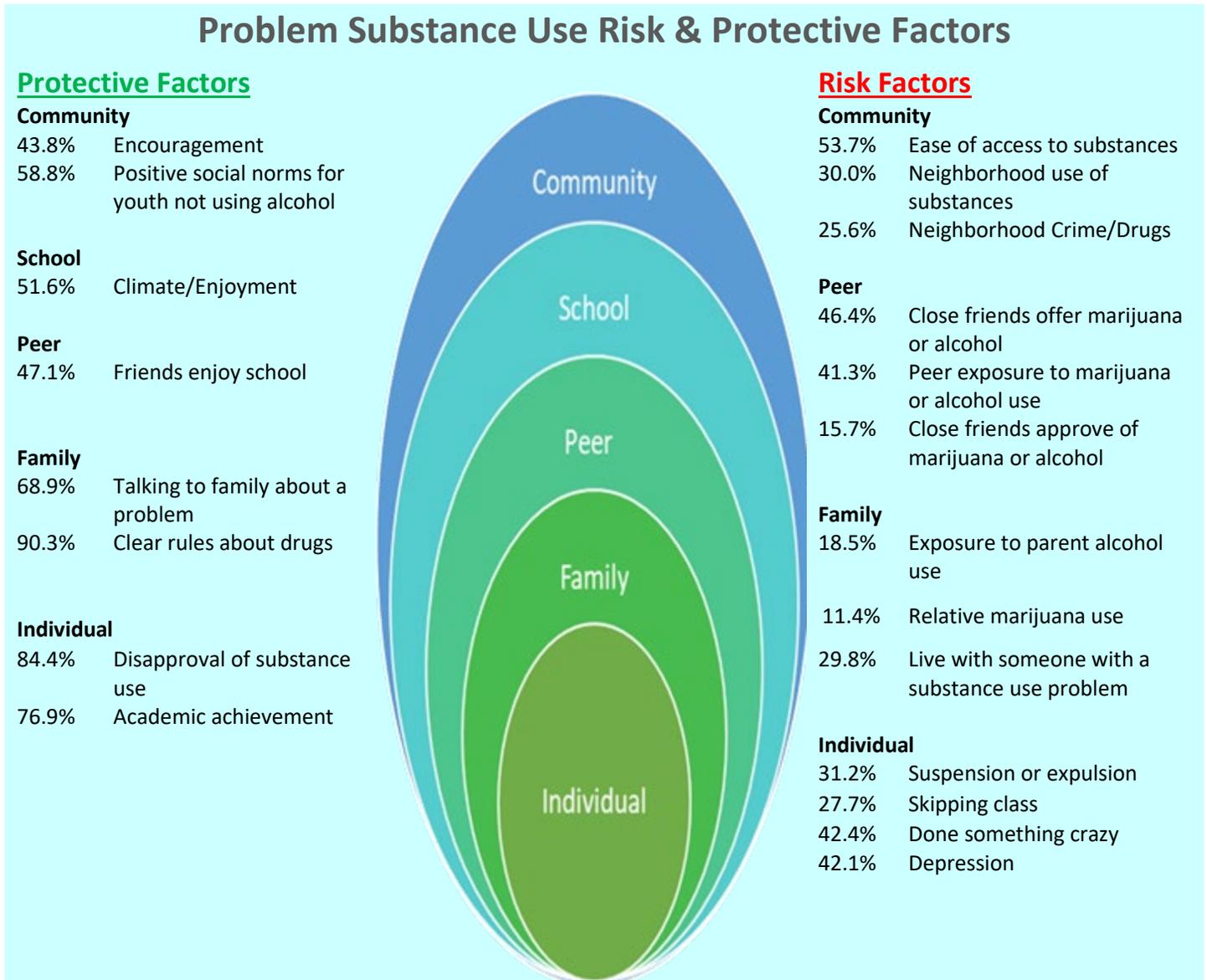


Figure 23. East Hawai'i Community Region profile of percent of students endorsing emerging important risk and protective factors in the Social-ecological model for predicting problem substance use.

## **XIV. Key Takeaways & 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 rates of PSUD in the East Hawai'i Community Region indicating treatment need were similar to the state.
- 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 an SUD, there may be a greater demand for earlier intervention to adequately address prevention needs.
- Similar to state level findings, substance use and PSUD increase with grade level among East Hawai'i students; 12<sup>th</sup> graders and females almost consistently reported highest rates of use across alcohol, tobacco, and marijuana.
- Through the lens of race and ethnicity, among East Hawai'i students, rates of current substance use varied among the self-identified ethnoracial groups, however students who primarily identified as Native Hawaiian or Pacific Islander generally reported higher rates of use across most substance use categories.
- In the East Hawai'i Community Region, vape/e-cigarette use disproportionately affects 12<sup>th</sup> graders, female students, as well as students who primarily identify as Native Hawaiian.

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)<sup>13</sup> 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.

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<sup>13</sup> 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. Hawaii State Department of Health Alcohol and Drug Abuse Division. [https://health.hawaii.gov/substance-abuse/files/2021/10/Youth-Substance-Use-Needs-Assessment\\_Interviews\\_September-2021.pdf](https://health.hawaii.gov/substance-abuse/files/2021/10/Youth-Substance-Use-Needs-Assessment_Interviews_September-2021.pdf)