

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
John A. Burns School of Medicine

*MAUI COUNTY
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.

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Department of Health, Alcohol and Drug Abuse Division

Project Director: John Valera, AICP

Chief Clinical Officer: Jared Yurow, PsyD

The ATODS Team

Principal Investigator: Jane Onoye, PhD

Co-Principal Investigator: Tai-An Miao, PhD

Co-Investigators: Susana Helm, PhD & Deborah Goebert, DrPH (Senior Consultant)

ATODS Data Team: Ishmael Gomes, Cade Akamu, Joshua Terakubo, Mika Thompson, MS

Field Site Coordinators: Keone Chin, Arvin Montgomery, Ku'uleimomi Emmsley

Contributions and assistance from other Department of Psychiatry team members: Tomoko Hotema, Davis Rehuher, Robin Zeller, Mark Salvador, Leilani Alejo, Evan Kuniyoshi, Grayson Taeza-Gutter, Taira Masuda, Min Jung Kang, Rhees Kanemoto, Drake Miyake, Kelly Chan, Mohammad Rahman, with special thanks to Juliana Alden

Contact information:

Jane Onoye, PhD
Department of Psychiatry, John. A Burns School of Medicine
University of Hawai'i at Mānoa
677 Ala Moana Blvd Suite 1016
Honolulu, HI 96813
OnoyeJ@dop.hawaii.edu

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I. Background and Purpose

This **County Report** 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 **Maui County**. 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.

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 colleagues¹ 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](#).

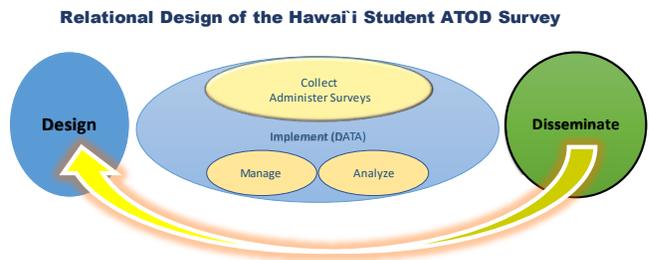


Figure 1. Relational design with dissemination goal as the driver for informing the design of the survey project

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

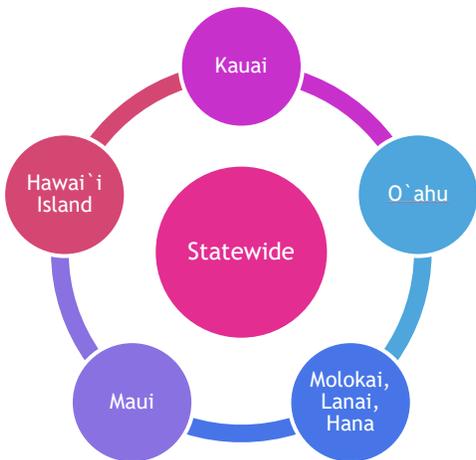


Figure 2. Community region sampling

A **two-stage cluster sample design** was utilized to obtain a representative sample for 8th, 10th, and 12th 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 approximately 75 students were surveyed. Where data were unavailable for a few schools, estimated scores for selected

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.

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.

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 3. Components of the ATOD Survey

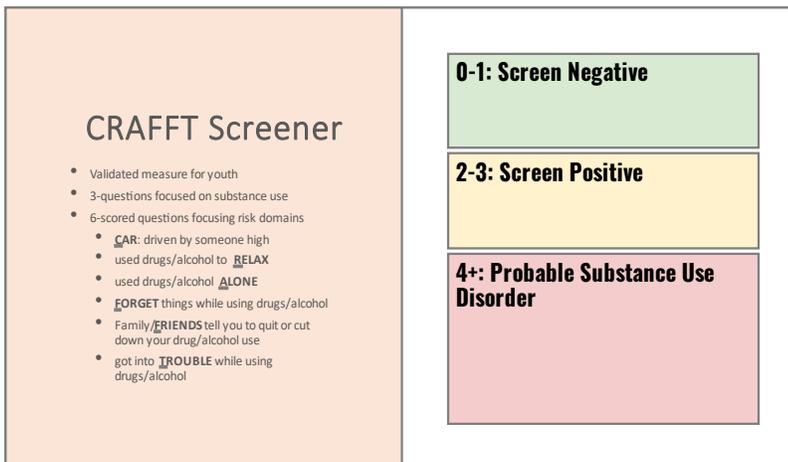


Figure 4. Brief illustration of the validated CRAFFT screen.

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.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. Speaking a **primary language other than English** in the home may also reflect a protective factor among families who are intentional about language preservation and cultural perpetuation.

² Weighted percentages are reported because the sampling frame was based on a random selection of students from schools and grade included in the sample using the prior academic enrollment counts to generate a corresponding weight score which was to be applied in the analyses to represent estimates for the overall sample.

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**³ (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

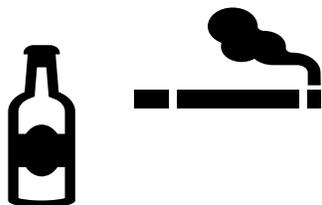


Figure 5. Definition of moderate-heavy use as 6 or more times in the past 30 days.

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 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.

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).

Binge Drinking

is having more than ___ drinks on one occasion

<p>Female Students: 3+ drinks: 8th grade 3+ drinks: 10th grade 3+ drinks: 12th grade</p>		<p>Male Students: 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.

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 that appear to have a hand in reducing or preventing problem behaviors in adolescents. Risk and

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.
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>

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 Maui County data are reported based on the analyses by county from the overall statewide sample. As with the overall state level, data for the main indicators for treatment need and substance use in the county are also shown as reported using weighted percentages.

III. Sample Description

The weighted sample consisted of **944** students from public middle and high schools in **Maui County** who participated in the survey. The overall participation rate for Maui County was **86.2%**. 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 Maui County

Demographic Characteristics	% (weighted)
Gender	
Male	51.3
Female	45.7
Transgender & Other Gender Minority	3.0
Grade	
8th Grade	41.5
10th Grade	37.7
12th Grade	20.8
Self-Identified⁸ Primary Ethnicity/Race	
Native Hawaiian	15.9
Other Pacific Islander	5.6
Japanese	1.7
Filipino	23.7
Other Asian	1.4
Hispanic/Latino	3.3
White/Caucasian	4.7
Other	-
2 or more ethnicities with Native Hawaiian	27.0
2 or more ethnicities not Native Hawaiian	16.1
Family member in Active Military, Reserve, or National Guard	16.1
Self or family member lives on Hawaiian homestead	41.7

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

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 2 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.

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

Maui County Other Demographics (%)

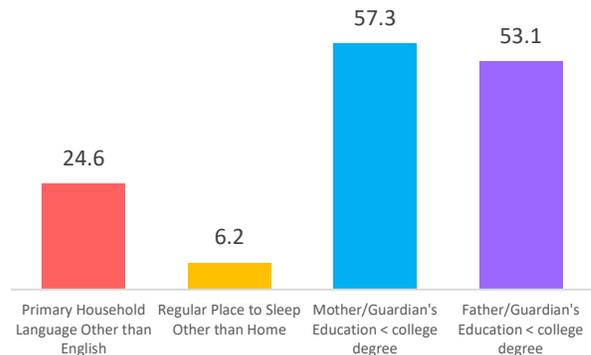


Figure 7. Percent of county sample for other demographic characteristics.

Maui County Importance of Culture (%)

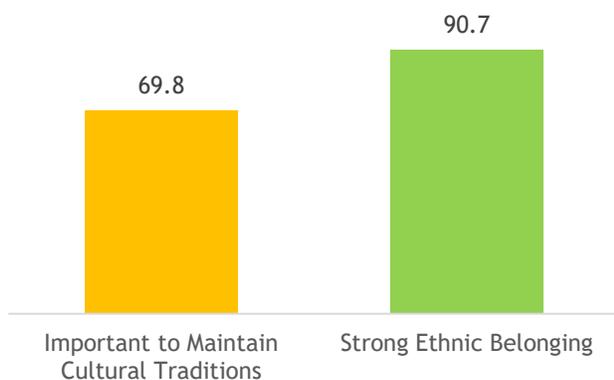


Figure 8. Percent of county sample endorsing items related to culture.

In Maui County, **6.2%** reported usually sleeping at a place other than home, **57.3%** reported their mother/guardian had less than a college degree, and **53.1%** reported their father/guardian’s education was less than a college degree. For items related to culture, **24.6%** of students reported speaking a primary household language other than English (Figure 7), **69.8%** reported that maintaining cultural traditions was important, and **90.7%** reported having a strong ethnic belonging (Figure 8). 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

Maui County reported a slightly higher rates of probable substance use disorder (SUD) and positive risk of developing a substance use disorder (Figure 9) compared to the overall state sample. By grade level, in Maui county 10th graders (14.6%) and 12th graders (14.4%) had the highest rate of probable SUD, compared to 8th graders (7.1%). Probable SUD by gender showed similar patterns to the state with females (15.5%) having higher rates than males (6.8%) in the county. By primary race/ethnicity, students identifying as Native Hawaiian (18%) and two or more ethnicities with Native Hawaiian (11.6%) were among those with higher probable SUD rates, compared to Filipino (6.9%) or with two or more ethnicities not Native Hawaiian (9.5%). Rates of probable SUD for transgender/other gender minority and other race/ethnicity groups are not reported here due to low counts.

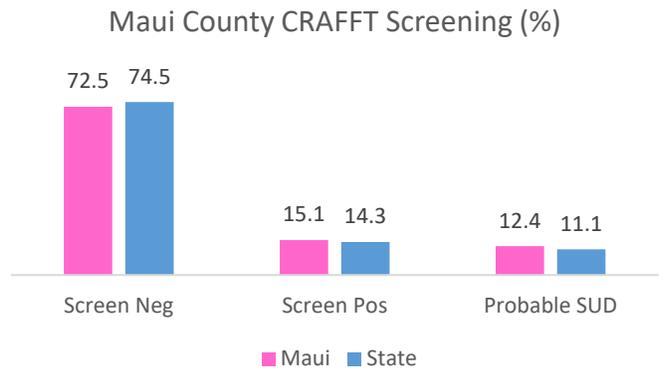


Figure 9. CRAFFT screen percentages for Maui county compared to state sample.

Of those who had a probable SUD, a fifth or less received help at school (20% for alcohol and drug use, 16.3% for tobacco/vaping) or from some place other than school (17.1% for alcohol and drug use, 19.5% for tobacco/vaping). Among students that screened as risk positive, a lower percentage range received help at school (13.3% for alcohol and drug use, 10.9% for tobacco/vaping) and similar percentage range reported getting help at some place other than school (18.9% for alcohol and drug use, 19.9% 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.

Maui County Mental Health & Attentional Disorder Screening (%)

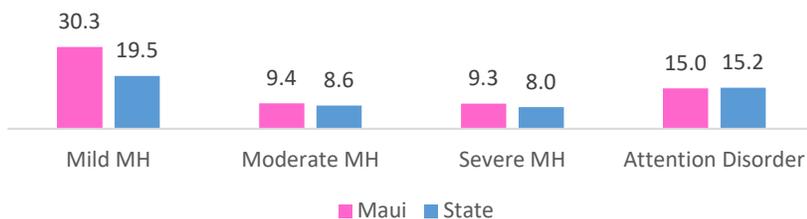


Figure 10. Mental health and attention disorder screen percentages for Maui county compared to state sample.

Maui County reported slightly higher mental health and attention disorder rates when compared to the overall state (Figure 10). 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 Alcohol & Substance Use (within past 30 days) in Maui County vs. State

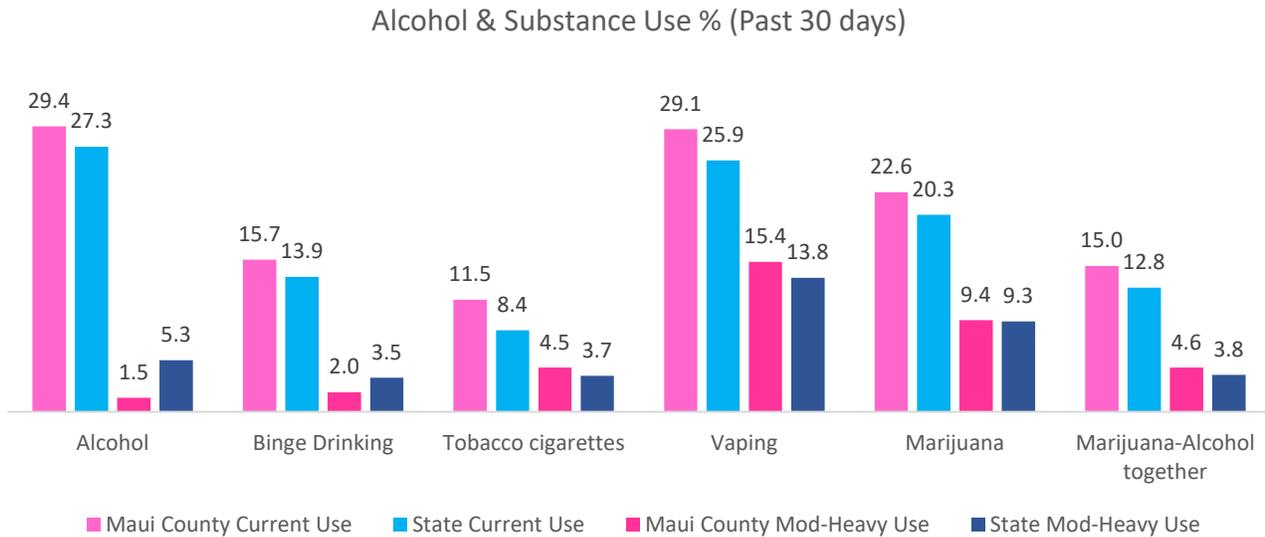


Figure 11. County and state comparisons for current any use and moderate-heavy use of substances in the past 30 days. Note: moderate-heavy binge percentages were based on a survey item for 4+ drinks on one occasion.

Overall in Maui County, rates of **current alcohol and substance use**, defined as **any use in the past 30 days**, were slightly higher for the county compared to the state. For current **moderate-heavy use**, defined as **6 or more times in the past 30 days**, rates of tobacco, vape, and marijuana use were similar or slightly higher for the county compared to the state, while rates of moderate-heavy alcohol use and binge drinking were lower compared to the state (Figure 11). Maui County students also reported **slightly lower rates** than the state⁹ for overall current (past 30 days) use of **sedatives & other prescription drugs** (1.9% vs 2.8%), **over-the-counter drugs** (4.1% vs. 5.0%), and **other illicit drugs** (1.3% vs. 1.5%). Rates of current **opioid** (1.8% vs. 1.6%), **inhalant** (2.9% vs. 2.3%), and **steroid** (1.4% vs. 1.3%) use **were similar or slightly higher compared to the state**. Rates of current heroin, cocaine, methamphetamine, and hallucinogen use in the past 30 days for the county are not reported here due to low counts.

⁹ 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

Maui County Early Initiation of Substance Use by Substance (%)

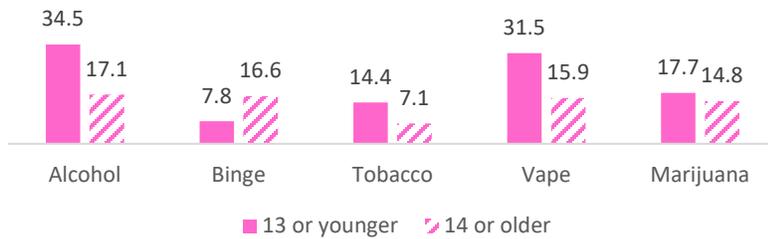


Figure 12. Percent for early initiation (13 or younger) vs. later initiation (14 or older) by substance category for the county.

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 Maui County, students reported **early initiation of all substance use behaviors** (Figure 12), but more frequently for **alcohol, tobacco, and vape/e-cigarettes**. A **bimodal peak of later initiation of alcohol and later peak for binge** (based on survey item for 4+ drinks on one occasion) use were also noted (Figure 13).

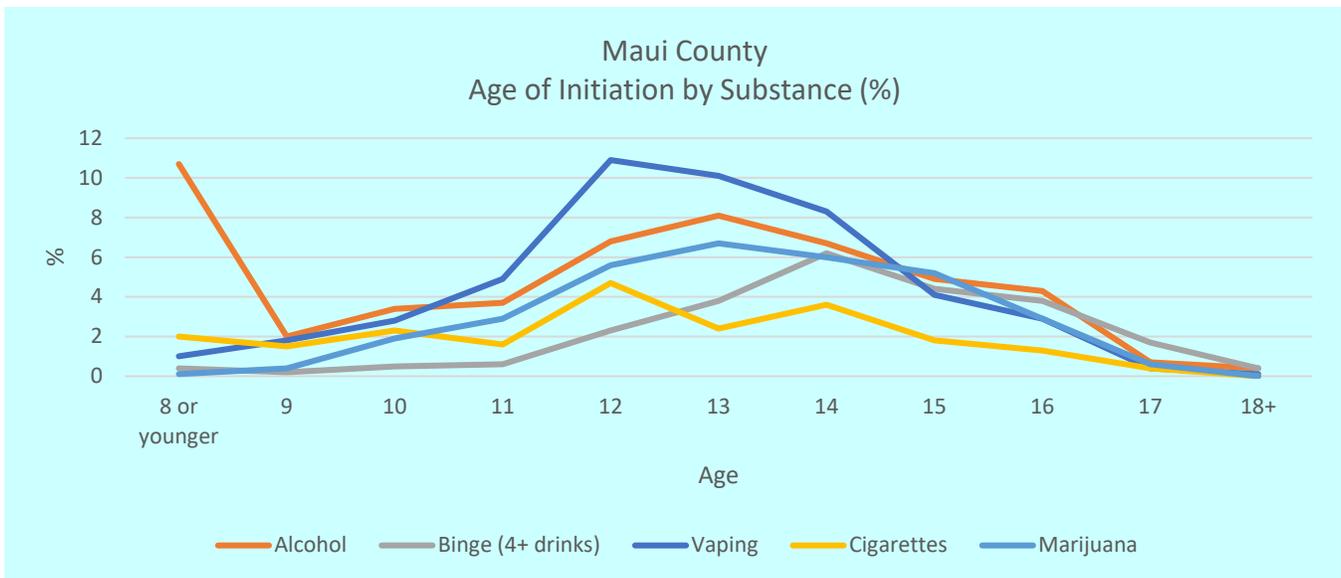


Figure 13. Distribution of age of first use for substance categories in Maui County.

VII. Alcohol Use

Current Use

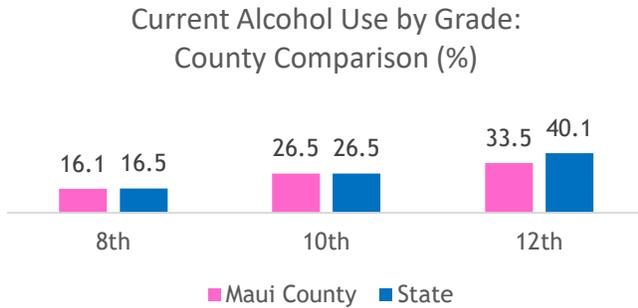


Figure 14. Current any use of alcohol in the past 30 days by grade level for the county and state.

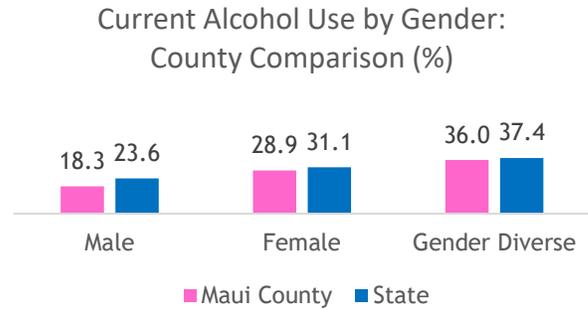


Figure 15. Current any use of alcohol in the past 30 days by gender for the county and state.

Maui County reported **similar rates of current alcohol use for 8th and 10th grade**, and a **lower current alcohol use rate for 12th graders** in comparison to the state (Figure 14). By **gender**, reported **current alcohol use** was **similar for female and gender diverse students** for Maui County in comparison to the state, with **male students reporting the lowest rates**. **Gender diverse students** reported the **highest rates of current alcohol use both in Maui County and the state** (Figure 15). Rates of **moderate-heavy** (6+ times in the past 30 days) **alcohol use by grade level** were **slightly lower for Maui County compared to the state**¹⁰ (8th grade not reported due to low counts; 10th grade 4.6% vs. 4.9%; 12th grade 6.7% vs. 8.1%). Rates of **moderate-heavy alcohol use by gender** were **slightly lower for Maui County** compared to the state overall (males 4% vs. 4.4%; females 2.8% vs. 5.4%; transgender/other gender minority not reported due to low counts).

Binge Use

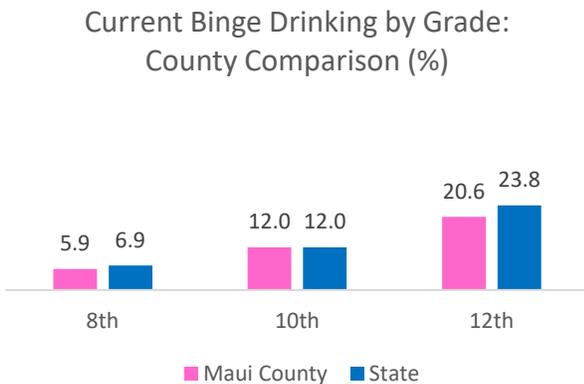


Figure 16. Current binge drinking in the past 30 days by grade level for the county and state.

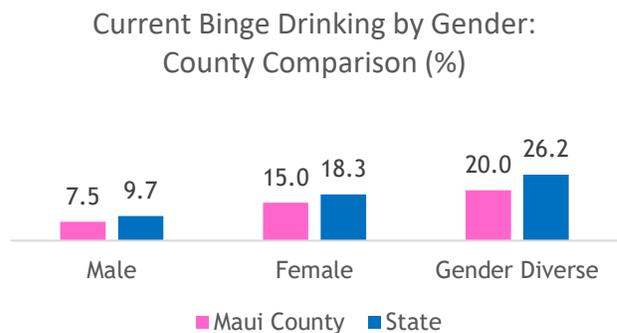


Figure 17. Current binge drinking in the past 30 days by gender for the county and state.

¹⁰ 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](#).

In comparison to the state overall, **Maui County reported similar rates of current binge drinking for the 8th and 10th grade**, and lower rates for 12th grade (Figure 16). In Maui County, **gender diverse students reported the highest rates of binge drinking** when compared to students of other genders. However, Maui county students of all gender groups report slightly lower rates of **binge drinking** when compared to the state level (Figure 17).

VIII. Cigarette & Vape Use

Current Use: Cigarettes

Current Cigarette Use by Grade:
County Comparison (%)

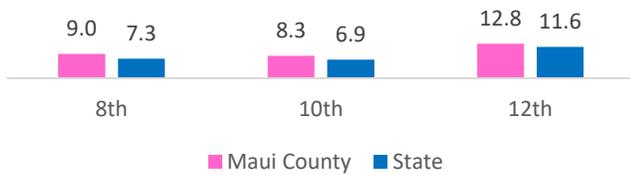


Figure 18. Current tobacco cigarette use in the past 30 days by grade level for the county and state.

Current Cigarette Use by Gender:
County Comparison (%)

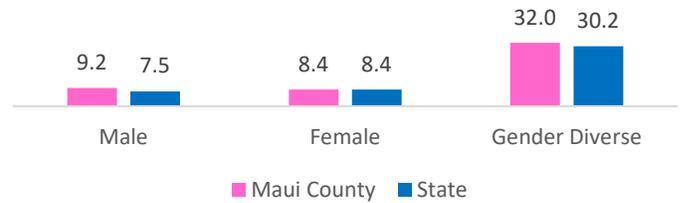


Figure 19. Current tobacco cigarette use in the past 30 days by gender for the county and state.

Current cigarette use was reported at **slightly higher rates in Maui County** in comparison to the state, with 12th graders having the highest rate in both county and state samples (Figure 18). **Male and gender diverse students report slightly higher rates** of current cigarette use when compared to the state sample. Additionally, at both the county and state level, **gender diverse students have the highest rates of current cigarette use when compared to their male and female counterparts** (Figure 19).

Current Use: Vape/e-cigarettes

Current Vape / e-Cigarette Use by Grade:
County Comparison (%)

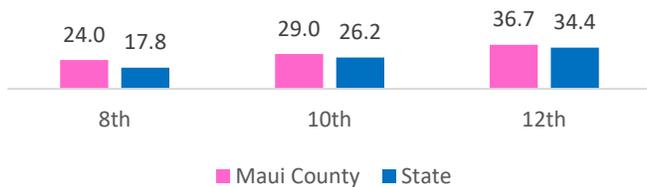


Figure 20. Current vape/e-cigarette use in the past 30 days by grade level for the county and state.

Current Vape / e-Cigarette Use by
Gender:
County Comparison (%)

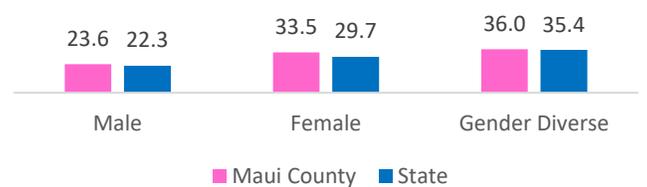


Figure 21. Current vape/e-cigarette use in the past 30 days by gender for the county and state.

Current vape/e-cigarette use by grade was **higher in Maui County** in comparison to the state, with a similar pattern of **increasing rates of current vape use from 8th to 12th grade** (Figure 20). In Maui County, **current vape use** rates across **all genders were slightly higher** when compared to students of their same gender group in the state sample. **Female and gender diverse students had higher rates of current vape use** compared to males in Maui County. **Gender diverse students** showed disproportionately **higher rates in both smoking cigarettes and vape use**. Maui County also reported rates of **moderate-heavy** (6+ times in the past 30 days) **use of vape/e-cigarettes** by **grade level** (8th 10.1%, 10th 15.6%, 12th 24.5%) and **by gender** (males 14%, females 16.4%, transgender/other gender minority percent not reported due to low counts).

Substances used in Electronic Vaping Devices: The most reported substances used by Maui County students were **nicotine** (28.1%) **and flavors** (27.0%), however 12.2% also reported **vaping marijuana**.

IX. Marijuana Use

Current Use

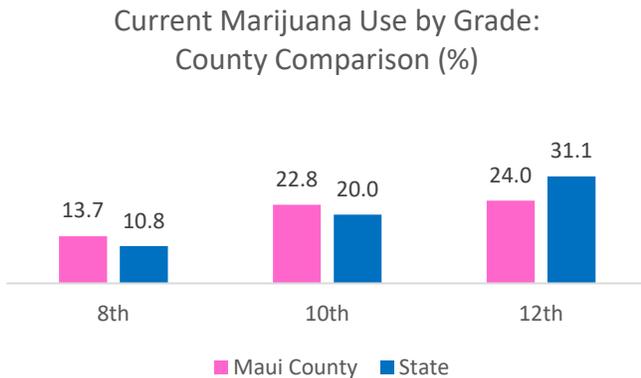


Figure 22. Current marijuana use in the past 30 days by grade level for the county and state.

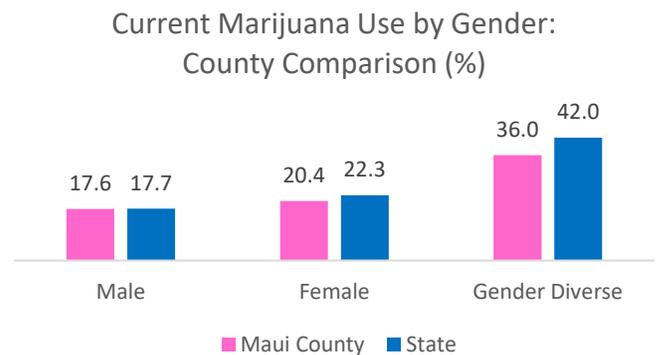


Figure 23. Current marijuana use in the past 30 days by gender for the county and state.

Current marijuana use in Maui County was **slightly higher for 8th and 10th graders** in comparison with the state. Maui **12th graders** reported **current marijuana use** at **lower rates** than the state sample (Figure 22). **Current marijuana use** was **similar for males, and lower for females and gender diverse students in Maui County** compared to the state. However, **gender diverse students were more likely** than males or females to be currently using marijuana (Figure 23).

Moderate-heavy (6+ times in the past 30 days) **use of marijuana** was reported at a **similar rate for Maui County's 8th graders, higher rate for 10th graders, and lower rate for 12th graders** compared to the overall state¹¹ sample (8th grade 4.4% vs. 4.5%; 10th grade 10.1% vs. 8.5%; 12th grade 9.2% vs. 15.1%). By **gender**, in contrast to the state, **Maui County's male students** (11.9% vs. 8.4% state) reported **higher rates** while **female students** (8.5% vs.

¹¹Statewide 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](#).

9.2% state) in the county reported **slightly lower rates** of **moderate-heavy marijuana use** (gender diverse percentage not reported due to low counts).

Marijuana & Alcohol Use Together

By grade level, Maui County students reported **slightly higher rates** in 10th, and **slightly lower** in 12th grade for **concurrent alcohol and marijuana use** when compared to the state level (Figure 24). **By gender, Maui County male students reported similar a rate, and female students a slightly lower rate** of **concurrent marijuana and alcohol use** (Figure 25) in comparison to the state (gender diverse percentage not reported due to low counts).

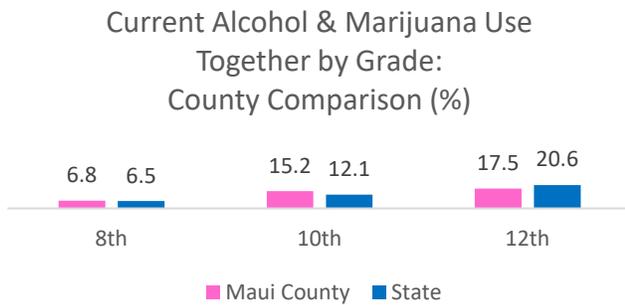


Figure 24. Concurrent alcohol and marijuana use in the past 30 days by grade level for the county and state.

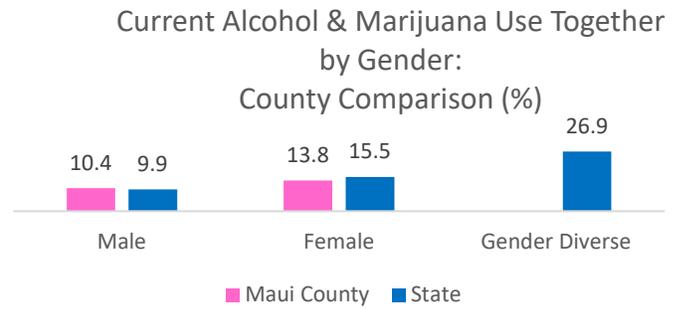


Figure 25. Concurrent alcohol and marijuana use in the past 30 days by gender for the county and state.

X. Substance Use in the Past 30 Days by Ethnicity

Table 2 summarizes estimated rates of substance use in the past 30 days by self-reported **primary identification** in major race/ethnicity categories for Maui County. 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 Hispanic/Latino**. Note that due to low counts for certain race/ethnicity groups, percentages were not reported.

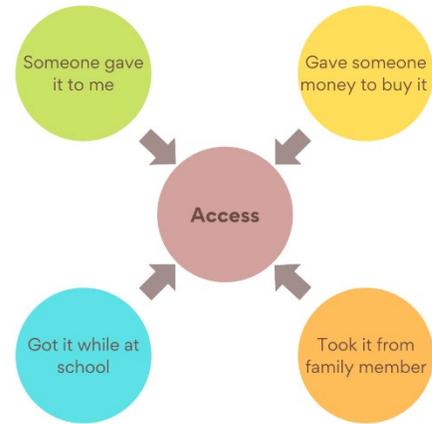
Table 2. Percent of current substance use for alcohol, tobacco, vape, and marijuana categories (in the past 30 days) by primary race/ethnicity among Maui County students

	Alcohol	Binge	Cigarettes	Vape	Marijuana	Marijuana & Alcohol Together
Filipino	15.2%	7.4%	6.4%	19.7%	11.0%	6.5%
Japanese	-	-	-	-	-	-
Other Asian	-	-	-	-	-	-
Hispanic/Latino	33.3%	-	-	46.7%	46.7%	32.3%
Native Hawaiian	27.8%	10.4%	8.5%	41.3%	25.4%	14.8%
Other Pacific Islander	-	-	-	-	-	-
White/Caucasian	32.6%	-	-	32.6%	-	-
2 or more ethnicities with Native Hawaiian	29.8%	15.2%	10.7%	35.5%	23.1%	16.6%
2 or more ethnicities not Native Hawaiian	24.7%	10.8%	8.7%	24.2%	22.8%	13.6%
Other	-	-	-	-	-	-

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

XI. Access and Location of Use

While the majority of students reported not using substances, for Honolulu County the **most selected method of acquiring substances was by having someone give it to them** (alcohol 23.7%, marijuana 20.6%, tobacco/vape 20.6%, and other drugs 3.8%). Other ways included **giving someone money to buy it** for them (alcohol 6.2%, tobacco/vape 6.1%, marijuana 4.8%), **getting it while at school** (tobacco/vape 8.9%, marijuana 7.9%), or **took it (alcohol 11.8%) from a family member**. (Figure 26)



Location of Use

Students were **most likely to use substances at their own home** (alcohol 12.9%, tobacco/vape 12.8%, marijuana 13%, and other drugs 1.7%), and **at another person’s home with a few friends and family** (alcohol 16.9%, tobacco/vape 13.3%, marijuana 14.4%, and other drugs 1.8%), at a **public place** (marijuana 10.4%, tobacco/vape 9.6%, alcohol 9.4%), or at a **party** (alcohol 14.6%, tobacco/vape 7.4%, marijuana 8.5%, alcohol 12%). Marijuana and vapes were also used **while in a vehicle** (marijuana 7.5%, tobacco/vape 7.8%) and on **school property** (marijuana 5.4%, tobacco/vape 8.3%).

Figure 26. Commonly reported ways in which students get access to substances.

XII. Prevention Education and Messaging

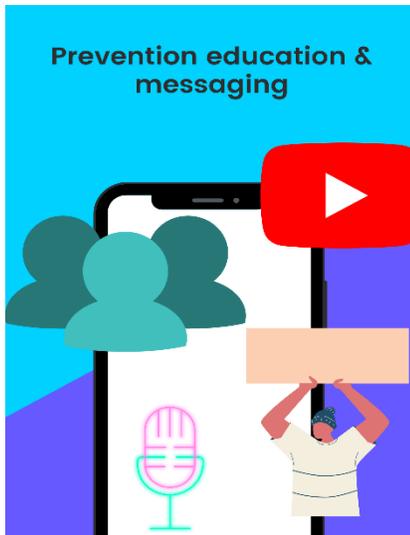


Figure 27. Common prevention education and messaging sources.

Overall, **86.3% of Maui County students reported having received any type of prevention education** with a majority having heard from their **family** (69.5%), at **school** (70.9%), or their **friends** (42.6%) around the dangers of alcohol, tobacco, or drugs.

Likewise, **80.9% 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** (55.7%), **social media/apps** (58.8%), **ads on their devices** (49.9%), **printed media such as posters or signs** (41.4%), or **traditional/internet radio stations** (24.2%). (Figure 28)

In Maui County, **6.8% of youth reported that they thought it was safe for a woman to drink regularly** (once a day .7%, once a week .8%), or **even occasionally** (once a month or less 5.3%), **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**. Figure 28 graphically highlights characteristics for these factors endorsed in the **Maui County sample**.

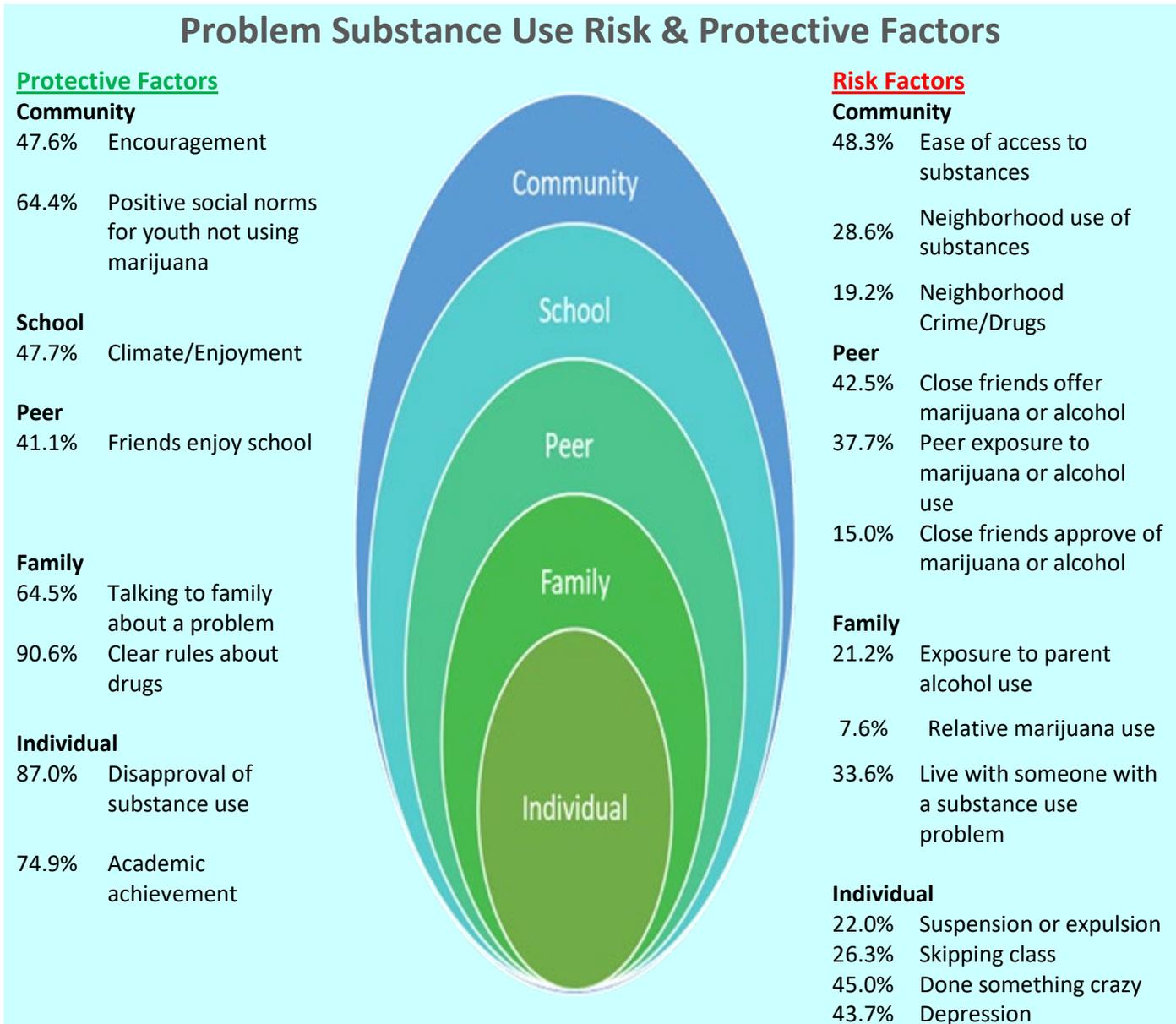


Figure 28. Maui County profile of percent of students endorsing emerging important risk and protective factors in the Social-ecological model for predicting problem substance use

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 Maui County indicating treatment need were slightly higher than the overall 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 Maui County students; 12th graders consistently reported highest rates of use across alcohol, tobacco, and marijuana.
- Through the lens of race and ethnicity, among Maui County students, rates of current substance use varied among the self-identified ethnoracial groups, however students who primarily identified as Native Hawaiian (including those who identified with two or more ethnicities with Native Hawaiian) and Hispanic/Latino generally reported higher rates of use across most substance use categories.
- In Maui County, vape/e-cigarette use disproportionately affects 12th graders, transgender/gender minority (TGGM) students, as well as students who primarily identify as Native Hawaiian (including those primarily identifying with two or more ethnicities with Native Hawaiian) or Hispanic/Latino.

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)¹² 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.

¹² 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