

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

*KAUA'I COUNTY-
COMMUNITY
REGION REPORT*

In Contract with and Prepared By:
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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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I. Background and Purpose

This **County-Community Region 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 **Kaua'i County-Community Region** (where the county and the community region are the same, hereafter referred to as **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](#).

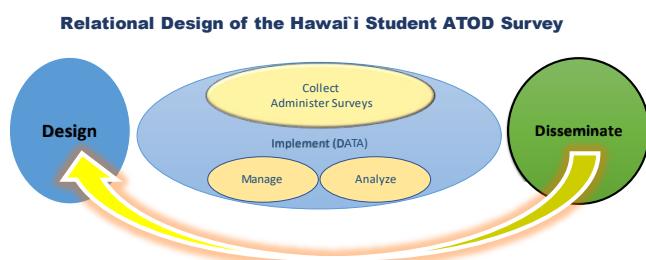


Figure 1. Relational design with dissemination goal as the driver for informing the design of the survey project

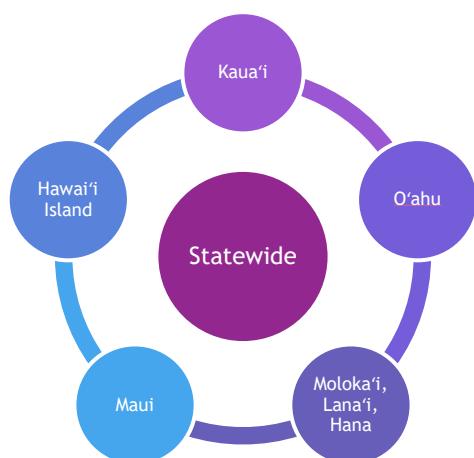


Figure 2. Community region sampling

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 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

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.

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 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.**

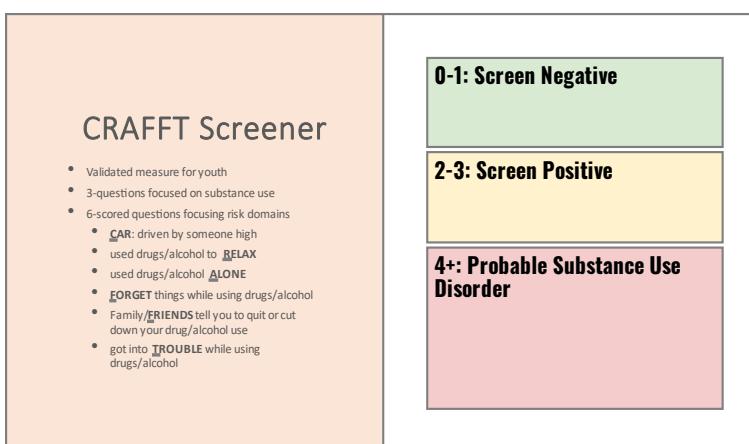


Figure 4. Brief illustration of the validated CRAFFT screen.

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



Figure 3. Components of the ATOD Survey

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

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.

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.

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 4), 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.

Moderate -Heavy Use = 6 or more times

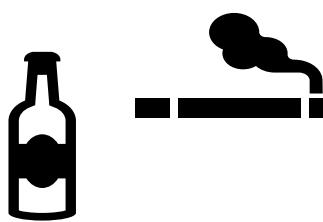


Figure 5. Definition of moderate-heavy use as 6 or more times in the past 30 days.

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 that appear to have a hand in reducing or preventing problem behaviors in adolescents. Risk and protective factors were analyzed using a

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.

Binge Drinking

is having more than ___ drinks on one occasion

Female Students:
3+ drinks: 8th grade
3+ drinks: 10th grade
3+ drinks: 12th grade



Male Students:
3+ drinks: 8th grade
4+ drinks: 10th grade
5+ drinks: 12th grade

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

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>

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 Kaua'i County data are reported based on the analyses by county from the overall statewide sample (Figure 7). 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 **597** students from public middle and high schools in **Kaua'i County** who participated in the survey. The overall **participation rate** for Kaua'i County was **87%**. 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 Kaua'i County

Demographic Characteristics	% (weighted)
Gender	
Male	50.0
Female	45.9
Transgender & Other Gender Minority	4.1
Grade	
8th Grade	32.6
10th Grade	44.2
12th Grade	23.2
Self-Identified⁸ Primary Ethnicity/Race	
Native Hawaiian	10.1
Other Pacific Islander	4.0
Japanese	3.8
Filipino	22.7
Other Asian	-
Hispanic/Latino	3.4
White/Caucasian	11.6
Other	-
2 or more ethnicities with Native Hawaiian	27.5
2 or more ethnicities not Native Hawaiian	14.6
Family member in Active Military, Reserve, or National Guard	18.2
Self or family member lives on Hawaiian homestead	26.9

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.



Figure 7. Kaua'i Island is represented as the county and community level data for the 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 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, for some of the ethnicity/racial categories, percentages were not reported due to low counts (less than 10).

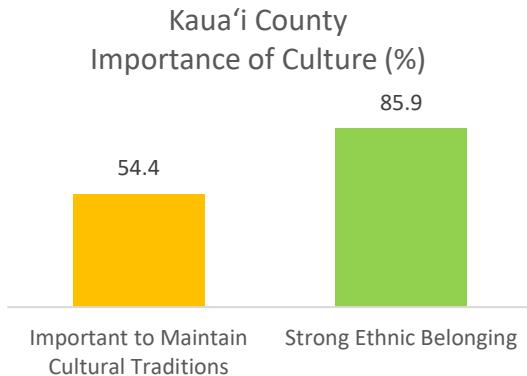


Figure 9. Percent of county sample endorsing items related to culture.

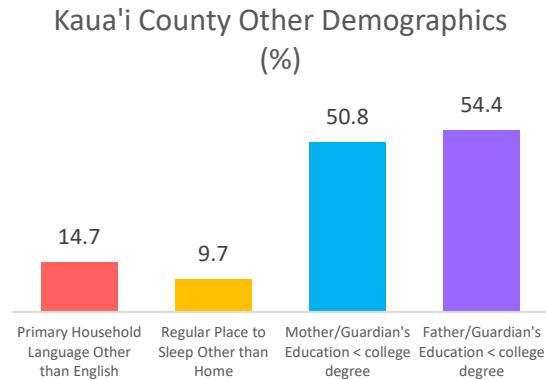


Figure 8. Percent of county sample for other demographic characteristics.

In Kaua‘i County, **9.7% reported usually sleeping at a place other than home, 50.8% reported their mother/guardian had less than a college degree, and 54.4% reported their father/guardian’s education was less than a college degree.** For items related to culture, **14.6% of students reported speaking a primary household language other than English** (Figure 8), **54.4% reported that maintaining cultural traditions was important, and 85.9% 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

Kaua'i County reported slightly higher rates of probable substance use disorder (SUD) and risk positive screens compared to the overall state (Figure 10). Unlike state trends by grade level, in Kaua'i county 8th graders (15.8%) had the highest rate of probable SUD, compared to 10th graders (14.7%) and 12th graders (11.7%). Probable SUD by gender showed similar patterns to the state with females (17.2%) having higher rates than males (11%) in the county. By primary race/ethnicity, students identifying as Native Hawaiian (27.1%), with two or more ethnicities with Native Hawaiian (18.6%), and with two or more ethnicities not Native Hawaiian (19.5%) were among those with higher probable SUD rates. Rates of probable SUD for transgender/other gender minority and other race/ethnicity groups are not reported here due to low counts.

Of those who had a probable SUD, less than a quarter received help at school (12.5% for alcohol and drug use, 17.1% for tobacco/vaping) or from some place other than school (22.2% for alcohol and drug use, 12.5% for tobacco/vaping). Among students that screened as risk positive, an even smaller percentage received help at school (15.2% for alcohol and drug use, 9.8% for tobacco/vaping) or at some place other than school (12.1% for alcohol and drug use, 6.6% 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.

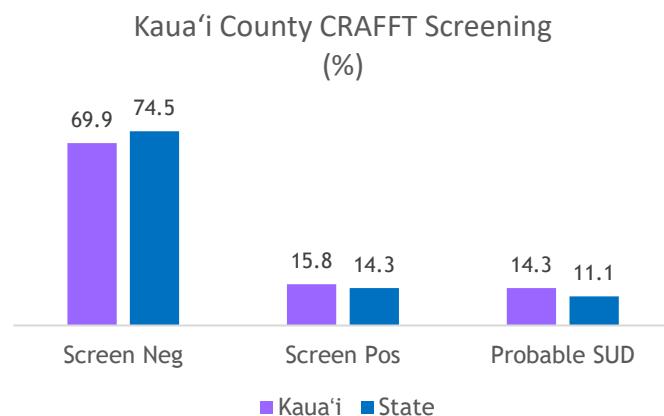


Figure 10. CRAFFT screen percentages for Kaua'i county compared to state sample.

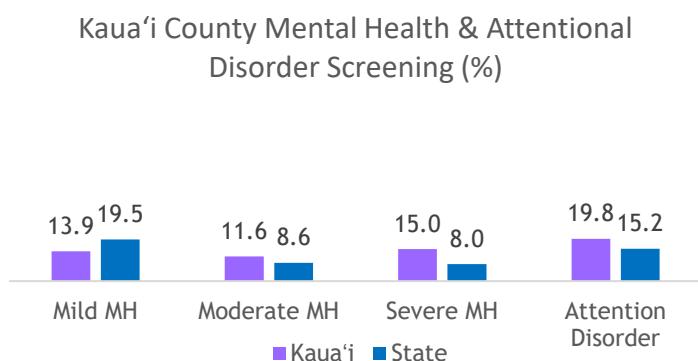


Figure 11. Mental health and attention disorder screen percentages for Kaua'i county compared to state sample.

Kaua'i County also had higher mental health (moderate-severe) and attention disorder screen rates when compared to the 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 Kaua'i County vs. State

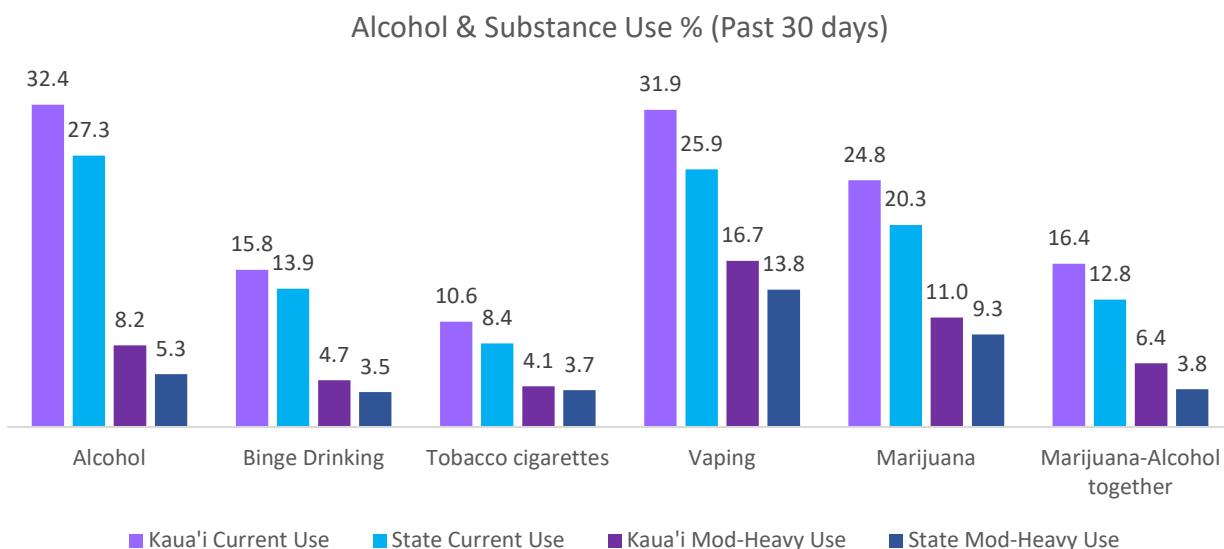


Figure 12. County and state comparisons for current any use and moderate-heavy use of substances in the past 30 days. Note: moderate-heavy binge percentages were based on a survey item for 4+ drinks on one occasion.

Overall in Kaua'i County, rates of **current alcohol and substance use**, defined as **any use in the past 30 days**, were **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 alcohol and substance use were generally **higher for the county compared to the state** (Figure 12).

Kaua'i County students also reported **slightly higher rates** than the state⁹ for overall current (past 30 days) use of **sedatives & other prescription drugs** (3.0% vs 2.8%), **over-the-counter drugs** (7.3% vs. 5.0%), and **inhalants** (4.7% vs. 2.3%). Rates of current **cocaine** (1.6% vs. 1.6%) and **hallucinogen** (1.9% vs. 2.0%) use **were similar to the state**. Rates of current opioid, heroin, steroid, and other illicit drug 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

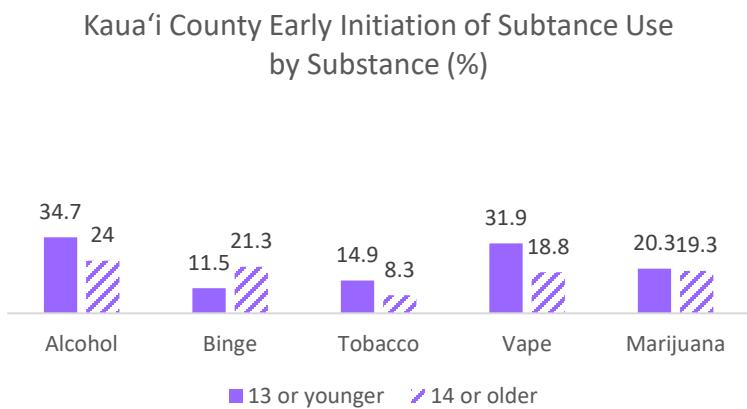


Figure 13. Percent for early initiation (13 or younger) vs. later initiation (14 or older) by substance category for the county.

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 Kaua'i County, students reported **early initiation of all substance use behaviors** (Figure 13), 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 14).

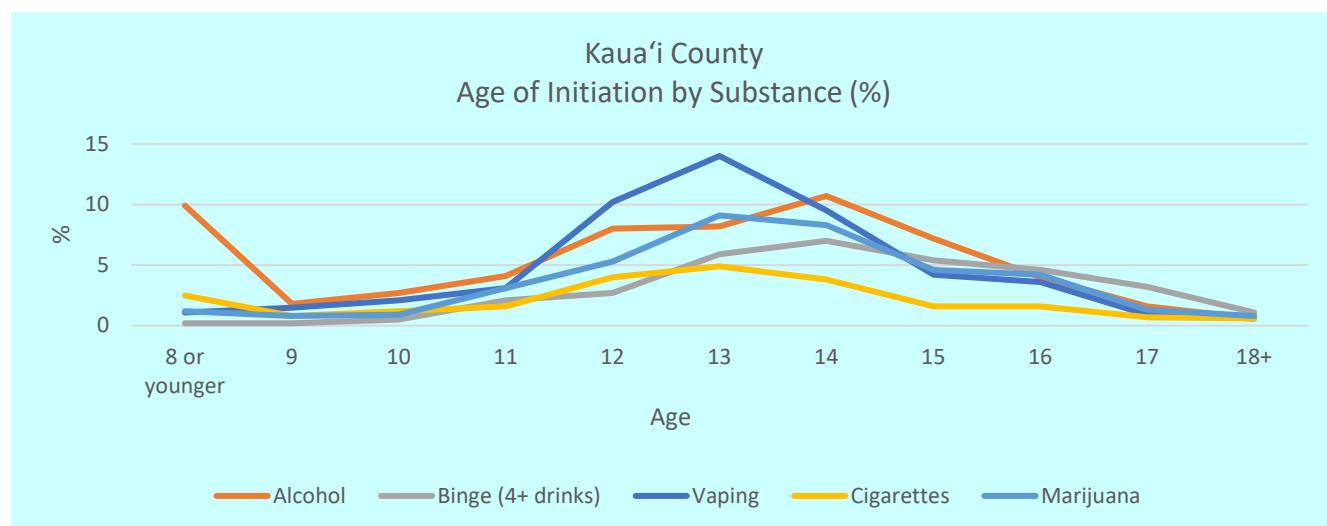


Figure 14. Distribution of age of first use for substance categories in Kaua'i County.

VII. Alcohol Use

Current Alcohol Use

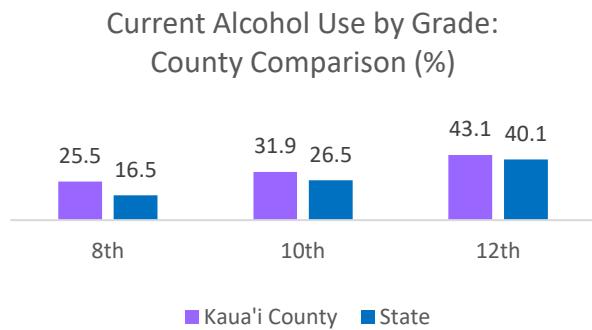


Figure 15. Current any use of alcohol in the past 30 days by grade level for the county and state.

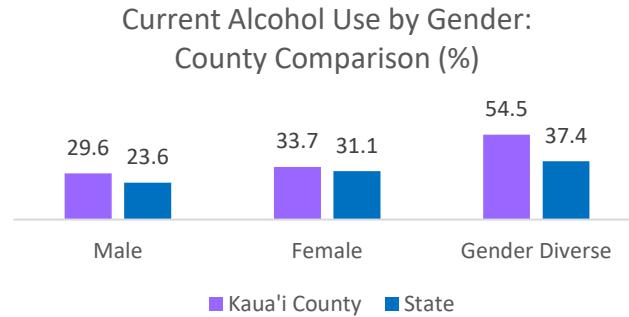


Figure 16. Current any use of alcohol in the past 30 days by gender for the county and state.

Kaua'i County had higher rates of **current alcohol use** compared to the state for all three grades surveyed (Figure 15). By gender, **current alcohol** use was higher for Kaua'i County compared to the state overall, with male students reporting the lowest rates. **Gender diverse students** reported the **highest rates** of current use within both samples (Figure 16). Rates of **moderate-heavy** (6+ times in the past 30 days) **alcohol use by grade level** were also **higher for Kaua'i County compared to the state¹⁰** (8th grade 6.3% vs. 3.0%; 10th grade 8.4% vs. 4.9%; 12th grade 10.9% vs. 8.1%). Rates of **moderate-heavy alcohol use by gender** were **higher for Kaua'i County** compared to the state overall (males 7.1% vs. 4.4%; females 8.1% vs. 5.4%; gender diverse percentage not reported due to low counts).

Current Binge Drinking

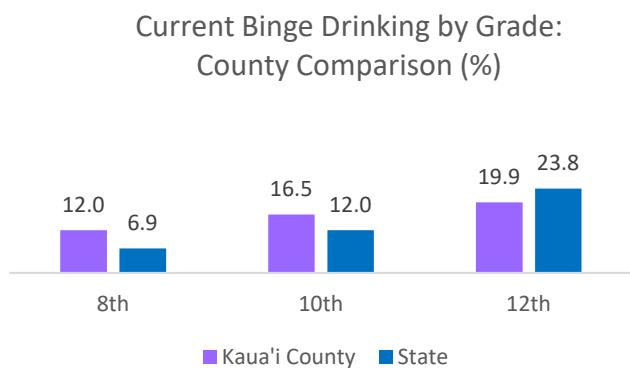


Figure 17. Current binge drinking in the past 30 days by grade level for the county and state.

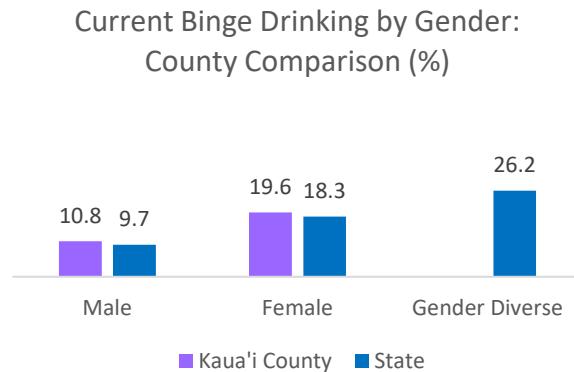


Figure 18. Current binge drinking in the past 30 days by gender for the county and state.*Community region gender diverse percent not reported due to low count.

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, **Kaua'i County** reported **higher rates of binge drinking** for **8th and 10th graders** (Figure 17). In Kaua'i County, similar to the state, **male students reported binge drinking at the lowest rate**. For both the county and state level, **female students had a higher rate of binge drinking than males** (Figure 18).

VIII. Cigarette & Vape Use

Current Tobacco Cigarette Use

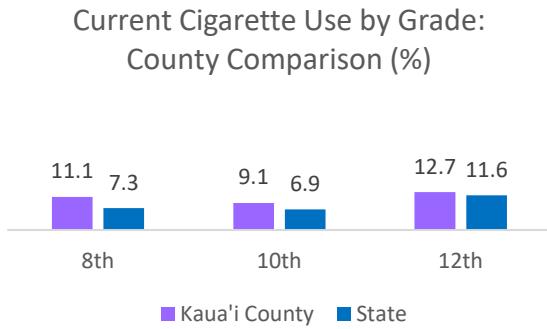


Figure 19. Current tobacco cigarette use in the past 30 days by grade level for the county and state.

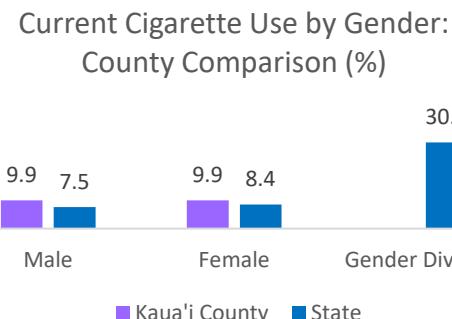


Figure 20. Current tobacco cigarette use in the past 30 days by gender for the county and state. * Community region gender diverse percent not reported due to low count.

Current cigarette use was slightly higher for Kaua'i County compared to the state, with 12th graders reporting the highest rates (Figure 19). In Kaua'i County **male and female** students reported current use at a **slightly higher rate compared to the state overall**. However, in the state sample, **gender diverse students had the highest rates of current use** (Figure 20).

Current Vape/E-cigarette Use

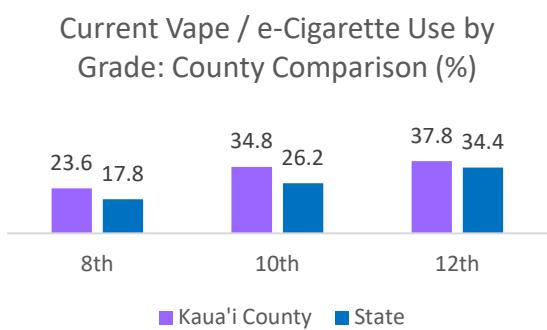


Figure 21. Current vape/e-cigarette use in the past 30 days by grade level for the county and state.

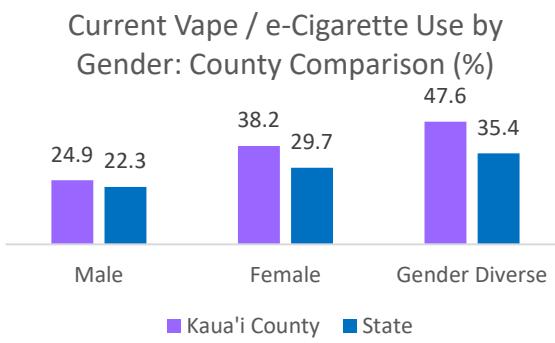


Figure 22. Current vape/e-cigarette use in the past 30 days by gender for the county and state.

Current vape/e-cigarette use by grade was **higher for Kaua'i County** compared to the state (Figure 21). For both Kaua'i County and the overall state, vape use was significantly higher than tobacco cigarette use. Kaua'i County's rate of **vape use across grade was two to three-fold that of cigarette use**. In Kaua'i County all gender groups

reported higher rates of use than the overall state, with gender diverse students having the highest rates (Figure 22). Gender diverse students showed disproportionately higher rates in both smoking cigarettes and vape use. Kaua'i County also reported rates of moderate-heavy (6+ times in the past 30 days) use of vape/e-cigarettes by grade level (8th 10.5%, 10th 17.9%, 12th 23%) and by gender (males 11.8%, females 21%, transgender/other gender minority 28.6%).

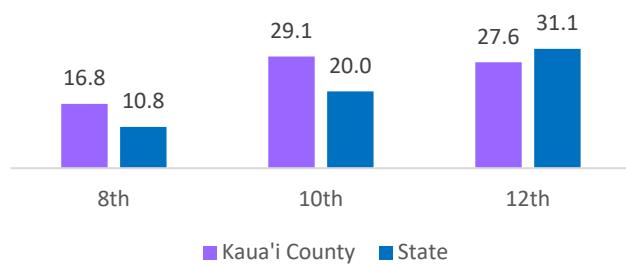
Substances used in Electronic Vaping Devices: The most reported substances used by Kaua'i County students were nicotine (34.9%) and flavors (27.2%), however 16.2% also reported vaping marijuana.

IX. Marijuana Use

Current Marijuana Use

Current Marijuana Use by Grade:

County Comparison (%)



Current Marijuana Use by Gender:

County Comparison (%)

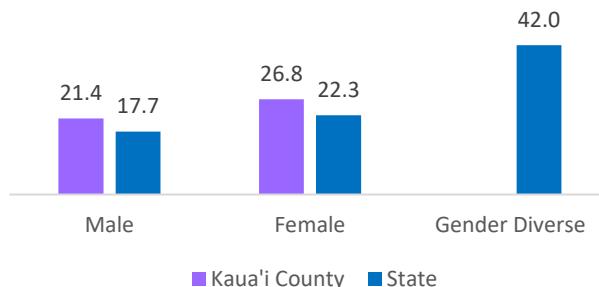


Figure 23. Current marijuana use in the past 30 days by grade level for the county and state.

Figure 24. Current marijuana use in the past 30 days by gender for the county and state. *Community region gender diverse percent not reported due to low count.

Compared to the state, **current marijuana use** was **higher** for Kaua'i County across **8th and 10th grades** (Figure 23). **Current marijuana** use was **slightly higher** for both **male and female students** between the Kaua'i County and overall State sample (Figure 24). Compared to their cisgender counterparts, **gender diverse** students in the state reported the **highest rate of current marijuana use**.

Moderate-heavy (6+ times in the past 30 days) **use of marijuana** was reported at **higher rates for Kaua'i County's 8th and 10th graders** compared to the overall State¹¹ sample (8th grade 8.9% vs. 4.5%; 10th grade 11.5% vs. 8.5%; 12th grade 14.1% vs. 15.1%). By **gender**, **Kaua'i County's male students** (11.9% vs. 8.4% state) reported **higher rates of moderate-heavy marijuana use** compared to the state, while **females** (8.5% vs. 9.2% state) **were slightly lower** (gender diverse percentage not reported due to low counts).

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.

Current Marijuana & Alcohol Use Together

Based on grade level, **concurrent use of marijuana and alcohol** (in the past 30 days) was **higher for the county's 8th and 10th graders** compared to the overall state (Figure 25). By **gender**, Kaua'i County students reported **higher rates** compared to the state for **male** (14.6% vs. 9.9%) and **transgender/other gender minority** (57.1% vs. 26.9%) students, while female (15.6 vs. 15.5%) students from the county and state were similar (Figure 26).

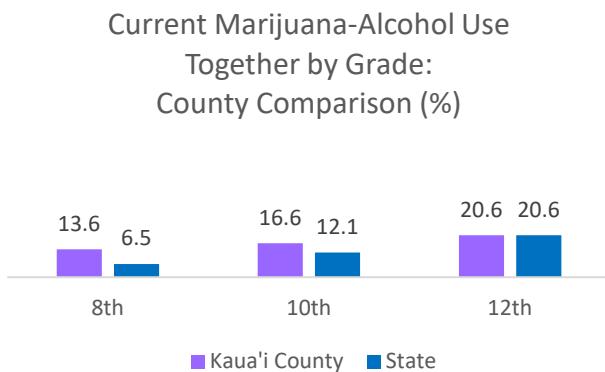


Figure 25. Concurrent alcohol and marijuana use in the past 30 days by grade level for the county and state.

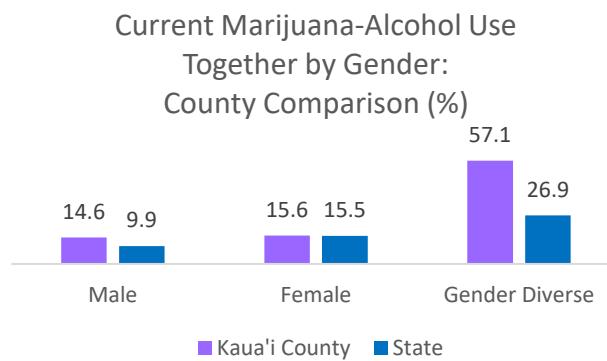


Figure 26. Concurrent alcohol and marijuana use in the past 30 days by gender for the county and state.

X. Substance Use in the Past 30 Days by Ethnicity

Table 2 summarizes estimated rates of substance use for Kaua'i County 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**. 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 Kaua'i County students

	Alcohol	Binge	Cigarettes	Vape	Marijuana	Marijuana & Alcohol Together
Filipino	27.7%	9.3%	-	27.7%	11.6%	8.5%
Japanese	-	-	-	-	-	-
Other Asian	-	-	-	-	-	-
Hispanic/Latino	47.4%	-	-	-	-	-
Native Hawaiian	36.8%	21.1%	24.6%	42.4%	36.2%	24.6%
Other Pacific Islander	41.7%	-	-	-	-	-
White/Caucasian	16.4%	-	-	19.4%	25.4%	-
2 or more ethnicities with Native Hawaiian	36.9%	16.1%	10.9%	41.3%	32.5%	17.6%
2 or more ethnicities not Native Hawaiian	41.2%	23.5%	13.1%	29.8%	28.9%	24.7%
Other	25.0%	-	-	-	-	-

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 Kaua'i County the **most selected method of acquiring substances was by having someone give it to them** (alcohol 27%, marijuana 22.5%, tobacco/vape 21.7%, and other drugs 5.3%). Other ways included **giving someone money to buy it** for them (alcohol 8.6%, tobacco/vape 11.5%, marijuana 6%), **getting it while at school** (tobacco/vape 10.2%, marijuana 9%), or **took it** (alcohol 13%) **from a family member**. (Figure 27)

Location of Use

Students were **most likely to use substances at their own home** (alcohol 19.4%, tobacco/vape 15%, marijuana 12.8%, and other drugs 3.8%), and **at another person's home with a few friends and family** (alcohol 18.8%, tobacco/vape 15.6%, marijuana 17.9%, and other drugs 2.4%), **at a public place** (marijuana 13.1%, tobacco/vape 13.7%, alcohol 12.2%), or **at a party** (alcohol 14.6%, tobacco/vape 9.7%, marijuana 10.1%). Marijuana and vapes were also used **while in a vehicle** (marijuana 9.9%, tobacco/vape 12.3%) and **on school property** (marijuana 5.7%, tobacco/vape 9.7%).



Figure 27. Commonly reported ways in which students get access to substances.

XII. Prevention Education and Messaging

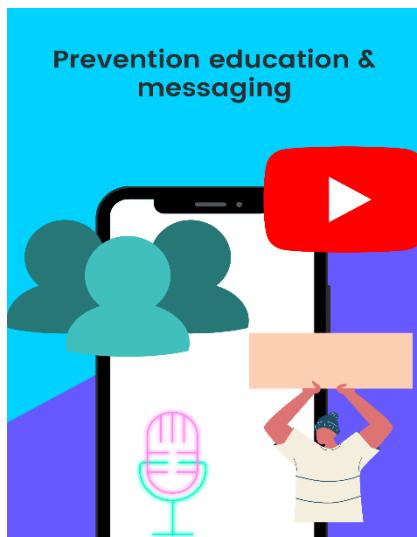


Figure 28. Common prevention education and messaging sources.

Overall, **86.8% of Kaua'i County students reported having received any type of prevention education** with a majority having heard from their **family** (68.3%), **at school** (70.5%), or **their friends** (40.5%) around the dangers of alcohol, tobacco, or drugs.

Likewise, **83.7% 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** (57.7%), **social media/apps** (56.5%), **ads on their devices** (54.2%), **printed media such as posters or signs** (45.3%), or **traditional/internet radio stations** (30.6%). (Figure 28)

In Kaua'i County, **11.4% of youth reported that they thought it was safe for a woman to drink regularly** (once a day .7%, once a week 1.0%), **or even occasionally** (once a month or less 9.7%), **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 29 graphically highlights characteristics for these factors endorsed in the Kaua'i County sample.

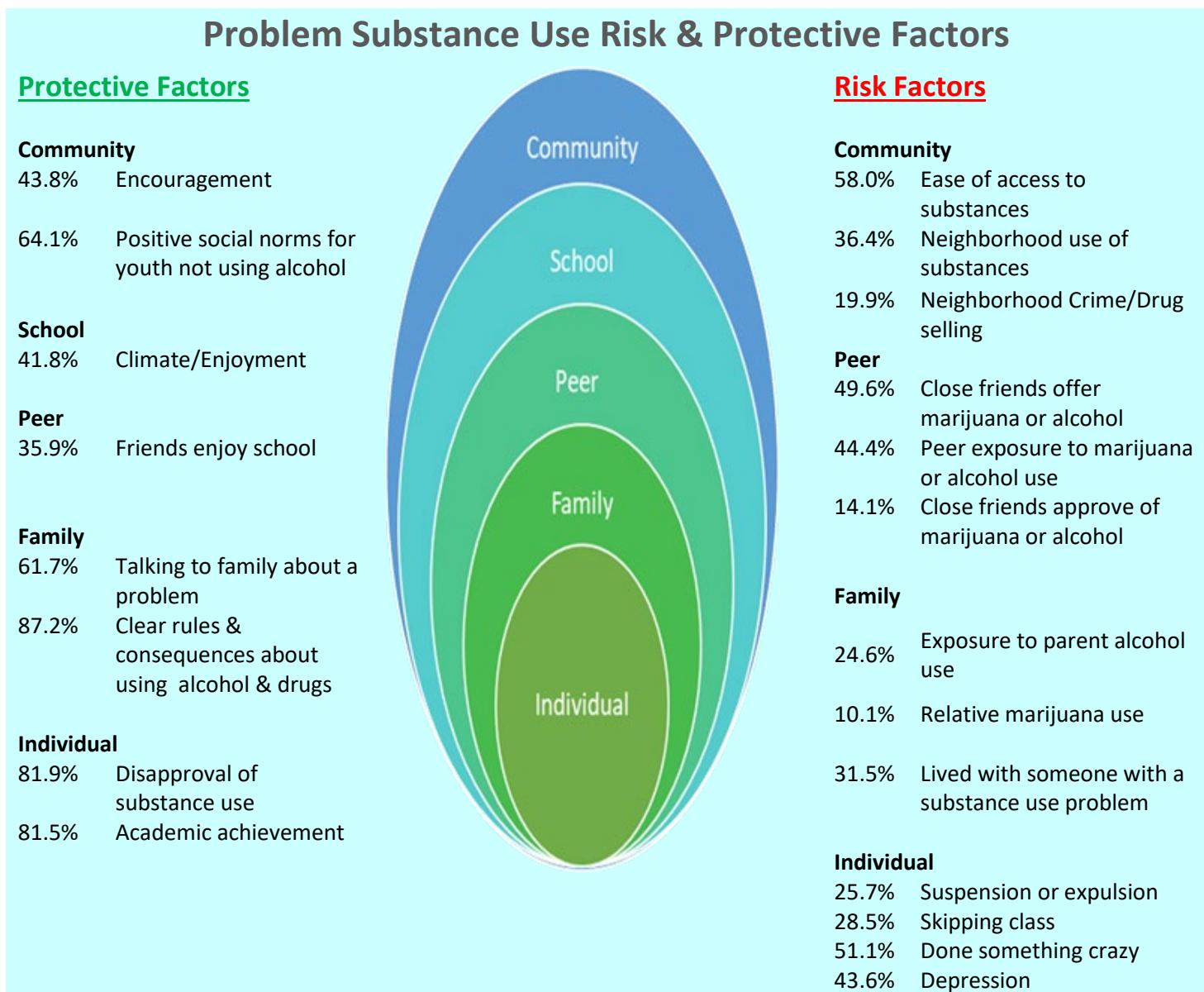


Figure 29. Kaua'i County profile of percent of students endorsing emerging important risk and protective factors in the Social-ecological model for predicting problem substance use.

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 Kaua'i County indicating treatment need were slightly higher than 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 Kaua'i County students; 12th graders almost consistently reported highest rates of use across alcohol, tobacco, and marijuana.
- Through the lens of race and ethnicity, among Kaua'i County students, rates of current substance use varied among the self-identified ethnoracial groups, however Native Hawaiian students generally reported higher rates of use across most substance use categories.
- In Kaua'i County, vape/e-cigarette use disproportionately affects 12th graders, female, and transgender/gender minority (TGGM) students, as well as students who primarily identify as Native Hawaiian or Other Pacific Islander.

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